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Promoting Competition in the Natural Gas Industry

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PROMOTING COMPETITION
IN THE NATURAL GAS INDUSTRY

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FOREWORD

This document comprises proceedings in the original languages of a Roundtable on Promoting competition in the Natural Gas Industry, which was held by the working Party No. 2 of the Committee on Competition Law and Policy in February 2000.

It is published under the responsibility of the Secretary General of the OECD to bring information on this topic to the attention of a wider audience.

This compilation is one of several published in a series entitled "Competition Policy Roundtables".

PRÉFACE

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à une table ronde sur la promotion de la concurrence dans le secteur du gaz naturel, qui s'est tenue en février 2000 dans le cadre de la réunion du Groupe de Travail no. 2 Comité du droit et de la politique de la concurrence.

Il est publié sous la responsabilité du Secrétaire général de l'OCDE, afin de porter à la connaissance d'un large public les éléments d'information qui ont été réunis à cette occasion.

Cette compilation fait partie de la série intitulée "Les tables rondes sur la politique de la concurrence".

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EXECUTIVE SUMMARY

In the light of the written submissions, the background note and the oral discussion, the following points emerge:

- (1) *Demand for natural gas stems primarily from its use as a source of energy, particularly in the provision of heating and in the generation of electricity. In many, but not all, of its uses natural gas competes with other energy sources, including coal, oil and electricity. Some, but not all, natural gas users could switch to electricity, especially in the medium to long-term. Conversely some, especially large, electricity users and electricity generators could switch to gas, especially with the growth of small-scale, clean, efficient gas-turbine generators.*

Natural gas is both an energy source and an input into some production processes in its own right. As an energy source it competes with other fuels, especially coal, oil and electricity. The most important uses of natural gas are for heating and in the generation of electricity. The ability of natural gas users to switch to other fuels varies from application to application. Where natural gas is used as an input or a feedstock, the ability to switch to other fuels is limited. Where natural gas is used as an energy source, as in heating, it is usually possible to switch to other energy sources, especially in the medium to long run. Some countries have, in effect, allowed the price of gas to be determined by the price of other energy sources, particularly oil.

The ability of other energy users to switch to natural gas also varies. In some applications, such as heating, many existing users of electricity could in principle switch to gas in the medium to long-term. The development of small-scale gas-fired electricity generation enhances the ability of large electricity consumers to switch to gas, enhancing the convergence of the gas and electricity markets.

Many countries noted that demand for gas is growing rapidly, especially as a clean-burning, efficient fuel for electricity generation.

- (2) *It is possible to identify several distinct stages of production in the gas industry – most notably, production, transmission (including storage), distribution and retailing or marketing. The opportunities for conventional facilities-based in-the-market competition in each of these stages differs from stage to stage and country to country. Broadly speaking, the opportunities for competition are strongest in gas production and gas marketing and weakest in gas distribution. Promoting competition in the gas industry therefore is primarily a question of ensuring the development of competition in the gas production and gas marketing markets.*

Gas production involves the extraction of gas at the wellhead, gathering the gas from the wells to central processing facilities and processing the gas for insertion into long-distance gas pipelines. The potential for competition in gas production depends on the number of independent gas producers to which domestic consumers have access. The number of independent gas sources is particularly high in the US, Canada and the UK. The number of independent sources of gas in Australia and New Zealand is limited by the presence of joint ventures between producing companies.

Gas is usually transported from the wellhead to the point of consumption through high-pressure transmission and low-pressure distribution pipelines. (Japan and Korea, however, primarily import gas in the form of LNG). There are significant economies of scale in transmission pipelines. As a result, the opportunities for competition between transmission pipelines depend on the geographic location of producers and consumers and the level of gas demand. The US is an example of a country which has a sufficiently dense pipeline network such that there is effective competition between pipelines, especially at points where several pipelines meet known as “market hubs”. In most other countries, there is little competition between transmission pipelines.

The local distribution of gas to smaller consumers exhibits economies of scale and density. The scope for competition in this stage of production is strictly limited.

Unlike electricity, gas can be temporarily stored, enabling flows over the pipeline network to be held relatively constant despite daily and seasonal fluctuations in gas demand. The opportunities for competition in storage will depend, in part, on the number of suitable sites for storing large quantities of gas, which varies from country to country.

Many countries also recognise another stage of production not directly linked to facilities, which is called gas retailing or marketing. Companies active in retailing or marketing provide various services such as negotiating with producers for supplies and transmission operators for transport services. These companies may also develop new contractual products and services, which meet the demands of downstream users and may also provide a brokerage service, matching the supply and demand of gas customers in the gas markets. The barriers to entry into this activity are relatively low and the scope for competition substantial.

- (3) *As in other industries, the development of competition in the competitive components of the natural gas industry requires the implementation of a regulatory regime which can ensure access to the non-competitive components, particularly the pipeline network. In addition, it is essential to allow downstream customers choice over their upstream gas producer and to have some mechanism for allocating scarce capacity. As in other industries, it is also important for regulatory decisions to be taken by an independent, expert, regulatory authority. In practice, countries which have substantial domestic gas supplies have gone the furthest in the process of introducing competition.*

As in other industries, the development of competition in the potentially competitive activities of gas production and gas retailing requires attention to certain policies. First, the companies in the competitive activities must have access to the non-competitive facilities at non-discriminatory terms and conditions. In the gas industry this will include (in most countries) access to the pipeline network. It may also (in some countries) include access to storage facilities. Most countries have in place some kind of access regime for access by gas producers and gas marketers to the pipeline network. Within the EC, such access is guaranteed by the Gas Directive, which must be implemented by August 2000.

The approach to setting access prices varies from country to country. Given the high fixed-cost, low marginal-cost structure of the costs of transporting gas, in most cases pipeline charges also include a high fixed or “capacity” charge and a low marginal charge for the gas actually transported. Some countries, including the UK and Mexico, noted that they use a price-cap approach to regulating the prices for transmission and distribution. In the case of Mexico, the competition authority has the power to decide which prices should be regulated and which should be left to competition. Gas transmission and distribution prices are not regulated in New Zealand and Austria.

Second, the development of competition requires that downstream customers (either directly or via an agent, broker or marketing company) have the right to choose their upstream supplier of gas. In most countries competition is being introduced in a phased approach, with only the larger customers having this right at the outset, with other customers granted this right over time. In Many countries, all customers will be able to choose gas supply within a few years. By August 2000 the EC expects that customers accounting for more than 70 percent of total demand in the EC will have the choice of gas supplier. In federal countries, such as the US, the extension of such “customer choice” to even the smallest customers is typically a responsibility of state governments.

Third, the effective development of competition may require attention to mechanisms for allocating scarce resources. Certain pipelines may be capacity constrained at peak times. If the incumbent has an implicit priority in the use of capacity, the incumbent may restrict the capacity available to rivals and competition may be limited. The allocation of capacity may be improved by implementing a system, such as auctions of bidding for the available capacity at peak times. Structural separation (discussed below) can also materially improve the incentives on the pipeline to expand capacity and make capacity available to rivals.

Many countries have responded to the need for independence and expertise in regulatory decisions by establishing an independent regulatory body for the gas sector, sometimes combined with the electricity regulator (as in the case of Ofgem in the UK). In some cases this body is part of the competition authority (in the case of the Netherlands and Australia). New Zealand, which relies primarily on its competition law, has no sectoral regulator for the gas industry.

Although it may be a coincidence, the countries which have, to date, introduced competition in the gas industry (the US, Canada, Australia, the UK) have in common a number of independent domestic sources of gas. Those countries, which rely primarily on imports, have been less inclined to undertake competition-promoting reforms, perhaps due to concerns of losing the buying power that arises from a national monopoly importer and distributor of gas.

- (4) *In addition, as in other industries, attention to structural policies can make a material impact on competition. In particular vertical separation of the pipeline network from upstream producers and downstream customers/retailers can enhance competition amongst gas producers and gas retailers. Although structural separation has been adopted in a few countries a large number of countries have retained a large degree of structural integration through the reform process.*

As in other industries, a regulated pipeline operator which is integrated into gas production or gas marketing has a strong incentive to offer transportation service of a higher price or lower quality to rival producers or marketers, and to resist regulatory attempts which force it to offer non-discriminatory access. As in other industries, separation of the regulated pipeline from the competitive services can materially improve the degree of competition and the ease and effectiveness of the access regulation on the pipeline.

Relatively few countries have chosen to structurally separate their gas industry, the UK being a notable exception. The roundtable highlighted the different experience of the UK and the US - the UK, which has implemented such separation, reported no cases of denial of access. The US, which has many integrated pipelines, reported an on-going, intensive effort to address complaints of denial of access and reported that it expected the need for this effort to go on into the indefinite future. Other countries, such as Korea are planning significant separation of the incumbent monopoly in the near future. Spain does not allow companies providing regulated activities to carry out non-regulated activities. Several other countries, including France, Italy and New

Zealand, have chosen to retain an integrated structure. The EC requires at least accounting separation of the transportation, storage and distribution services.

In addition, horizontal separation of production arrangements could improve the scope for competition in gas production and gas distribution. The ACCC in Australia reports that it has tried, unsuccessfully, to break-up long-term joint-venture arrangements in the Australian gas production industry. Where existing gas supplies are tied up in long-term contracts separation might also extend to the requirement to divest a proportion of existing contracts for gas supplies. Horizontal separation of the distribution stage of production, for example into regional companies, can also facilitate competition at the margins of these companies and can enhance regulation through benchmarking.

- (5) *In many countries the presence of long-term take-or-pay contracts has been an important obstacle to liberalisation. Non-commercial service obligations, which in other industries play a fundamental role, also exist, although to a lesser extent, in the natural gas industry.*

Historically, long-term take-or-pay contractual arrangements have been common in the gas industry. Such contracts protect gas producers against the possibility of hold-up, after they have made a decision to invest in facilities to exploit gas deposits. Such contracts also guarantee pipeline operators a continuous flow of gas and can be a tool for tying up gas supplies to limit the scope for new entry. Where the price fixed in these long-term contracts is above the current “spot” price of gas, the introduction of competition can threaten the financial viability of the incumbent operator. The introduction of competition may therefore involve careful attention to these contracts and possible compensation for the incumbent for the costs of being relieved of its obligations under the contract. In the case of the UK, the threat to the incumbent under existing take-or-pay arrangements assisted the process of separation of the incumbent firm.

Non-commercial obligations, which are prevalent in utility industries, are present, to a lesser extent, in some OECD gas industries. Although “universal service” obligations to supply all customers are virtually unknown in the gas sector, there may nevertheless be certain obligations, such as the obligation on a competing gas retailer to not refuse a customer who wishes to be supplied, or the obligation in Korea that gas service must be provided if it is requested by more than 25 households within a 100 meter distance. In the past, both the Czech Republic and the Slovak Republic subsidised domestic gas consumers from the revenues derived from transiting gas.

- (6) *Antitrust authorities have addressed a number of cases in the gas industry, particularly in the area of mergers. Mergers between firms, which have activities at the same stage of production (i.e., two producing firms, two transmission pipelines, or two distribution companies) will, as in other industries, often have a direct impact on competition. Mergers between firms at different stages of production (i.e., between pipelines and producers or pipelines and retailers) raise concerns about raising incentives to deny access. Mergers between gas and electricity utilities raise both horizontal and vertical issues as gas is an important input to electricity generation and gas utilities are important potential entrants into electricity generation. In some cases mergers have been approved subject to significant divestiture. Although gas and electricity are substitutes in some applications, competition authorities noted that gas and electricity were not (yet) considered to be in the same economic market.*

Countries reported that the gas industry was subject to national competition laws and that competition authorities were active in this sector. Nearly all competition authorities considered that

although this may change in the future, gas and electricity could not yet be considered to be in the same market.

Mergers between firms at each stage of the production process in the gas industry have been opposed by competition authorities. The US, for example, has opposed a merger of two firms on the basis that competition would be significantly reduced in the provision of gas gathering services. The US also opposed a merger of two gas companies on the basis that the two companies owned the only two pipelines, which could potentially serve the Salt Lake City area. In Australia, the merger of two neighbouring gas distribution companies in Brisbane was denied as each was an important potential entrant into the other's market and these firms currently competed for the supply of gas to each other's large customers. The EC cleared a merger of a gas importer and an electricity utility only after significant remedies had been offered. Given the important role of gas in electricity production, the combined entity would be able to control the prices of both gas and electricity in Finland. The US challenged a merger between a gas pipeline and an electric utility on the grounds that the combined entity would be able to exercise market power over the price of electricity during periods of high electricity demand.

In addition to mergers, a number of other competition cases have been brought against anti-competitive activities in the gas industry. In Australia, the ACCC opposed an arrangement between a pipeline and a gas marketing company, which was held to be designed to prevent the entry of a competing pipeline. France addressed a case in which long-term contracts with substantial penalties were designed to lock-in building promoters to use of gas as a heating fuel.

SYNTHÈSE

A la lumière des communications écrites, de la note d'information générale et des échanges de vues, il se dégage les constatations suivantes :

- (1) *La demande de gaz naturel procède essentiellement de son utilisation en tant que source d'énergie, en particulier pour la fourniture de chaleur et la production d'électricité. Dans nombre de ses applications, mais non dans toutes, le gaz naturel est en concurrence avec d'autres formes d'énergie, notamment le charbon, le pétrole et l'électricité. Certains consommateurs de gaz naturel pourraient le remplacer par de l'électricité, en particulier à moyen et à long termes, mais tous n'ont pas cette possibilité. En revanche, certains consommateurs d'électricité, notamment ceux qui en utilisent en grandes quantités, et les producteurs d'électricité pourraient se tourner vers le gaz, surtout compte tenu de la percée sur le marché des petites turbines à gaz, propres et à haut rendement.*

Le gaz naturel est à la fois une source d'énergie et une matière première utilisée dans certains procédés de production. En tant que source d'énergie, il rivalise avec d'autres formes d'énergie, notamment le charbon, le pétrole et l'électricité. Ses applications les plus importantes sont la production de chaleur et d'électricité. Selon l'usage qu'ils en font, les consommateurs de gaz naturel ont une latitude plus ou moins grande de changer de combustible. Lorsque le gaz naturel est employé comme matière première ou comme produit d'alimentation, les possibilités de substitution sont limitées, mais quand il est utilisé en tant que source d'énergie, comme c'est le cas pour la production de chaleur, il est généralement remplaçable par d'autres formes d'énergie, en particulier à moyen et à long termes. En fait, certains pays autorisent l'alignement du prix du gaz sur celui d'autres sources d'énergie, notamment le pétrole.

Les possibilités qui s'offrent à d'autres consommateurs d'énergie de substituer le gaz naturel à d'autres formes d'énergie sont variables également. Dans certaines applications, notamment le chauffage, beaucoup de ceux qui consomment actuellement de l'électricité pourraient, en principe, passer au gaz à moyen ou à long termes. Le développement de la production d'électricité à partir de gaz à petite échelle facilite l'adoption de ce combustible par les gros consommateurs d'électricité, d'où une convergence accrue des marchés du gaz et de l'électricité.

De nombreux pays ont constaté que la demande de gaz progresse rapidement, et tout particulièrement en tant que combustible propre et rentable pour la production d'électricité.

- (2) *On peut distinguer plusieurs maillons différents dans la filière du gaz -- principalement la production, le transport (y compris le stockage), la distribution et, enfin, la vente aux clients finals ou commercialisation. Les possibilités de concurrence liées aux installations classiques dans chacun de ces segments du marché du gaz diffèrent selon le maillon de la filière et le pays dont il s'agit. En gros, les possibilités de concurrence sont les plus grandes aux stades de la production et de la commercialisation du gaz, et les plus faibles au niveau de la distribution. Pour favoriser la concurrence dans le secteur gazier, il importe donc avant tout de faire en sorte qu'elle s'intensifie sur les marchés de la production et de la commercialisation.*

La production de gaz comprend son extraction en tête de puits, la collecte du gaz extrait de différents champs pour l'acheminer vers des installations centralisées de traitement, puis son traitement pour l'injecter dans les gazoducs à longue distance. Les possibilités de concurrence au

niveau de la production de gaz dépendent du nombre de producteurs gaziers indépendants auxquels les consommateurs nationaux ont accès. Ils sont particulièrement nombreux aux États-Unis, au Canada et au Royaume-Uni, tandis qu'en Australie et en Nouvelle-Zélande les sources indépendantes d'approvisionnement en gaz sont en nombre limité car il existe des entreprises conjointes de production.

Le gaz est d'ordinaire acheminé de la tête du puits jusqu'au lieu de consommation par des conduites de transport à haute pression et des conduites de distribution à basse pression. (Le Japon et la Corée, cependant, importent essentiellement du gaz sous forme de GNL). Les gazoducs de transport autorisent de fortes économies d'échelle. De ce fait, les possibilités de concurrence entre eux dépendent de la localisation géographique des producteurs et des consommateurs ainsi que du volume de la demande de gaz. Les États-Unis, par exemple, ont un réseau de gazoducs assez dense pour que s'établisse une concurrence réelle entre entreprises exploitant différentes conduites, surtout aux points d'interconnexion où plusieurs d'entre elles se rejoignent, qui représentent des « plaques tournantes » pour le marché. Dans la plupart des autres pays, il n'y a guère de concurrence entre les entreprises de transport de gaz.

La distribution locale du gaz aux petits consommateurs permet de réaliser des économies d'échelle et de densité. Les possibilités de concurrence à ce niveau sont strictement limitées.

Contrairement à l'électricité, le gaz peut être stocké provisoirement, ce qui permet de maintenir à un niveau relativement constant les flux transitant par le réseau de conduites malgré les fluctuations journalières et saisonnières de la demande de gaz. Les possibilités de concurrence au niveau du stockage sont en partie tributaires du nombre de sites adaptés pour stocker le gaz en grandes quantités, qui diffère d'un pays à l'autre.

Dans de nombreux autres pays, il existe en outre un autre métier de la chaîne gazière, qui n'est pas directement lié aux installations : la vente aux clients finals ou commercialisation. Les entreprises opérant dans ce segment du marché offrent divers services, par exemple la négociation avec les producteurs concernant les approvisionnements et avec les entreprises de transport du gaz pour l'acheminement. Elles peuvent aussi créer de nouveaux produits et services contractuels qui répondent aux attentes des consommateurs en aval, et proposer un service de courtage qui met en rapport les fournisseurs et les clients sur les marchés gaziers. Les obstacles à l'entrée de ce marché sont relativement faibles et les possibilités de concurrence assez considérables.

- (3) *Comme dans d'autres branches d'activité, pour ouvrir les segments concurrentiels du secteur du gaz naturel à la concurrence, il faut mettre en œuvre un régime de réglementation garantissant l'accès aux segments non concurrentiels, en particulier le réseau de gazoducs. En outre, il est essentiel de laisser le choix aux consommateurs en aval de leur producteur gazier en amont et de disposer d'un mécanisme permettant, d'une façon ou d'une autre, de répartir la capacité lorsqu'elle est limitée. Il importe également, comme dans d'autres secteurs, que les décisions réglementaires soient prises par une instance indépendante et spécialisée. Dans les faits, on observe que les pays disposant d'abondantes ressources nationales de gaz sont ceux qui ont le plus avancé dans le processus d'ouverture à la concurrence.*

Comme dans d'autres secteurs, certaines mesures doivent retenir l'attention lorsque s'instaure la concurrence dans les maillons de la chaîne potentiellement concurrentiels que sont la production gazière et la vente du gaz aux clients finals. En premier lieu, les entreprises opérant dans les segments concurrentiels doivent pouvoir accéder dans des conditions non discriminatoires aux installations non soumises à concurrence. Dans le secteur gazier, il s'agit notamment (dans la

plupart des pays) d'avoir accès au réseau de gazoducs, mais aussi éventuellement (dans certains pays) aux installations de stockage. Une majorité de pays ont en place un régime ou un autre gouvernant l'accès des producteurs et des courtiers de gaz au réseau de gazoducs. Au sein de l'UE, cet accès est garanti en vertu de la directive concernant les règles communes pour le marché intérieur du gaz naturel, qui doit être appliquée d'ici août 2000.

Les modes de fixation des prix varient d'un pays à l'autre. Étant donné la structure des coûts du transport du gaz, qui comporte des coûts fixes élevés et des coûts marginaux faibles, le plus souvent les redevances d'accès aux gazoducs qui s'appliquent au gaz effectivement transporté comprennent une tranche fixe élevée liée à la « capacité » et une tranche faible correspondant au coût marginal. Certains pays, dont le Royaume-Uni et le Mexique, ont fait savoir qu'ils appliquent la méthode de plafonnement des prix pour réglementer les prix du transport et de la distribution. Au Mexique, les autorités chargées de la concurrence ont le pouvoir de décider quels prix doivent être réglementés et quels prix doivent être déterminés par le jeu de la concurrence. Les prix du transport et de la distribution du gaz ne sont réglementés ni en Nouvelle-Zélande, ni en Autriche.

Deuxièmement, pour que la concurrence s'exerce, il faut que les clients en aval (soit directement, soit par l'entremise d'un agent, d'un courtier ou d'une entreprise de commercialisation) aient le droit de choisir leur fournisseur de gaz en amont. Dans la plupart des pays, la concurrence s'instaure progressivement, et seuls les gros consommateurs jouissent de ce droit d'emblée, les reste des clients pouvant en bénéficier un certain temps après. Dans de nombreux pays, tous les consommateurs pourront choisir leur fournisseur dans quelques années. La CE prévoit que les consommateurs de l'UE représentant 70 pour cent de la demande dans l'UE, auront le choix de leur fournisseur de gaz à compter d'août 2000. Dans les pays à régime fédéral comme les États-Unis, c'est aux administrations des États qu'il incombe généralement d'accorder ce « libre choix au consommateur », même aux plus petits d'entre eux.

Troisièmement, l'apparition de la concurrence peut attirer l'attention sur les mécanismes d'affectation des ressources limitées. Certaines entreprises de transport peuvent connaître des contraintes de capacité dans les périodes de pointe. Si l'opérateur historique bénéficie implicitement de la priorité sur le réseau de gazoducs, il peut réduire la capacité dont disposeront ses concurrents, d'où une possible entrave à la concurrence. On peut améliorer l'affectation de la capacité en recourant, par exemple, à la mise aux enchères de la capacité disponible dans les périodes de pointe. La séparation structurelle (dont il est question ci-après) peut aussi encourager sensiblement l'entreprise de transport de gaz à augmenter sa capacité et à la mettre à la disposition des concurrents.

Face à la nécessité de veiller à ce que les décisions réglementaires soient prises en toute indépendance et sur la base de connaissances spécialisées, nombre de pays ont créé une instance de régulation indépendante pour le secteur gazier, parfois associée au régulateur du secteur de l'électricité (par exemple, l'Ofgem au Royaume-Uni). Dans certains cas, cette instance fait partie intégrante des autorités de la concurrence (comme aux Pays-Bas et en Australie). La Nouvelle-Zélande, qui s'en remet pour l'essentiel à son droit de la concurrence, n'a pas de régulateur sectoriel pour le gaz.

C'est peut-être une coïncidence, mais les pays qui ont ouvert jusqu'ici le secteur gazier à la concurrence (États-Unis, Canada, Australie et Royaume-Uni) présentent un trait commun : ils peuvent tous faire appel à plusieurs sources nationales indépendantes d'approvisionnement gazier. Les pays principalement tributaires des importations se sont montrés moins enclins à lancer des réformes en faveur de la concurrence, peut-être de crainte de perdre de la puissance

d'achat en raison du monopole exercé par un seul importateur et distributeur de gaz sur le territoire national.

- (4) *En outre, comme dans d'autres secteurs, l'attention accordée aux mesures d'ordre structurel peut avoir une réelle influence sur la concurrence. En particulier, la séparation verticale entre le réseau de gazoducs et les producteurs en amont, d'une part, et les clients/entreprises de commercialisation en aval, de l'autre, est susceptible de favoriser la concurrence entre les producteurs de gaz ainsi qu'entre les entreprises qui le vendent aux clients finals. Rares sont les pays qui ont adopté la séparation structurelle, alors que beaucoup ont choisi de maintenir un degré important d'intégration structurelle tout au long du processus de réforme.*

De même que dans d'autres secteurs, lorsqu'une entreprise de transport de gaz réglementée est intégrée avec des activités de production ou de commercialisation du gaz, elle a une forte incitation à offrir un service de transport plus cher ou de moins bonne qualité aux entreprises concurrentes de production ou de commercialisation, et à opposer une résistance aux actions réglementaires qui la contraignent à proposer un accès aux gazoducs dans des conditions non discriminatoires. Comme dans d'autres secteurs, la séparation entre l'entreprise de transport de gaz réglementée et des services concurrentiels peut sensiblement intensifier la concurrence et faire gagner en souplesse et en efficacité la régulation de l'accès aux gazoducs.

Relativement peu de pays ont opté pour la séparation structurelle de leur secteur gazier, le Royaume-Uni étant une exception notable à cet égard. La table ronde a mis en évidence les résultats différents obtenus au Royaume-Uni et aux États-Unis -- le Royaume-Uni, qui a appliqué ce type de séparation, n'a signalé aucune affaire concernant un refus d'accès. Les États-Unis, où il existe de nombreuses entreprises intégrées de transport du gaz, ont fait savoir qu'ils s'employaient sans relâche à régler des litiges faisant à suite des plaintes déposées concernant des refus d'accès et qu'ils s'attendaient à devoir continuer à le faire pendant une durée indéterminée. D'autres pays, la Corée par exemple, prévoient actuellement de procéder prochainement à une séparation importante du monopole en place. L'Espagne n'autorise pas les entreprises dont les activités sont réglementées à exercer des activités non soumises à réglementation. Plusieurs autres pays, dont la France, l'Italie et la Nouvelle-Zélande, ont choisi de garder en place une structure intégrée. La CE impose au minimum la séparation comptable des services de production, de stockage et de distribution.

De surcroît, la séparation horizontale au niveau de la production pourrait améliorer les possibilités de concurrence dans les maillons de la production et de la distribution de gaz. En Australie, l'ACCC (Australian Competition and Consumer Commission) indique qu'elle a essayé sans succès de démanteler les accords de coentreprise à long terme dans l'industrie australienne de production gazière. Lorsque des approvisionnements gaziers existants sont liés dans le cadre de contrats à long terme, la séparation pourrait aussi entraîner l'obligation de céder une part des contrats d'approvisionnement gazier existants. Quant à la séparation horizontale au stade de la distribution, par exemple pour créer des entreprises régionales, elle peut aussi faciliter la concurrence aux limites où leurs zones de desserte se chevauchent et, par ailleurs, permettre une meilleure régulation grâce à l'étalonnage des performances.

- (5) *Dans de nombreux pays, les contrats « take-or-pay » à long terme en vigueur ont dressé un obstacle important à la libéralisation. Les obligations de service non commercial, qui jouent un rôle fondamental dans d'autres secteurs, existent également dans celui du gaz naturel, bien que dans une moindre mesure.*

Par le passé, les arrangements contractuels assortis d'une clause de prise ferme, dits « take-or-pay », étaient largement répandus dans le secteur gazier. Ils prémunissaient les producteurs ayant pris la décision d'investir dans des installations pour exploiter des gisements de gaz contre le risque de rupture de contrat. Des contrats de ce type garantissent aussi aux entreprises de transport la continuité des flux de gaz et ils peuvent servir à assortir les approvisionnements gaziers de certaines contraintes pour limiter les possibilités d'entrée de nouveaux acteurs sur le marché. Lorsque le prix fixé dans le cadre de ces contrats à long terme dépasse le prix « spot » du gaz du moment, l'ouverture à la concurrence risque de compromettre la viabilité financière de l'opérateur historique. Il faudra donc éventuellement, lorsque la concurrence commence à s'instaurer, être très attentif à ces contrats et aux compensations qu'il serait possible de verser à l'opérateur historique en contrepartie des coûts qu'il devra supporter pour se dégager de ses obligations aux termes du contrat. Au Royaume-Uni, la menace qui pesait sur l'opérateur historique du fait des contrats « take-or-pay » en vigueur a favorisé le processus de scission de l'entreprise.

Les obligations non commerciales qui prévalent dans les secteurs de service public sont imposées aussi, dans une moindre mesure, au secteur du gaz dans certains pays de l'OCDE. Certes, les obligations dites de « service universel », en vertu desquelles il faut assurer la fourniture de tous les consommateurs sans exception, sont pratiquement inconnues dans le secteur gazier, mais il peut y avoir néanmoins certaines obligations à respecter, par exemple celle qui est faite à une entreprise concurrente de vente de gaz aux clients finals de ne pas refuser de desservir un client qui le souhaite, ou l'obligation imposée en Corée d'assurer la desserte en gaz si la demande en est faite par plus de 25 ménages dans un rayon de 100 mètres de distance. Par le passé, tant la République tchèque que la République slovaque subventionnaient la consommation de gaz des ménages à partir des recettes tirées du transit du gaz sur leur territoire.

- (6) *Les organismes chargés de faire respecter les lois antitrust ont traité un certain nombre d'affaires dans le secteur gazier, notamment concernant des fusions. Les fusions entre entreprises opérant dans le même maillon de la filière (c'est-à-dire entre deux entreprises de production, deux entreprises de transport ou deux entreprises de distribution) auront souvent une influence directe sur la concurrence, comme il arrive dans d'autres secteurs de l'économie. Les fusions entre entreprises opérant dans des maillons différents de la chaîne (c'est-à-dire entre une entreprise de transport et un producteur, ou entre une entreprise de transport et une entreprise de vente aux clients finals) suscitent des préoccupations parce qu'elles augmentent les incitations à refuser l'accès. Les fusions entre entreprises électriques et gazières posent à la fois des problèmes horizontaux et verticaux parce que le gaz est une source d'énergie importante pour la production d'électricité et que les entreprises gazières sont de nouveaux entrants potentiels et puissants dans le secteur de la production d'électricité. Dans certains cas, les fusions ont été approuvées à condition que l'on procède à la cession d'une forte proportion d'actifs. Bien que le gaz et l'électricité puissent se substituer l'un à l'autre dans certaines applications, les autorités chargées de la concurrence ont constaté que le gaz et l'électricité n'étaient pas (encore) considérés comme des produits du même marché économique.*

Des pays ont signalé que le secteur gazier était assujéti au droit national de la concurrence et que les autorités compétentes en la matière intervenaient dans ce secteur. Les autorités chargées de la concurrence estiment, presque toutes, que l'on ne peut pas encore dire du gaz et de l'électricité qu'ils constituent un même marché, bien que la situation puisse évoluer à l'avenir.

Les autorités de la concurrence se sont prononcées contre des fusions entre entreprises opérant dans chacun de maillons de la filière du gaz. Aux États-Unis, par exemple, elles se sont opposées à la fusion de deux entreprises au motif que la concurrence serait sensiblement réduite au niveau

des services de collecte du gaz, ainsi qu'à une fusion entre deux entreprises gazières parce qu'elles possédaient les deux seuls gazoducs qui pouvaient desservir la zone de Salt Lake City. En Australie, la fusion de deux entreprises voisines de distribution de gaz à Brisbane a été refusée car chacune d'elles était un entrant potentiel important pour le marché de l'autre et qu'elles se trouvaient en concurrence à ce moment-là pour la fourniture de gaz à leurs gros consommateurs respectifs. La CE a donné son accord à une fusion entre une entreprise d'importation de gaz et une entreprise électrique seulement après que des compensations significatives aient été offertes. Les États-Unis se sont élevés contre une fusion entre une entreprise de transport de gaz et une entreprise électrique en invoquant la possibilité qu'aurait l'entité intégrée d'exercer un pouvoir de marché sur la formation des prix de l'électricité pendant les périodes de forte demande d'énergie électrique.

En plus des affaires concernant des fusions, un certain nombre d'autres actions ont été intentées à l'encontre d'activités anticoncurrentielles dans le secteur gazier. En Australie, l'ACCC s'est prononcée contre un arrangement conclu entre une entreprise de transport de gaz et une entreprise de commercialisation du gaz en vue d'empêcher l'entrée sur le marché d'une entreprise de transport concurrente. La France, pour sa part, a traité un litige dans lequel des contrats à long terme assortis de lourdes pénalités étaient conçus pour contraindre des promoteurs immobiliers à utiliser le gaz comme combustible pour le chauffage.

BACKGROUND NOTE

1. Introduction

Although reform in the natural gas industry has lagged regulatory reform in other network industries, the natural gas industry is increasingly the focus of attention of reformers in OECD countries. Following successful and dramatic deregulation in the US and the UK, important steps have been taken in Australia and New Zealand. With the adoption of an EC Directive on gas in 1998, the stage is also set for further important European liberalisation in this sector.

What role can competition play in the gas industry? How can gas regulation be structured so as to enhance the scope for competition and the quality of the overall regulation? This paper explores these questions, drawing on the experience of OECD countries.

This paper makes the following key points:

- natural gas is an energy source, which competes with other energy sources, particularly in the provision of heating and the generation of electricity. Nearly all residential and industrial users of natural gas can switch to alternative energy sources, particularly oil, coal and electricity. But the reverse is not always true – most electricity users cannot switch to gas in the event of a drop in the relative price of gas;¹
- natural gas is almost always transported from the point of production to the point of consumption over a pipeline network. As a result, the gas industry shares many economic characteristics with other network industries such as railways and electricity. The gas transportation network can be divided into two components – high-pressure transmission and low-pressure distribution. As with many other industries (such as telecommunications, postal services, and electricity), the local distribution of gas is a natural monopoly but there may scope for competition in transmission pipelines, depending upon the density of the network and the physical location of gas producers and gas consumers. In most cases there is also significant scope for competition between gas producers;
- allowing competition between gas producers (and between transmission pipelines, where possible) enhances incentives for efficiency in production and enhances the quality of the regulation of the pipeline network. In order for such competition to develop rival gas producers must have access to existing pipeline networks and there must exist a mechanism for allowing gas consumers choice over the producer of their gas. Introducing competition for gas also yields other benefits including the development of spot and futures markets in gas and stimulation of investment in new pipeline interconnections (enhancing connectivity of the network and enhancing pipeline-to-pipeline competition). In most cases the quantity and quality of competition between gas producers will be enhanced if gas producers are prevented from operating the transmission network;

- where rival gas producers are ensured access to an existing pipeline network, there must exist a system for rationing the capacity of the network at peak times. This could be achieved through a system of peak-load charges for the use of the network, but in practice it is often easier to auction the capacity of the network at peak times. Auctions have the advantage of being more transparent on the use of the capacity and placing fewer burdens on the regulator. So far, the US is the only OECD country to have a developed mechanism for auctioning pipeline capacity;
- in many countries, the liberalisation of the gas sector is made more complicated by the presence of long-term take-or-pay gas contracts, which tie either pipeline owners or downstream gas customers to a single gas producer for a period of time. However, in the case of both the US and the UK, the presence of long-term take-or-pay contracts was a factor facilitating liberalisation. When the spot price of gas dropped and pipeline networks found themselves faced with unprofitable obligations to buy and transport gas, pipeline networks were eager to transport gas for third-parties at regulated prices which ensured a reasonable rate of return;
- in the case of a country which is highly dependent on imports from a single foreign supplier unilateral liberalisation might remove a countervailing power, enhancing the market power of the foreign supplier, to the detriment of domestic consumers. Current levels of reliance on imports and the degree of interconnection of the EU gas network imply that such concerns are not currently material for most European countries but may become so in the medium to long term;
- as in most network industries, incumbent dominant gas companies are sometimes subject to non-commercial obligations. As in other industries, the presence of such obligations need not be an obstacle to the introduction of competition, provided that the non-commercial obligations are fully reflected in the prices for access to the gas transmission and distribution network.

2. Background: The natural gas industry

This section provides an overview of the natural gas industry – the principal characteristics of gas supply and demand and an overview of the regulatory regime and the market structure for gas in selected OECD countries.

2.1 *Natural gas demand*

Natural gas is consumed by both households and industry. Households consume natural gas primarily as a fuel source for cooking and heating. Industry consumes natural gas for heating, electricity generation, as a fuel in a range of industrial processes. In nearly all of its applications, natural gas is burned as a fuel to produce heat. Natural gas thus competes with other energy sources, primarily electricity, coal and oil.²

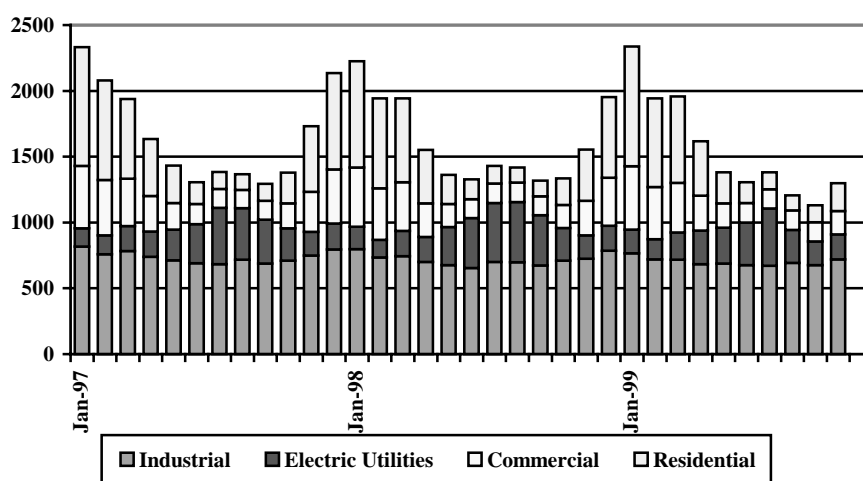
Like all energy sources, the use of natural gas as a fuel requires investment in customer-premises equipment. Although some equipment is designed to operate on more than one fuel (such as both gas and oil), most customer premises equipment cannot quickly be changed to operate on other fuels. As a result most gas customers cannot change rapidly to other fuels in the short run in the face of a gas price hike, but will reconsider the choice of fuel when the existing customer premises equipment reaches the end of its economic life. The slope of the demand curve for natural gas is therefore, like many products, more elastic in the long run than in the short run.

In almost all its applications, natural gas can be substituted by other energy sources. In the long run, therefore, the price of other energy sources acts as a ceiling on the price of gas. The reverse is not true however. There are certain applications for other energy sources (such as electricity for light bulbs) which cannot easily convert to gas. Technically, the (non-generation) demand curve for gas is said to be “kinked” at the price of other competing forms of energy.

The extent to which electricity, coal and oil act as a competitive discipline on natural gas prices therefore differs from country to country according to the relative prices of these three commodities.³ In the US, where electricity prices are low relative to natural gas there is significant inter-fuel competition. In Britain, which enjoys an abundance of natural gas from the North Sea, inter-fuel competition plays almost no role in natural gas prices.⁴

Demand for natural gas is highly seasonal. Demand for natural gas for heating peaks in the winter.⁵ As an illustration, Figure 1 presents the month-on-month demand for natural gas in the USA. Gas consumption in the peak winter months of the US is about double that in the summer months. Industrial, commercial and, especially, residential demand for natural gas is highest in winter. Consumption of natural gas by US electricity utilities peaks in the summer due to seasonal demand for electricity for air-conditioning.

Figure 1 : US Natural Gas Consumption by Sector



Source: US Energy Information Administration, Natural Gas Monthly

Gas consumers with dual-fuel capability (and more generally, gas consumers with a very high short-term elasticity of demand) are willing to reduce gas consumption at short notice in response to changes in the price of delivered gas, such as might occur at peak times when the gas transportation network is operating at capacity. In practice, partly for historical reasons, very short-term rationing of the capacity of the network at peak times occurs not by raising price, but by reducing supply to certain customers. Customers who are willing to accept such “interruptible” service (such as customers with dual-fuel capability) can usually obtain a lower price for transportation services.

Natural gas is essentially a homogeneous product. Although gas extracted from the ground differs in chemical composition, gas-processing facilities remove unwanted substances and ensure that the resulting gas maintains a minimum quality and calorific value.

2.2 *Natural gas supply: The chain of production*

Like many other industries, the natural gas industry comprises a number of distinct “components” or “stages of production”, differing in the nature of their regulation and the scope for competition. It is possible to distinguish five broad stages of production, from the point of extraction (the “well-head”) to the point of consumption (the “burner-tip”).

- (a) Gas Production – which can be further broken down into the exploration, drilling, extraction and processing of gas. A few OECD countries import gas in liquid form (known as LNG), which is subsequently re-gassified and distributed by a pipeline network. For the purposes of this paper, such re-gassification facilities can be included within the gas production sector.
- (b) Gas Transmission – the high-pressure transportation of gas to high-volume customers such as distribution companies, large industrial customers and power stations.
- (c) Gas Distribution – the low-pressure distribution of gas to small and medium-volume gas customers.
- (d) Gas Storage – the smoothing of the flow of gas through the transportation network by pumping gas into holding facilities at off-peak times, and withdrawing the gas at peak times.
- (e) Gas Retailing or Marketing – the provision of services of contracting with production, transmission and distribution companies on behalf of gas customers and associated billing and metering services.

We will examine each of these components in turn, with a focus on the economies of scale and scope and the opportunities for competition.

2.2.1 *Gas production*

Natural gas is extracted from underground wells, often as a by-product of the extraction of oil. Pipelines from individual wells (known as “gathering lines”) transport gas to nearby facilities where the gas is cleaned and processed before being passed into the next stage of production, such as insertion into a high-pressure transmission pipeline, or cooling into liquid form. The rate at which new wells are developed depends upon investment in exploration, which depends, in turn, on predicted future gas and oil prices.

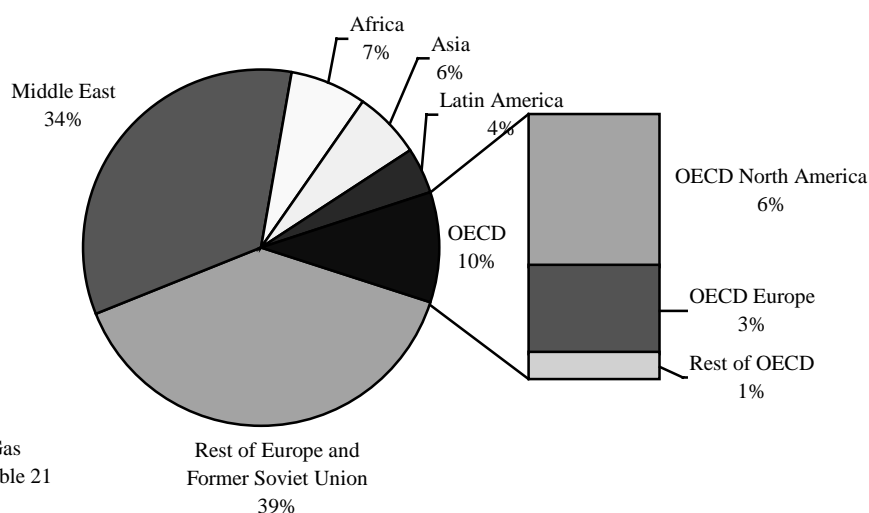
The development and exploitation of an underground gas reservoir requires a relatively large sunk investment in the form of extraction and processing equipment, and a pipeline to the nearest gas transportation network serving a suitable gas market. Because most countries have in the past maintained a monopoly (or near monopoly) over the transportation and distribution network, in most cases a gas producer faced only one potential buyer of its gas. This exposed the gas producer to the threat of “hold up” – whereby once the upstream investment is sunk, the downstream network monopoly refuses to purchase in the hope of negotiating more favourable terms and conditions. As a result, almost all investment in new production was (and still is in many cases) carried out under either long-term contracts or vertical integration. In particular, long-term contracts of the form known as “take-or-pay” guarantee the gas producer a price for a certain volume of gas. These contracts can be for as long as 25 to 30 years.

As we will see later, one of the benefits of introducing competition into the gas industry is that it removes the dependence of gas producers on a single purchaser, thereby reducing or eliminating the threat of hold-up. Gas production contract terms in the UK and the US have become significantly shorter and, indeed, a growing proportion of gas is sold on the “spot” market (i.e., for delivery within a few days or weeks).

In most cases, competition between gas producers is feasible. Although there is a certain minimum efficient scale in gas processing facilities, these are not large.⁶ For many countries there are a sufficient number of independent gas fields within an economic distance of an existing pipeline to sustain effective competition between gas producers.⁷ In the case of the UK, for example, gas is produced at 80 different fields in the North Sea, six fields in the Irish Sea and 13 onshore fields. Of course, as in any industry, the fact that competition is feasible does not imply that competition will be effective in practice, as one or a few producers may own all the viable independent sources of gas. As discussed later, this is especially of concern when the independent sources of gas are under the jurisdiction of a foreign country.

As Figure 2 illustrates, although OECD countries represent 54 percent of world consumption of natural gas, they own a relative small percentage (around ten percent) of known world reserves. By far the bulk of known world gas reserves are in the former Soviet Union. It is expected that in the long run OECD countries will increasingly be gas importers.

Figure 2: World Reserves of Natural Gas



Source: IEA, Natural Gas Information (1999), Table 21

2.2.2 Gas transmission

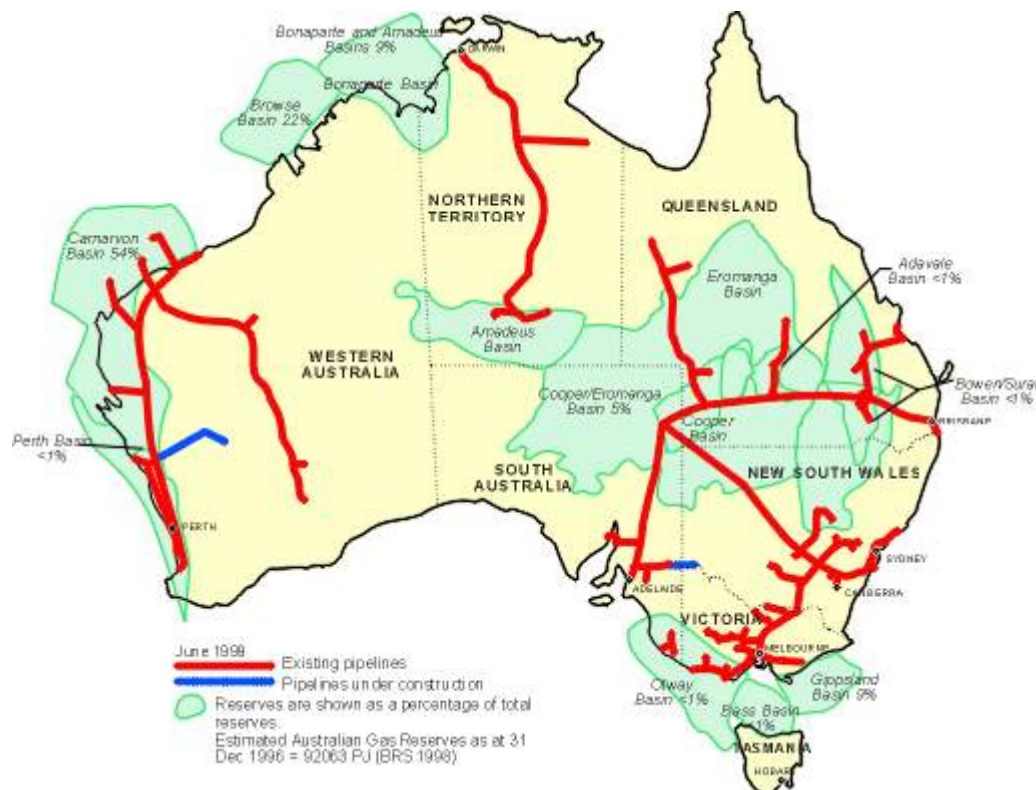
Unfortunately, most gas is not consumed where it is produced. Rarely are gas wells located near major consumption centres. Gas must be transported, often over long distances. Although it is technically feasible to cool gas into liquid form and transport it by conventional transport modes (rail, road, sea), in practice this process is uncompetitive except in a few narrow circumstances.

Instead gas is transported through a system of pipelines varying in pressure and diameter. This pipeline network is conventionally divided into two components - the high-pressure, “trunk” point-to-point pipeline system known as the “transmission” network and the low-pressure, high-density gas “distribution” network for distributing gas to small and medium sized consumers.

There is no clear physical distinction between these two networks. However, some distinctions can be made on the basis of pipeline pressure. National transmission usually takes place at pressures of around 60-80 bar. Regional transmission is typically between 40 and 15 bar. Local gas distribution takes place at a pressure of less than 15 bar. Because gas pressure diminishes in the pipeline along the direction of flow, pressure is maintained in transmission pipelines by periodic compressor stations. To an extent, the capacity of a pipeline can be increased by upgrading the compressor stations.

The geography of natural gas transmission networks varies from country to country according to the location of the primary sources of gas production (or gas importation) and gas consumption. As an example, the natural gas transmission pipeline system in Australia is presented in Figure 3.

Figure 3: The Transmission Pipeline Network in Australia



Source: Australian Gas Association

Is competition possible between transmission pipelines? As in other network industries, the scope for competition in natural gas transmission pipelines depends upon the extent of economies of scale, the level of demand and the physical location of sources of gas production and gas consumption.

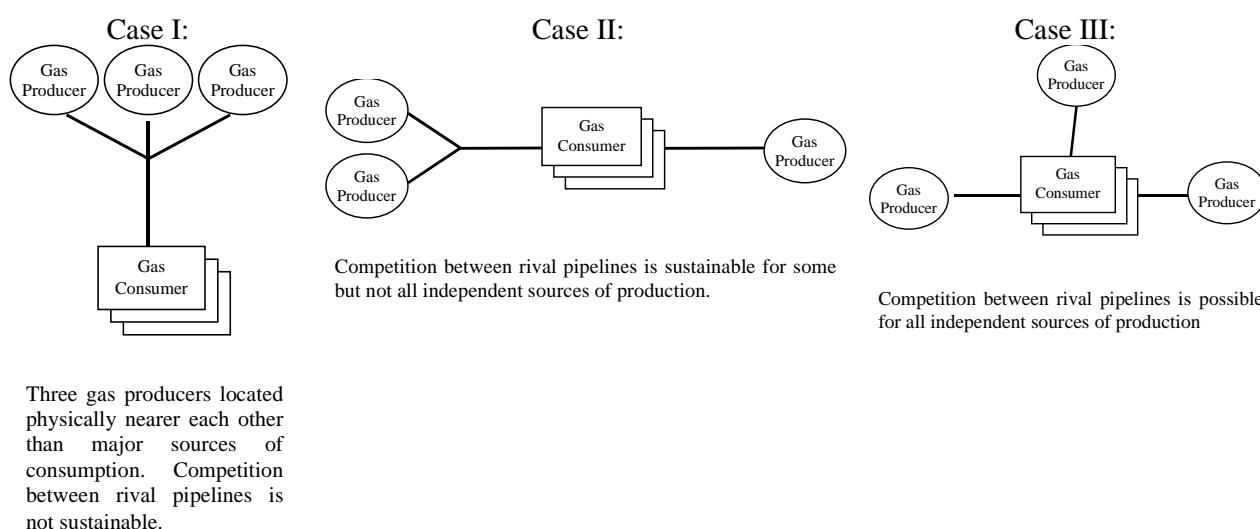
Gas transmission pipelines exhibit sizeable economies of scale, for the following reasons:

- first, a large proportion of the costs of a new pipeline are the costs of obtaining rights-of-way and laying the pipe. These costs are relatively insensitive to pipeline diameter and capacity;
- second, the capacity of a pipe increases at a rate more than proportional to the square of its diameter⁸, while the capital cost of a pipe increases at a rate less than proportional to the square of its diameter;

- third, the pressure drops along the length of a pipeline for a given flow per unit area, but the rate of pressure drop decreases as diameter increases. In addition, the capital cost of compressor stations increases at a rate less than the increase in the pressure ratio they cause.

The existence of economies of scale on a single route does not, however, rule out the possibility of competition between gas transmission pipelines. A pipeline transporting gas from one field can compete with another pipeline transporting gas from a different field, depending on the geography of producers and consumers. This is illustrated in the following cases:

Table 1: The Role of Geography in Determining the Level of Competition between Pipelines



The possibility for pipeline-to-pipeline competition is most highly developed in the US, which has a highly developed and inter-connected gas transmission network. Indeed, one US commentator has argued that all major US cities could enjoy pipeline-to-pipeline competition from two or more pipelines simply by constructing pipeline spurs to pipelines passing with a radius of 100 miles.

In practice, pipeline-to-pipeline competition in the US is of greatest importance at so-called “hubs” where several pipelines intersect. According to FERC, as of July 1994, there were 19 hubs operating in the United States and another 11 were scheduled to be opened by the end of 1995.⁹ There is also a degree of pipeline-to-pipeline competition in Germany where Wingas competes mainly with Ruhrgas for large-volume sales to industry¹⁰.

The scope for competition depends not only the economies of scale, and the geography of sources of production and consumption, but also on the level of demand. Where demand is sufficiently large relative to the capacity of any individual pipeline, there may be scope for competition between parallel pipelines, even when the gas producers are located relatively near to one another. For example, in the UK, four parallel pipelines transport gas into England from the beach head at St Fergus in Scotland.

The opportunities for facilities-based competition in transmission pipelines vary from country to country according to the magnitude and the geography of demand for gas flows. As a rule, however, given the substantial economies of scale in transmission pipelines, it seems likely that for the foreseeable future

effective inter-pipeline competition even in fully liberalised markets will be limited to a few geographic locations (near “hubs”).

2.2.3 *Gas distribution*

Some gas customers, particularly very large gas consumers, are supplied directly off the high-pressure transmission network. Most smaller customers, in contrast, are supplied through local gas distribution companies, known as “LDCs”. Like many other network industries (such as local electricity distribution, postal delivery, local telecommunications, cable television), local gas distribution exhibits economies of density – once the costs have been sunk of installing a gas main down a street, the marginal cost of connecting another house or building to the gas main is very small. Because of these economies of density, local gas distribution is, generally speaking, a natural monopoly.¹¹

2.2.4 *Gas storage*

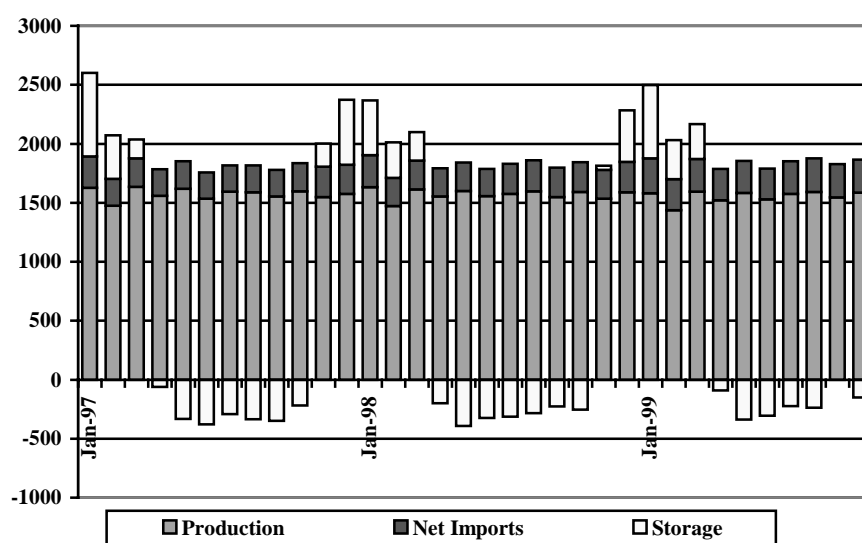
As mentioned earlier, demand for gas is highly seasonal. Demand at peak times can be several times higher than at off-peak times. Because it costs significantly more to construct a network that can cope with peak flow demands, there is a demand for services for smoothing the flow of gas through the network – increasing the flow of gas at off-peak times and reducing the flow of gas at peak times.

This smoothing function is carried out by gas storage facilities, which are filled at off-peak times and drawn down at peak times. Although it is feasible for gas consumers to store their own gas, in practice (perhaps for safety reasons) this service has traditionally been supplied by the network itself or by third-party service suppliers.

Gas is stored in a number of different types of facilities, such as depleted gas reservoirs or disused mines. In addition, a certain amount of gas can be stored in the network itself, by varying the network pressure, increasing pressure in off-peak times and letting pressure decline at peak times. This is known as “line pack”.

Although access to certain key facilities (such as depleted gas reservoirs) can be limited, the economies of scale in gas storage are small. As a result, there remains scope for effective competition in gas storage services, with the possible exception of regions with low population density.

The following figure illustrates how, in the case of the US, storage is used to smooth gas consumption over the course of a year. Physical production remains roughly constant year round, with storage facilities being filled in the summer months, and drawn down in the winter months.

Figure 4: US Gas Supply By Source Jan 97 to Oct 99 (bcf)

Source: US Energy Information Administration, Natural Gas

2.3 Gas market structure and ownership

The market structure for the natural gas industry differs widely from country to country. As a general rule, in most OECD countries the gas industry features significant levels of government ownership and, to an extent, vertical integration. There are however significant differences between countries. Table 2 summarises the market structure of the natural gas industry in a number of OECD countries.

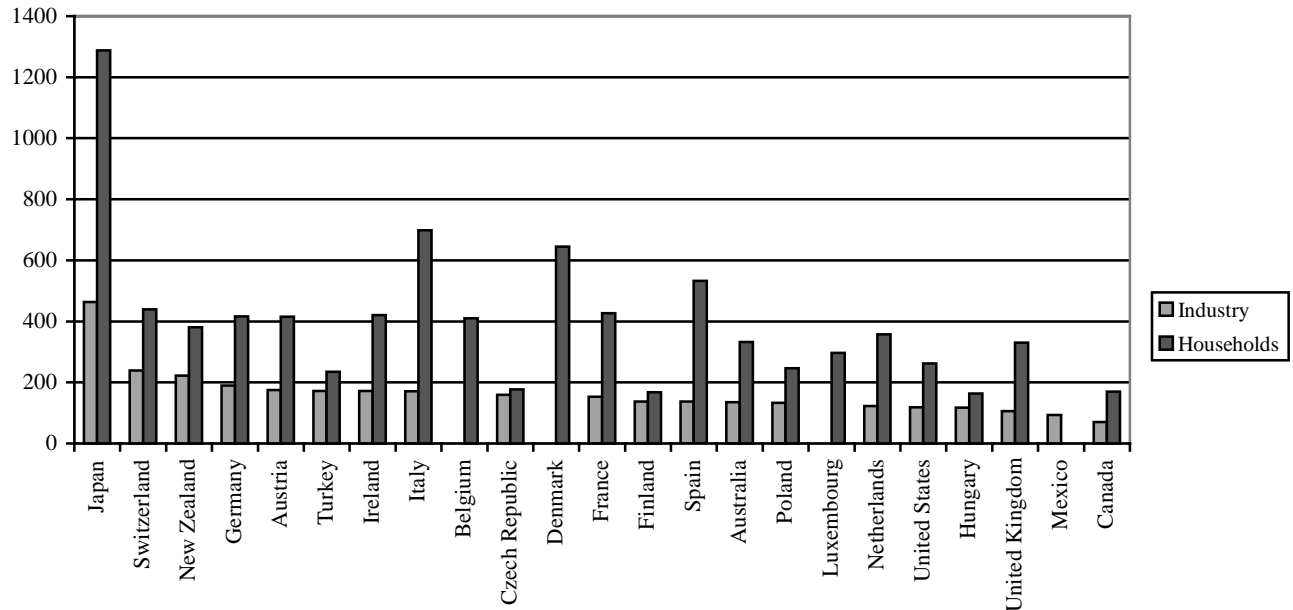
For the purposes of this paper it is useful to highlight the most important differences between the gas industries of North America and Europe:

- although the EU Gas Directive will likely have an impact in the medium term, at present the natural gas industry in Europe features a number of national transmission monopolies directly supplying about half of the total gas market, and a number of regional distribution monopolies. In a few cases transmission and distribution is fully integrated (e.g., the UK, France and Italy). These national networks are interconnected (with the exception of Finland and Greece);
- the largest reserves of gas in Europe are those of Norway, Netherlands and the UK. Western Europe imports a sizeable fraction of its gas, particularly from Algeria and the Russian Federation. The proportion of imported gas is forecast to rise;
- in contrast, the US industry involves a greater degree of vertical separation. At the level of gas production, there are a very large number of field producers ranging greatly in size. The degree of ownership concentration is small in virtually all regions (except Alaska). The degree of integration between production and transmission pipelines is small. About 80 pipelines cross state boundaries, with 20 major pipelines transporting over 80 percent of US supplies. The transmission pipelines are usually not integrated into distribution. The level of connectivity in the network is relatively high. Most gas consumers can purchase gas from almost any gas producer. In addition, many distribution companies are served by more than one pipeline;

the proportion of gas imported into North America is small, although the US imports around 15 percent of its demand from Canada.

Figure 5 presents a comparison of gas prices in OECD countries. It is worth noting that the US and the UK, which have liberalised gas markets, have amongst the lowest prices for gas to industry. The prices for gas are particularly high in Japan.¹²

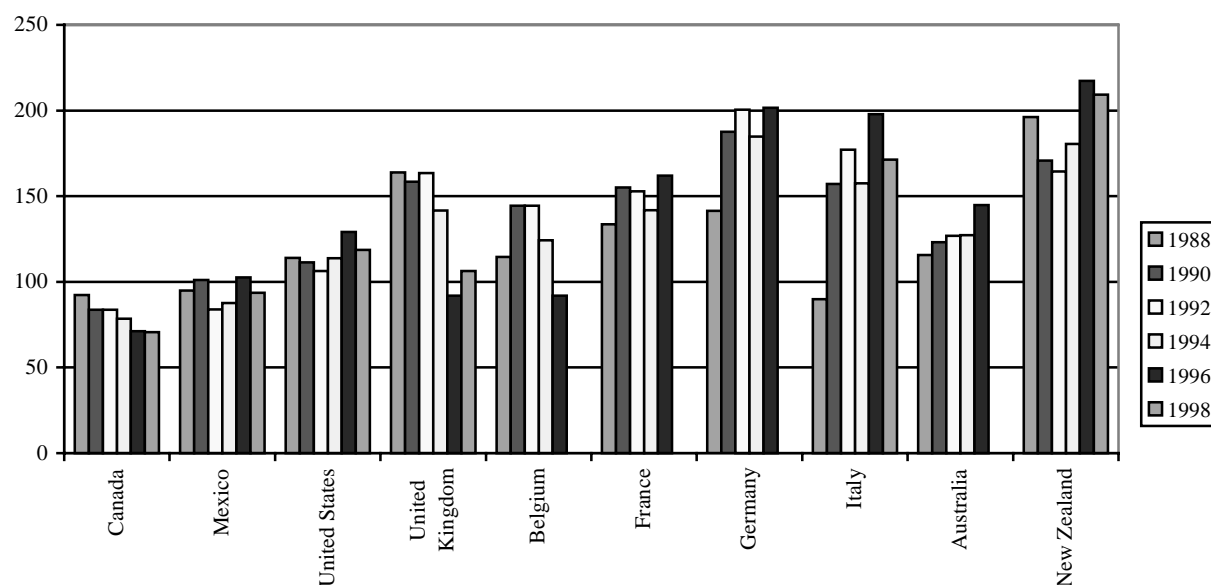
Figure 5: 1998 Natural Gas Prices in US Dollars



Average price per 10b kcal on a gross calorific basis. Data for 1998, except for France, Germany, Australia and Japan - 1997

Source: IEA, Natural Gas Information (1999)

It is also interesting to compare changes in gas prices over time. From Figure 6 it is apparent that all gas prices have had a tendency to rise over the last decade in most OECD countries, they have declined in Canada and the UK, two countries which have liberalised the gas industry during that time period.

Figure 6: Evolution of Natural Gas Prices 1988-1996

Average price per 10b kcal on a gross calorific basis. All prices in US Dollars

Source: IEA, Natural Gas Information (1999), Table 17

1. Large consumers of electricity, however, may be able to install generation facilities allowing use gas as a fuel source
2. “Gas mainly competes against light fuel oil in residential markets, and against heavy fuel oil and coal in industrial markets”. Watkins (1995), p114.
3. See Watkins (1995).
4. IEA (1998a), p37. The IEA argues that inter-fuel price competition (and greater capacity for storage) has the effect of stabilising prices in the US whereas the absence of inter-fuel competition (and smaller storage capacity) makes gas prices in the UK are significantly more volatile. This may be a temporary state of affairs. As long as gas prices remain below those for other fuels there will be growth in gas fired generation capacity, increasing demand for gas relative to other fuels.
5. In some countries there is also a smaller summer peak demand for natural gas as demand for cooling increases demand for gas-fired electricity generation.
6. However, there can be significant economies of scope in the joint exploration and extraction of oil and gas.
7. As in any industry, concentration of the ownership of gas producers will restrict competition, a concern that has been expressed about the supply of gas to western Europe
8. According to Lawrey (1998), pipeline capacity is proportional to the diameter of pipe raised to the power of 2.5, rather than to the power of 2, as might be expected. This is due to the greater ease of flow through pipelines as diameter is increased.
9. Each of these hubs has an administrator who oversees its operation and performs a variety of functions, such as tracking the exchange of titles to gas supplies, invoicing customers for services and allocating pipeline capacity and services at the hub when they are in short supply. See GAO (1994), p3.
10. IEA (1998), p21.
11. Almost 30 years ago, Alfred Kahn noted: “The local distribution of gas is generally recognised as a natural monopoly of the familiar type with the same justification: economies of scale with increasing intensity of use given distribution facilities”. Kahn (1971), p152-153. It is worth noting that the existence of strong economies of density does not entirely rule out the scope for competition. The possibilities for competition will also depend upon the level of demand and the geography of the network. Where there are a large number of large users within a small geographic area, there may be scope for profitable duplication of the distribution network in this region, even though it would not be profitable to directly supply just one of these users.
12. In commenting on this table, New Zealand notes that the New Zealand data is based on a sample of gas tariffs. Since the major industrial users are not tariff customers, they are not captured by the survey. So while the data is a pretty good representation of household and small commercial gas prices, it probably overstates the actual "industrial" gas price in New Zealand.

Table 2: Summary of Market Structure in Selected OECD Countries

	<i>Netherlands</i>	<i>Belgium</i>	<i>Italy</i>	<i>Germany</i>	<i>France</i>
Transmission	A single transmission company (Gasunie) supplies 46 percent of the gas market directly.	Like the Netherlands, Belgium has a single transmission company (Distrigaz) supplying about half (54 percent) of the total gas market directly. Distrigaz was privatised in 1994.	In Italy, SNAM, controlled by ENI, is the dominant transmission company (with around 97 percent of total transmission capacity) and is the only company to have a nation wide natural gas transmission network. EDISON GAS, the second Italian transmission company, has a transmission capacity of around three percent.	Ruhrgas is the dominant transmission company, carrying 70 percent of the total gas supplies, but there are 17 other transmission companies. Collectively these transmission companies directly supply 32 percent of the total gas market.	In France there is one dominant transmission company (Gaz de France, "GdF") along with two other smaller subsidiaries (Gaz de Sud-Ouest and Compagnie Française de Méthane). About 30 percent of the market are supplied directly off the transmission network.
Distribution	35 LDCs, all of which are owned by regional and local authorities.	There are 23 distribution companies, the majority of which (19) have private shareholdings (although even in the cases where private shareholders are in a majority, the public shareholders keep the majority of votes on the company boards).	A very large number of LDCs (more than 800) are active in the distribution of gas. Around 50 percent of these are directly managed by municipal local authorities. ITALGAS Spa, the largest company, with a 30 percent share of distribution nation-wide, is controlled by ENI. SNAM supplies directly around 92 percent of the demand of natural gas for electricity production.	There are also a large number (673) of distribution companies. "there is no clear distinction between different types of gas supply companies in the gas chain. Many companies mainly active in distribution are also involved in transmission and vice versa". ¹ Of these distribution companies, the majority are state-owned. Less than 25 percent of the companies have some degree of private ownership.	Although GdF is by far the largest company in the gas distribution sector, supplying the bulk of the gas demand of residential/commercial and small industrial customers, there are also 15 state-owned and private distribution companies, which supply 2.8 percent of the market.
Vertical Integration	There are almost no ownership links between Gasunie and the LDCs, or between the LDCs and gas producers. The only exception is the minority shares (ten percent) held by Gasunie in two LDCs (Intergas and Obragas).	There are no ownership links between Distrigaz and the LDCs.	ENI is vertically integrated in production, transmission, and distribution activities. ENI, through SNAM, has a 91 percent share in the Italian market for natural gas. ENI owns gas import facilities, transmission networks and the largest distribution company ITALGAS. EDISON GAS is also vertically integrated in production, transmission and distribution activities through ownership links.	Most of the transmission companies have ownership interests in LDCs. Some of the gas producers have ownership interests both in transmission and distribution companies.	GdF is highly vertically integrated. The other two transmission companies are owned by Elf, Total and GdF.
Horizontal Integration	Only 11 of the LDCs are pure gas companies, the majority also distribute electricity and heat.	Of the LDCs only 6 are pure gas companies, the others usually also supply electricity and cable TV signal distn.	The majority of the LDCs also distribute other services, particularly water and less often electricity.	Only around 20 percent of the LDCs are pure gas distribution companies. The majority distributes both gas and water or gas, water and electricity.	GdF is a specialised gas company, but the 15 independent LDCs are usually involved in activities other than gas distribution, such as water distribution.

Table 3: Summary of Market Structure in Selected OECD Countries (contd.)

	<i>United Kingdom</i>	<i>Australia</i>	<i>New Zealand</i>	<i>USA</i>	<i>Argentina</i>
Transmission	BG Transco (formerly the pipeline operating part of British Gas) provides an integrated transmission and distribution network. There are no other companies providing these services. British Gas was privatised in 1986.	Arrangements differ in the different states. Most transmission pipelines are state-owned, except in Victoria and New South Wales.	One major transmission pipeline network in the North Island owned and operated by NGC (Natural Gas Corporation).	About 45 privately-owned interstate pipeline companies provide transmission services. These are privately owned and regulated entities.	Two new pipeline companies were formed in 1992, in the north (TGN) and the south (TGS). These companies are privately owned.
Distribution	BG Transco also operates the distribution network.	Several distribution companies, many of which are private.	Two main distribution companies - NGC and Orion - distributing primarily in the northern half of the North Island. 4 smaller companies. A mixture of private and local government-owned.	Distribution is carried out by local distribution companies, which are usually privately owned and regulated.	8 distribution and supply companies were created in 1992. These are privately owned.
Vertical Integration	The gas distribution system in Great Britain has historically been the most highly integrated in Europe. In addition to being a considerable gas producer, British Gas was completely integrated from the beach to the burner tip until the early 1990's when competition was introduced. However, in 1997 British Gas separated into a production and marketing company (Centrica) and a transmission/distribution company (BG Transco). BG is also heavily involved in production, with ownership of a significant proportion of the North Sea gas fields.	Vertical separation between transmission and distribution in Victoria, whereas transmission is integrated into distribution in New South Wales. There is no integration between production and transmission.	NGC is vertically integrated between transmission and distribution. It also has a significant gas marketing business. All but two of NZ's gas distributors also have a gas retail business.	There is often integration between transmission and gas production and between transmission and distribution.	The Gas Act 1992 prohibits producers and storage companies from owning a controlling interest in a transportation or distribution company.
Horizontal Integration	Neither Transco nor Centrica are involved in other industries although many of the new competitors in the gas marketing sector also provide electricity or water services.		NGC and some other distribution companies are integrated with electricity companies.	Some distribution companies are integrated with electricity companies.	

3. Efficient regulation of natural gas

As in other industries, efficient regulation of the natural gas industry involves three steps:

- (i) identifying which components of the industry can sustain competition and which cannot;
- (ii) identifying mechanisms for introducing effective competition in those components of the industry which can sustain competition; and
- (iii) ensuring efficient price and quality regulation of the remaining non-competitive components.

Determination of an efficient regulatory regime therefore begins with identifying those components of the industry, which can sustain competition. The previous section noted that competition is generally possible in natural gas production. In addition, it was noted that competition is possible in some situations in natural gas transmission. In contrast, competition is typically not possible in natural gas distribution. Introducing competition in the natural gas industry therefore focuses primarily on introducing competition between gas producers and, to a lesser extent, competition between transmission pipelines.

Where there is effective competition between transmission pipelines delivering gas from independent producers, there is little if any need for further regulation in either production or transmission. Competition between transmission pipelines will ensure that gas is both produced and transported efficiently.¹ In these cases little or no additional regulation is necessary. In practice, however, even in the US, with a relatively dense pipeline network, only a limited number of sites enjoy effective pipeline-to-pipeline competition. Most gas consumers face little or no choice of pipeline. It is this case which we will focus on.

3.1 *Introducing competition into the competitive components of the gas industry*

The question of how to introduce competition into the competitive components of the gas industry is essentially the familiar question of effective regulation of access to essential facilities which arises in virtually every regulated network industry. Such issues arise whenever an industry comprises a non-competitive component, which is vertically integrated with a competitive component. There is a large literature discussing access issues in a number of different industries. From that literature, we know that introducing effective competition into the competitive component involves the following three elements:

- (a) downstream customers of the industry must be able to combine the services of the non-competitive component and the suppliers in the competitive component in such a way as to obtain the combined services that they ultimately demand; and that
- (b) the price and quality of the services offered by the non-competitive component must not discriminate between firms providing the complementary competitive component; and, in addition
- (c) both the quality of the regulation of the non-competitive component and the level of competition in the competitive component is likely to be higher when the owner of the non-competitive component does not itself compete in the competitive component.

In the context of the natural gas industry, these principles imply that competition between gas producers (and, to a lesser extent, gas pipelines) can be enhanced by (a) allowing downstream gas customers to choose their gas producer and to transport that gas over the existing pipelines and (b) ensuring

that the incumbent pipeline network not discriminate between gas producers in its prices and terms and conditions. In addition, (c) the quality of competition in gas production (and gas pipelines) and the quality of regulation on gas pipelines can be further enhanced by separation of the ownership of gas production from pipelines.

3.1.1 The importance of mandating access at non-discriminatory terms and conditions

These three elements are essential to the promotion of competition for familiar reasons. As is well known from work in a number of industries, a regulated firm in a non-competitive sector which is vertically-integrated into a competitive sector will have a strong incentive to restrict competition in the competitive sector, if doing so enables the regulated firm to recover some of the monopoly rents that are foregone due to regulation.

Whether or not the regulated firm will be able to increase its profit through integration and foreclosure of competition in the competitive sector will depend on the difference in the regulation that the firm faces in the provision of the integrated or combined service and in the provision of the non-competitive service alone. Where the regulation of the integrated service is weaker than the regulation of the non-competitive service alone² the integrated firm will be able to increase its profits by limiting competition in the competitive service. In this case the integrated firm will always prefer to prevent firms from competing in the competitive service.

In the case of the gas industry, if the pipeline regulation is such that it allows the pipeline owner to earn residual monopoly rents on the bundled service of gas plus transportation while regulation of transportation alone largely eliminates monopoly rents, the integrated firm will be extremely reluctant to grant access to competing gas sources. This might be the case, for instance, if the regulation focused only on controlling the price for transportation service, leaving the price for gas to be “determined by the market”. In such a context an integrated firm has an incentive to exclude competition in gas production, in order to raise the price for gas to recapture the monopoly rents that it loses through regulation of the transportation service.

The reverse is also true: an integrated firm which is making on loss on the regulated sales of its bundled service may be extremely willing to provide access to the non-competitive component when doing so will allow it earn a normal rate of return on the non-competitive component alone. This fact was one of the key stimuli to the liberalisation of the gas industry in the US and the UK.

In the early 1980s US pipelines (which were at the time only allowed to offer a bundled “gas plus transportation” service) entered into take-or-pay contracts at gas prices which reflected expected future gas shortages and the high price of oil prevailing the time. Subsequent falls in the price of oil and gas put many pipelines in the position of making a loss on their bundled gas-plus-transportation service. Faced with the possibility of bankruptcy, when offered the opportunity, many pipelines opted for providing transportation service alone ensuring a guaranteed regulated margin, as a step towards restoring financial viability.

A similar situation arose in the UK. Although vertical separation of British Gas was advocated by the competition authorities at the outset of the reform process, this was resisted by British Gas. However, after the reforms had been implemented, British Gas found itself committed to long-term take-or-pay contracts with a price above the market price for gas. British Gas’s response was to voluntarily divest into two companies – a pipeline operator (“Transco”) and a gas producer and retailing company (“Centrica”). This allowed British Gas to guarantee a viable rate-of-return on one part of its business (the pipeline business, Transco), while restricting the losses to the gas production and retailing company.

3.1.2 *The importance of who makes the choice*

It is not sufficient that gas suppliers be guaranteed access to the transmission network at non-discriminatory terms and conditions. It is also necessary to place the decision over the choice of supplier in the competitive activity in the hands of downstream firms who have the incentive to choose the supplier efficiently – in this case, in the hands of downstream gas customers.

This can be illustrated by the experience in the US. Prior to the 1930s in the US, the gas industry consisted largely of a series of non-interconnected pipelines connecting a single gas field with a single city or large gas consumer. In the 1930s, in a reorganisation of the industry, vertical separation was introduced – the ownership of the pipelines was separated from the ownership of gas production and downstream distribution facilities. In principle, a profit-maximising non-integrated pipeline would have no incentive to discriminate between producers. In contrast, a profit-maximising non-integrated pipeline would have an incentive to purchase gas from the cheapest gas source. However, pipelines are not simply profit maximising, but are heavily regulated. The incentives on the pipeline owners depends upon the nature of the regulation under which they operate. If pipeline owners are allowed to pass along the price of the gas they purchase in the regulated price of the bundled product, they will have little incentive to purchase gas efficiently.

It was not until 1985 when the US Federal Power Commission introduced a system of third-party access to the pipelines that competition between gas sources began to flourish. Downstream gas customers had strong incentives to seek better prices from alternative gas producers and to arrange with existing pipelines to deliver that gas to the point of consumption. Indeed, downstream gas customers had an incentive to seek out cheaper gas producers even when that meant constructing new pipelines to connect to low-price gas supplies. Gas producers also had a strong incentive to construct new pipelines when that enabled them to deliver gas into high-price markets. As a consequence, the introduction of third-party access had the result of increasing the connectivity of the US pipeline network to the extent that virtually all-major gas customers can purchase gas from almost any supplier. The US experience is described further in Box 1.

Box 1 : Third-Party Access, Competition and the Transformation of the US Natural Gas Industry

Following the passage of the Natural Gas Act 1932, the natural gas industry in the US was heavily controlled. Vertical integration was discouraged, entry was controlled and pipeline tariffs and gas prices were regulated. Pipelines were required to tie the sale of gas to its transportation. Pipeline customers (usually local distribution companies and large end users) could purchase only the bundled package of services that included gas acquisition, storage and transmission.

The process through which federal regulators certificated pipeline construction led to a dense but disconnected network of pipelines. The regulatory processes balkanised gas markets and created a disconnected network topology that prevented gas from flowing from each connected field to each connected city. Pipelines operated independently of one another, each supplying its own cities with its dedicated gas supplies.

Starting in 1985, through a series of regulatory orders by the Federal Energy Regulatory Commission, pipelines increasingly took advantage of the possibility to become “open access” pipelines which would offer pure transportation services on behalf of any gas producer or consumer. Within three years of the passing of the enabling order in October 1985, nearly all the major pipelines had become open access pipelines. Between 1982 and 1987 transmission of pipeline-owned gas decreased 60 percent while transmission of customer-owned gas increased by 180 percent. By 1991 customers owned over 85 percent of gas shipped in interstate commerce.

As open access spread through the pipeline network, spot markets opened at fields and interconnection points. The number of spot markets reporting prices to the *Gas Daily*, an industry periodical, grew from zero in 1985 to around 50 in 1990. There are 21 major interstate pipelines on which 1400 local distributors hold transportation contracts. On average, each pipeline has nearly 70 suppliers of transportation rights.

An important consequence of the change to open access has been the growth of connectivity of the gas network. When prices across gas fields are disparate, gas purchasers will demand transportation connections to gain access to fields with low prices. Gas producers in fields with low prices will demand transportation connections to gain access to customers in downstream markets with high prices. As a result of this pressure pipeline interconnections have proliferated, leading to convergence in prices nation-wide and the emergence of market “hubs” where several pipelines meet.

The evidence clearly indicates that markets have flourished in the brief period since FERC authorised open access. Markets have come into existence in every field and at most major pipeline interconnections. The volume of gas transported has increased dramatically. The maximum flow between almost all points has improved because open access has created many new paths through the network around former bottlenecks. Markets succeeded where regulation failed in equalising gas prices across the geographically dispersed production fields.

“De Vany and Walls sum up their work thus: the industry has become almost perfectly contestable at the wellhead and in transportation, with spot prices at 50 or so widely separated points following one another so closely that they represent one market. On average, there are no arbitrage opportunities. City gate prices track field and pooling area prices. Brokers now buy and sell gas over the entire pipeline network, even without uninterruptible transmission rights. Pooling points (hubs) are very tightly integrated with production markets. ... In short, the North American natural gas market now displays many of the key criteria of competitive markets: many sellers, many buyers; the ability to link buyers and sellers; an absence of arbitrage opportunities, price transparency, and relative freedom of entry and exit.”³

3.1.3 *The importance of separation*

The third element in effective access regulation is separation. Experience from other industries shows that achieving the full benefits of competition in the competitive segment requires ownership separation of the competitive component from the non-competitive component. The arguments for such separation are familiar. First, separation enhances the quality of regulation of the non-competitive component by enhancing the quality of information about underlying costs, including the assets to be included in the regulatory “rate base”. A regulator is better able to identify and cost the assets used in the provision of the non-competitive service when those assets are physically separated from assets used to provide other services.

The second argument relates to the effect of separation of the incentives of the firm and the ease of regulation. In the absence of separation the integrated firm has an incentive to stifle competition, for the reasons mentioned above. Regulatory controls on prices and terms and conditions and competition law controls on abuse of dominance and other anti-competitive behaviour can limit the ability of the incumbent firm to restrict competition but cannot eliminate this ability entirely. The regulated firm has both more information and strong incentives to engage in regulatory evasion. The regulator, even if successful, is constantly catching-up with the tactics of the regulated firm. Vertical separation reduces the incentive on the owner of the non-competitive component to discriminate and restrict competition, and therefore reduces the demands on regulation allowing a lighter-handed, more efficient form of regulation.

The third argument relates to the incentives on the owner of the non-competitive component to expand capacity to meet access demands. When the competitive and non-competitive activities are integrated, the owner of the non-competitive activity has a strong incentive to limit capacity if, as a result, it can limit the amount of upstream or downstream competition. The refusal to expand capacity can prevent new upstream firms from entering and eroding any rents the firm can obtain in the competitive activity. On the other hand, when these two activities are separated, the owner of the non-competitive activity has an incentive to expand capacity to meet the market demand.

These arguments in favour of separation need to be balanced against the potential losses of vertical economies of scope. However, in the gas industry, since the vertical economies of scope are not very large, vertical separation can yield a material improvement in competition.

This point is made by several commentators. For example, Braeutigam notes:

“Experience in regulatory reform in other industries serves as a caution to remain aware of the problems that vertical integration in a regulated industry can create, particularly where a vertical structure involves both regulated and unregulated parts of a firm. The basic problem is that a firm with a regulated monopoly in one market may somehow take advantage of that position to gain unintended advantages in unregulated, inherently competitive markets. Such vertical integration might enable a firm to circumvent limitations on profit or rate of return placed on the regulated portion of the firm. It also may allow the regulated firm to discriminate against other firms competing against its unregulated affiliate. ...

Discussions of vertical integration often point out that integration can have desirable consequences as well. For example, integration may allow the firm to co-ordinate its production and transportation activities, ensure supplies for the pipeline, and eliminate incentives for opportunistic behaviour by either party in bargaining for the best terms in contracts signed after the facilities are built. Thus, potential problems exist with an integrated structure, but proscribing

integration without first assessing the costs and benefits of such an action would not be sound public policy”.⁴

The ICC (1998) goes further:

“Some form of regime for third-party access to the monopoly network infrastructure has been the axiomatic liberalising measure for all countries that have successfully liberalised their gas or electricity sectors. The evolution of liberalisation has demonstrated that a positive right of third party access is a crucial aspect in the creation of conditions for true competition in the gas and electricity industries. ... However the success of such a regime depends upon a variety of other measures that are required to ensure that parties can in fact gain access to transmission or transportation networks – perhaps the most crucial of other measures is a transmission system which has been fully unbundled from its utility owner”.⁵

The regulatory regimes of both the UK and the US feature line-of-business restraints which prevent pipeline owners from integrating into other parts of the gas industry, especially gas production. This vertical separation is a key component in the success of these regimes. Other countries (such as New Zealand), which have sought to introduce competition while maintaining vertical integration have not met with the same level of success. The important story of vertical separation in the UK gas industry is described in the following box.

Box 2: Vertical Separation: The Case of British Gas⁶

In 1988, following disappointment with the absence of competition in the UK gas industry, the UK Monopolies and Mergers Commission (MMC) recommended that British Gas publish information about access terms and conditions and that “Chinese Walls” be set up between the part of BG involved in access negotiations and those involved in gas purchasing and supply. Three years later, in 1991, the Office of Fair Trading concluded that this conduct regulation had not been sufficient to stimulate competition and that additional structural remedies were necessary. Although it argued that full divestment was the best option, it was willing to accept the creation of a separate transportation and storage subsidiary as a compromise.

In 1993, following a further review of the gas industry, the MMC went further in its recommendations. It recommended that BG be required to divest its trading (i.e., supply) business by 31 March 1997. The MMC argued that competition could only be sustained in the longer term if competitors had non-discriminatory access to the transportation network and storage facilities. The MMC noted that ‘the integrated nature of BG’s business ... is unable to provide the necessary conditions for self-sustaining competition’. Even if BG had separate subsidiaries for transportation and trading, as agreed in the undertakings to the OFT, the problems of conflict of interest would not be resolved. There had been delays in offering quotations and in reading meters, and both the structure and the level of transportation charges and BG’s operational requirements for competitors affected their ability to compete. Ofgas had argued that without full separation there might be problems over access to the network for competitors in the event of capacity shortages, transportation pricing that disadvantage competitors, asset and cost allocation that favour the transportation side of BG, and the confidentiality of information. Regulation of such behaviour would be costly and difficult given the asymmetries of information. Since the MMC believed that competition would not be self-sustaining without vertical separation and that competition in supply was desirable, it concluded that the situation acted against the public interest, and recommended divestment of BG’s trading business.

The MMC noted that the cost of vertical restructuring, estimated at 130 million pounds per year over ten years, had to be paid for, and it suggested that Ofgas should pass on ‘an appropriate proportion of the costs of such restructuring to tariff users’ and that Ofgas should take account of such costs in setting transportation and storage charges.

In the view of the MMC the *sine qua non* for future effective competition was full vertical separation. Although this entailed costs – since a demand- and supply-balancing regime would have to be established, any scope economies between trading and transportation would be lost, and transactions costs would be incurred – the MMC argued that these did not offset the expected benefits of competition. The MMC quoted the BG’s estimate ... but stressed that these estimates were uncertain and probably too high and that in any case they were small in relation to the size of BG’s supply business. ...

Other options for separation were also considered and rejected by the MMC. The option of splitting BG Trading into separate regional companies, which was mentioned in Ofgas (1993) was not taken up because of the extra costs involved and because the number of competitors was not a problem. The Hammond et al (1985) suggestion that BG be split along the lines of the electricity supply industry into the national (and possibly) regional transmission system, with integration regional distribution and supply companies, was rejected because of cost and the difficulty of ensuring non-discriminatory access to the regional distribution networks. Similarly, the MMC did not believe that the storage system should be split from transportation because BG’s storage facilities are used to provide security of supply as well as to service seasonal peaks. It did argue that accounting separation of storage facilities might be desirable since competitors might want to set up their own storage facilities. ...

One lesson to be learned is that it is far easier to achieve structural reforms to promote competition before an integrated monopolist is privatised. The very different approach that the [UK] government adopted when privatising the electricity supply industry suggests that it did not take long to recognise the mistakes made in the case of British Gas.

3.2 *Further issues in gas liberalisation*

3.2.1 *Should all customers be able to choose?*

In the US, the ability to choose gas supplier is primarily exercised by large gas customers, such as power generators, large industrial consumers and local gas distribution companies. In the UK, on the other hand, in principle even small residential customers can choose their gas supplier. This raises the question – If we are to exploit all the benefits of competition, is it necessary for all downstream gas customers to have a choice of gas supplier (and possibly gas transmission pipeline), or is it sufficient that large gas consumers have a choice of supplier? Or, to put the question another way, what are the benefits from extending choice from merely the customers of the transmission network, to all gas customers, including the customers of distribution networks?

A precise answer to this question depends upon the nature of the regulation on local distribution networks. If this regulation provided perfect incentives on the local distribution company to choose the most efficient gas supplier, there would be little benefit in extending choice to lower levels, as the LDC could act as an efficient purchasing agent for the smaller customers that it supplies. In practice, the regulation of LDCs is often imperfect and results in weak incentives on LDCs to actively seek out the cheapest gas supplies. This, in turn, has a tendency to weaken competition in the market for gas supplies – in a market for a homogeneous product in which the customers care little about costs, new efficient producers will have difficulty gaining market share. Extending choice to customers of distribution companies therefore has two beneficial effects:

- first, by placing the decision over gas supplies in the hands of those who have a strong incentive to make such decisions efficiently it further enhances competition upstream in gas production (and among pipelines); and
- second, by separating the gas purchasing decisions of LDCs from the gas transportation decisions, it simplifies and improves the efficiency of regulation of LDCs – rather than establishing incentive schemes and monitoring for two decisions – on gas purchasing and gas transportation, now the regulatory system need only focus on ensuring efficiency in transportation.

Extending choice to many millions of small customers also undoubtedly increases transactions costs, as a single gas supply contract between an LDC and a producer is replaced by perhaps millions of individual contracts between small gas customers and gas producers. To an extent these can be offset, without reducing the benefits of customer choice, by allowing gas “retailing” or “marketing” companies to act as intermediaries or “brokers” between small and medium sized customers and the gas production, transmission and distribution companies. These companies reduce transactions costs by aggregating the gas demands of a number of small customers and acting on behalf of those customers in negotiations with production, transmission and distribution companies. Competition between such gas retailing companies can ensure that such services are provided efficiently. This is the approach that has been adopted in the UK where there are currently around 66 companies licensed to provide such gas retailing or marketing services.

In the US, the introduction of competition at the level of local distribution companies is a responsibility of state regulators. As of July 1998, 13 states had some form of “open access” programme in place for at least part of their retail market. Virtually all other states are considering adopting open-access programmes “behind the city gate” (i.e., to individual customers of the LDC).⁷

A study by Walls attempts to assess whether third-party access at the distribution level enhances overall efficiency. He examines the degree of correlation between the price of gas to customers of distribution companies and prices at gas fields. A low degree of correlation suggests that distribution companies are not selecting efficient gas suppliers or are not passing the cost savings on to consumers. On the other hand, a high degree of correlation suggests that gas customers are obtaining access to the most efficient gas supplies. He finds that “city markets which have adopted some form of bypass or open access at the local level appear to be more strongly integrated with the field markets”. This suggests that open (i.e., third party) access even at the local level is an essential ingredient in enhancing competition and the quality of regulation.⁸

3.2.2 *How should access be allocated to scarce capacity?*

In the short run, the capacity of a natural gas transmission network is fixed and limited. The possibility arises that this capacity limit will be reached, especially in winter, when gas demand is at its peak. If the capacity limit is reached, not all access requests can be physically satisfied. What sort of mechanism should be adopted for allocating scarce pipeline capacity amongst competing access demands?

Note that this question is a matter of policy interest only under a regulatory regime, which requires mandatory carriage of gas for third parties. When the pipeline itself chooses its source of gas and delivers a bundled “gas plus transportation” service, handling of peak load demand is an internal matter for the transmission pipeline owner, which it can address through the careful use of storage facilities to smooth flows over the network, peak-load pricing to ration demand at peak times, or through a system of interruptible (quantity adjusting) contracts to its downstream customers. When a pipeline must carry gas for third parties (as is required for effective competition) the question arises how access to the pipeline will be rationed between those parties in the event of shortages of capacity.

There are two broad approaches to rationing access. The first is to ration by raising the price of transportation, causing downstream firms to reduce their quantity demanded to a level equal to the total capacity. The second approach is to ration the quantities that firms can transport (in an amount, which sums to the total available capacity) and allow that quantity to be traded on a market, determining the market-clearing price.

The first approach - rationing access to the network by raising the price for transportation at peak times – is a conventional economic solution. In principle, the regulated price for transportation should be adjusted in real time to the point where demand for gas at that moment just matches the available capacity.

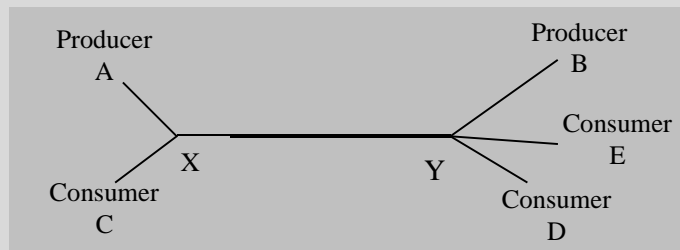
The primary difficulty with this approach, however, is that it raises difficult regulatory problems. The transmission company, like any regulated firm, has strong incentives to exploit any opportunity to raise its prices. The regulated firm is likely to have more information than the regulator about available spare capacity at any given moment. It may therefore be in a position to influence the regulated prices by claiming that capacity is exhausted.

In order to verify claims that the capacity of the network is exhausted the regulator needs access to all of the transportation requests at all points in time – as the box emphasises, evidence that some subset of transportation requests exhausts capacity is insufficient because these transportation requests can be offset by requests for transportation in the reverse direction. The regulated firm may also be able to engineer capacity shortages through misuse of its pipeline or storage facilities.

Traffic Flows and Capacity Bottlenecks in a Simple Network

This box illustrates that identifying the existence of capacity shortages in a network requires consideration of traffic flows over the entire network.

Consider the following network with two producers (A and B) and two consumers of gas (C and D). The pipeline layout is as follows:



The section of the network between X and Y has a maximum capacity of 100 units. Initially D signs a contract with A for delivery of 100 units of gas. This contract exhausts the network between X and Y, preventing A from supplying any other customers beyond Y, such as consumer E. However, suppose now that C signs a contract with C for delivery of 100 units of gas. This demand can be satisfied simply by diverting the gas from A to C and the gas from B to D. The section between X and Y of the pipeline is no longer capacity constrained (and in fact is not being used at all). Given the existence of the new contract between B and C, A can now sell up to an additional 100 units of gas to customer E.

Rather than attempt to regulate the prices and allow quantities to adjust to clear the market, it is often preferable to instead fix the total quantity of capacity available and then let the prices for that quantity of capacity be determined on the market.⁹ This approach has the advantage of being transparent and much easier for the regulator to police – determining the total level of capacity available is a much more straightforward task than determining whether that capacity is exhausted given gas flows, at every moment in time, over the entire network.

Note that the number of markets for pipeline capacity that are required could be relatively large. Different segments of the pipeline network may have different capacities and may experience different levels of congestion (certain segments may act like “bottlenecks”). Capacity on each of these segments must therefore be traded in its own market. Gas traders must be able to purchase sufficient capacity on connecting segments of a pipeline network to be able to form a viable path from the gas producer to the gas consumer. Demand for capacity also varies over time. A market must therefore be established for each pipeline segment and at regular intervals in time. The transactions costs involved in operating the large number of necessary markets is one of the drawbacks of this approach.

The transactions costs of operating such markets also places a practical limit on the interval of time over which capacity is purchased. In practice, of course, demand for capacity can vary throughout each day according to weather (amongst other things). Yet, it would be impractical to auction capacity rights for intervals of five minutes throughout the day. Instead, capacity is auctioned for much longer intervals (currently one month in the case of the US). As a result, some other mechanism is required for rationing gas when demand exceeds the capacity to supply in the intervals between auctions. The most common such mechanism is the quantity-varying contract known as “interruptible” supply.

Another important drawback with the use of markets to allocate capacity is that, having left the determination of price to the market (rather than the regulator), the door is re-opened to the possibility of the exercise of market power – a firm may be able to acquire a dominant position in capacity and to raise

the price of capacity above its long run incremental cost. As a result, it is necessary under this approach to incorporate safeguards against the acquisition or exercise of market power.

The most common form of safeguards are use-it-or-lose-it rules of various kinds. In order to be able to exercise market power in the transportation market, the owner of the capacity must be able to withhold the use of some of the available capacity (in effect, limiting the available capacity below that which is physically possible). Use-it-or-lose-it rules offset the ability of the capacity owner to artificially restrict capacity by simply mandating that any capacity, which is not used, becomes available for use by others. An example of such a rule is the rule that any capacity that is not used for the transportation of gas by the owner of the capacity reverts to a specified person (such as the pipeline owner) who can resell that capacity as “interruptible” supply.

“[U]se-it-or-lose-it and reversion provisions work explicitly against an entitlement holder’s ability to accumulate rights and then drive up their price by withholding them from the market. The holder’s attempt to restrict output would be defeated by the required reversion of unused entitlements to the pipeline. The pipeline in turn would be required to market the unused capacity”.¹⁰

Use-it-or-lose-it rules arise in other industries in similar regulatory contexts. For example, in the airline industry, take-off and landing slots at many airports are rationed at peak times. In addition to the ability to trade in slots, the regulatory regimes governing many airports include use-it-or-lose-it rules that prevent slot hoarding and other such artificial limits on the airport capacity.¹¹

It should be mentioned that, even amongst liberalising countries, the US is one of the few countries to have a developed system for trading in pipeline capacity. This might be due to an abundance of pipeline capacity in other countries, minimising concerns about the need to ration access to scarce capacity. More likely, the absence of such a mechanism will prove to be a weakness in the regulatory framework of these other countries that will show up in complaints of discriminatory treatment when pipeline capacity is exhausted or in under-investment in pipeline expansion.

3.2.3 *Pricing principles*

Whatever approach is chosen, the transportation prices of the gas transmission network must (in the absence of effective pipeline-to-pipeline competition) be regulated. The question arises as to the appropriate structure for the regulated prices.

There are several general principles for the establishment of regulated prices, which are relevant here. First, the structure of regulated prices should match as far as possible the structure of the underlying costs. Where there are high fixed costs of transmission and low marginal costs (as is likely to be the case for transportation of gas at off-peak times), the regulated prices should reflect this structure. Furthermore, the marginal price for transmission should be equal to the marginal cost of transmission. Transport over longer distances and/or at peak periods should be charged more than transportation over short distances or at off-peak periods.

Such a “two-part” (or multi-part) structure is commonly used in practice. For example, in the US charges for transmission are broken down into a fixed-capacity charge and a commodity (or usage) charge. The bulk (90-95 percent) of pipeline revenue comes from the capacity charge, with a very low usage charge, reflecting the very low marginal cost of transmission (at off-peak times).

The second fundamental principle for price regulation is that where price discrimination between customers or classes of customers is possible, fixed costs should be recovered by charges, which vary according to the customer or the class of customers, according to the elasticity of demand. In other words,

the regulated prices should discriminate between customers, charging higher prices to customers with a higher willingness-to-pay and lower prices to customers with a lower willingness-to-pay. Such a mechanism is more efficient than the alternative of charging all customers some form of average price, as in this case, customers with a willingness-to-pay below the average choose to forego consumption even when it would be efficient for them to consume.

It is sometimes argued that competition in the gas industry will eliminate all price discrimination and that this is a desirable outcome from introducing competition. Neither of these statements is true. As long as the transmission company can prevent resale of gas between its downstream customers, it can discriminate in its charges to those customers, even when those customers are contracting independently and competing with one another for supplies of gas. If, for some reason, the transmission company were prevented from discriminating between downstream customers, it would be forced to charge an average tariff which would, inevitably, force some customers to forego gas consumption even when their willingness to pay exceeds the marginal cost of gas provision.

Note that discrimination in transportation prices between downstream customers is entirely consistent with the principle of non-discrimination between gas producers. As long as the transportation charges do not vary with the identity of the gas producer and consumers are free to switch producers, discriminating between gas customers is consistent with a level playing field for gas producers.

Unfortunately, depending on the design of the access regime, the transmission network may not have the information that it needs to establish its charges efficiently. This issue also arises in the liberalisation of the railroad industry. An integrated railroad company can discriminate between its customers in what it charges for transport services. This is an efficient way to allocate the fixed cost of the railroad network between railroad customers.¹² However, in those cases where the provision of train services is separated from the operation of the track, the track-operating company may not be able to obtain the information that it needs to efficiently charge for the track services. Although, in principle, the train-operating companies could pass on information about the final customers of transport services, the incentives for misrepresentation and the need for close monitoring would be large. This is one of the potential costs of separating track ownership from train services in the rail industry. The same arguments can be made in the case of the gas industry. If gas transportation services are purchased by gas producers (or by other brokers) the gas transmission companies may have difficulty obtaining information about the ultimate consumer and, as a result, may have difficulty discriminating in the transmission charges.

In the case of the UK, the pricing policy (at least prior to liberalisation) was highly discriminatory. British Gas “was able to identify the use each customer made of gas and what its alternative fuel sources were and could price accordingly”.¹³ In 1988, following a decision of the UK Monopolies and Mergers Commission which attempted to introduce greater transparency in the pricing policies of British Gas, British Gas was required to price according to a published tariff schedule. “The requirement to price to a schedule did not entirely remove discrimination because BG was allowed to relate charges to volume and volume-related pricing is a classic form of second-degree price discrimination”.¹⁴ Price (1991) presents evidence that this volume-related pricing was able to bring marginal prices close to marginal cost, one of the requirements of efficiency.

The third principle for the regulated prices of the non-competitive activity is that these access prices should reflect the costs of providing non-commercial service obligations. This is discussed further in the next section.

3.2.4 *Non-commercial service obligations*

A non-commercial service obligation can be defined as a regulatory obligation to provide a service for which the incremental revenue is less than its incremental cost. In general, non-commercial service obligations are not as extensive, burdensome and explicit in the gas industry as they are in other industries. Nevertheless, they do exist. A classic example of a non-commercial service obligation is a requirement to charge all residential customers the same charge, independent of their geographic location, even though the costs of supplying customers varies with their location.¹⁵

Non-commercial obligations are seldom financed by funds from outside the industry. Instead, it is most common for non-commercial obligations to be financed through cross-subsidisation, charging some group of customers above cost in order to cover the losses incurred in meeting the non-commercial obligations arising from serving other groups of customers.

Non-commercial service obligations are not necessarily threatened by the introduction of competition in the competitive segments of an industry. All that is required is that the regulated prices for access to the non-competitive segment be adjusted (downwards) when that access is used as a component of a non-commercial service, to reflect the lower price or higher costs of that service. For example, the requirement to provide gas at a geographically uniform price is consistent with competition among gas producers provided that gas transmission prices are geographically uniform. The requirement to subsidise gas to low-income households is consistent with competition among gas producers provided that the subsidy is applied on gas transmission charges, irrespective of the source of the gas consumed.

Adjusting the access charges in this way eliminates distortions on entry that would otherwise arise, as new entrants seek to avoid the unprofitable customers and instead focus on the high-margin above-cost customers.

Problems of this kind arose in the UK. British Gas chose not to relate its retail price schedules to location or load factor. This implied that customers located close to the “beach head” sites where gas is landed on shore were subsidising those located far away from beach heads. When the regulator chose to introduce some geographic variation in the transportation charges for the carriage of third-party gas, an opportunity for cream skimming arose. New entrants focused particularly on serving customers located close to beach heads with high load factors who were being overcharged by British Gas. “Market shares by the competitors were highest in the high-load factor medium demand market, and lowest for large-volume markets. ... The pattern of competition was related to the fact that BG’s transportation charges for competitors reflected load factor and location, while its own price schedules ... did not”.¹⁶

Nevertheless, the UK did choose to adjust some of its access charges on the basis of non-commercial obligations. UK gas suppliers are required to keep a register of customers who are pensioners or disabled and who qualify for special services.¹⁷ A gas supplier can petition the gas regulator for a special levy payment from the gas transportation company if it believes it has supplied an undue proportion of customers with special needs.¹⁸

It is worth noting that although adjusting the access charges in this way ensures a level playing field for competition in the competitive activity, it may in fact induce inefficient entry into the non-competitive activity. If the non-commercial obligations are financed through internal cross-subsidisation within the non-competitive service, at least some subset of the access charges must be above the cost of providing the corresponding access service. As a result, even if the access service is a natural monopoly, new entrants will be able to profitably enter this market. This is an example of an inefficient distortion of entry. For example, if gas transportation charges were geographically uniform, it might be profitable for a

new entry to build a new transmission pipeline from a gas field to a large gas consumer, even when that gas could be more efficiently transported over the existing pipeline network.

The solutions to this problem are well known. One solution is simply to prohibit new entry into the non-competitive component. This is undesirable, however. Determining which components of a market can or cannot sustain competition is difficult and likely to change over time with technology and changes in the level of demand. A rule prohibiting entry is likely to become obsolete and to create a constituency for its own continuation. As a general rule, regulation should not prevent entry. A better solution is to finance the non-commercial obligations through funds external to the industry. Failing this, firms entering the non-competitive service and serving high-margin customers should pay a non-discriminatory contribution to a fund to cover the costs of the non-commercial obligations. To ensure this contribution is no higher than necessary, firms should have the right to provide non-commercial services using subsidies from the fund. In practice, the determining the size of this contribution is likely to be difficult.

3.2.5 *International trade issues*

Some countries do not have domestic sources of gas production and rely instead on gas imported via pipelines from other countries. Although some pipeline-to-pipeline competition for importing gas is, in principle, possible, in practice a pipeline might have a dominant position in the market for importing gas.

The previous sections have highlighted the potential benefits from enhanced competition arising from third-part access to pipeline facilities. Yet, where a country is dependent on imports from a single country for its gas supplies, a lack of regulatory jurisdiction over access to the foreign component of the pipeline might eliminate any possibility of introducing competition among gas producers.

To make matters worse, in this context, liberalisation of the gas industry could conceivably leave gas consumers in the importing country worse off. A single buyer of gas in the importing country can exercise countervailing power against any market power exercised by gas sellers in the exporting country. Fragmenting the buying side of the market might enhance the market power of the gas sellers.

This has been used as an argument against liberalisation of the gas industry in the EU.¹⁹ The EU relies to an increasing extent on gas imported from three sources – Norway, Algeria and the Former Soviet Union. Because the European gas network is relatively integrated there is some competition between these sources. Nevertheless, liberalisation, it is argued might heighten the market power of the foreign sellers. Indeed, the EU allowed a derogation from the liberalisation requirements from those countries (Finland and Greece) which are dependent on imported gas and whose networks are not integrated with the rest of Europe.²⁰

The extent to which these concerns regarding the exercise of market power by foreign gas suppliers to Europe are important will depend upon a variety of factors, which are difficult to predict, such as the potential for development of new gas sources both inside and outside Europe. However, given that imports currently only account for one third of European consumption such concerns are unlikely to have a material impact in the short term.

EU Gas Directive and Liberalisation of the European Gas Industry

Within the context of the European Union, the EU Gas Directive has set out the path for liberalisation of the gas industry. The most important aspect of this Directive is the requirement on EU member states to mandate third-party access to the natural gas pipeline network. It is hoped that this requirement will stimulate competition among gas producers, encourage investment in pipelines and enhance regulation of pipeline networks. The key features of the Directive are as follows:

- *Third-Party Access Requirement:* Member states must allow certain gas customers to buy gas from the supplier of their choice and to have it transported through the existing pipeline network at regulated rates. This right will only be available initially to very large gas customers. For the first five years, only gas customers taking at least 25 million cubic metres (mcm) of gas per year will be eligible; for the next five years the threshold reduces to 15 mcm per annum; in the final three years, this threshold reduces to 5 mcm per annum. Member states can choose between “negotiated access” and “regulated access”. Under negotiated access individual customers enter into commercial negotiations to determine the precise terms and conditions. Gas companies are required to publish their “main commercial conditions” for the use of the system. Under regulated access, gas customers have a right of access on the basis of published regulated tariffs.
- *Independent Regulatory Institutions:* Member states are required to designate competent authorities, independent of the parties, with access to the internal accounts of the natural gas undertakings to settle access disputes expeditiously.
- *Unbundling:* Natural gas undertakings are required to keep separate accounts in their internal accounting at least for their gas transmission, distribution, storage and consolidated non-gas activities “as they would be required to do if the activities were carried out by separate undertakings”.
- *New Investment:* Member states must allow a general freedom to build and operate natural gas facilities via objective, non-discriminatory and transparent authorisations.
- *Public Service Obligations:* Member states are allowed to impose on gas utilities, in the general economic interest, public service obligations which may relate to security of supply, regularity, quality and price of supplies and to environmental protection.
- *Capacity Rationing:* Natural gas undertakings may refuse access to their system on the basis of lack of capacity, or where the access to the system would prevent them carrying out the public service obligations that are assigned to them.
- *Derogations:* A natural gas undertaking may apply to a Member state for a derogation from the obligation to provide access if it considers that it would encounter serious economic and financial difficulties because of its take-or-pay commitments. The granting of the derogation is overseen by the Commission. A member state can apply to the Commission for a derogation of the requirement to open the gas market if it can demonstrate that the implementation of the directive would result in substantial problems for the development of the gas market in an emergent region. Such a derogation can only be given for ten years. Finally, the directive allows a derogation of the market opening requirements for those markets (Finland and Greece) which are dependent on one main external supplier and are not interconnected with the system of another Member State.

The EU gas directive is an important step for the liberalisation of the gas industry in Europe, but it is nevertheless a somewhat limited and hesitant step. Many aspects of the directive fall short of what is required to obtain full competition. In particular, the proportion of the market for which competition is permitted is initially only 30 percent, rising to 43 percent after 15 years. In addition, the separation obligations remain limited. Controlling the behaviour of a dominant pipeline company is likely to prove difficult. Equally importantly, the directive fails to spell out an adequate regime for allocating scarce capacity. Under the existing regime the incumbent pipeline operator is in a strong position to withhold capacity when it is in its interests to do so. Finally, the directive allows for derogations under a variety of circumstances, including the existence of take-or-pay contracts. Given the prevalence of take-or-pay contracts the possibility remains that the actual market opening in practice will remain limited.

3.2.6 *Handling stranded costs*

The ICC defines stranded costs as follows:

“Stranded costs are investments made, contracts signed, or costs incurred by a utility which are not fully recoverable from consumers in a fully competitive market and which ... would not have been incurred in the first place if the market had been competitive ... They will have been incurred by the utility as part of its fulfilment of public policy instruments or directives, usually concerned with duties to supply and the use of particular fuels or technology. ... Not all losses made by public utilities in the transition to a liberalised market can legitimately be called stranded costs; for example, losses caused by inefficiency or by labour disputes or by poor financial planning are not stranded costs”.²¹

In short, stranded costs are a form of sunk cost, which cannot be recovered due to a change in the regulatory regime. Like other sunk costs, stranded costs already incurred do not affect current economic decisions and therefore do not affect economic efficiency. The concern over stranded costs therefore relates entirely to the possibility future regulatory changes might lead to stranded costs being incurred in the future. Anticipating this possibility, firms in the sector will be less willing to make substantial investments in projects whose value would be put at risk by a change to the regulatory regime. In other words, public policy concern over stranded costs arises from the fact that, in the absence of compensation, the fear of stranded costs may have a chilling effect on new investment and thereby hinder the efficiency of the industry and the effectiveness of the regulatory regime in achieving its objectives.

This chilling effect will be eliminated if firms anticipate that stranded costs legitimately incurred will be fully compensated by some mechanism. It is important to ensure however, that only legitimate stranded costs are compensated and to ensure that the mechanism for raising the funds for compensation is transparent and does not interfere with effective competition in the marketplace. The ICC provides the following criteria for assessing which stranded costs were legitimately incurred and could be considered as a candidate for reimbursement.²²

- (a) The relevant expenditure was incurred wholly as a result of the utility’s public service or a similar (e.g., related to security or diversity of supply) obligation, and in the legitimate expectation of the continuation of that obligation.
- (b) The utility has not been compensated for the risk that the relevant asset may become stranded by its rate of return on that asset in the past.
- (c) The relevant investment has not been made, or the relevant contract entered into, beyond the time when it was clear that the public service obligations were changing or that the market was going to be liberalised.
- (d) The costs arise as a direct result of the transition to a competitive market.

In the case of the gas industry, where long-term take-or-pay contracts were entered into by the incumbent operator in good faith and without the possibility of anticipating future regulatory changes, the costs of these long-term obligations can legitimately be compensated as a cost of the transition to competition. On the other hand, where long-term contracts were signed despite (or because of) an imminent transition to competition (perhaps as a mechanism to tie up gas supplies in the medium term to prevent the emergence of competition), the losses on those contracts are not legitimate grounds for compensation.

3.3 *Competition controls in a liberalised gas industry*

Regulatory reform which introduces third-party access to the transmission network may not be sufficient to allow competition to develop in the competitive parts of the gas industry if, post-liberalisation, the dominant incumbent operator is able to use its dominant position to control entry. This is especially the case where a proportion of gas consumers cannot choose their own supplier but instead must receive gas through the dominant incumbent operator. A dominant incumbent gas marketing company may be able to restrict new entry through three strategies:

- (a) by preventing competitors from obtaining gas supplies by tying up existing gas reserves in long-term exclusive contracts; or
- (b) by tying refusing to buy gas to service the captive customer market from gas producers who are competing in the market which is open to competition; or
- (c) by exclusionary pricing (i.e., selective discounting to customers which are mostly likely to switch to alternative suppliers, or MFN or price-matching clauses).

For example, during the liberalisation process of the gas industry in the UK, the UK Monopolies and Mergers Commission found that:

British Gas tended to contract for 100 percent of each new gas field, which meant that potential competitors had difficulties acquiring sufficient gas supplies. Gas producers relied on BG's sales in the tariff (i.e., captive) market for most of their own sales, and they were unwilling to jeopardise their relationship with BG by selling gas to others, or by acting as suppliers themselves.

In this case the remedy proposed by the UK Monopolies and Mergers Commission was to prevent British Gas from contracting for more than 90 percent of any new gas supplies, as they became available. Three years later the UK Office of Fair Trading also recommended lowering the threshold of customers which were able to choose their supplier, to further reduce the dominance of British Gas as a buy in the gas market. The OFT also recommended that BG sell some of its contracted gas to competitors, to reduce its share of the market open to competition to 40 percent.

4. **Conclusion**

The examples of the US and the UK, in particular, demonstrate both that competition in the natural gas industry is feasible and that it yields important benefits. However, like other network industries, which combine both competition and non-competitive components, introducing competition in the natural gas industry requires well-designed regulatory interventions. Amongst these interventions the most important is a third-party access regime which allows downstream customers of the transmission and distribution networks to contract directly with upstream gas producers. This process is facilitated if the transmission and distribution networks are structurally separated from the gas production companies. In addition, it seems clear that effective access regulation will require a transparent, non-discriminatory system for allocating capacity to the pipeline network at peak times. The lack of such a system in the UK and New Zealand may prove to be a weakness in the future.

As in other liberalising sectors, liberalisation of the gas industry has had to address transition issues, such as the handling of long-term contractual obligations. As we have seen in the case of the US and the

UK (perhaps fortuitously) these long-term obligations became a source of pressure for liberalisation rather than an opposing force.

In the longer term, given that OECD gas reserves are small relative to world reserves, OECD countries will increasingly become gas importers and thus gas policy will increasingly become enmeshed with issues related to international trade. It is to be hoped that international agreements between gas importing and exporting countries can be reached which ensure continued competition between gas producers and efficient regulation of gas pipelines, even when those gas producers are located in foreign countries and must transport their gas over foreign pipelines with substantial market power.

NOTES

1. IEA (1998b), p35.
1. Consistent with this approach, the US regulator, the FERC is allowing the market to play a larger role in setting tariffs in the small number of cases where effective pipeline-to-pipeline competition is deemed to exist.
2. Perhaps due to greater uncertainty in assessing the “rate base” or the capital assets to be included in calculating the allowable rate of return regulation thereby allowing the integrated firm greater profits
3. Watkins (1995), p122-123.
4. Braeutigam (1990), p139-140. Braeutigam also states: “In the context of natural gas pipelines, Kalt (1987) observes that “[t]he potential negative consequences with vertical integration stem from the possibility that some pipelines could evade rate-of-return regulation by hiding monopolistic profits in prices paid by affiliated producers. ... Although there is little evidence suggesting this is a widespread problem, its possibility underscores the need to pay attention to how integrated pipelines report their costs.” At a minimum, this suggests that regulators must monitor how integrated pipelines report their costs and ensure that the transfers of gas from the producers to the pipelines occur at competitive prices. The unbundling of rates also will help keep vertically integrated firms from exercising unfair competitive advantages”. Amongst his list of important public policy lessons for regulatory public policy makers, White includes: “the basic principles underlying the AT&T divestiture – that a bottleneck monopoly should be under separate ownership from that of complementary competitive goods and services – has important applicability to other network industries that present mixtures of competitive and monopoly components. Natural gas pipelines and electricity grids are obvious examples; others are surely possible”. White (1998), p35.
5. ICC (1998), p56.
6. The material in this section is taken from Armstrong et al (1994).
7. ICC (1998), p26.
8. De Vany and Walls argue that “In light of the success of competition and markets in disciplining prices where regulation failed, policymakers should apply the lessons of open access to distributors and retail markets”. De Vany and Walls (1994), p96.
9. Other mechanisms (besides markets) have also been used to allocate capacity. Smith, De Vany and Michaels (1990) note: “In the past, common carriers have dealt with capacity situations by various expedients. These have included prorating by current demand, prorating by historical use, and imposing service delays on latecomers. Common carriage is economically inefficient since it unnecessarily restricts the range of possible transactions. In such a regime, a shipper cannot guarantee himself firm transportation”.
10. Smith, De Vany and Michaels (1990), p155.
11. Use-it-or-lose-it rules do not, of course, address the issue whether the total available capacity (for landing slots or gas transmission volumes) is set efficiently – they merely ensure that a firm

cannot exercise its market power to artificially restrict total output below the total available capacity.

12. “Economic theory indicates that efficient pricing for each type of service – including each element of service in a multi-part tariff – should reflect demand elasticities as well as marginal costs. The inverse elasticity rules of Ramsey pricing not only will be economically efficient but will allow pipelines to be price competitive in markets with more elastic demands. The experience of railroads, when faced with motor carrier competition, demonstrates why this flexibility is crucial”. Braeutigam (1990), p138.
13. Armstrong et al (1994), p264.
14. Armstrong et al (1994), p264.
15. Or the obligation not to cut off non-paying or late-paying residential customers during the heating season.
16. Armstrong et al (1994), p270.
17. See Ouseley (1996), p54.
18. The regulator can determine whether the criteria for receiving a special subsidy has been met, and whether the amount requested by the supplier is reasonable. The gas regulator is required to refuse applications from suppliers which artificially exclude an undue proportion of pensioners or the disabled, or those likely to default on payment. In addition, a few customers in remote parts of Scotland and Wales are not connected to British Gas’ natural gas grid and have been supplied with piped LPG at a subsidised price. As part of the liberalisation process, special provisions have been included in the legislation which provide that these customers (numbering about 8300) are to retain their subsidy and are to be charged “no more than the average price for conveyance” to similar sites on the grid.
19. See for example Asserhoj (1994).
20. In some contexts competition law remedies may be possible. For example, where the foreign component of the pipeline is owned by domestic firms, domestic competition might be able to force the domestic firm to provide access to foreign gas producers. It is also possible, however, that the foreign component of the pipeline is owned by foreign firms which have no domestic assets and on whom no sanctions can be applied.
21. ICC (1998), p65.
22. ICC (1998), p65.

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NOTE DE RÉFÉRENCE

1. Introduction

Même si le secteur du gaz naturel accuse un retard par rapport à la réforme réglementaire réalisée dans les autres industries de réseau, les réformateurs des pays de l'OCDE lui portent une attention croissante. Après une déréglementation radicale et réussie du secteur aux États-Unis et au Royaume-Uni, des mesures importantes ont été prises en Australie et en Nouvelle-Zélande. L'adoption de la Directive gaz de la CE en 1998 a, par ailleurs, préparé la voie à une libéralisation plus poussée de ce secteur en Europe.

Quel rôle la concurrence peut-elle jouer dans l'industrie du gaz ? Comment structurer la réglementation dans le secteur du gaz de façon à élargir la concurrence et à améliorer la qualité d'ensemble de la réglementation ? Le présent document examine ces questions en puisant dans l'expérience des pays de l'OCDE.

Le document fait ressortir les éléments suivants :

- le gaz naturel est une source énergétique qui est en concurrence avec d'autres, surtout pour le chauffage et la production d'électricité. La quasi-totalité des consommateurs résidentiels et industriels de gaz naturel peuvent recourir à des énergies de substitution, le pétrole, le charbon et l'électricité, mais l'inverse n'est pas toujours vrai : la plupart des consommateurs d'électricité ne peuvent pas recourir au gaz, même si le prix relatif de cette source énergétique diminue¹ ;
- le gaz naturel est presque toujours transporté du point de production au point de consommation par un réseau de gazoducs. L'industrie du gaz partage par conséquent de nombreuses caractéristiques économiques avec d'autres industries de réseau, comme par exemple les chemins de fer et l'électricité. Le réseau de gaz peut être divisé en deux composantes : le transport sous haute pression et la distribution à faible pression. Comme c'est le cas de nombreuses autres industries (télécommunications, services postaux et électricité, par exemple), la distribution locale du gaz est un monopole naturel, mais il peut y avoir concurrence au niveau des gazoducs, selon la densité du réseau et l'emplacement des producteurs et des consommateurs. Dans la plupart des cas, il y a possibilité de concurrence entre les producteurs de gaz ;
- permettre la concurrence entre producteurs de gaz (et entre gazoducs, là où cela est possible) augmente l'incitation à l'efficacité dans la production et la qualité de la réglementation du réseau. Pour qu'une telle concurrence se développe, il faut donner aux producteurs de gaz rivaux l'accès au réseau de gazoducs existant et mettre en place un mécanisme permettant aux consommateurs de choisir leur producteur. L'introduction de la concurrence dans le marché du gaz procure d'autres avantages encore, comme le développement de marchés spot et de futures et la stimulation des investissements dans de nouvelles interconnexions entre gazoducs (amélioration de la cohésion du réseau et de la concurrence entre gazoducs). Dans la plupart des

cas, la concurrence entre producteurs de gaz sera meilleure, quantitativement et qualitativement, s'il leur est interdit d'exploiter le réseau de transport ;

- lorsque des producteurs de gaz rivaux ont un accès garanti à un réseau de gazoducs existant, il est impératif de mettre en place un système de rationnement de la capacité du réseau en période de pointe. Cela peut prendre la forme d'un barème de tarifs de pointe pour l'utilisation du réseau mais, dans la pratique, il est souvent plus facile de mettre aux enchères la capacité du réseau en période de pointe. Les enchères offrent l'avantage d'être plus transparentes en ce qui concerne l'utilisation de la capacité et d'imposer un moindre fardeau au régulateur. Jusqu'ici, les États-Unis sont le seul pays de l'OCDE à avoir élaboré un mécanisme de mise aux enchères de la capacité des gazoducs ;
- dans de nombreux pays, l'existence de contrats de prise ferme à long terme ("take-or-pay"), qui lient pendant une durée déterminée les propriétaires de gazoducs ou les clients en aval à un seul producteur de gaz, complique la libéralisation du secteur gazier. Cependant, dans le cas des États-Unis et du Royaume-Uni, ces contrats ont facilité la libéralisation. Lorsque le prix du gaz baissait sur le marché spot et que les réseaux étaient obligés d'acheter et de transporter du gaz à perte, les opérateurs de gazoducs étaient très heureux de transporter du gaz pour des tiers à des prix réglementés qui leur garantissaient une rentabilité raisonnable ;
- dans les pays largement tributaires d'importations en provenance d'un seul fournisseur étranger, une libéralisation unilatérale risque de leur retirer un pouvoir compensateur et de rehausser le pouvoir de marché du fournisseur étranger, au détriment des consommateurs locaux. Compte tenu du niveau actuel de dépendance à l'égard des importations et du degré d'interconnexion du réseau gazier de l'UE, ce risque n'existe pas pour le moment dans la plupart des pays européens, mais il ne peut être exclu à moyen ou à long terme ;
- comme c'est le cas dans la plupart des industries de réseau, les sociétés gazières dominantes sont souvent assujetties à des obligations de service non commercial. Comme dans les autres industries, ces obligations ne sont pas un obstacle à l'introduction de la concurrence, dès lors qu'elles sont pleinement répercutées dans les prix d'accès au réseau de transport et de distribution du gaz.

2. Aperçu du secteur du gaz naturel

Cette section donne une vue générale du secteur du gaz naturel en présentant les principales caractéristiques de l'offre et de la demande de gaz et un aperçu du régime de réglementation et de la structure du marché du gaz dans plusieurs pays de l'OCDE.

2.1 Demande de gaz naturel

Le gaz naturel est consommé par les ménages et par l'industrie. Les ménages consomment le gaz naturel principalement pour la cuisine et le chauffage. L'industrie, quant à elle, consomme le gaz naturel pour le chauffage, la production d'électricité et toute une gamme de procédés industriels. Dans presque toutes ses applications, le gaz naturel est brûlé comme combustible pour produire de la chaleur. Le gaz naturel est donc en concurrence avec d'autres sources d'énergie, principalement l'électricité, le charbon et le fioul².

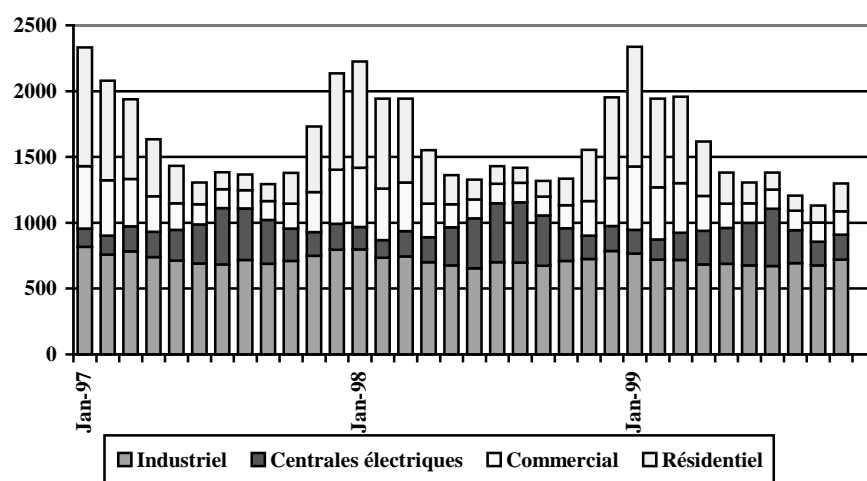
Comme c'est le cas de toutes les sources énergétiques, le gaz naturel utilisé comme combustible exige un investissement en équipement chez le client. Bien que certaines installations soient conçues pour brûler plus d'un combustible (gaz et fioul, par exemple), la plupart des installations domestiques ne peuvent pas être rapidement converties à d'autres combustibles. La plupart des clients du gaz ne peuvent par conséquent pas changer rapidement de combustible à court terme face à une hausse du prix du gaz, mais envisageront une autre solution lorsque leur installation arrivera à la fin de sa vie économique. La pente de la courbe de demande de gaz naturel est donc, comme c'est le cas pour de nombreux autres produits, plus élastique à long terme qu'à court terme.

Le gaz naturel peut, pour presque toutes ses applications, être remplacé par d'autres sources d'énergie. A long terme, donc, le prix de ces autres sources exerce un effet de plafond sur le prix du gaz. L'inverse n'est cependant pas vrai. Certaines applications d'autres sources d'énergie (les ampoules électriques, par exemple) ne peuvent pas être aisément converties au gaz. Techniquement, on dira que la courbe de la demande de gaz (autre que pour la production d'électricité) est tributaire du prix des énergies concurrentes.

L'effet concurrentiel de l'électricité, du charbon et du pétrole sur les prix du gaz naturel varie donc d'un pays à l'autre en fonction des prix relatifs de ces trois combustibles³. Aux États-Unis, où les prix de l'électricité sont bas comparativement à ceux du gaz naturel, il existe une importante concurrence entre combustibles. En Grande-Bretagne, pays qui jouit d'une abondance de gaz naturel en provenance de la mer du Nord, la concurrence entre combustibles ne joue presque aucun rôle à l'égard des prix du gaz naturel⁴.

La demande de gaz naturel est extrêmement saisonnière. La demande pour le chauffage est à son maximum l'hiver⁵. La figure 1 montre la demande de gaz naturel aux États-Unis mois par mois. La consommation de gaz pendant les mois d'hiver est à peu près le double de ce qu'elle est pendant les mois d'été. Les demandes industrielle, commerciale et, surtout, résidentielle de gaz naturel sont à leur plus fort l'hiver. A l'inverse, la consommation de gaz naturel par les centrales électriques américaines connaît une pointe l'été étant donné la demande saisonnière d'électricité pour la climatisation.

Figure 1 : Consommation de gaz naturel aux États-Unis, par secteur



Source : US Energy Information Administration, Natural Gas Monthly

Les consommateurs de gaz possédant des systèmes bi-combustibles (et, de façon plus générale, les consommateurs de gaz dont la demande est très élastique à court terme) sont prêts à réduire leur

consommation de gaz rapidement en réaction à des variations du prix du gaz livré, par exemple lors de périodes de pointe lorsque le réseau de transport du gaz fonctionne à pleine capacité. Dans la pratique, et en partie pour des raisons historiques, le rationnement à très court terme de la capacité du réseau en période de pointe peut être obtenu non pas en augmentant le prix mais en réduisant l'approvisionnement de certains clients. Les consommateurs qui sont prêts à accepter un tel service « interruptible », (par exemple ceux qui disposent d'un système bi-combustibles) peuvent en règle générale obtenir un prix de transport plus bas.

Le gaz naturel est globalement un produit homogène. Bien que le gaz extrait du sol varie dans sa composition chimique, les raffineries en éliminent les substances indésirables et veillent au maintien d'une qualité et d'un pouvoir calorifique minimaux.

2.2 *Offre de gaz naturel : La chaîne de production*

Comme beaucoup d'autres industries, le secteur du gaz naturel comporte un certain nombre de « composantes » ou « étapes de production », qui se distinguent par la nature de leur réglementation et l'envergure de la concurrence. Il est possible de délimiter cinq grandes étapes de production, du point d'extraction (la tête de puits) au point de consommation (le bec de brûleur) :

- (a) production du gaz – qui peut être subdivisée en prospection, forage, extraction et traitement. Quelques pays de l'OCDE importent du gaz liquéfié (appelé GNL), qui est ensuite regazéifié et distribué par un réseau de gazoducs. Dans ce document, les installations de regazéification sont prises en compte dans le secteur de la production ;
- (b) transport du gaz – le transport à haute pression de gaz à des clients grand volume, par exemple entreprises de distribution, gros clients industriels et centrales thermiques ;
- (c) distribution du gaz – la distribution à faible pression de gaz à des clients petit ou moyen volume ;
- (d) stockage du gaz – la régularisation du débit de gaz du réseau de transport, par pompage de gaz dans des installations de stockage pendant les périodes hors pointe, le pompage du gaz stocké pour faire face à la demande de pointe ;
- (e) vente au détail ou commercialisation du gaz – la prestation de services de passation de contrats avec des sociétés de production, de transport et de distribution pour le compte de consommateurs de gaz et de services de facturation et de comptage connexes.

Nous examinerons chacune de ces composantes à tour de rôle, en faisant ressortir les économies d'échelle et de gamme et les possibilités concurrentielles.

2.2.1 *Production de gaz*

Le gaz naturel est extrait de puits souterrains, souvent en tant que produit dérivé de l'extraction de pétrole. Les gazoducs à la sortie de différents puits (appelés « conduites de collecte ») transportent le gaz dans des installations proches où il est épuré et traité avant de passer à l'étape de production suivante, par exemple son introduction dans un gazoduc de transport à forte pression ou son refroidissement en vue de sa liquéfaction. Le rythme auquel de nouveaux puits sont développés dépend de l'investissement dans la prospection qui dépend, à son tour, des prévisions d'évolution des prix du gaz et du pétrole.

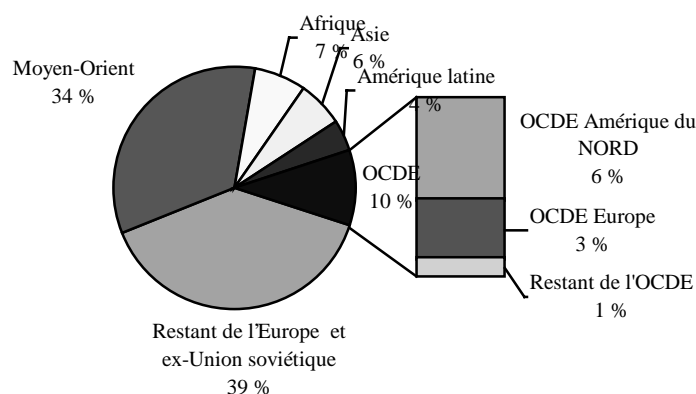
Le développement et l'exploitation d'un gisement de gaz souterrain exige un important investissement englouti, sous forme de matériel d'extraction et de traitement, ainsi qu'un gazoduc relié au réseau de transport de gaz le plus proche desservant un marché approprié. Etant donné que la plupart des pays ont maintenu dans le passé un monopole (ou un quasi-monopole) sur le réseau de transport et de distribution, on se trouvait le plus souvent dans une situation où un producteur de gaz n'avait comme interlocuteur qu'un seul acheteur potentiel. Cet état de choses exposait le producteur gazier à une menace « d'extorsion » -- une fois l'investissement initial englouti en amont, le réseau monopolistique en aval pouvait refuser d'acheter dans l'espoir de négocier des conditions plus favorables. De ce fait, la quasi-totalité de l'investissement dans de nouvelles capacités de production était (et dans bien des cas est toujours) engagée dans le cadre soit de contrats à long terme soit d'intégrations verticales. Les contrats à long terme du genre « prise ferme », par exemple, garantissent aux producteurs un prix pour un certain volume de gaz. Ces contrats peuvent couvrir des durées allant jusqu'à 25 ou 30 ans.

Comme nous le verrons plus loin, l'un des avantages de l'introduction de la concurrence dans l'industrie gazière tient au fait que les producteurs cessent de dépendre d'un acheteur unique, ce qui réduit ou élimine la menace d'extorsion. La durée des contrats de production au Royaume-Uni et aux États-Unis a sensiblement raccourci et une proportion croissante du gaz est en fait vendu sur le marché spot (c'est-à-dire en vue de sa livraison dans un délai de quelques jours ou de quelques semaines).

Dans la plupart des cas, la concurrence peut s'exercer entre producteurs. Bien qu'il existe un seuil d'efficacité pour les usines de traitement du gaz, les volumes requis ne sont pas élevés⁶. Dans de nombreux pays, il y a suffisamment de champs gaziers indépendants dans un rayon économiquement viable autour d'un gazoduc existant pour soutenir une concurrence effective entre producteurs⁷. Dans le cas du Royaume-Uni, par exemple, on dénombre 80 champs différents en mer du Nord, six champs en mer d'Irlande et 13 champs à terre. Bien sûr, comme dans toute industrie, le fait que la concurrence soit possible ne signifie pas qu'elle s'exercera dans la pratique, étant donné qu'un seul producteur ou un petit nombre de producteurs peuvent posséder toutes les sources indépendantes viables de gaz naturel. Comme nous le verrons plus loin, c'est particulièrement préoccupant lorsque les sources de gaz indépendantes sont contrôlées par un pays étranger.

Comme le montre la figure 2, bien que les pays de l'OCDE représentent 54 pour cent de la consommation mondiale de gaz naturel, ils ne possèdent qu'un pourcentage relativement faible (environ dix pour cent) des réserves mondiales connues. La plupart, et de loin, des gisements de gaz connus dans le monde se trouvent dans l'ex-Union soviétique. On s'attend à ce qu'à long terme les pays de l'OCDE soient de plus en plus des importateurs de gaz.

Figure 2 : Réserves mondiales de gaz naturel



Source : AIE, Natural Gas Information (1999), figure 21

2.2.2 *Transport du gaz*

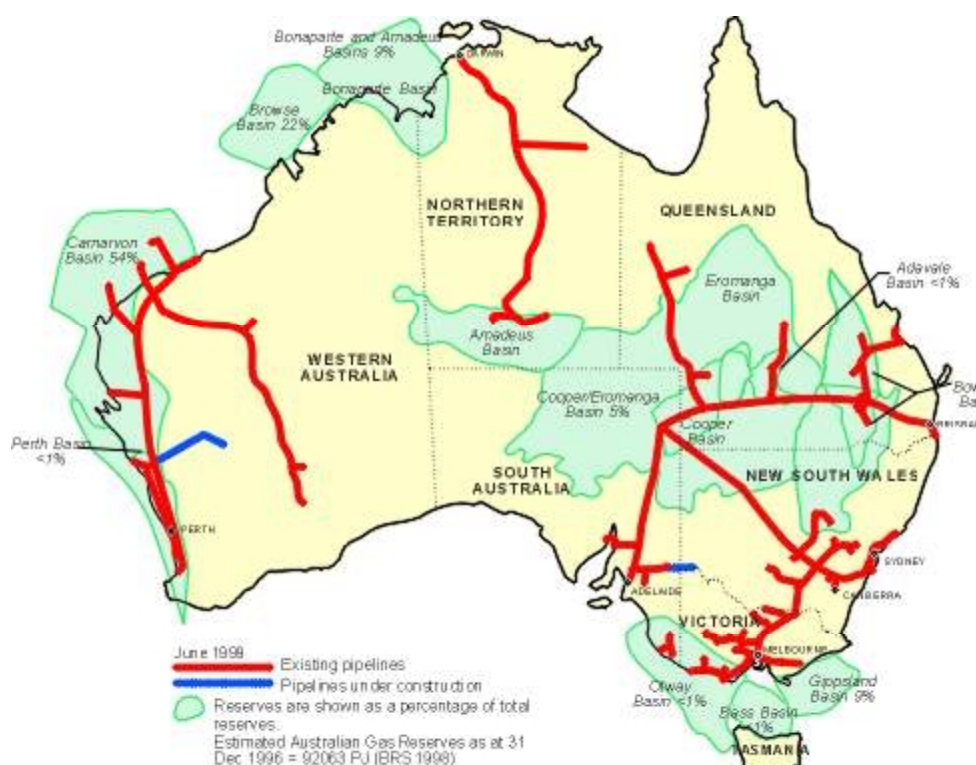
Malheureusement, le gros du gaz n'est pas consommé là où il est produit. Rares sont les puits situés à proximité d'importants centres de consommation. Le gaz doit être transporté, souvent sur de longues distances. Bien qu'il soit techniquement possible de refroidir le gaz pour le liquéfier afin de le transporter par des modes conventionnels (train, camion, bateau), ce procédé n'est pas concurrentiel, sauf dans de rares circonstances.

C'est ainsi que le gaz est transporté par un réseau de gazoducs de diamètre et de pression variables. Ce réseau est habituellement divisé en deux composantes : le réseau de gazoducs principal point à point sous haute pression, appelé « réseau de transport », et le réseau de « distribution » sous faible pression de gaz de haute densité aux consommateurs petits et moyens.

Il n'existe aucune distinction physique claire entre ces deux réseaux. Cependant, certaines distinctions peuvent être faites sur la base de la pression dans le gazoduc. Le transport à l'échelle nationale se fait en règle générale à des pressions d'environ 60 à 80 bars, tandis que le transport régional s'effectue entre 40 et 15 bars. La distribution locale, quant à elle, s'effectue à des pressions inférieures à 15 bars. Étant donné que la pression du gaz dans les conduites diminue dans le sens du flux avec la distance parcourue, il faut la maintenir au moyen de stations de compression. Dans une certaine mesure, la capacité d'un gazoduc peut être augmentée en améliorant les stations de compression.

La distribution géographique des réseaux de transport du gaz naturel varie d'un pays à l'autre en fonction de l'emplacement des sources primaires de production (ou d'importation) et de la consommation. A titre d'exemple, la figure 3 montre le réseau de transport du gaz naturel en Australie.

Figure 3 : Réseau de gazoducs en Australie



Juin 1998

Gazoducs existants

Gazoducs en construction

Les réserves sont indiquées en tant que pourcentage des réserves totales

Réserves gazières australiennes estimatives au 31 décembre 1996 = 92 063 PJ (BRS) 1998

Source : Australian Gas Association

La concurrence est-elle possible entre gazoducs ? Comme dans d'autres industries de réseau, son intensité est fonction de l'importance des économies d'échelle, du niveau de la demande et de l'emplacement physique des sources de production et des lieux de consommation.

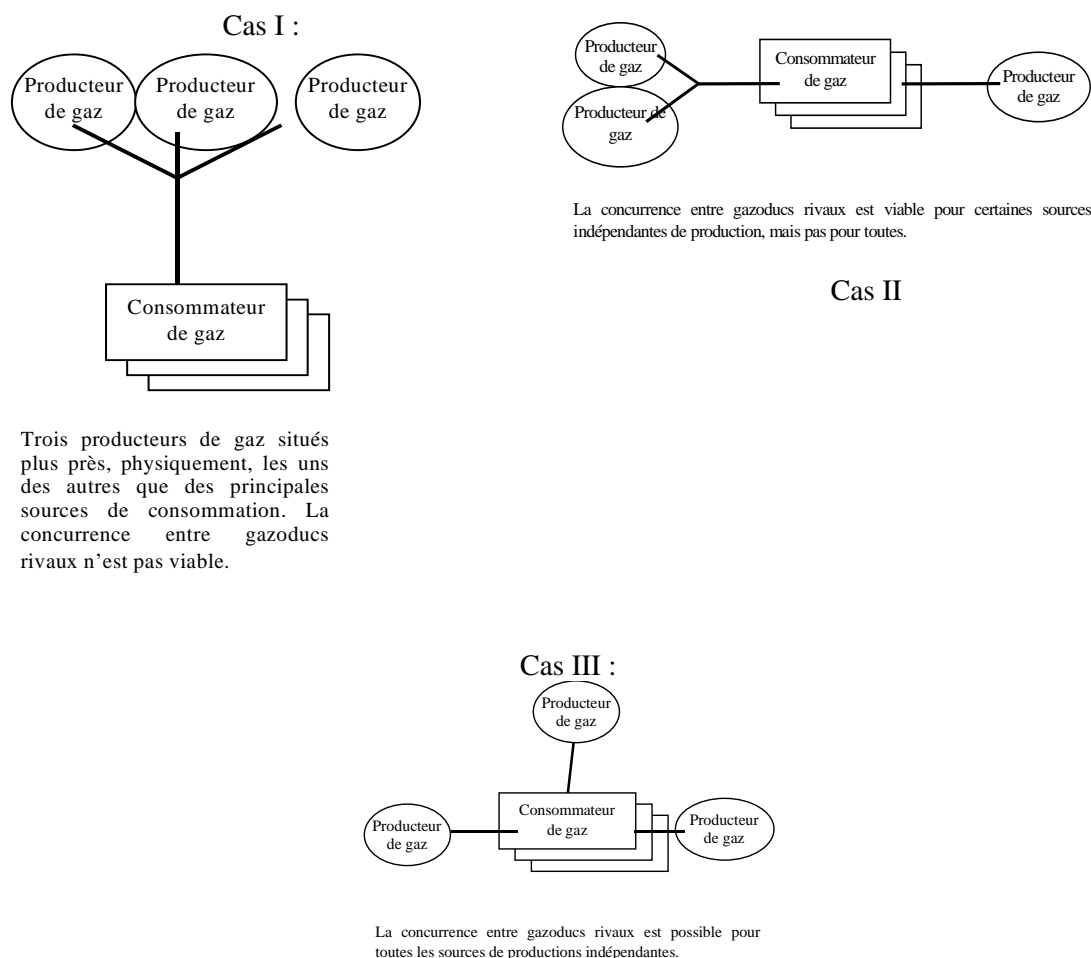
Les gazoducs permettent des économies d'échelle appréciables pour les raisons suivantes :

- premièrement, une part importante du coût de tout nouveau gazoduc réside dans le coût d'obtention des servitudes et de pose de la conduite. Ces coûts sont très peu fonction du diamètre et de la capacité de la conduite ;
- deuxièmement, la capacité d'une conduite augmente plus que proportionnellement au carré de son diamètre⁸, tandis que le coût d'investissement augmente moins que proportionnellement au carré de son diamètre ;
- troisièmement, la pression diminue le long du gazoduc pour un débit donné par unité de surface, mais à un rythme qui diminue avec l'augmentation du diamètre. D'autre part, le coût

d'investissement des stations de compression augmente à un taux inférieur à l'augmentation du taux de pression qu'elles produisent.

L'existence d'économies d'échelle sur un tracé donné n'élimine cependant pas la possibilité de concurrence entre gazoducs. Une conduite transportant du gaz provenant d'un champ peut concurrencer une autre conduite transportant du gaz d'un champ différent, selon la distribution géographique des producteurs et des consommateurs. Les cas de figure ci-dessous illustrent le phénomène :

Tableau 1 : Rôle de la distribution géographique dans la détermination du niveau de concurrence entre gazoducs



La possibilité de concurrence entre gazoducs est la plus forte aux États-Unis, pays doté d'un réseau de transport du gaz très développé et interconnecté. En fait, un commentateur américain soutient que toutes les grandes villes américaines pourraient jouir d'une concurrence entre deux ou plusieurs gazoducs en raccordant tout simplement des lignes secondaires aux gazoducs passant dans un rayon de 100 miles.

Dans la pratique, la concurrence entre gazoducs aux États-Unis est à son plus fort aux « intersections » de plusieurs gazoducs. Selon la FERC, en juillet 1994, il y avait 19 intersections en exploitation aux États-Unis et 11 autres devaient être opérationnelles avant la fin de l'année 1995⁹. Il existe également une certaine concurrence entre gazoducs en Allemagne, où la société Wingas livre principalement concurrence à la Ruhrgas pour les ventes gros volume à l'industrie¹⁰.

L'importance de la concurrence dépend non seulement des économies d'échelle et de la distribution géographique des sources de production et de la consommation, mais également du niveau de la demande. Lorsque la demande est suffisamment forte par rapport à la capacité d'un gazoduc, il y a des possibilités de concurrence entre gazoducs parallèles, même lorsque les producteurs de gaz sont situés à proximité les uns des autres. Par exemple, au Royaume-Uni, quatre gazoducs parallèles transportent le gaz jusqu'en Angleterre à partir de la sortie de l'eau à St. Fergus, en Écosse.

Les possibilités de concurrence entre gazoducs varient d'un pays à l'autre en fonction du niveau et de la distribution géographique de la demande. En règle générale, cependant, étant donné l'ampleur des économies d'échelle réalisables avec les gazoducs, il semble probable que la concurrence effective entre gazoducs, même dans les marchés pleinement libéralisés, sera limitée dans un avenir prévisible à quelques rares endroits (à proximité des « carrefours »).

2.2.3 *Distribution du gaz*

Certains consommateurs de gaz, surtout les très gros, sont approvisionnés directement par le réseau de transport sous haute pression. La plupart des plus petits clients sont desservis par des distributeurs locaux. Tout comme de nombreuses autres industries de réseau (comme, par exemple, la distribution d'électricité, les services postaux, les télécommunications locales et la télévision par câble), la distribution locale de gaz permet des économies de densité. Une fois que les coûts de pose d'une conduite principale dans la rue ont été effectués, le coût marginal du raccordement d'une autre maison d'habitation ou d'un autre immeuble à la conduite principale est très faible. Du fait de ces économies de densité, la distribution locale de gaz est de façon générale un monopole naturel.¹¹

2.2.4 *Stockage du gaz*

Comme on l'a vu, la demande de gaz est extrêmement saisonnière. La demande en période de pointe peut être plusieurs fois supérieure à la demande hors pointe. Étant donné qu'il est sensiblement plus coûteux de construire un réseau capable d'assurer le débit de pointe, il existe une demande de services d'étalement du flux du gaz dans le réseau : augmenter le flux du gaz en période hors pointe et le réduire en période de pointe.

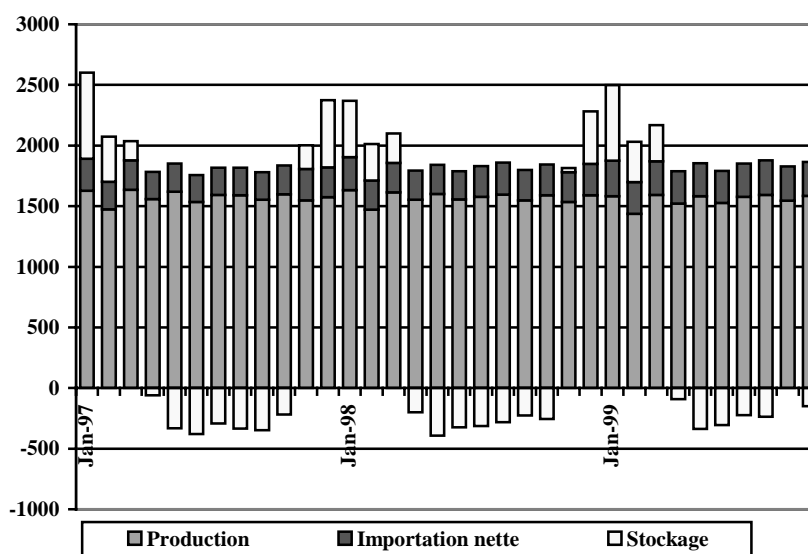
Cette fonction de régulation est assurée par les installations de stockage du gaz, qui sont remplies en période hors pointe et vidées en période de pointe. Bien que les consommateurs aient la possibilité de stocker leur propre gaz, dans la pratique (peut-être pour des raisons de sécurité) ce service a traditionnellement été assuré par le réseau lui-même ou par des prestataires de services tiers.

Le gaz est stocké dans de nombreux types d'installations différents, comme les gisements épuisés ou les mines désaffectées. Par ailleurs, un certain volume de gaz peut être stocké dans le réseau lui-même en modifiant la pression, c'est-à-dire en l'augmentant en période hors pointe et en la diminuant en période de pointe. Il s'agit alors de « stockage en ligne ».

Bien que l'accès à certaines installations clés (par exemple les gisements de gaz épuisés) puisse être limité, les économies d'échelle que représente le stockage du gaz sont faibles. Il existe donc des possibilités de concurrence effective en matière de services de stockage du gaz, sauf, peut-être, dans les régions à faible densité de population.

La figure qui suit illustre la façon dont le stockage aux États-Unis est utilisé pour étaler la consommation de gaz sur l'année. La production physique demeure plus ou moins constante tout au long de l'année, les installations de stockage étant remplies pendant l'été et le gaz qu'elles renferment étant écoulé pendant les mois d'hiver.

Figure 4 : Fourniture de gaz par source aux États-Unis de janvier 1997 à octobre 1999



Source : US Energy Information Administration, Natural Gas

2.3 Structure et propriété du marché du gaz

La structure de marché du secteur gazier varie beaucoup d'un pays à l'autre. En règle générale, dans la plupart des pays de l'OCDE, ce secteur se caractérise par une forte proportion de la propriété de l'État et, dans une certaine mesure, par une intégration verticale. Il existe cependant d'importantes disparités selon les pays. Le tableau 2 résume la structure de marché du secteur gazier dans différents pays de l'OCDE.

Compte tenu de l'objet de ce document, il est utile de faire ressortir les principales différences entre les secteurs du gaz d'Amérique du Nord et d'Europe :

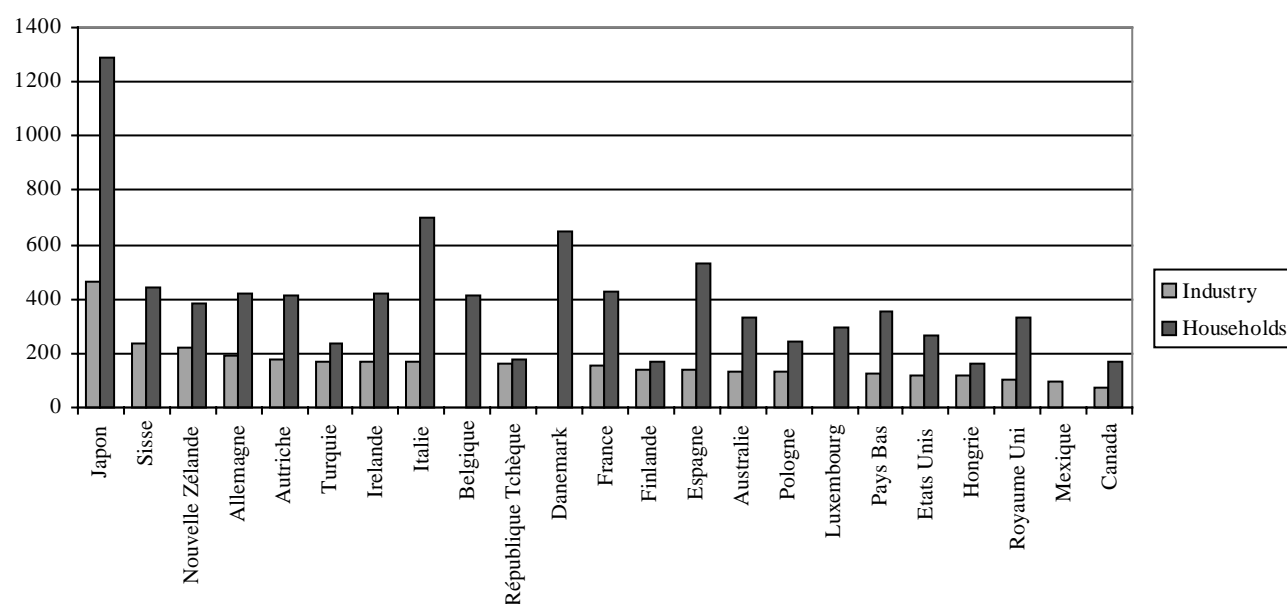
- même si la directive sur le gaz de l'UE aura vraisemblablement une incidence à moyen terme, le secteur du gaz naturel européen se caractérise actuellement par plusieurs monopoles de transport nationaux desservant à peu près la moitié du marché total et un certain nombre de monopoles de distribution régionaux. Dans quelques cas, le transport et la distribution sont

pleinement intégrés (au Royaume-Uni, en France et en Italie, par exemple). Ces réseaux nationaux sont interconnectés (exception faite de ceux de la Finlande et de la Grèce) ;

- les plus importantes réserves de gaz en Europe sont celles de la Norvège, des Pays-Bas et du Royaume-Uni. L'Europe occidentale importe une part appréciable de son gaz, principalement d'Algérie et de l'ex-Union soviétique. Il est prévu que la proportion du gaz importé va augmenter ;
- le secteur américain, au contraire, est caractérisé par la prédominance de la séparation verticale. Au niveau de la production, il existe un très grand nombre d'exploitants de champs gaziers de tailles très variables. Le degré de concentration de la propriété est faible dans presque toutes les régions (à l'exception de l'Alaska). Le degré d'intégration entre production et gazoducs est très faible. Environ 80 gazoducs traversent des frontières inter-États, 20 gros gazoducs transportant plus de 80 pour cent du gaz américain. Les gazoducs de transport ne sont pas intégrés dans la distribution. Le niveau de connexion au sein du réseau est relativement élevé. La plupart des consommateurs peuvent acheter du gaz auprès de presque n'importe quel producteur. Par ailleurs, de nombreuses sociétés de distribution sont desservies par plus d'un gazoduc ;
- la proportion de gaz importé en Amérique du Nord est faible, bien que les États-Unis importent environ 15 pour cent de leur consommation du Canada.

La figure 5 compare les prix du gaz pratiqués dans les différents pays de l'OCDE. Il convient de souligner que les États-Unis et le Royaume-Uni, qui ont tous deux des marchés de gaz libéralisés, affichent des tarifs industriels qui comptent parmi les plus bas. Les prix du gaz sont particulièrement élevés au Japon.¹²

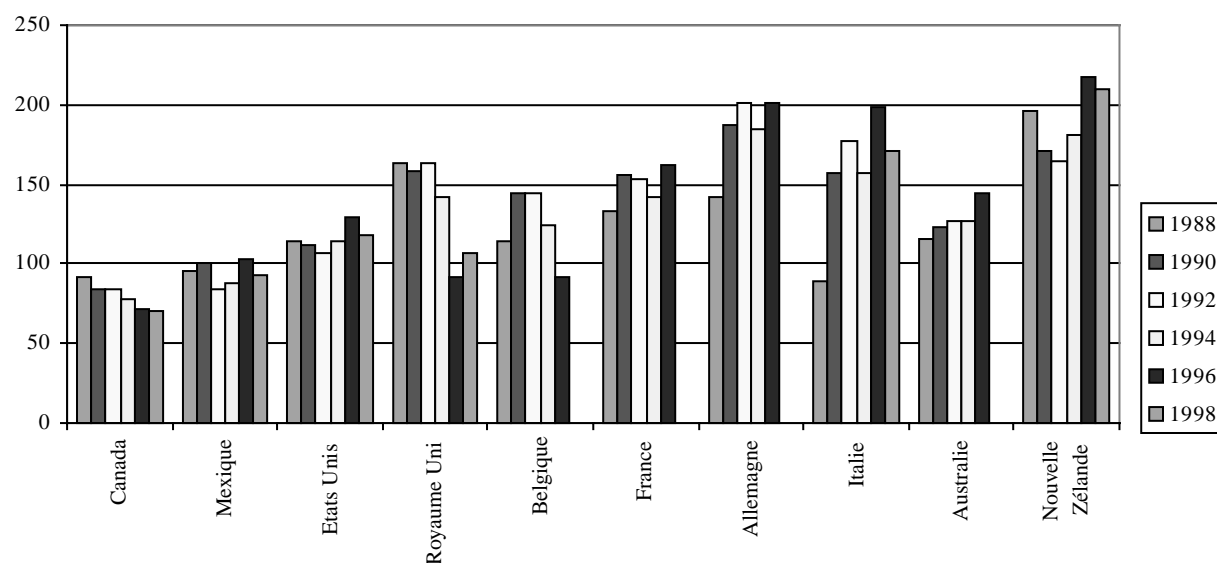
Figure 5 : Prix du gaz naturel 1998, en dollars US



Prix moyen par 106 kcal, sur une base calorifique brute. Données de 1998, sauf pour la France, l'Allemagne, l'Australie et le Japon, pays pour lesquels les données correspondent à l'année 1997.

Source : AIE, Natural Gas Information (1999)

Il est également intéressant de comparer l'évolution des prix du gaz dans le temps. Il ressort de la figure 6 que tous les prix du gaz ont eu tendance à augmenter au cours de la dernière décennie dans la plupart des pays de l'OCDE et qu'ils ont baissé au Canada et au Royaume-Uni, pays qui ont libéralisé leur secteur gazier pendant cette période.

Figure 6 : Evolution du prix du gaz naturel 1988-1996

Prix moyen par 106 kcal, sur une base calorifique brute. Tous les prix sont en dollars US.

Source : AIE, Natural Gas Information (1999), Tableau 17

NOTES

1. Il est cependant possible aux gros consommateurs d'électricité d'installer des moyens de production conçus pour être alimentés au gaz.
2. « Le gaz est principalement en concurrence avec le fioul léger dans les marchés résidentiels et avec le fioul lourd et le charbon dans les marchés industriels ». Watkins (1995), p. 114.
3. Voir Watkins (1995).
4. AIE (1998a), p. 37. L'Agence internationale de l'énergie (AIE) prétend que la concurrence entre combustibles sur le plan des prix (et une plus grande capacité d'entreposage) a pour effet de stabiliser les prix aux États-Unis, tandis que l'absence de concurrence entre combustibles (et une capacité d'entreposage moindre) rend sensiblement plus volatils les prix du gaz au Royaume-Uni. Cet état de choses est peut-être temporaire. Tant que les prix du gaz demeurent inférieurs à ceux des autres combustibles, la capacité des centrales électriques alimentées au gaz augmente, ce qui accroît la demande de gaz comparativement aux autres combustibles.
5. Dans certains pays, on constate également une période de pointe dans la demande de gaz naturel l'été parce que la climatisation augmente la demande de production d'électricité à base de gaz.
6. Des économies d'échelles appréciables peuvent cependant être réalisées grâce à des initiatives combinées de prospection et d'extraction de pétrole et de gaz.
7. Comme c'est le cas dans toute industrie, la concentration de la propriété chez les producteurs de gaz limitera la concurrence, préoccupation qui a été exprimée pour l'offre de gaz à l'Europe occidentale.
8. Selon Lawrey (1998), la capacité d'un gazoduc est proportionnelle au diamètre de la conduite à la puissance 2.5, plutôt qu'à la puissance 2, contrairement à ce que l'on aurait pu penser. Cela est dû au fait que le flux dans la conduite est de plus en plus facile au fur et à mesure que le diamètre augmente.
9. Chacun de ces carrefours a un administrateur responsable de son exploitation et de diverses autres fonctions, notamment le contrôle des échanges de titres correspondant à l'approvisionnement en gaz, la facturation de clients pour les services offerts et la répartition de la capacité des gazoducs et des services aux carrefours en situation de pénurie. Voir GAO (1994), p. 3.
10. AIE (1998), p. 21.
11. Il y a presque 30 ans, Alfred Kahn a déclaré : « La distribution locale de gaz est généralement reconnue comme étant un monopole naturel, de type familial, fondé sur la même justification : des économies d'échelle avec une intensité d'utilisation croissante en fonction des installations de distribution ». Kahn (1971), pp. 152-153. Il importe de souligner que l'existence d'importantes économies de densité n'écarte pas entièrement la possibilité de concurrence. Les possibilités de concurrence dépendront également du niveau de la demande et de la configuration du réseau. Lorsqu'une petite zone géographique renferme un nombre élevé d'importants consommateurs, la duplication du réseau de distribution dans la région peut être rentable même s'il ne serait pas rentable d'approvisionner directement un seul de ces consommateurs.

12. Les notes relatives au tableau de la Nouvelle-Zélande signalent que les données néo-zélandaises s'appuient sur un échantillon de tarifs. Etant donné que les principaux consommateurs industriels ne sont pas soumis au barème tarifaire, ils n'ont pas été englobés dans l'enquête. Par conséquent, même si les données constituent une assez bonne représentation des prix du gaz payés par les ménages et les petits commerces, elles surévaluent vraisemblablement le prix « industriel » réel du gaz en Nouvelle-Zélande.

Tableau 4 : Aperçu de la structure du marché dans un certain nombre de pays de l'OCDE

	<i>Pays-Bas</i>	<i>Belgique</i>	<i>Italie</i>	<i>Allemagne</i>	<i>France</i>
Transport	Une seule société de transport (Gasunie) fournit directement 46 pour cent du marché du gaz.	Tout comme les Pays-Bas, la Belgique compte une société de transport (Distrigaz) qui dessert directement environ la moitié (54 pour cent) du marché total du gaz. Distrigaz a été privatisé en 1994.	En Italie, la SNAM, contrôlée par ENI, est la société de transport dominante (avec environ 97 pour cent de la capacité totale de transport) et elle est la seule société à posséder un réseau national de transport du gaz naturel. EDISON GAS, la deuxième société italienne de transport, a une capacité de transport d'environ 3 pour cent.	Ruhrigas est la société de transport dominante, avec 70 pour cent des approvisionnements totaux, mais il existe 17 autres sociétés de transport. Ensemble, ces sociétés de transport fournissent directement 32 pour cent du marché total du gaz.	En France, il existe une société de transport dominante (Gaz de France, « GdF ») ainsi que deux petites filiales (Gaz du Sud-Ouest et la Compagnie Française de Méthane). Environ 30 pour cent du marché est desservi directement à partir du réseau de transport.
Distribution	35 distributeurs locaux (DL), appartenant tous à des administrations régionales et locales.	Il existe 23 sociétés de distribution, dont la plupart (19) fonctionnent avec un système d'actionnariat privé (bien que, même dans les cas où des actionnaires privés sont majoritaires, les actionnaires publics détiennent la majorité des voix au conseil d'administration).	Un très grand nombre de distributeurs locaux (plus de 800) interviennent dans le secteur de la distribution du gaz. Environ 50 pour cent d'entre eux sont gérés directement par des administrations locales municipales. ITALGAS Spa, la plus grosse société, avec une part de 30 pour cent de la distribution nationale, est contrôlée par ENI. La SNAM fournit directement environ 92 pour cent du gaz naturel destiné à la production d'électricité.	Dans ce pays également, il existe un nombre important (673) de sociétés de distribution. « Il n'existe aucune distinction claire entre les différents types de sociétés d'approvisionnement en gaz dans la chaîne du gaz. De nombreuses sociétés principalement actives dans la distribution s'occupent également de transport, et vice versa » ¹ . La majorité de ces sociétés de distribution appartiennent à l'État. Moins de 25 pour cent des sociétés appartiennent, ne serait-ce qu'en partie, à des propriétaires privés.	Bien que GdF soit de loin la plus grosse société dans le secteur de la distribution du gaz, fournissant le gros de la demande résidentielle/commerciale et des petits clients industriels, il existe 15 sociétés de distribution publiques ou privées qui desservent 2.8 pour cent du marché.
Intégration verticale	Il n'existe presque pas de lien de propriété entre Gasunie et les DL, ni entre les DL et les producteurs de gaz. La seule exception : les actions minoritaires (10 pour cent) détenues par Gasunie dans deux DL (Intergas et Obargas).	Il n'existe pas de liens de propriété entre Distrigaz et les DL.	ENI est verticalement intégrée dans ses activités de production, de transport et de distribution. ENI, par l'intermédiaire de la SNAM, détient 91 pour cent du marché italien de gaz naturel. ENI possède des installations d'importation de gaz, des réseaux de transport ainsi que la plus grosse société de distribution, ITALGAS. EDISON GAS est elle aussi intégrée verticalement dans ses activités de production, de transport et de distribution par le biais de participations.	La plupart des sociétés de transport ont des intérêts dans les DL. Certains des producteurs de gaz ont des intérêts et dans les sociétés de transport et dans les sociétés de distribution.	GdF est fortement intégrée verticalement. Les deux autres sociétés de transport appartiennent à Elf, Total et GdF.
Intégration horizontale	Seuls 11 des DL sont des sociétés spécialisées dans le gaz ; la majorité d'entre elles distribuent également de l'électricité et du chauffage.	Seuls six des DL sont des sociétés spécialisées dans le gaz ; les autres distribuent également de l'électricité et la télévision par câble.	La majorité des DL fournissent d'autres services, notamment de l'eau et, moins souvent, de l'électricité.	Seuls environ 20 pour cent des DL se consacrent uniquement à la distribution de gaz. La majorité d'entre eux distribuent du gaz et de l'eau ou du gaz, de l'eau et de l'électricité.	GdF est une société spécialisée dans le gaz, mais les 15 DL indépendants sont en général actifs dans d'autres secteurs, notamment la distribution d'eau.

Tableau 5 : Aperçu de la structure du marché dans un certain nombre de pays de l'OCDE (suite)

	<i>Royaume-Uni</i>	<i>Australie</i>	<i>Nouvelle-Zélande</i>	<i>États-Unis</i>	<i>Argentine</i>
Transport	La BG Transco (autrefois le département « exploitation de gazoducs » de British Gas) offre un réseau intégré de transport et de distribution. Il n'existe aucune autre société offrant ces services. British Gas a été privatisée en 1986.	Les arrangements varient d'un État fédéré à l'autre. La plupart des gazoducs appartiennent à l'État fédéral, exception faite de ceux de Victoria et de la Nouvelle-Galles du Sud.	Un important réseau de gazoducs de transport dans l'Île du Nord, appartenant à NGC (Natural Gas Corporation) et exploité par elle.	Environ 45 sociétés de gazoducs inter-États privées offrent des services de transport. Il s'agit d'entités exploitées et réglementées par des intérêts privés.	Deux nouvelles sociétés de gazoducs ont été créées en 1992, dans le Nord (TGN) et dans le Sud (TGS). Ces sociétés appartiennent à des intérêts privés.
Distribution	BG Transco exploite également le réseau de distribution.	Plusieurs sociétés de distribution, dont bon nombre sont privées.	Deux principales sociétés de distribution – NGC et Orion – desservant principalement la moitié nord de l'Île du Nord. Quatre plus petites sociétés. Un mélange de sociétés privées et de sociétés détenues par des collectivités locales.	La distribution est assurée par des sociétés de distribution locales qui sont généralement détenues et réglementées par des intérêts privés.	Huit sociétés de distribution et d'approvisionnement ont été créées en 1992. Elles sont principalement privées.
Intégration verticale	Historiquement, le système de distribution du gaz de Grande-Bretagne est le plus intégré de l'Europe. En plus d'être un important producteur de gaz, British Gas était complètement intégrée, depuis la sortie de l'eau jusqu'au bec du brûleur, jusqu'au début des années 90, date d'introduction de la concurrence. En 1997, British Gas a été séparée en une société de production et de commercialisation (Centrica) et une société de transport/ distribution (BG Transco). BG est également très active dans la production, car elle détient une part importante des champs gaziers de la mer du Nord.	Séparation verticale entre transport et distribution dans l'État de Victoria, tandis que le transport est intégré à la distribution dans la Nouvelle-Galles du Sud. Il n'existe pas d'intégration entre production et transport.	NGC est verticalement intégrée entre transport et distribution. La société a également une importante activité de commercialisation du gaz. Tous les distributeurs de gaz de la Nouvelle-Zélande, à l'exception de deux, exploitent également des services de vente de gaz au détail.	Il y a très peu d'intégration entre le transport et la production et entre le transport et la distribution.	La Loi sur le gaz de 1992 interdit aux producteurs et aux sociétés de stockage de posséder des intérêts dominants dans une société de transport ou de distribution.
Intégration horizontale	Ni Transco ni Centrica ne sont actives dans d'autres secteurs, mais nombre des nouveaux concurrents dans le secteur de la commercialisation du gaz offrent également des services d'électricité ou d'eau.		NGC et d'autres sociétés de distribution sont intégrées avec des compagnies d'électricité.	Certaines sociétés de distribution sont intégrées avec des compagnies d'électricité	

3. Réglementation efficiente du gaz naturel

Comme dans d'autres industries, la réglementation efficiente du secteur du gaz naturel suppose trois étapes :

1. déterminer les activités du secteur qui se prêtent à la concurrence ;
2. déterminer les mécanismes permettant de soumettre ces activités à une concurrence efficace ; et
3. établir une réglementation efficiente des prix et de la qualité pour les activités qui ne se prêtent pas à la concurrence.

La mise en place d'un régime réglementaire efficient exige donc que l'on détermine d'abord les activités du secteur qui se prêtent à la concurrence. Nous avons vu dans le chapitre précédent que la concurrence est généralement possible au stade de la production du gaz naturel et, dans certaines situations, à celui du transport. En revanche, la concurrence n'est généralement pas possible au stade de la distribution. C'est pourquoi l'introduction de la concurrence dans le secteur du gaz naturel est principalement axée sur les producteurs et, dans une mesure moindre, sur les exploitants de gazoducs.

Lorsqu'il y a concurrence réelle entre les gazoducs transportant le gaz de producteurs indépendants, il n'y a guère lieu de réglementer la production ou le transport. En effet, la concurrence entre les gazoducs garantira que le gaz sera produit et transporté de manière efficiente¹. Il n'est guère utile dans ce cas d'imposer une réglementation supplémentaire. Toutefois, dans la pratique, cette concurrence entre gazoducs n'existe que dans un petit nombre d'endroits, même aux États-Unis où le réseau est relativement dense. La plupart des consommateurs de gaz n'ont pas la possibilité de choisir entre plusieurs transporteurs. C'est le scénario sur lequel nous allons porter notre attention.

3.1 Introduction de la concurrence dans les activités concurrentielles du secteur gazier

Comment introduire la concurrence dans les activités du secteur gazier qui se prêtent à ce régime ? Cette question, qui se pose dans presque toutes les industries de réseau réglementées, ramène à la problématique bien connue de la régulation efficace de l'accès aux installations essentielles. Les difficultés surgissent chaque fois qu'un secteur comprend une activité non concurrentielle verticalement intégrée à une activité concurrentielle. La littérature traitant des problèmes d'accès dans un certain nombre d'industries différentes abonde. Elle nous apprend que l'introduction d'une concurrence efficace dans l'activité concurrentielle doit répondre à trois conditions :

- (a) les clients en aval doivent pouvoir combiner les services de l'activité non concurrentielle et ceux des fournisseurs de l'activité concurrentielle de manière à obtenir les services combinés dont ils ont besoin ;
- (b) les tarifs et la qualité des services offerts par l'activité non concurrentielle ne doivent pas établir une discrimination entre les sociétés fournissant l'activité complémentaire concurrentielle ; et, en outre,
- (c) la qualité de la réglementation de l'activité non concurrentielle et le niveau de concurrence de l'activité concurrentielle seront probablement meilleurs si le propriétaire de l'activité non concurrentielle ne livre pas lui-même concurrence dans l'activité concurrentielle.

Dans le contexte du gaz naturel, ces principes impliquent que la concurrence entre les producteurs de gaz (et, dans une moindre mesure, les gazoducs) sera plus vigoureuse si (a) on autorise les clients en aval à choisir leurs producteurs et à transporter ce gaz au moyen des gazoducs existants et (b) on empêche les exploitants de gazoducs d'exercer une discrimination entre producteurs de gaz par le biais de leurs tarifs et conditions. En outre, (c) la qualité de la concurrence au niveau de la production du gaz (et des gazoducs) et la qualité de la réglementation des gazoducs seront renforcées si on sépare la propriété de la production du gaz et la propriété des gazoducs.

3.1.1 Importance d'un accès à des conditions non discriminatoires

Ces trois éléments sont essentiels à une bonne concurrence, pour des raisons connues. Comme les études portant sur un certain nombre de secteurs l'ont démontré, une entreprise réglementée dans un secteur non concurrentiel qui est intégrée verticalement à un secteur concurrentiel sera fortement incitée à restreindre la concurrence dans le secteur concurrentiel si cela lui permet de récupérer une partie des rentes monopolistiques perdues du fait de la réglementation.

La possibilité pour l'entreprise réglementée d'accroître son profit grâce à l'intégration verticale et à la restriction de la concurrence dans le secteur concurrentiel dépendra de la différence entre la réglementation que l'entreprise rencontre au niveau de la fourniture du service intégré ou combiné et celle du service non concurrentiel seul. Lorsque la réglementation du service intégré est plus faible que la réglementation du service non concurrentiel seul², la firme intégrée pourra accroître son profit en limitant la concurrence dans le service concurrentiel. Dans cette situation, la firme intégrée préférera toujours empêcher l'arrivée de concurrents dans le service concurrentiel.

Dans le cas du secteur gazier, si la réglementation des gazoducs permet à l'opérateur de retirer des rentes monopolistiques résiduelles sur le service combiné « gaz plus transport », alors que la réglementation du transport seul élimine pratiquement les rentes monopolistiques, la firme intégrée sera extrêmement réticente à donner accès à des sources de gaz concurrentes. Cela pourrait être le cas, par exemple, si la réglementation contrôlait exclusivement le prix du transport, en laissant le marché déterminer le prix du gaz. Dans un tel contexte, une firme intégrée est incitée à évincer les producteurs de gaz concurrents, de façon à pouvoir majorer le prix du gaz et retrouver les rentes monopolistiques que la réglementation du service de transport lui enlève.

L'inverse est également vrai : une entreprise intégrée qui réalise une perte sur l'exploitation réglementée de son service combiné peut-être extrêmement disposée à donner accès au volet non concurrentiel si cela permet de dégager sur celui-ci un taux de rendement normal. Cette considération a été déterminante pour la libéralisation du secteur gazier aux États-Unis et au Royaume-Uni.

Au début des années 80, les gazoducs américains (qui n'étaient autorisés à l'époque qu'à offrir un service combiné « gaz plus transport ») ont conclu des contrats de prise ferme (« take-or-pay ») à des prix de gaz anticipant une pénurie de gaz future et reflétant les cours élevés du pétrole prévalant alors. La chute ultérieure des prix du pétrole et du gaz a fait que maints opérateurs essayaient une perte sur leur service combiné « gaz plus transport »). Pour éviter la faillite, lorsque la possibilité leur a été offerte, de nombreux gazoducs ont opté pour le service de transport seul, avec une marge bénéficiaire réglementée et garantie, en vue de rétablir leur viabilité financière.

Une situation similaire s'est produite au Royaume-Uni. Bien que l'autorité en matière de concurrence ait préconisé au début de la réforme la séparation verticale de British Gas, cette dernière opposait une résistance. Toutefois, une fois la réforme accomplie, British Gas s'est trouvée engagée dans des contrats de prise ferme à long terme prévoyant un prix bien supérieur à celui du marché. La réaction de

British Gas a consisté à se scinder volontairement en deux sociétés – un opérateur de gazoduc (« Transco ») et une société productrice et distributrice de gaz au détail (« Centrica »). Cela lui a permis de s'assurer un rendement viable sur une partie de son activité (le transport de gaz, Transco), en confinant les pertes à la société de production et de distribution au détail.

3.1.2 *Importance du centre de décision*

Il ne suffit pas que les fournisseurs de gaz aient un accès garanti au réseau de transport à des conditions non discriminatoires. Il importe également que la décision relative au choix du fournisseur dans le segment concurrentiel se situe au niveau des sociétés aval, en l'occurrence les consommateurs du gaz en aval, qui sont incitées à choisir le fournisseur de manière efficiente.

L'expérience américaine illustre ce propos. Avant 1930, le secteur du gaz américain consistait essentiellement en une série de gazoducs non interconnectés reliant un gisement donné à une ville ou un gros consommateur donné. Au cours des années 30, à l'occasion d'une restructuration du secteur, on a introduit la séparation verticale – la propriété des gazoducs a été séparée de celle de la production en amont et des installations de distribution en aval. En principe, l'exploitant d'un gazoduc non intégré désireux de maximiser son profit n'a aucun intérêt à choisir entre les producteurs. En revanche, l'exploitant d'un gazoduc non intégré désireux de maximiser son profit a intérêt à acheter le gaz auprès de la source la moins chère. Toutefois, les exploitants de gazoducs ne sont pas seulement désireux de maximiser leur profit ; ils sont aussi étroitement réglementés. Les incitations exercées sur les propriétaires de gazoducs dépendent de la nature de la réglementation sous le régime de laquelle ils opèrent. Si ces opérateurs sont autorisés à répercuter le prix du gaz qu'ils achètent sur le prix réglementé du produit combiné, ils sont peu incités à acheter le gaz de manière efficiente.

Ce n'est qu'en 1985, lorsque l'US Federal Power Commission a introduit un système d'accès de tiers aux gazoducs, que la concurrence entre fournisseurs de gaz a réellement vu le jour. Les acheteurs de gaz en aval étaient dès lors fortement incités à rechercher de meilleurs prix auprès d'une multiplicité de fournisseurs et à s'entendre avec les exploitants de gazoducs pour acheminer ce gaz jusqu'aux points de consommation. De fait, les clients en aval étaient incités à rechercher des sources moins chères même lorsque cela imposait de construire de nouveaux gazoducs pour accéder à ces sources. Les producteurs de gaz étaient eux-mêmes fortement incités à construire de nouveaux gazoducs si cela leur permettait de fournir des marchés à prix élevés. Ainsi, l'introduction de l'accès de tiers a eu pour effet d'accroître l'interopérabilité du réseau américain de gazoducs, à tel point que tous les gros clients peuvent acheter du gaz à pratiquement n'importe quel fournisseur. L'encadré 1 décrit plus en détail l'expérience américaine.

Encadré 1 : L'accès de tiers, la concurrence et la transformation du secteur du gaz naturel aux États-Unis

Après l'adoption du Natural Gas Act en 1932, le secteur du gaz naturel américain s'est trouvé très contrôlé. L'intégration verticale était découragée, l'entrée contrôlée et les tarifs de gazoducs et les prix du gaz réglementés. Les gazoducs étaient tenus de lier la vente du gaz à son transport. Les clients des gazoducs (habituellement des sociétés de distribution locale et de gros consommateurs) ne pouvaient acheter que le service combiné englobant l'acquisition du gaz, son stockage et son transport.

La procédure d'agrément de la construction de gazoducs par l'autorité de réglementation fédérale a conduit à un réseau dense mais sans interconnexion. Les mécanismes réglementaires ont « balkanisé » le marché du gaz et engendré une architecture de réseau déconnectée qui n'autorisait pas le passage du gaz de chaque gisement vers chaque ville desservie. Les gazoducs étaient exploités de manière indépendante les uns des autres, chacun approvisionnant ses propres villes à partir des mêmes sources.

A partir de 1985, grâce à une série d'ordonnances de la Federal Energy Regulatory Commission, les gazoducs ont de plus en plus exploité la possibilité de devenir des conduites « à libre accès », offrant purement des services de transport à tout producteur ou consommateur de gaz. Dans les trois ans qui ont suivi l'adoption de l'ordonnance d'octobre 1985, presque tous les gros gazoducs sont devenus des conduites à libre accès. Entre 1982 et 1987, le transport de gaz appartenant aux gazoducs a diminué de 60 pour cent, tandis que celui appartenant aux clients a augmenté de 180 pour cent. En 1991, les clients étaient propriétaires de 85 pour cent du gaz transporté entre États.

Au fur et à mesure que l'accès au réseau de gazoducs s'ouvrait, des marchés ponctuels sont apparus au niveau des gisements et des points d'interconnexion. Le nombre de marchés ponctuels signalant les cours au *Gas Daily*, un périodique professionnel, est passé de zéro en 1985 à une cinquantaine en 1990. Il existe 21 grands gazoducs inter-États avec lesquels 1 400 distributeurs locaux ont signé des contrats de transport. En moyenne, chaque gazoduc possède près de 70 fournisseurs de droits de transport.

La croissance de l'interopérabilité du réseau de gazoducs est une importante conséquence de cette ouverture de l'accès. Lorsque les prix varient d'un gisement de gaz à l'autre, les acheteurs exigent des connexions de transport pour obtenir l'accès aux sources les moins chères. Les producteurs de gaz à faibles prix exigent la même chose pour trouver accès aux marchés d'aval à prix élevés. Ces pressions combinées ont amené une prolifération d'interconnexions et, par conséquent, une convergence des prix à l'échelle nationale et l'émergence de marchés « carrefour » aux points où plusieurs gazoducs se rejoignent.

Tout indique que les marchés se sont épanouis depuis que la FERC a autorisé le libre accès. Un marché a surgi au niveau de chaque champ de gaz et de la plupart des grands carrefours de gazoducs. Le volume du gaz transporté a grimpé en flèche. Le flux maximal entre presque tous les points s'est amélioré parce que le libre accès a donné naissance à maints cheminements nouveaux à travers le réseau, contournant les goulots d'étranglement antérieurs. Les marchés ont réussi à égaliser les prix du gaz entre les champs de production géographiquement dispersés, ce que la réglementation n'avait pas pu faire.

De Vany et Walls résument ainsi leurs travaux : « Le secteur est devenu presque parfaitement contestable au niveau de la tête de puits et du transport, les prix spot en une cinquantaine de points très distants les uns des autres se suivant de si près qu'ils représentent un seul marché. En moyenne, il n'y presque pas de possibilités d'arbitrage. Les prix aux points de livraison sont alignés sur les prix aux gisements et aux points de mise en commun. Des courtiers achètent et vendent aujourd'hui du gaz sur tout le réseau de gazoducs, même sans droit de transport ininterrompu. Les points de mise en commun (carrefours) sont très étroitement intégrés aux marchés de production... En bref, le marché du gaz naturel d'Amérique du Nord présente aujourd'hui les caractéristiques essentielles d'un marché concurrentiel : nombreux vendeurs, nombreux acheteurs ; capacité de relier acheteurs et vendeurs ; absence de possibilités d'arbitrage, transparence des prix et liberté relative d'entrée et de sortie »³.

3.1.3 *Importance de la séparation*

La séparation est le troisième élément d'une réglementation efficace de l'accès. L'expérience d'autres secteurs montre que pour récolter pleinement les fruits de la concurrence dans le segment concurrentiel, la propriété de l'activité concurrentielle doit être séparée de celle de l'activité non concurrentielle. Les arguments en faveur d'une telle séparation sont bien connus. Premièrement, la séparation contribue à la qualité de la réglementation de l'activité non concurrentielle en améliorant la qualité de l'information sur les coûts sous-jacents, notamment sur les biens d'équipement à englober dans « l'assiette » réglementaire. L'autorité de réglementation est mieux en mesure d'isoler et de chiffrer le coût des biens d'équipement utilisés pour la fourniture du service non concurrentiel lorsque ces biens sont physiquement séparés des équipements employés pour fournir d'autres services.

Le deuxième argument tient à l'effet de la séparation des incitations de l'opérateur et à la facilité de réglementation. En l'absence de séparation, l'opérateur intégré a intérêt à freiner la concurrence, pour les raisons que l'on a vues. Le contrôle réglementaire des prix et conditions de vente et le contrôle, en vertu du droit de la concurrence, de l'abus de position dominante et d'autres comportements anticoncurrentiels peuvent limiter, mais non pas éliminer entièrement, la capacité de l'opérateur établi à restreindre la concurrence. L'entreprise réglementée est à la fois mieux renseignée et fortement incitée à tourner les règles. L'autorité de réglementation, même performante, est contrainte à une course poursuite permanente pour contrer les nouvelles tactiques de la société réglementée. La séparation verticale réduit l'incitation du propriétaire de l'activité non concurrentielle à exercer une discrimination et à restreindre la concurrence et autorise de ce fait une forme de réglementation moins lourde et plus efficiente.

Le troisième argument porte sur l'incitation du propriétaire de l'activité non concurrentielle à accroître la capacité afin de répondre aux demandes d'accès. Lorsque les activités concurrentielles et non concurrentielles sont intégrées, le propriétaire de l'activité non concurrentielle a fortement intérêt à limiter la capacité si cela lui permet de restreindre la concurrence en amont ou en aval. Le refus d'accroître la capacité peut empêcher l'entrée de nouveaux opérateurs en amont susceptibles d'éroder les rentes que l'entreprise peut tirer de l'activité concurrentielle. En revanche, lorsque ces deux activités sont séparées, le propriétaire de l'activité non concurrentielle a intérêt à augmenter la capacité pour répondre à la demande du marché.

Ces arguments en faveur de la séparation doivent être jaugés à la lumière de la perte potentielle d'économies de gamme verticales. Toutefois, dans le secteur gazier, où les économies de gamme verticales ne sont pas très importantes, la séparation verticale peut conduire à une intensification sensible de la concurrence.

Plusieurs analystes partagent cet avis. Ainsi, Braeutigam signale :

« L'expérience de la réforme réglementaire dans d'autres secteurs nous met en garde contre les problèmes que l'intégration verticale peut engendrer dans un secteur réglementé, particulièrement lorsqu'une structure verticale englobe à la fois des éléments réglementés et non réglementés. Le problème fondamental est qu'une entreprise disposant d'un monopole réglementé sur un marché peut en tirer parti pour arracher des avantages imprévus dans des marchés non réglementés intrinsèquement concurrentiels. Une telle intégration verticale peut permettre à l'opérateur de contourner les restrictions de profit ou de taux de rendement régissant la composante réglementée de l'entreprise. Elle peut permettre également à l'entreprise réglementée d'exercer une discrimination à l'encontre d'autres sociétés concurrentes de sa filiale non réglementée. ...

Néanmoins, on fait souvent observer que l'intégration verticale peut aussi avoir des conséquences opportunes. Par exemple, l'intégration peut permettre à l'opérateur de coordonner ses activités de production et de transport, garantir l'approvisionnement du gazoduc et contrer le comportement opportuniste de l'une ou l'autre partie dans la négociation de contrats signés après la construction de l'équipement. Ainsi, une structure intégrée présente potentiellement des problèmes, mais il ne serait pas de bonne politique de proscrire l'intégration sans en évaluer au préalable les coûts et les avantages »⁴.

L'ICC (1998) va plus loin :

« Tous les pays qui ont libéralisé avec succès leur secteur gazier ou électrique ont introduit, sous une forme ou une autre, un régime prévoyant l'accès de tiers à l'infrastructure du réseau monopolistique. L'évolution de la libéralisation a démontré qu'un droit positif d'accès de tiers est l'une des conditions cruciales d'une concurrence véritable dans les secteurs du gaz et de l'électricité. ... Cependant, pour réussir, un tel régime exige une série d'autres mesures pour garantir que les parties puissent effectivement accéder au réseau de transport – la plus cruciale étant peut-être la séparation du transport et de la production »⁵.

Les régimes réglementaires britannique et américain prévoient tous deux des restrictions pour empêcher les propriétaires de gazoducs d'intégrer d'autres éléments du secteur gazier, en particulier la production. Cette séparation verticale est un ingrédient clé de la réussite de ces régimes. D'autres pays (comme la Nouvelle-Zélande), qui ont voulu introduire la concurrence tout en préservant l'intégration verticale, n'ont pas rencontré le même succès. L'encadré suivant relate les conditions de la séparation verticale dans le secteur gazier britannique.

Encadré 2 : Séparation verticale : Le cas de British Gas⁶

En 1988, déçu de l'absence de concurrence dans le secteur du gaz britannique, la UK Monopolies and Mergers Commission (MMC) recommande que British Gas publie ses conditions d'accès et que des cloisons étanches soient érigées entre la composante de BG s'occupant des négociations sur l'accès et celle s'occupant de l'achat et de la distribution de gaz. Trois années plus tard, en 1991, l'Office of Fair Trading conclut que cette règle de conduite n'a pas suffi à stimuler la concurrence et que des mesures structurelles supplémentaires sont requises. Tout en arguant que la meilleure solution serait un désinvestissement complet, il était prêt à accepter comme solution de compromis la création d'une filiale de transport et de stockage séparée.

En 1993, après une nouvelle étude du secteur gazier, la MMC va plus loin dans ses recommandations. Elle préconise que BG soit tenu de se séparer de son activité de trading (c'est-à-dire de fourniture) avant le 31 mars 1997. Elle faisait valoir que la concurrence ne serait assurée à long terme que si les concurrents jouissaient d'un accès non discriminatoire au réseau de transport et aux installations de stockage. Elle faisait observer que « la nature intégrée de l'activité de BG... fait que les conditions d'une concurrence auto-alimentée ne sont pas réunies ». Même si BG avait des filiales distinctes pour le transport et le trading, comme convenu dans ses engagements envers l'OFT, les problèmes de conflit d'intérêts ne seraient pas réglés. Des retards étaient signalés dans les cotations et la lecture des compteurs, et tant la structure que le niveau des frais de transport que les contraintes opérationnelles imposées par BG aux concurrents réduisaient la compétitivité de ces derniers. Ofgas faisait valoir que, sans une pleine séparation, les concurrents pourraient se heurter à des difficultés d'accès au réseau en cas de pénurie de capacité, à des tarifs défavorisant les concurrents, à des modalités d'attribution des équipements et coûts favorisant la composante transport de BG et à des problèmes de confidentialité de l'information. Etant donné les asymétries de l'information, il serait coûteux et difficile de réglementer un tel comportement. Considérant que la concurrence ne serait pas viable sans séparation verticale et qu'une concurrence au niveau du trading était souhaitable, MMC conclut que la situation était contraire à l'intérêt public et a recommandé que BG se sépare de son activité de trading.

La MMC reconnaissait que le coût de la restructuration verticale, estimé à 130 millions de livres par an sur dix ans, devrait être financé et préconisait qu'Ofgas répercute « une proportion appropriée des coûts de la restructuration aux usagers » et qu'Ofgas en tienne compte en fixant ses tarifs de transport et de stockage.

Aux yeux de MMC, la séparation verticale complète était une condition *sine qua non* d'une réelle concurrence future. En dépit du coût – puisqu'il fallait établir un régime équilibrant l'offre et la demande, que les économies d'échelle entre distribution et transport seraient perdues et que des frais de transaction seraient encourus –, la MMC estimait que les avantages de la concurrence l'emportaient. Elle citait l'estimation de coût de la BG ... mais soulignait que cette estimation était incertaine et probablement trop élevée et qu'en tout état de cause elle était faible comparée à la taille de l'activité de trading de BG...

La MMC s'est également penchée sur d'autres options de séparation, pour les rejeter. L'option de scinder BG Trading en sociétés régionales séparées, mentionnée par Ofgas (1993) n'a pas été retenue en raison du coût supplémentaire qu'elle comportait et parce que le nombre des concurrents n'était pas un problème. L'idée de Hammond et al (1985) de scinder BG à la manière du secteur électrique, en un réseau de transport national (et éventuellement régional), avec intégration des sociétés régionales de distribution et de production, a été rejetée à cause du coût et de la difficulté de garantir l'accès non discriminatoire aux réseaux de distribution régionaux. De même, la MMC a refusé de séparer le système de stockage du réseau de transport parce que les installations de stockage de BG servent à assurer la sécurité de l'approvisionnement et à couvrir les pointes de consommation saisonnières. Elle a convenu qu'il serait souhaitable de séparer la comptabilité des installations de stockage puisque des concurrents pouvaient vouloir se doter de leurs propres installations.

Une leçon que l'on peut tirer est qu'il est beaucoup plus facile de procéder à des réformes structurelles visant à promouvoir la concurrence avant la privatisation d'un monopole intégré. L'approche très différente suivie par le gouvernement (britannique) lors de la privatisation du secteur électrique montre qu'il n'a pas fallu longtemps pour reconnaître les erreurs commises dans le cas de British Gas.

3.2 *Autres aspects de la libéralisation du gaz*

3.2.1 *Tous les clients devraient-ils avoir le choix ?*

Aux États-Unis, la faculté de choisir son fournisseur de gaz est surtout exercée par les gros consommateurs, tels que les producteurs d'électricité, les gros clients industriels et les sociétés de distribution locale de gaz. Au Royaume-Uni, en revanche, même les petits clients domestiques peuvent, en principe, choisir leur fournisseur de gaz. Cela soulève une question : si nous voulons bénéficier de tous les avantages de la concurrence, est-il nécessaire que tous les clients en aval aient le choix du fournisseur de gaz (et éventuellement du gazoduc), ou bien suffit-il que les gros consommateurs disposent de ce choix ? En d'autres termes, quels sont les avantages d'étendre le choix, au-delà des clients du réseau de transport, à tous les consommateurs de gaz, y compris les clients des réseaux de distribution ?

La réponse précise à cette question dépend de la nature de la réglementation des réseaux de distribution locaux. Si cette réglementation fournit une incitation parfaite à la société de distribution locale (SDL) de choisir le fournisseur de gaz le plus efficace, il n'y aurait guère d'avantage à offrir le choix à des paliers inférieurs, puisque la SDL agirait comme un agent acquéreur efficace pour les petits clients qu'elle approvisionne. Dans la pratique, la réglementation des SDL est souvent imparfaite et ne les incite que faiblement à rechercher activement l'approvisionnement en gaz le moins cher. Ce phénomène, à son tour, a tendance à affaiblir la concurrence sur le marché du gaz : de nouveaux producteurs efficaces auront du mal à se tailler une place sur le marché d'un produit homogène où les acquéreurs se soucient peu du coût. Étendre le choix aux clients des sociétés de distribution présente par conséquent deux avantages :

- premièrement, en plaçant la décision de l'approvisionnement en gaz dans les mains de ceux qui ont une forte incitation à prendre ces décisions de manière efficace, on accroît la concurrence en amont, au niveau de la production de gaz (et de son transport par gazoduc) ; et
- deuxièmement, en séparant les décisions d'achat de gaz des SDL des décisions concernant le transport de gaz, on simplifie et améliore l'efficacité de la réglementation des SDL : au lieu d'instaurer des régimes d'incitation et de contrôle pour deux décisions – l'achat et le transport du gaz –, le système réglementaire n'a plus qu'à assurer l'efficacité du transport.

Donner le choix à des millions de petits clients accroît aussi, sans aucun doute, les frais de transaction puisqu'un contrat de fourniture de gaz unique entre une SDL et un producteur est remplacé par peut-être des millions de contrats entre des petits clients individuels et des producteurs de gaz. Dans une certaine mesure, ce surcoût peut être compensé, sans réduire les avantages du choix donné au client, en permettant à des sociétés de vente au détail ou de négoce d'agir comme intermédiaires ou courtiers entre les petits et moyens clients et les sociétés de production, de transport et de distribution de gaz. Ces sociétés réduisent les frais de transaction en groupant les demandes de gaz d'un certain nombre de petits clients et en agissant pour le compte de ces derniers dans les négociations avec les sociétés de production, de transport et de distribution. La concurrence entre ces sociétés de commercialisation au détail peut assurer que ces services soient fournis de manière efficace. C'est là l'approche adoptée au Royaume-Uni où l'on compte actuellement 66 sociétés agréées pour fournir des services de commercialisation ou de vente au détail du gaz.

Aux États-Unis, l'introduction de la concurrence au niveau des sociétés de distribution locales relève de la compétence des autorités de réglementation des États. En juillet 1998, 13 États avaient adopté un programme de « libre accès » pour au moins une partie de leur marché de détail. La quasi-totalité des autres États envisagent d'adopter des programmes de libre accès « au-delà du point de livraison central des villes » (c'est-à-dire au niveau des clients individuels de la SDL)⁷.

Une étude de Walls tente de déterminer dans quelle mesure l'accès de tiers au niveau de la distribution accroît l'efficacité d'ensemble. Il examine le degré de corrélation entre le prix du gaz payé par les clients des sociétés de distribution et les prix au niveau des gisements. Un faible degré de corrélation indique que les sociétés de distribution ne choisissent pas les fournisseurs de gaz avec efficacité ou ne répercutent pas les économies de coût sur les clients. À l'inverse, un fort degré de corrélation permet de penser que les clients ont accès aux approvisionnements les plus efficaces. Walls constate que « les marchés urbains qui ont adopté une forme de contournement ou de libre accès au niveau local semblent plus fortement intégrés aux marchés de production ». Cela autorise à penser que le libre accès (de tiers), même au niveau local, représente un ingrédient essentiel si l'on veut renforcer la concurrence et la qualité de la réglementation⁸.

3.2.2 *Comment gérer l'accès à une capacité restreinte ?*

À court terme, la capacité d'un réseau de transport de gaz naturel est fixe et limitée. Il est possible que cette limite de capacité soit atteinte, particulièrement en hiver lorsque la demande de gaz est maximale. Si la limite de capacité est atteinte, toutes les demandes d'accès ne pourront être physiquement satisfaites. Quelle sorte de mécanisme faut-il adopter pour répartir la capacité de gazoduc restreinte entre les demandeurs d'accès rivaux ?

La question ne se pose que dans un régime réglementaire qui impose le transport de gaz pour le compte de tiers. Lorsque c'est le propriétaire du gazoduc lui-même qui choisit sa source de gaz et fournit un service combiné « gaz plus transport », la gestion de la demande de pointe relève de lui seul et il peut à cet effet utiliser judicieusement ses capacités de stockage pour lisser les flux sur le réseau, appliquer des tarifs de pointe pour rationner la demande ou proposer un système de contrats interruptibles (pour ajuster l'offre et la demande) à ses clients en aval. Mais lorsqu'un gazoduc est tenu de transporter du gaz pour des tiers (comme l'exige une concurrence efficace), il convient de se demander comment l'accès au gazoduc sera rationné entre les parties en cas de capacité insuffisante.

Il existe deux grandes méthodes de rationnement de l'accès. La première consiste à majorer le prix du transport, ce qui amène les clients en aval à ramener la quantité demandée à un niveau égal à la capacité totale. La deuxième consiste à rationner les *quantités* que les sociétés peuvent transporter (à un volume égalant la capacité totale disponible) en laissant le marché déterminer le prix d'équilibre.

La première méthode – le rationnement de l'accès au réseau par la majoration du prix du transport en période de pointe – est une solution économique classique. En principe, le prix réglementé du transport devrait être ajusté en temps réel jusqu'à ce que la demande de gaz corresponde exactement à la capacité disponible.

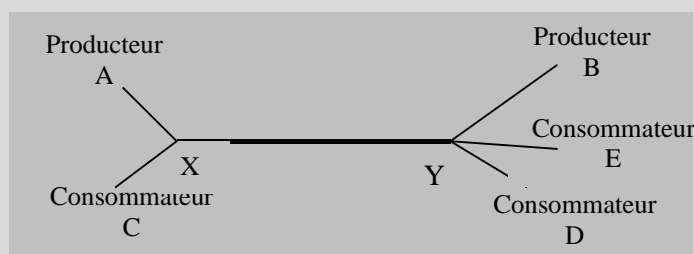
Le principal inconvénient de cette méthode est qu'elle soulève des problèmes réglementaires difficiles. La société de transport, comme toute entreprise réglementée, est fortement incitée à saisir toute occasion de majorer ses prix. L'entreprise réglementée est susceptible d'être mieux renseignée que l'autorité de réglementation sur la capacité résiduelle disponible à tout moment. Elle est donc en mesure d'influencer les prix réglementés en prétendant que la limite de capacité est atteinte.

Pour vérifier la véracité de cette information, l'autorité de réglementation doit connaître toutes les demandes de transport à chaque instant – comme il est indiqué dans l'encadré, il ne suffit pas de savoir qu'un sous-ensemble de demandes de transport épuise la capacité car ces demandes de transport peuvent être compensées par des demandes de transport dans le sens inverse. L'entreprise réglementée peut également être en mesure de créer des pénuries de capacité par une mauvaise utilisation de son gazoduc ou de ses installations de stockage.

Flux de trafic et goulots d'étranglement dans un réseau simple

L'exemple ci-après montre que pour établir l'existence d'une pénurie de capacité dans un réseau, il faut examiner les flux de trafic sur l'ensemble du réseau.

Considérons un réseau de gaz comprenant deux producteurs (A et B) et deux consommateurs (C et D). Le réseau est structuré comme suit :



La section de réseau entre les points X et Y possède une capacité maximale de 100 unités. Initialement, D signe un contrat avec A pour la livraison de 100 unités de gaz. Ce contrat épuise la capacité entre X et Y, empêchant A d'approvisionner d'autres clients au-delà du point Y, tel qu'un consommateur E. Toutefois, supposons que C signe un contrat avec B pour la livraison de 100 unités de gaz. Cette demande peut être satisfaite simplement en acheminant le gaz du producteur A au consommateur C et le gaz du producteur B au consommateur D. La section de gazoduc entre X et Y n'est plus à sa limite de capacité (en fait, elle n'est plus employée du tout). Etant donné le nouveau contrat entre B et C, A peut maintenant vendre 100 unités de gaz supplémentaires au client E.

Au lieu de réglementer les prix et de laisser les quantités s'ajuster jusqu'au point d'équilibre du marché, il est souvent préférable de fixer la quantité totale de capacité disponible et de laisser ensuite le marché déterminer le prix⁹. Cette méthode présente l'avantage de la transparence et de la facilité de contrôle : il est beaucoup plus facile de déterminer la capacité totale disponible que de savoir à chaque instant si cette capacité est épuisée par les flux intervenants sur l'ensemble du réseau.

Signalons que le nombre de marchés requis pour épuiser la capacité d'un gazoduc peut être relativement grand. Différentes sections du réseau peuvent avoir des capacités différentes et connaître différents niveaux de congestion (certaines sections constituant des goulots d'étranglement). La capacité de chaque section doit donc être négociée sur son propre marché. Les négociants en gaz doivent pouvoir acquérir une capacité suffisante sur des sections contiguës d'un réseau de gazoducs pour constituer un cheminement viable entre le producteur et le consommateur de gaz. La demande de transport varie également dans le temps. Il faut donc établir un marché pour chaque section de gazoduc et à des intervalles de temps réguliers. L'un des inconvénients de cette approche réside dans les coûts de transaction résultant du grand nombre de marchés nécessaires.

Les coûts de transaction associés au fonctionnement de ces marchés imposent également une limite pratique aux intervalles de temps pour lesquels la capacité est achetée. Dans la pratique, bien entendu, la demande de capacité peut varier tout au long de la journée selon les conditions météorologiques (entre autres). Or, il ne serait pas pratique de mettre aux enchères les droits à la capacité pour des intervalles de cinq minutes au fil de la journée. La capacité est donc mise aux enchères pour des intervalles beaucoup plus longs (actuellement un mois aux États-Unis). De ce fait, il faut trouver un autre mécanisme pour rationner le gaz lorsque la demande excède la capacité de transport dans les intervalles entre les enchères. La méthode la plus couramment retenue est le contrat à quantité variable, appelé fourniture « interruptible ».

Un autre inconvénient majeur du recours au marché pour répartir la capacité est qu'en laissant au marché (plutôt qu'à l'autorité de réglementation) le soin de déterminer le prix, on ouvre à nouveau la porte à l'exercice du pouvoir de marché – une société peut acquérir une position dominante et porter le prix de la capacité au-delà de son coût incrémental à long terme. De ce fait, cette méthode nécessite de prévoir des mesures de protection contre l'acquisition ou l'exercice du pouvoir de marché.

Les règles de péremption de diverses sortes sont la forme de protection la plus couramment utilisée. Pour exercer un pouvoir de marché dans un marché de transport, le propriétaire de la capacité doit pouvoir refuser l'usage d'une partie de la capacité disponible (dans la pratique, ramener la capacité disponible à un niveau inférieur à la capacité physique). Les règles de péremption compensent la faculté du propriétaire de la capacité de restreindre artificiellement cette dernière en stipulant simplement que toute capacité non utilisée est mise d'office à la disposition d'autrui. Un exemple de ce type de règle est que toute capacité non utilisée pour le transport de gaz par le propriétaire de la capacité est cédée à une personne spécifique (le propriétaire du gazoduc, par exemple) qui peut la revendre dans le cadre d'une fourniture « interruptible ».

« Les dispositions de péremption ou de réversion agissent explicitement contre la faculté d'un détenteur de droits d'accumuler ces derniers et d'en gonfler le prix en les thésaurisant. La tentative du détenteur de limiter la production est contrecarrée par la cession obligatoire au gazoduc des droits inutilisés. Ce dernier, à son tour, est tenu de mettre sur le marché la capacité inutilisée »¹⁰.

Les règles de péremption sont utilisées dans d'autres secteurs présentant un contexte réglementaire similaire. Ainsi, par exemple, dans le secteur du transport aérien, les créneaux de décollage et d'atterrissage de nombreux aéroports sont rationnés aux heures de pointe. Outre la capacité de négocier les créneaux, les régimes réglementaires régissant de nombreux aéroports prévoient des règles de péremption qui empêchent la thésaurisation et d'autres restrictions artificielles à la capacité de l'aéroport¹¹.

Il est à noter que, même parmi les pays favorisant la libéralisation du secteur, les États-Unis sont l'un des rares à avoir établi un système de négoce de la capacité de gazoduc. Cela peut être dû à une abondance de capacité dans les autres pays, qui rend moins préoccupant le rationnement de l'accès à une capacité limitée. Mais l'absence d'un tel mécanisme dans le régime réglementaire de ces autres pays s'avérera probablement à l'avenir une faiblesse qui se traduira par des plaintes pour traitement discriminatoire lorsque la capacité de gazoduc sera épuisée ou par un investissement insuffisant dans le développement des capacités.

3.2.3 *Principes de tarification*

Quelle que soit la méthode choisie, les tarifs de transport sur le réseau de gaz (en l'absence d'une concurrence effective entre gazoducs) doivent être réglementés. La difficulté est de trouver la structure tarifaire appropriée.

Plusieurs principes généraux s'appliquent ici. Premièrement, la structure des tarifs réglementés doit coller le plus près possible à la structure des coûts sous-jacents. Lorsque les coûts fixes de transport sont élevés et les coûts marginaux faibles (comme c'est probablement le cas pour le transport du gaz en période creuse), les prix réglementés devraient refléter cette structure. En outre, le prix marginal du transport devrait être égal au coût marginal. Le transport sur longue distance et/ou en période de pointe devrait être plus cher que le transport sur courte distance ou en période creuse.

Une telle structure « binôme » (ou « polynôme ») est courante. Aux États-Unis, par exemple, les tarifs de transport comportent une redevance fixe, qui est fonction de la capacité demandée, et une prime variable, qui est fonction du volume (ou de l'utilisation). Le gros (90-95 pour cent) des revenus du gazoduc provient de la redevance fixe, la prime variable étant minime compte tenu du très faible coût marginal du transport (en période creuse).

Le deuxième principe fondamental de la réglementation tarifaire est que, là où une discrimination par les prix entre clients ou catégories de clients est possible, les coûts fixes sont à recouvrer au moyen de redevances variables selon le client ou la catégorie de clients en fonction de l'élasticité de la demande. En d'autres termes, les tarifs réglementés devraient varier selon les clients, c'est-à-dire être plus élevés pour les clients ayant une forte disposition à payer et plus bas pour les clients ayant une faible disposition à payer. Ce mécanisme est plus efficient que l'option consistant à facturer à tous les clients un prix moyen puisque, en l'occurrence, les clients ayant une disposition à payer inférieure à la moyenne renonceront à consommer même s'il serait efficient pour eux de consommer.

D'aucuns avancent que la concurrence dans le secteur gazier éliminera toute discrimination de prix et que c'est là un résultat souhaitable. Aucune de ces deux thèses ne tient. Aussi longtemps que la société de transport peut empêcher la revente du gaz entre ses clients en aval, elle peut leur appliquer des tarifs différents, même lorsque ses clients se concurrencent entre eux pour l'approvisionnement en gaz. Si, pour quelque raison, la société de transport était empêchée d'appliquer des tarifs différents à ses clients en aval, elle serait contrainte de fixer un tarif moyen qui, inévitablement, amènerait certains clients à se passer du gaz, même lorsque leur disposition à payer excède le coût marginal de la fourniture.

Signalons que la différenciation des prix de transport entre clients en aval est entièrement conforme au principe de non-discrimination entre producteurs de gaz. Dans la mesure où les tarifs de transport ne varient pas selon l'identité du producteur du gaz et où les consommateurs sont libres de changer de producteur, la différenciation entre clients du gaz ne placera pas les producteurs de gaz en situation d'inégalité.

Malheureusement, selon la manière dont le régime d'accès est conçu, le réseau de transport ne possède pas nécessairement l'information requise pour établir ses tarifs de manière efficiente. La même question se pose pour la libéralisation du secteur ferroviaire. Une société ferroviaire intégrée peut faire payer à ses clients des tarifs de transport différents. C'est une façon efficiente de répartir le coût fixe du réseau ferroviaire entre les usagers¹². Toutefois, lorsque la fourniture des services de transport ferroviaire est séparée de l'exploitation des voies, la société d'exploitation des voies peut ne pas obtenir l'information nécessaire pour tarifier avec efficience ses services infrastructurels. Bien qu'en principe, les sociétés de transport ferroviaire pourraient transmettre les informations sur leurs clients, la tentation de falsification

serait grande et imposerait un contrôle étroit. C'est là l'un des coûts potentiels de la séparation de la propriété des voies de celle des trains dans le secteur ferroviaire. Les mêmes arguments s'appliquent au secteur gazier. Si les services de transport de gaz sont achetés par les producteurs (ou par d'autres courtiers), les sociétés de transport auront du mal à obtenir les renseignements sur le consommateur ultime et donc à définir une gamme de tarifs adéquate.

Dans le cas du Royaume-Uni, la politique tarifaire (du moins avant la libéralisation) était hautement discriminatoire. British Gas « pouvait déterminer l'utilisation que chaque client faisait du gaz et quelles étaient ses sources de combustible de remplacement et établir les tarifs en conséquence »¹³. En 1988, suite à une décision de la Monopolies and Mergers Commission britannique, désireuse d'introduire une plus grande transparence dans la tarification de British Gas, cette dernière a été tenue de publier un barème tarifaire. « L'obligation de tarifier selon un barème n'a pas entièrement supprimé la discrimination car BG était autorisée à facturer selon le volume et la tarification au volume est une forme classique de discrimination tarifaire au second degré »¹⁴. Price (1991) montre que cette tarification au volume rapprochait le prix marginal du coût marginal, l'une des conditions de l'efficacité.

Le troisième principe de la réglementation tarifaire dans une activité non concurrentielle est que les prix d'accès doivent refléter le coût des obligations de service non commercial. Nous examinons cet élément ci-dessous.

3.2.4 *Obligations de service non commercial*

Une obligation de service non commercial peut être définie comme l'obligation réglementaire d'assurer un service dont le revenu marginal est inférieur au coût marginal. En général, les obligations de service non commercial ne sont pas aussi lourdes, contraignantes et explicites dans le secteur du gaz que dans d'autres. Elles existent néanmoins. Un exemple classique d'obligation de service non commercial est l'obligation de facturer à tous les clients résidentiels le même tarif de base, indépendamment de leur situation géographique, bien que le coût du service varie selon le lieu¹⁵.

Les obligations de service non commercial sont rarement financées par des apports de fonds provenant de l'extérieur du secteur. Le plus souvent, les obligations non commerciales sont financées par des subventions croisées, en faisant payer à un groupe de clients un tarif supérieur au coût afin de recouvrer les pertes résultant du service non commercial obligatoire à un autre groupe de clients.

Les obligations de service non commercial ne sont pas nécessairement menacées par l'introduction de la concurrence dans les composantes concurrentielles d'un secteur. Il suffit pour cela que le prix réglementé de l'accès à la composante non concurrentielle soit ajusté (à la baisse) lorsque cet accès est considéré comme un élément d'un service non commercial, afin de refléter le prix supérieur ou le coût inférieur de ce service. Par exemple, l'obligation de livrer du gaz à des prix géographiquement uniformes est conforme à la concurrence entre producteurs de gaz pourvu que les prix de transport soient géographiquement uniformes. L'obligation de subvention du gaz des ménages à faible revenu est conforme à la concurrence entre producteurs de gaz pourvu que la subvention soit appliquée aux prix de transport du gaz, indépendamment de sa source.

Ce mode d'ajustement des tarifs supprime les distorsions à l'entrée puisque les nouveaux entrants s'efforcent d'éviter les clients non rentables pour se concentrer sur les clients à haute marge bénéficiaire.

Des problèmes de cette sorte se sont posés au Royaume-Uni. British Gas a choisi de fixer des tarifs de détail qui ne tiennent pas compte de la situation géographique ou du facteur de charge, ce qui implique que les clients situés à proximité de la « tête de plage », où le gaz parvient à terre, subventionnent ceux qui sont plus éloignés. Lorsque l'autorité réglementaire a choisi d'introduire un certain différentiel géographique dans les prix de transport appliqués au gaz de tiers, la possibilité d'un « écrémage » est apparue. Les nouveaux entrants se sont attachés à desservir en particulier les clients situés à proximité des « têtes de plage », à gros facteur de charge, que British Gas surfacturait. « Les parts de marché des concurrents étaient les plus grandes dans le marché de la demande moyenne à facteur de charge élevé et les plus petites dans les marchés de masse. ... Cette structure de la concurrence tenait au fait que le prix de transport facturé par BG à ses concurrents reflétait le facteur de charge et la situation géographique, alors que ses propres barèmes de prix ne le faisaient pas. »¹⁶

Néanmoins, le Royaume-Uni a choisi d'ajuster certaines de ses redevances d'accès sur la base des obligations non commerciales. Les fournisseurs de gaz britanniques sont tenus d'établir un registre des clients retraités ou handicapés ou ayant droit à des services spéciaux¹⁷. Un fournisseur de gaz peut demander à l'autorité de réglementation de percevoir un prélèvement spécial auprès de la société de transport s'il estime avoir approvisionné une proportion excessive de clients ayant des besoins spéciaux¹⁸.

Signalons que, si cet ajustement des frais d'accès met les concurrents sur un pied d'égalité au niveau de l'activité concurrentielle, il peut dans la pratique conduire à une entrée inefficace dans l'activité non concurrentielle. Si les obligations de service non commercial sont financées par des subventions croisées internes au service non concurrentiel, au moins une partie des frais d'accès doit excéder le coût du service correspondant. De ce fait, même si le service d'accès est un monopole naturel, de nouveaux entrants sur ce marché pourront dégager un profit. C'est là un exemple d'une distorsion inefficace de l'entrée. Par exemple, si les prix de transport du gaz sont géographiquement uniformes, il peut être rentable pour un nouvel entrant de construire un nouveau gazoduc reliant un gisement à un gros consommateur, même si ce gaz pourrait être transporté de façon plus efficace par le réseau déjà en place.

Les solutions à ce problème sont bien connues. L'une consiste simplement à interdire l'entrée dans la composante non concurrentielle du secteur. Toutefois, cela n'est pas souhaitable. Il est difficile de déterminer quelles composantes d'un marché peuvent tolérer la concurrence et lesquelles ne le peuvent pas, et cette situation peut évoluer dans le temps du fait de changements technologiques et de l'évolution de la demande. Une règle interdisant l'entrée risque de devenir obsolète et d'engendrer un groupe de pression favorable à son maintien. De façon générale, la réglementation ne devrait pas empêcher l'entrée. Une meilleure solution consiste à financer les obligations non commerciales par des fonds provenant de l'extérieur du secteur. A défaut, les sociétés entrant dans la composante non concurrentielle et desservant des clients à forte marge devraient verser une contribution non discriminatoire à un fonds couvrant le coût des obligations non commerciales. Pour éviter que cette contribution soit plus lourde que nécessaire, les entreprises devraient avoir le droit de fournir les services non commerciaux au moyen de subventions tirées sur le fonds. Mais dans la pratique, il sera probablement difficile de déterminer la taille de cette contribution.

3.2.5 *Enjeux touchant le commerce international*

Certains pays ne disposent pas de ressources nationales de gaz et en importent de l'étranger par gazoduc. Bien qu'une concurrence entre gazoducs pour l'importation de gaz ne soit pas exclue en principe, dans la pratique il est probable qu'un gazoduc d'importation aura une position dominante sur le marché.

Nous avons vu plus haut les avantages potentiels d'un renforcement de la concurrence grâce à l'accès de tiers aux installations de transport de gaz. Or, lorsqu'un pays dépend des importations en provenance d'un seul pays étranger, l'absence de pouvoir réglementaire sur l'accès au tronçon étranger du gazoduc peut fermer toute possibilité d'introduire la concurrence entre producteurs de gaz.

Pire encore, dans ce contexte, la libéralisation du secteur du gaz pourra même être défavorable aux consommateurs du pays importateur. Un acheteur de gaz unique dans le pays importateur peut exercer un pouvoir de marché contrebalançant celui des vendeurs de gaz dans le pays exportateur. La fragmentation du volet « achat » du marché pourrait accroître le pouvoir de marché des vendeurs de gaz.

Cet argument a été utilisé à l'encontre de la libéralisation du secteur du gaz dans l'UE¹⁹. L'UE dépend dans une mesure croissante du gaz importé de trois provenances : la Norvège, l'Algérie et l'ex-Union soviétique. Etant donné que le réseau européen de gazoducs est relativement intégré, il existe une certaine concurrence entre ces sources. Néanmoins, la libéralisation, fait-on valoir, pourrait accroître le pouvoir de marché des vendeurs étrangers. De fait, l'UE a accordé une dérogation à l'obligation de libéralisation aux pays (Finlande et Grèce) qui sont dépendants du gaz importé et dont les réseaux ne sont pas intégrés à ceux du reste de l'Europe²⁰.

L'importance des craintes relatives à l'exercice d'un pouvoir de marché par les fournisseurs étrangers de gaz à l'Europe dépend de divers facteurs difficiles à prévoir, tels que l'exploitation éventuelle de nouveaux gisements en Europe ou ailleurs. Toutefois, comme les importations ne couvrent actuellement qu'un tiers de la consommation européenne, les craintes sont peu justifiées à court terme.

La directive « gaz » de l'UE et la libéralisation du secteur gazier européen

Dans le contexte de l'Union européenne, la directive « gaz » a tracé la voie à la libéralisation du secteur gazier. Son élément le plus important est l'obligation faite aux États membres d'imposer l'accès de tiers au réseau de gazoducs. On espère que cette expérience stimulera la concurrence entre producteurs de gaz, encouragera l'investissement dans les gazoducs et facilitera la régulation des réseaux de gazoducs. Les principaux éléments de la Directive sont les suivants :

- *Accès de tiers* : Les États membres doivent autoriser certains clients à acheter du gaz auprès du fournisseur de leur choix et à le faire transporter par le réseau de gazoducs existant aux tarifs réglementés. Seuls les très gros clients auront initialement ce droit. Au cours des cinq premières années, seuls les clients achetant au moins 25 millions de mètres cubes (Mm^3) de gaz par an seront « éligibles » ; au cours des cinq années suivantes, le seuil passe à 15 Mm^3 par an ; au cours des trois dernières années, le seuil tombe à 5 Mm^3 par an. Les États membres peuvent choisir entre « l'accès négocié » et « l'accès réglementé ». Dans le premier cas, les clients engagent individuellement des négociations commerciales pour déterminer les conditions exactes. Les compagnies de gaz sont tenues de publier leurs « conditions commerciales principales » pour l'accès au système. Dans le deuxième cas, les clients ont le droit d'accès sur la base des tarifs réglementaires publiés.
- *Autorité de réglementation indépendante* : Les États membres sont tenus de désigner des autorités compétentes, indépendantes des parties, qui auront accès aux comptes internes des entreprises de gaz naturel afin de trancher rapidement les différends concernant l'accès.
- *Dissociation comptable* : Les entreprises de gaz naturel sont tenues de tenir des comptes internes séparés, au moins pour leurs activités de transport de gaz, de distribution, de stockage et l'ensemble de leurs activités non liées au gaz comme si « les activités en question étaient exercées par des entreprises distinctes ».
- *Nouveaux investissements* : Les États membres doivent donner la liberté générale de construire et d'exploiter les installations de gaz naturel au moyen d'autorisations objectives, non discriminatoires et transparentes.
- *Obligations de service public* : Les États membres sont autorisés à imposer aux entreprises de gaz naturel, dans l'intérêt économique général, des obligations de service public pouvant toucher la sécurité de l'approvisionnement, la régularité, la qualité et le prix des fournitures et la protection de l'environnement.
- *Rationnement de la capacité* : Les entreprises de gaz naturel peuvent refuser l'accès à leur réseau pour cause de manque de capacité ou lorsque l'accès les empêcherait d'exécuter leurs obligations de service public.
- *Dérogations* : Une entreprise de gaz naturel peut demander à un État membre une dérogation à l'obligation de donner accès si cela lui impose des difficultés économiques et financières graves en raison de ses engagements « take-or-pay ». L'octroi de la dérogation est supervisé par la Commission. Un État membre peut demander à la Commission une dérogation à l'obligation d'ouvrir le marché du gaz s'il peut démontrer que l'exécution de la directive nuirait sensiblement au développement du marché du gaz dans une région émergente. Une telle dérogation ne peut être accordée que pour dix ans. Enfin, la directive accorde une dérogation aux contraintes d'ouverture du marché aux pays (Finlande et Grèce) qui dépendent d'un fournisseur étranger principal et ne sont pas reliés au réseau d'un autre État membre.

La directive de l'UE sur le gaz naturel représente un pas important vers la libéralisation du secteur gazier en Europe, mais reste néanmoins une mesure limitée et hésitante. Nombre de ses dispositions ne vont pas aussi loin qu'il le faudrait pour assurer une pleine concurrence. En particulier, la proportion du marché soumis à la concurrence n'est initialement que de 30 pour cent et elle passera à 43 pour cent au bout de 15 ans. En outre, les obligations de séparation restent limitées. Il sera probablement difficile de contrôler le comportement d'une société de gazoducs dominante. Autre omission tout aussi importante, la directive n'établit pas un régime adéquat de répartition de la capacité. Sous le régime prévu, l'exploitant de gazoduc en place est largement en mesure de thésauriser la capacité lorsqu'il y trouve intérêt. Enfin, la directive autorise des dérogations dans toutes sortes de circonstances, notamment l'existence de contrats « take-or-pay ». Etant donné la prévalence de ce type de contrats, il est possible que l'ouverture réelle du marché reste limitée dans la pratique.

3.2.6 *Traitement des coûts échoués*

L'ICC définit les coûts échoués comme suit :

« Les coûts échoués sont des investissements effectués, des contrats signés, ou des coûts encourus par un service public qui ne sont pas pleinement recouvrables auprès des consommateurs dans un marché pleinement concurrentiel et qui... n'auraient pas été encourus en premier lieu si le marché avait été concurrentiel... Ils ont été encourus par le service public aux fins de l'exécution d'instructions ou de directives gouvernementales, imposant habituellement une obligation d'approvisionnement et l'emploi de combustibles ou technologies particuliers... Toutes les pertes subies par les services publics lors de la transition vers un marché libéralisé ne peuvent pas légitimement être qualifiées de coûts échoués ; par exemple, les pertes engendrées par l'inefficacité ou des conflits du travail ou une mauvaise planification financière ne sont pas des coûts échoués »²¹.

En bref, les coûts échoués sont une forme de coûts irrécupérables à cause d'une modification du régime réglementaire. Comme les autres coûts irrécupérables, les coûts échoués déjà encourus n'influencent pas les décisions économiques du moment et n'affectent donc pas l'efficacité économique. La préoccupation à leur sujet porte donc entièrement sur la possibilité de modifications réglementaires futures susceptibles d'entraîner des coûts échoués dans l'avenir. Anticipant cette possibilité, les entreprises du secteur seront moins disposées à faire de gros investissements dans des projets dont la valeur serait exposée au risque d'une modification réglementaire. Autrement dit, les coûts échoués sont un sujet de préoccupation pour l'action publique dans la mesure où, en l'absence d'indemnisation, la crainte de coûts échoués peut dissuader d'investir et donc nuire à l'efficacité du secteur et à l'efficacité du régime réglementaire.

Cet élément de dissuasion disparaîtra si les entreprises peuvent compter qu'elles seront, d'une façon ou d'une autre, entièrement indemnisées pour les coûts échoués légitimement encourus. Il importe de veiller, toutefois, à ce que seuls les coûts échoués légitimes soient couverts par l'indemnisation et que le mécanisme de financement de l'indemnisation soit transparent et ne freine pas la concurrence sur le marché. L'ICC propose les critères suivants pour évaluer la légitimité des coûts échoués susceptibles d'être remboursés²².

- (a) La dépense considérée a été encourue entièrement du fait d'une obligation de service public ou apparentée (liée à la sécurité ou à la diversité de l'approvisionnement, par exemple), et dans l'attente légitime du maintien de cette obligation.
- (b) L'entreprise n'a pas été indemnisée pour le risque que l'actif considéré n'engendre un coût échoué en raison de son retour sur investissement antérieur.
- (c) L'investissement considéré n'a pas été effectué, ou le contrat considéré n'a pas été conclu, après le moment où il est devenu clair que les obligations de service public allaient changer ou que le marché allait être libéralisé.
- (d) Le coût résulte directement du passage à un marché concurrentiel.

Dans le cas du secteur gazier, lorsque des contrats de prise ferme à long terme ont été conclus de bonne foi par l'opérateur en place et sans qu'il puisse anticiper des modifications réglementaires futures, le coût de ces obligations à long terme peut légitimement donner lieu à indemnisation, à titre de coût de transition vers la concurrence. En revanche, lorsque les contrats à long terme ont été signés en dépit (ou à cause) du passage imminent à la concurrence (peut-être comme moyen de geler les fournitures de gaz à

moyen terme pour barrer la route à des concurrents), les pertes essuyées sur ces contrats ne sont pas un motif légitime d'indemnisation.

3.3 *Contrôle de la concurrence dans un secteur gazier libéralisé*

La réforme réglementaire introduisant l'accès de tiers au réseau de transport peut ne pas suffire à instaurer la concurrence dans les activités concurrentielles du secteur gazier si l'opérateur dominant en place peut exploiter sa position dominante pour contrôler l'entrée. C'est particulièrement le cas lorsqu'une partie des consommateurs de gaz ne peuvent choisir leurs fournisseurs et ne peuvent être approvisionnés que par l'opérateur dominant en place. Une société de commercialisation de gaz dominante peut restreindre l'entrée sur le marché au moyen de trois stratégies :

- (a) en empêchant les concurrents de se fournir en gaz en gelant les réserves de gaz existantes sous forme de contrats exclusifs à long terme ; ou
- (b) en refusant d'acheter du gaz destiné à son marché captif auprès de producteurs qui sont ses rivaux sur le marché ouvert à la concurrence ; ou
- (c) en pratiquant une tarification d'exclusion (soit en offrant des rabais sélectifs aux clients les plus susceptibles de changer de fournisseur ou au moyen de clauses NPF ou d'égalité des prix).

Par exemple, lors de la libéralisation du secteur gazier du Royaume-Uni, la Monopolies and Mergers Commission britannique a constaté que :

British Gas a eu tendance à s'approprier contractuellement 100 pour cent de la production de chaque nouveau gisement de gaz, si bien que les concurrents potentiels éprouvaient des difficultés à acquérir des volumes suffisants de gaz. Les producteurs dépendaient des ventes de BG sur le marché tarifé (c'est-à-dire captif) pour le gros de leurs propres ventes, et ils ne voulaient pas nuire à leurs relations avec BG en vendant du gaz à d'autres ou en agissant eux-mêmes comme fournisseurs.

Le remède proposé en l'occurrence par la Monopolies and Mergers Commission a consisté à empêcher British Gas de prendre à contrat plus de 90 pour cent de toute nouvelle production de gaz devenant disponible. Trois ans plus tard, l'Office of Fair Trading a également recommandé d'abaisser le seuil auquel les clients pouvaient choisir leurs fournisseurs, afin de réduire la domination de British Gas en tant qu'acheteur. L'OFT a recommandé également que BG vende une partie de son gaz sous contrat aux concurrents, de façon à ramener à 40 pour cent sa part du marché ouvert à la concurrence.

4. **Conclusion**

Les exemples des États-Unis et du Royaume-Uni, en particulier, démontrent tous deux que la concurrence dans le secteur du gaz naturel est possible et procure d'importants avantages. Toutefois, comme toutes les autres industries de réseau combinant des composantes concurrentielles et non concurrentielles, l'introduction de la concurrence exige des interventions réglementaires soigneusement conçues. La plus importante de ces interventions est un régime d'accès de tiers qui autorise les clients en aval des réseaux de transport et de distribution à passer contrat directement avec les producteurs en amont. L'adoption de ce régime est plus facile si les réseaux de transport et de distribution sont structurellement séparés des sociétés de production de gaz. En outre, il semble établi que, pour être efficace, la réglementation de l'accès suppose un système transparent et non discriminatoire de répartition de la

capacité du réseau de gazoducs en période de pointe. L'absence d'un tel système au Royaume-Uni et en Nouvelle-Zélande pourrait se révéler une faiblesse dans l'avenir.

Comme dans les autres secteurs, la libéralisation du secteur gazier s'est heurtée à des problèmes de transition, notamment l'existence d'obligations contractuelles à long terme. Comme nous l'avons vu dans le cas des États-Unis et du Royaume-Uni, ces obligations à long terme sont devenues (peut-être fortuitement) une source de pression en faveur de la libéralisation plutôt que l'inverse.

A plus long terme, étant donné que les réserves de gaz de l'OCDE sont faibles par rapport aux réserves mondiales, les pays Membres de l'OCDE feront appel de plus en plus aux importations, si bien que la politique gazière deviendra de plus en plus tributaire des aléas du commerce international. Il faut espérer que des accords internationaux entre pays importateurs et exportateurs de gaz pourront être conclus afin de maintenir la concurrence entre les producteurs et une réglementation efficace des gazoducs, même lorsque ces producteurs de gaz sont situés à l'étranger et doivent transporter leur gaz par des gazoducs étrangers jouissant d'un pouvoir de marché substantiel.

NOTES

1. Conformément à cette approche, l'autorité de réglementation américaine, la FERC, laisse davantage le marché dicter les prix dans le petit nombre de cas où elle considère qu'une concurrence effective existe entre gazoducs. . .
2. Cela peut être dû aux aléas de l'évaluation de l'assiette tarifaire, c'est-à-dire des biens d'équipement à prendre en compte dans le calcul du taux de rendement autorisé par la réglementation, résultant en un profit supérieur pour l'opérateur intégré.
3. Watkins (1995), pp. 122-123.
4. Braeutigam (1990), pp. 139-140. Braeutigam indique également : « Dans le cas des gazoducs, Kalt (1987) observe que « les conséquences néfastes potentielles de l'intégration verticale tiennent à la possibilité que certains gazoducs échappent à la réglementation du retour sur investissement en cachant les profits monopolistiques dans les prix payés par les producteurs affiliés. ... Bien que peu d'éléments indiquent que ce soit là un problème répandu, cette possibilité souligne la nécessité de prêter attention à la manière dont les gazoducs intégrés comptabilisent leurs coûts ». A tout le moins, cela montre que l'autorité de réglementation doit contrôler la manière dont les gazoducs intégrés déclarent leurs coûts et veiller à ce que le transfert de gaz des producteurs au gazoduc intervient à des prix concurrentiels. Le dégroupage des tarifs contribuera également à empêcher les opérateurs verticalement intégrés de se donner des avantages concurrentiels déloyaux ». Dans sa liste de leçons importantes en matière de politique publique à tirer par les autorités de réglementation, White englobe « les principes fondamentaux qui sous-tendent le retranchement d'AT&T – à savoir que la propriété d'un monopole « goulot » devrait être distincte de celle de biens et services concurrentiels complémentaires – sont éminemment applicables à d'autres industries de réseau combinant des activités concurrentielles et monopolistiques. Les gazoducs et les réseaux électriques sont des exemples évidents ; d'autres existent certainement ». White (1998), p. 35.
5. ICC (1998), p. 56.
6. Informations tirées de Armstrong et al (1994).
7. ICC (1998), p. 26.
8. De Vany et Walls considèrent que « Vu le succès avec lequel la concurrence et les marchés ont su discipliner les prix là où la réglementation a échoué, les décideurs devraient appliquer les leçons du libre accès aux distributeurs et aux marchés de détail ». De Vany et Walls (1994), p. 96.
9. D'autres mécanismes (autres que ceux du marché) ont également été employés pour répartir la capacité. Smith, De Vany et Michaels (1990) font observer : « Par le passé, les transporteurs publics ont eu recours à divers expédients face aux insuffisances de capacité, notamment en la répartissant au prorata de la demande courante, au prorata de la consommation historique, et en imposant des délais de service aux derniers arrivés. Le transport en commun est économiquement inefficace puisqu'il restreint inutilement l'éventail des transactions possibles. Dans un tel régime, un expéditeur ne peut garantir le transport ».
10. Smith, De Vany et Michaels (1990), p. 155.

11. Les règles de péremption, bien entendu, ne résolvent pas la question de savoir si la capacité totale disponible (de créneaux d'atterrissage ou de volume de transport de gaz) est fixée avec efficience – elles assurent simplement qu'une entreprise ne peut exercer son pouvoir de marché pour restreindre artificiellement la production totale à un niveau inférieur à la capacité totale disponible.
12. « La théorie économique veut que, pour être efficiente, la tarification de chaque type de service – y compris de chaque élément de service dans un tarif multinôme – reflète les élasticités de la demande ainsi que les coûts marginaux. Les règles d'élasticité inverse de la tarification de Ramsey seront non seulement économiquement efficientes mais permettront aux gazoducs d'avoir des prix compétitifs sur les marchés à demande plus élastique. L'expérience des chemins de fer confrontés à la concurrence des transporteurs routiers démontre pourquoi cette flexibilité est cruciale ». Braeutigam (1990), p. 138.
13. Armstrong et al. (1994), p. 264.
14. Armstrong et al. (1994), p. 264.
15. Ou l'interdiction de couper le gaz des clients résidentiels négligents ou défaillants pendant la saison de chauffage.
16. Armstrong et al. (1994), p. 270.
17. Voir Ouseley (1996), p. 54.
18. L'autorité de réglementation peut déterminer si les critères d'octroi de la subvention spéciale sont remplis et si le montant demandé par le fournisseur est raisonnable. Elle est tenue de refuser les demandes émanant de fournisseurs qui excluent artificiellement une proportion excessive de retraités ou de handicapés ou de clients insolvables. En outre, un petit nombre de clients dans des régions isolées d'Écosse et du pays de Galles qui ne sont pas reliés au réseau de gaz naturel de British Gas sont approvisionnés en propane liquide à un prix subventionné. Dans le cadre de la libéralisation, des dispositions spéciales ont été inscrites dans la loi, stipulant que ces clients (au nombre d'environ 8 300) conservent leur subvention et ne se verront pas facturer « plus que le prix moyen du transport » à des sites comparables sur le réseau.
19. Voir, par exemple, Asserhoj (1994).
20. Dans certains cas, des recours en droit de la concurrence sont possibles. Par exemple, lorsque le tronçon étranger du gazoduc appartient à une société nationale du pays importateur, il peut être possible de contraindre la société nationale de donner accès à des producteurs de gaz étrangers. Il se peut aussi, cependant, que le tronçon étranger du gazoduc appartienne à des sociétés étrangères qui ne possèdent pas d'avoirs dans le pays importateur et qu'il est impossible de sanctionner.
21. ICC (1998), p. 65.
22. ICC (1998), p. 65.

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QUESTIONNAIRE SUBMITTED BY THE SECRETARIAT

As with the other sectors we have considered, we may identify within the natural gas industry a number of distinct markets or “stages of production”. The gas industry can be roughly divided into five broad stages or components of production:

- gas Production - the exploration, drilling, extraction and processing of gas (including re-gassification of LNG);
- gas Transmission - the high-pressure transportation of gas to high-volume customers such as distribution companies, large industrial customers and power stations;
- gas Distribution - the low-pressure distribution of gas to small and medium-volume gas customers;
- gas Storage – the storage of gas to smooth the flows of gas through the transportation network;
- gas Retailing or Marketing - the provision of services of contracting with production, transmission and distribution companies on behalf of gas customers and the associated billing and metering services (not all countries will have this last “stage of production” as its existence depends on the arrangements for third-party access to transmission and distribution networks).

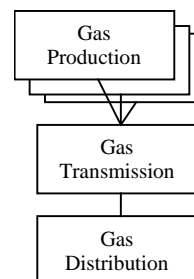
Both the nature of regulation and the level of competition may differ in each of these markets and in different geographic regions. In particular, in many countries the gas distribution market is likely to be a natural monopoly (with very limited opportunities for facilities-based competition).

One of the purposes of the questions below is to distinguish those segments of the industry that may be able to sustain competition and those that cannot; and to determine the extent to which competition is permitted in the potentially competitive segments and the quality and effectiveness of regulation in those segments of the market where competition is not possible.

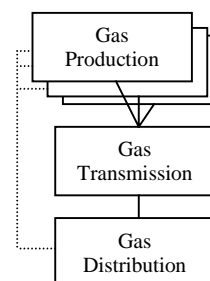
Three broad approaches to regulation of the gas industry have been identified. These approaches are set out here as a guide to understanding the questions below.

(1) Vertically-Integrated Monopoly

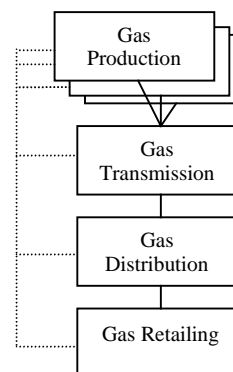
The first broad approach involves a vertically integrated monopoly structure, in which transmission, distribution and retailing/marketing are combined as a single firm. There may be several gas producing or importing firms, but it is in the power of the incumbent monopoly firm (and not the end-customer) to choose which sources of gas will be exploited. The prices of this integrated firm will typically be regulated. The incentive to choose the cheapest source of gas will depend on the nature of that regulation. There may or may not be separation between the transmission/distribution company and the gas producers.

*(2) Choice For Wholesale Customers*

The second broad approach is similar to the first but allows gas distribution companies and other large gas consumers that are supplied directly off the transmission network to contract separately with gas producers to buy gas and with the transmission network for the transmission of the gas. In this approach, the transmission prices will be regulated. Gas distribution companies are typically also regulated firms. Their incentive to select the cheapest gas producer will depend on the nature of that regulation. There may or may not be integration between distribution and transmission and transmission/production.

*(3) Choice for All Gas Customers*

The third broad approach is similar to the second, but extends the ability to contract directly with gas producers to smaller gas consumers (usually represented by gas retailing/marketing companies), who then contract with gas transmission and distribution companies for the transmission and distribution of the gas. The prices of the transmission and distribution companies will typically be regulated.



The questions for response by member countries follow:

1. Industry overview: regulatory framework and market structure

The purpose of this section is to present an overall picture of the natural gas industry in your country, including the market structure, regulatory framework and regulatory institutions.

National context and key regulation

- (1.1) What are the government's primary objectives for this sector? Do these objectives include objectives, which can be interpreted as going beyond conventional economic objectives to include objectives such as ensuring energy security, environmental objectives, or universal service objectives?

To what extent has the reform process in the gas industry been linked to that in other industries, especially electricity?

What is the title, date and main purpose of the key governing legislation or regulation in this sector?

Regulatory institutions

- (1.2) Who are the key regulatory and policy-making agencies in this sector? Briefly, what are their structure and responsibilities? What are their relationships to one another? To what extent is the regulatory institution independent of the government? Is the regulator headed by a commission or by a single person (such as a "Director General")? To what extent is the regulator independent of the incumbent firms? Of the government?

Key features of the demand for gas

- (1.3) What are the primary uses of gas in your economy? In particular, what proportion of gas consumption is used to generate electricity? For which of these uses can consumers substitute other fuels (such as oil, coal or electricity)? Are final gas prices effectively disciplined by inter-fuel competition? Which and what proportion of gas users are prepared to purchase interruptible gas supply?

Key features of the supply of gas: market structure

- (1.4) Please briefly summarise the overall market structure in the gas industry: Who are the major firms and in which segments of the industry do they operate? In particular, taking each major segment of the industry separately:
- Which firms are active in the market for gas production (including the importation of gas or the re-gassification of LNG)? How many sources of gas are there? (e.g., distinct gas fields or wells). In countries without gas production sites, how many importing pipelines are there? What are the ownership relationships between the gas sources (or importing pipelines)? Is there effective competition between gas producing firms? Are these firms vertically integrated into gas transmission and distribution? To what extent are end-user customers supplied directly by gas production firms (i.e., without passing through the transmission or distribution network)? What proportion of gas is sold in this way?
 - Which firms are active in the market for gas transmission pipelines? Where are the key pipelines located? Is there competition between pipelines in some areas? How many gas consumers are supplied directly off high-pressure transmission pipelines (i.e., without passing through a retail distribution network)? What proportion of gas is sold in this way?

- Which firms are active in the markets for gas distribution? Is there competition between such firms, or does each firm have a regional monopoly? Are these firms integrated into transmission?
- What firms (if any) are active in the market for gas retailing (i.e., the sale of gas by third parties over the existing transmission/distribution network)? What services do these firms provide? Are they integrated into gas distribution or other stages of the gas industry?

What is the ownership of the major firms in the industry? Are they foreign owned? Are they state-owned? In those cases where an important incumbent firm is state-owned, how is that firm organised? Is its organisation, governance, incentives on management, and managerial discretion closer to that of a private corporation or to that of government department? Is the legal status of its employees closer to that of a private corporation or a government department? (Please explain, in either case).

In what other industries are the firms in the gas sector active? For example, do gas distribution companies also provide electricity, heat, water, telecommunications or cable television services? Are gas producers also active in the market for electricity generation?

Key features of the regulatory regime

This question asks about the broad structure of the regulatory regime, which is followed up by detailed questions on entry regulation, access regulation, price regulation, unbundling and so on.

(1.5) In which markets is primary reliance placed upon competition to yield efficient prices and quality, and in which markets is primary reliance placed upon conventional price and quality regulation? (e.g., is there effective competition between pipelines for serving certain cities? Is there competition between gas producers in the sale of gas to pipelines, distribution companies or consumers?) Is structural separation imposed (i.e., are gas producing firms allowed to own gas transmission facilities, and so on)? Where structural separation is not imposed, does the regulatory regime require that the vertically integrated firm must allow rivals access to its facilities? More specifically:

- Are competing sources of gas production permitted? Is competition allowed in gas importation or re-gasification of Liquefied Natural Gas? Are these firms allowed to be integrated into gas transmission? Where integration is allowed, is there a requirement on dominant transmission pipeline operators to interconnect with and carry the gas of rival gas producers? Are gas producers required to grant third-party access to their gathering lines and production facilities?

Where the primary source of gas is an importing pipeline, can other gas producers have access to that pipeline? Could your country force the pipeline to accept gas producers in another country to grant access?

- Is competition between transmission pipelines permitted? Is a firm allowed to construct a pipeline for direct supply of a large gas consumer? Are transmission firms allowed to be integrated into gas distribution? Where integration is allowed, is there a requirement on gas distribution firms to interconnect with and distribute gas for rival transmission pipelines?

- Is competition in gas storage permitted? What are the arrangements for access of third-party storage companies to the transmission or distribution system?
- Is competition in the gas “retailing” function (i.e., contracting on behalf of small customers for gas transportation and distribution) permitted? Are gas distribution firms allowed to be integrated into the market for gas “retailing”? When integration is allowed, is there a requirement on gas distribution firms to contract with to rival retailers?

Entry regulation

- (1.6) The previous question has asked in which stages of production entry is permitted. Are there any specific licensing conditions that should be mentioned?

Which classes of customers are new entrant or competing firms permitted to serve? Is there an intention to expand the class of customers for which competition is permitted over time?

Access regulation

- (1.7) The previous question asked whether there is an access requirement in each of the stages of production. In each case where an access requirement applies: Is the obligation to interconnect with a rival pipeline or gas producer determined in the legislation or by decision of the regulator? Where there is an obligation to interconnect how are the terms and conditions for the transportation of gas determined? Are they determined by the regulator or by private negotiation? What principles govern the establishment of access prices? Do access prices vary according to peak and off-peak periods?

The capacity of certain facilities, such as pipelines, are limited. Not all access requests will necessarily be able to be satisfied. How is capacity allocated at peak times? Is it through a system of auctioning capacity, or a system of peak-load pricing of access? Does the regulator have tools for verifying claims of a lack of capacity?

Is there a requirement to make public the terms and conditions at which access has been (or will be) granted?

Price regulation

- (1.8) The previous question asked in which markets primary reliance is placed on price regulation to control market power. This could be the market for gas delivered to end-users in the case of the integrated monopoly approach, or the separate markets for gas transmission and gas distribution in the case where end-users are able to contract directly with a gas producer. In each of those markets where prices are controlled and for each distinct class of customers: What are the underlying principles of the price regulation? I.e., are gas prices regulated so as to be competitive with respect to other fuels, or with respect to underlying costs? Does the regulated firm have flexibility to adjust individual prices within the context of the overall controls established by the regulator (such as in the case where the regulation applies to a “basket” of prices)? Does the regulator use “yardstick” regulation (i.e., compare prices to an aggregate of costs of similar firms)?

The extent to which the regulated firm can vary its prices according to underlying costs is a factor in determining the incentive for cost efficiency on the regulated firm and (in those industries where consumers do not have direct choice over their gas supplier) its incentives to purchase from the least-cost supplier upstream. What costs are the regulated firm allowed to pass on to its customers? What proportion of those costs can it pass on? Does the price regulation provide incentives for efficiency on the regulated firm and incentives for it to purchase from the lowest-cost supplier?

What is the resulting structure of prices? Do the prices have a “two-part” structure? If so, what principles govern the size of the fixed and variable parts? Are different prices charged for different end-uses (such as heating vs cooking)?

Demand for gas at peak times can be substantially higher than at off-peak times. How does the structure of the regulated prices distinguish between peak and off-peak times? How do the regulated prices vary according to the distance the gas is transported? How do the regulated prices distinguish between “firm” and “interruptible” supply?

What mechanisms ensure that the quality of service is maintained?

Are there constraints on the ability of incumbent firms to price discriminate, especially in those markets in which competition is being introduced? Are there floors on prices?

What principles does the regulator follow to value the assets of the regulated firms?

Are regulated firms required to publish their tariffs?

Non-commercial service obligations

- (1.9) Are there obligations on one or more firms to provide service to certain customers below cost (including, for example, a requirement to distribute gas in unprofitable areas or a restriction on the ability to withdraw from serving unprofitable customers)? Is the cost of these obligations made explicit? If so, what methodology is used for calculating the costs? Do other firms have the opportunity to compete to provide these services? If another firm sought to provide these services, could it claim compensation for doing so? How are the funds collected to pay for these non-commercial obligations? Through internal cross-subsidisation, or through a system of explicit subsidies? If the latter, who contributes to the subsidy fund? Are competing firms expected to contribute? On what basis?

Separation and unbundling

- (1.10) In many industries, and especially in gas, forms of separation are imposed in an attempt to prevent internal cross-subsidisation from regulated to competitive activities and to improve the effectiveness of access regulation. Are there regulatory controls requiring ownership separation (supported by line-of-business constraints)?

In many cases forms of separation short of full ownership separation are required. Are there requirements for “unbundling”, “operational” separation, accounting separation, or requirements to operate in certain markets through arms-length subsidiaries? How do these requirements operate? In what markets? For what purpose?

Trade and investment issues

- (1.11) What is the nature of international trade in gas (if any)? Are there any restrictions on such trade? Is there an import monopoly, or an export monopoly?

Are there controls on foreign ownership or foreign investment?

Miscellaneous issues

- (1.12) In the transition to competition have concerns been expressed about stranded costs or stranded contracts (such as long-term take-or-pay contracts that were signed under a previous regulatory regime)? How have these concerns been addressed?
- (1.13) How have environmental objectives influenced policy decisions over the regulatory regime? Does gas receive the same tax treatment as other fuels? Why or why not?
- (1.14) What proportion of gas production is tied up with long-term contractual commitments, such as take-or-pay contracts? How is this expected to change over the next 5-10 years? Are there mechanisms for releasing some of the gas tied up in such contracts for use by competitors? Is there a tendency towards shorter-term contracts? What proportion of gas is traded on the spot or futures market? How has this proportion changed over time?

2. Key competition issues

Application and enforcement of competition law

- (2.1) Does the national competition law apply to this sector without exemption or exception? Describe the exemptions or exceptions that apply.

Who is responsible for enforcing the various components of the competition law in this sector? What role does the regulator play in enforcing the competition law, or competition rules?

Market definition issues

- (2.2) Have the competition authority or the courts had the opportunity to define the relevant markets in competition cases arising in this sector? How have gas markets been defined? Was gas distinguished in the market from other fuel sources? What other market definition issues have arisen?

Abuse of dominance

- (2.3) Have instances of alleged abuse of dominance arisen in this sector? Have there arisen cases of predatory pricing, or raising rivals costs? Have the current regulatory requirements designed to control abuse of a dominant position been effective?

Other competition enforcement issues

- (2.4) Have instances of mergers or anti-competitive arrangements between firms arisen in this sector? What analysis was carried out in approving or opposing these mergers or arrangements? What remedies were imposed?

QUESTIONNAIRE SOUMIS PAR LE SECRÉTARIAT

De même que pour les autres secteurs déjà étudiés, il est possible de cerner dans l'industrie du gaz naturel un certain nombre de marchés distincts, ou « stades de production ». L'industrie du gaz peut se subdiviser en cinq grandes phases ou composantes de production :

- production de gaz -- exploration, forage, extraction et traitement du gaz (y compris regazéification du GNL) ;
- transport du gaz -- transport du gaz à haute pression pour les clients absorbant de grands volumes, tels les entreprises de distribution, les gros consommateurs industriels et les centrales électriques ;
- distribution du gaz -- distribution à basse pression pour les clients consommant des volumes faibles à moyens ;
- stockage du gaz -- stockage du gaz pour régulariser les flux de gaz dans le réseau de transport ;
- vente au détail ou commercialisation -- prestation de services de passation de marchés avec les entreprises de production, de transport et de distribution pour le compte des consommateurs de gaz, ainsi que services correspondants de comptage et de facturation (on ne trouve pas dans tous les pays ce dernier « stade de production », car son existence dépend des dispositions relatives à l'accès de tiers aux réseaux de transport et de distribution).

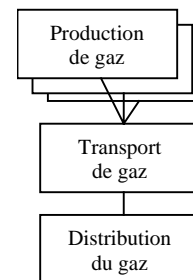
Tant la nature de la réglementation que le degré de concurrence peuvent varier dans chacun de ces marchés et selon les régions géographiques. En particulier, le marché de la distribution du gaz est probablement un monopole naturel dans de nombreux pays (d'où des possibilités très limitées de concurrence au niveau des installations).

Les questions ci-après visent notamment à faire la distinction entre les segments de l'industrie où la concurrence peut s'exercer et ceux où elle ne le peut pas, à déterminer dans quelle mesure la concurrence est autorisée dans les segments potentiellement concurrentiels et à évaluer la qualité et l'efficacité de la réglementation dans les segments du marché où la concurrence n'est pas possible.

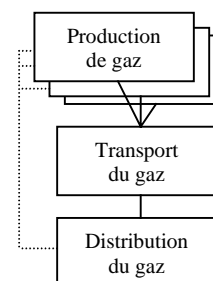
On a recensé trois approches générales de la réglementation de l'industrie du gaz, exposées ci-après pour faciliter la compréhension des questions qui suivent.

(1) Monopole verticalement intégré

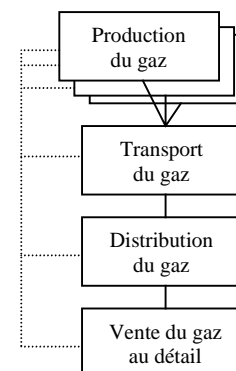
La première approche générale suppose une organisation fondée sur un monopole naturel verticalement intégré, dans laquelle le transport, la distribution et la vente au détail/commercialisation sont regroupés au sein d'une seule entreprise. Il peut exister plusieurs entreprises productrices ou importatrices, mais l'entreprise en place qui détient le monopole (et non le consommateur final) choisit les sources d'approvisionnement gazier qui seront exploitées. En général, les prix pratiqués par cette entreprise intégrée sont réglementés. L'incitation à choisir la source la moins chère dépendra de la nature de la réglementation. Il peut y avoir ou non séparation entre les entreprises de transport/distribution et les producteurs de gaz.

*(2) Liberté de choix pour les clients grossistes*

La deuxième approche générale s'apparente à la première, mais les distributeurs de gaz et les gros consommateurs directement approvisionnés à partir du réseau de transport sont autorisés à signer des contrats à part avec les producteurs de gaz pour l'acheter et avec l'opérateur du réseau de transport pour son acheminement. Dans ce cas de figure, les tarifs de transport sont réglementés et, le plus souvent, les entreprises de distribution du gaz sont aussi soumises à réglementation. C'est en fonction de cette réglementation qu'elles seront plus ou moins encouragées à retenir le producteur de gaz le moins cher. Les stades de distribution, de transport et de production/transport peuvent être intégrés ou non.

*(3) Liberté de choix pour tous les consommateurs de gaz*

La troisième approche générale est semblable à la deuxième, à la différence que les petits consommateurs (habituellement représentés par des entreprises de vente au détail/commercialisation) ont aussi la possibilité de passer directement des contrats avec les producteurs de gaz, puis avec les entreprises de transport et de distribution pour son acheminement. En ce cas, les tarifs pratiqués par les entreprises de transport et de distribution sont généralement réglementés.



Les questions auxquelles les pays Membres sont invités à répondre sont les suivantes :

1. Vue d'ensemble de l'industrie : cadre réglementaire et organisation du marché

La présente section a pour objet de brosser un panorama général de l'industrie du gaz naturel dans votre pays, en décrivant notamment l'organisation du marché, le cadre réglementaire et les institutions chargées de la réglementation.

Contexte national et réglementations essentielles

- (1.1) Quels sont les principaux objectifs des pouvoirs publics pour ce secteur ? Peut-on interpréter que certains d'entre eux dépassent le cadre économique classique pour viser, par exemple, à garantir la sécurité énergétique, à protéger l'environnement ou à respecter des obligations de service universel ?

Jusqu'à quel point le processus de réforme de l'industrie du gaz a-t-il été articulé avec la réforme dans d'autres secteurs, en particulier celui de l'électricité ?

Quels sont les titres, les dates d'adoption et les objectifs les plus importants des principaux textes législatifs et réglementaires qui régissent le fonctionnement du secteur ?

Institutions chargées de la réglementation

- (1.2) Quelles sont les principales instances réglementaires et décisionnelles dans ce secteur ? En résumé, comment sont-elles structurées et quels sont leurs domaines de compétence ? Quelles sont les relations entre elles ? Quel est le degré d'autonomie de l'institution chargée de la réglementation vis-à-vis de l'État ? L'instance de réglementation est-elle présidée par une commission ou par une seule personne (un « Directeur général », par exemple) ? Quel est le degré d'autonomie de l'instance de réglementation vis-à-vis des entreprises en place ? et de l'État ?

Principales caractéristiques de la demande de gaz

- (1.3) Quelles sont les principales utilisations du gaz dans votre économie ? En particulier, quelle est la proportion de la consommation de gaz destinée à la production d'électricité ? Dans quelles applications le gaz peut-il être remplacé par d'autres formes d'énergie (pétrole, charbon, électricité, par exemple) ? La formation du prix final du gaz est-elle efficacement disciplinée par la concurrence interénergétique ? Quels sont les consommateurs de gaz prêts à acheter des approvisionnements gaziers au titre de contrats interruptibles et quelle proportion représentent-ils ?

Principales caractéristiques de la fourniture de gaz : organisation du marché

- (1.4) Veuillez décrire succinctement l'organisation générale du marché dans l'industrie du gaz : quelles sont les principales entreprises et dans quels segments du secteur opèrent-elles ? En particulier, pour chaque segment important du secteur pris isolément :
- Quelles sont les entreprises qui interviennent sur le marché de la production de gaz (y compris l'importation ou la regazéification du GNL) ? Combien y a-t-il de sources d'approvisionnement gazier ? (par exemple, champs ou puits de gaz distincts). Dans les pays où il n'existe pas de sites de production de gaz, combien de gazoducs y a-t-il pour l'importation ? Quels sont les liens de capitaux entre les sources d'approvisionnement gazier (ou les opérateurs de gazoducs d'importation) ? Existe-t-il une concurrence réelle entre les entreprises productrices de gaz ? Les activités de ces entreprises sont-elles verticalement intégrées avec celles de transport et de distribution ? Dans quelle mesure les entreprises productrices de gaz fournissent-elles directement du gaz à des consommateurs finals (c'est-à-dire sans passer par des opérateurs de

réseaux de transport ou de distribution) ? Quelle est la proportion du gaz vendu dans ces conditions ?

- Quelles sont les entreprises qui interviennent sur le marché du transport de gaz par conduites ? Où sont situés les principaux gazoducs ? Les gazoducs sont-ils en concurrence dans certaines régions ? Combien de consommateurs de gaz sont approvisionnés directement à partir des conduites à haute pression (c'est-à-dire sans passer par des opérateurs de réseaux de distribution aux petits consommateurs) ? Quelle est la proportion du gaz vendu dans ces conditions ?
- Quelles sont les entreprises qui interviennent sur le marché de la distribution du gaz ? Sont-elles en concurrence ou chacune d'elles détient-elle un monopole régional ? Les activités de ces entreprises sont-elles intégrées avec celles de transport ?
- Quelles sont les entreprises qui interviennent (le cas échéant) sur le marché de la vente de gaz aux petits consommateurs (c'est-à-dire vente de gaz par des tiers en passant par le réseau de transport/distribution en place) ? Quels sont les services fournis par ces entreprises ? Leurs activités sont-elles intégrées avec celles de distribution ou d'autres segments de l'industrie du gaz ?

A qui appartiennent les principales entreprises du secteur ? Sont-elles détenues par des intérêts étrangers ? Par l'État ? Dans les cas où une importante entreprise en place appartient à l'État, comment est-elle organisée ? L'organisation, la structure décisionnelle, les incitations à une saine gestion et le pouvoir de décision de la direction de l'entreprise en question s'apparentent-ils davantage à ceux d'une entreprise privée ou à ceux d'un service d'État ? Le statut des salariés se rapproche-t-il plutôt de celui qui est le leur dans une société privée ou dans un service de l'État ? (Veuillez expliciter la situation dans chaque cas).

Dans quelles autres branches de l'économie les entreprises du secteur gazier interviennent-elles ? Par exemple, les entreprises de distribution de gaz fournissent-elles aussi de l'électricité, de la chaleur, de l'eau, des services de télécommunications ou de télévision par câble ? Les producteurs de gaz jouent-ils un rôle sur le marché de la production d'électricité ?

Éléments marquants du régime de réglementation

Cette question concerne l'organisation générale du régime de réglementation. Elle est suivie de questions détaillées sur la réglementation de l'entrée sur le marché, de l'accès aux installations, des prix, de la séparation comptable, entre autres aspects.

- (1.5) Sur quels marchés s'en remet-on surtout à la concurrence pour que les prix soient efficaces et la qualité satisfaisante, et sur lesquels fait-on essentiellement fond sur une réglementation traditionnelle des prix et de la qualité ? (Par exemple, existe-t-il une concurrence réelle entre différentes conduites pour desservir certaines villes ? La concurrence joue-t-elle entre producteurs de gaz pour la vente de gaz aux opérateurs de gazoducs, aux entreprises de distribution ou aux consommateurs ?) La cession d'actifs, également appelée séparation structurelle, est-elle imposée ? (Autrement dit, les entreprises productrices de gaz sont-elles autorisées à détenir des installations de transport, notamment ?) Dans les cas où la cession d'actifs n'est pas imposée, le régime de réglementation contraint-il l'entreprise verticalement intégrée à accorder à ses concurrents l'accès à ses installations ? Plus précisément :

- La concurrence entre producteurs de gaz est-elle autorisée ? La concurrence est-elle autorisée dans les activités d'importation ou de regazéification de gaz naturel liquéfié ? Est-il permis à ces entreprises de mener des activités intégrées avec celles de transport de gaz ? Dans les cas où l'intégration est autorisée, les opérateurs de gazoducs de transport qui se trouvent en position dominante sont-ils tenus d'assurer l'interconnexion de leurs installations avec celles de producteurs gaziers concurrents et de transporter le gaz qu'ils produisent ? Les producteurs de gaz sont-ils tenus d'octroyer à des tiers l'accès à leurs conduites de collecte et à leurs installations de production ?

Là où la principale source d'approvisionnement gazier est un gazoduc d'importation, d'autres producteurs de gaz ont-ils accès à cette conduite ? Votre pays pourrait-il contraindre l'opérateur du gazoduc d'accepter d'accorder l'accès à sa conduite à des producteurs de gaz d'un autre pays ?

- La concurrence entre gazoducs de transport est-elle permise ? Une entreprise a-t-elle le droit de construire une conduite pour approvisionner directement un gros consommateur de gaz ? Les entreprises de transport sont-elles autorisées à mener des activités intégrées avec celles de distribution du gaz ? Dans les cas où l'intégration est permise, les distributeurs de gaz sont-ils tenus d'assurer l'interconnexion de leur réseau avec les gazoducs de transport concurrents et de distribuer le gaz transporté par ces derniers ?
- La concurrence entre installations de stockage est-elle autorisée ? Quelles sont les dispositions qui régissent l'accès des entreprises de stockage tierces aux réseaux de transport ou de distribution ?
- La concurrence est-elle autorisée dans les activités liées à la vente au détail du gaz (autrement dit, est-il permis de passer des contrats de transport ou de distribution du gaz pour le compte de petits consommateurs) ? Les entreprises de distribution du gaz sont-elles autorisées à mener des activités intégrées sur le marché dit « de détail » ? Quand l'intégration est permise, les entreprises de distribution du gaz sont-elles obligées de passer des contrats avec les fournisseurs de détail concurrents ?

Réglementation de l'entrée sur le marché

- (1.6) La question précédente portait sur les stades de production dans lesquels l'entrée est autorisée. Existe-t-il des conditions précises d'octroi d'autorisations qu'il y ait lieu de mentionner ?

Quelles catégories de clients sont de nouveaux entrants ou des entreprises concurrentes qui ont le droit de desservir une clientèle ? A-t-on l'intention de laisser progressivement jouer la concurrence dans une catégorie plus large de clients ?

Réglementation de l'accès aux installations

- (1.7) La question précédente concernait l'obligation ou non d'accorder l'accès aux installations dans les différents stades de production. Dans chaque cas où s'applique une obligation en la matière : l'obligation d'interconnexion avec un gazoduc ou un producteur de gaz concurrent est-elle prescrite par la loi ou relève-t-elle d'une décision de l'instance de réglementation ? Dans les cas où il existe une obligation d'interconnexion, comment sont arrêtées les modalités et conditions de transport du gaz ? Sont-elles définies par l'instance de réglementation ou découlent-elles d'une

négociation entre intérêts privés ? Quels sont les principes qui régissent la formation des tarifs d'accès aux installations ? Ces tarifs varient-ils en fonction des périodes de pointe et des périodes creuses ?

Certaines installations, les conduites par exemple, ont une capacité limitée. Il ne sera peut-être pas possible de satisfaire à toutes les demandes d'accès. Comment est affectée la capacité en périodes de pointe ? Est-ce par un système de mise aux enchères de la capacité ou de tarification de l'accès en périodes de pointe ? L'instance de réglementation dispose-t-elle de moyens de vérifier que les réclamations liées à la capacité sont fondées ?

Est-il obligatoire de rendre publiques les modalités et conditions selon lesquelles l'accès a été (ou sera) accordé ?

Réglementation des prix

- (1.8) Dans la question précédente, il était demandé de préciser sur quels marchés on s'en remet surtout à la réglementation des prix pour exercer un contrôle sur le pouvoir de marché. Il peut s'agir du marché de la fourniture de gaz aux consommateurs finals dans le cas d'une approche de monopole intégré, ou de marchés distincts du transport et de la distribution de gaz là où les consommateurs finals ont la possibilité de passer directement des contrats avec un producteur de gaz. Sur chacun de ces marchés où les prix sont réglementés, et pour chaque catégorie de consommateurs : quels sont les principes fondamentaux de la réglementation des prix ? Autrement dit, les prix du gaz sont-ils réglementés en tenant compte de la concurrence avec les autres formes d'énergie, ou en fonction des coûts de base ? L'entreprise réglementée a-t-elle une marge de manœuvre pour ajuster certains prix compte tenu des contrôles imposés par l'instance de réglementation (comme c'est le cas lorsque la réglementation porte sur un panier de prix) ? Cette instance recourt-elle à une réglementation « par comparaison » (en comparant les prix à un ensemble de coûts d'entreprises similaires) ?

Selon l'importance de la latitude laissée à l'entreprise réglementée pour faire varier ses prix en fonction des coûts de base, elle aura plus ou moins intérêt à se soucier de l'efficacité économique et (dans les secteurs où les consommateurs ne peuvent pas choisir librement leur fournisseur de gaz) à acheter le gaz en amont au fournisseur le moins cher. Quels sont les coûts que l'entreprise réglementée est autorisée à faire supporter à ses clients ? Quelle proportion de ces coûts peut-elle répercuter ? La réglementation des prix encourage-t-elle l'entreprise réglementée à rechercher l'efficacité et à acheter le gaz au fournisseur le moins cher ?

Quelle est la structure des tarifs qui en découle ? Est-elle de type « binôme » ? Dans l'affirmative, quels sont les principes de fixation des éléments fixe et variable ? Applique-t-on des tarifs différents selon les utilisations finales (par exemple, pour le chauffage des locaux ou la cuisson des aliments) ?

La demande de gaz en périodes de pointe peut dépasser largement celle des heures creuses. Comment fait-on la distinction, dans le barème de tarifs réglementés, entre périodes de pointe et heures creuses ? Quel rôle joue la distance sur laquelle le gaz est transporté dans la variation des prix réglementés ? Comment différencie-t-on les approvisionnements « fermes » des approvisionnements « interruptibles » dans la formation des prix réglementés ?

Quels sont les mécanismes qui garantissent le maintien de la qualité du service ?

Existe-t-il des contraintes qui empêchent les entreprises en place d'exercer une discrimination par les prix, en particulier sur les marchés qui s'ouvrent progressivement à la concurrence ? Existe-t-il des prix minimums ?

Quels sont les principes suivis par l'instance de réglementation pour déterminer la valeur des actifs des entreprises réglementées ?

Les entreprises réglementées sont-elles tenues de rendre publics les tarifs qu'elles appliquent ?

Obligations de services non commerciaux

- (1.9) Des obligations sont-elles imposées à une ou à plusieurs entreprises de fournir à certains clients un service à perte (notamment, l'obligation de distribuer du gaz dans des zones non rentables ou des restrictions limitant la possibilité de refus de desservir des clients non rentables) ? Le coût de ces obligations est-il rendu public ? Dans ce cas, quelle est la méthode utilisée pour le calculer ? D'autres entreprises peuvent-elles entrer en concurrence pour l'offre de ces services ? Si une autre entreprise a cherché à fournir ces services, pourrait-elle demander une compensation à ce titre ? Comment se procure-t-on les fonds pour rémunérer les services fournis en vertu de ces obligations non commerciales ? Est-ce par des subventions croisées internes ou dans le cadre d'un régime de subventions explicites ? Dans ce dernier cas, d'où provient le financement de ces subventions ? Envisage-t-on que des entreprises concurrentes y contribuent ? Sur quelles bases ?

Séparation et dissociation comptable

- (1.10) Dans de nombreux secteurs, et en particulier dans celui du gaz, certaines formes de séparation sont imposées pour essayer d'empêcher que les activités concurrentielles bénéficient de subventions croisées internes financées par les activités réglementées, ainsi que pour améliorer l'efficacité de la réglementation de l'accès aux installations. Existe-t-il des dispositions réglementaires imposant la cession des actifs (justifiées par des contraintes liées au genre d'activité) ?

Il est très souvent exigé d'appliquer des formes de séparation qui ne vont pas jusqu'à la cession complète des actifs. La séparation comptable ou la séparation de l'exploitation sont-elles obligatoires ? Ou bien existe-t-il des prescriptions obligeant à opérer sur certains marchés par l'entremise de filiales dans des conditions de pleine concurrence ? De quelle manière s'appliquent ces prescriptions ? Sur quel marché ? Dans quel but ?

Questions relatives aux échanges et à l'investissement

- (1.11) De quelle nature sont les échanges internationaux de gaz naturel (le cas échéant) ? Ces échanges font-ils l'objet de restrictions, sous une forme ou une autre ? Existe-t-il un monopole des importations ou des exportations ?

Les participations ou les investissements étrangers sont-ils soumis à des contrôles ?

Questions diverses

- (1.12) Pendant la transition vers l'ouverture à la concurrence, s'est-il manifesté des craintes eu égard aux coûts ou aux contrats « échoués » (par exemple les contrats à long terme assortis d'une clause de prise ferme, dits « take or pay », qui ont été signés sous un régime de réglementation antérieur) ? Comment a-t-on répondu à ces préoccupations ?
- (1.13) Quelle a été l'influence des objectifs d'environnement sur les décisions des pouvoirs publics relatives au régime de réglementation ? Le gaz reçoit-il le même traitement fiscal que les autres combustibles ou formes d'énergie ? Pour quelles raisons ?
- (1.14) Quelles est la proportion de la production de gaz qui fait l'objet d'engagements contractuels à long terme, par exemple des contrats assortis d'une clause de prise ferme ? Quelle est l'évolution prévue à cet égard dans les cinq à dix prochaines années ? Des mécanismes sont-ils en place pour débloquer une partie du gaz ayant fait l'objet de contrats « take or pay » afin que des concurrents puissent l'utiliser ? Observe-t-on une tendance à conclure des contrats à plus court terme ? Quelle est la proportion de gaz faisant l'objet d'échanges sur des marchés spot ou à terme ? Comment a évolué cette proportion au fil du temps ?

2. Questions de fond concernant la concurrence

Application et respect du droit de la concurrence

- (2.1) Le droit national de la concurrence s'applique-t-il à ce secteur sans exemption ou exception ? Décrire les exemptions ou exceptions en vigueur.

Qui est chargé de veiller au respect des diverses règles du droit de la concurrence dans ce secteur ? Quel est le rôle de l'instance de réglementation dans le contrôle de l'application du droit ou des règles de la concurrence ?

Questions relatives à la définition du marché

- (2.2) Les autorités de la concurrence ou les tribunaux ont-ils eu la possibilité de définir le marché pertinent à l'occasion d'affaires de concurrence dans ce secteur ? Comment ont été définis les marchés gaziers ? Sur le marché, le gaz se distingue-t-il des autres sources d'énergie ? Quelles autres questions a soulevé la définition des marchés ?

Abus de position dominante

- (2.3) Des actions ont-elles été intentées dans ce secteur pour abus de position dominante ? A-t-on constaté des cas de prix d'éviction ou de majoration des coûts des concurrents ? Les dispositions réglementaires en vigueur destinées à lutter contre les abus de position dominante ont-elles été efficaces ?

Autres questions relatives au respect du droit de la concurrence

- (2.4) S'est-il produit des cas de fusions ou d'accords anticoncurrentiels entre entreprises dans ce secteur ? Quelles analyses ont été menées pour approuver ou se prononcer contre ces fusions ou accords ? Quelles sont les mesures correctrices qui ont été imposées à cet égard ?

AUSTRALIA

1. Overview

The gas industry in Australia has developed on a State basis, with little or no interconnection between States to enable trade in gas. Competition between gas producers has been limited, with most major gas markets in Australia supplied by a single transmission pipeline connecting the market to a single basin. Each market has usually been supplied by a single retailer and distributor, and the supply basin has also typically been dominated by a single joint venture producer. The industry was therefore characterised by a monopoly structure in the production, transmission, distribution and retail stages of the network.

In the mid 1990s Commonwealth, State and Territory governments agreed to introduce reforms to increase competition in the natural gas industry. Regulatory and legislative barriers to inter-State trade in gas have been removed, and a uniform framework to govern third party access to natural gas pipelines has been introduced.

Key features of the access regime are a requirement for pipelines to provide non-discriminatory access to third parties on a fair and reasonable basis, and a requirement for contestable gas businesses (e.g. retailing and production) to be separately owned from the monopoly pipeline transmission and distribution businesses. Access tariffs are required to be approved by a regulator, but pipelines and access seekers are able to negotiate other terms and conditions of access.

Competition is also being introduced in the retail sector with the progressive lowering of thresholds, which enable gas customers to choose their gas supplier. Large industrial customers in most jurisdictions are currently able to choose their gas supplier, and small business and household customers in the majority of jurisdictions are scheduled to be able to choose their gas supplier by the end of 2001.

The new industry arrangements are expected to lead to increased investment in natural gas pipelines, so that consumers will increasingly be able to receive gas supplies from more than one production source.

2. National context and key regulation

2.1 *Objectives of gas industry reform*

As part of the microeconomic reform agenda designed to enhance the efficiency of the energy sector in Australia, in 1994 the Commonwealth, State and Territory governments made a commitment to achieve free and fair trade in natural gas. The commitment had three underlying objectives:

- to remove policy and regulatory impediments to retail competition in natural gas;
- to remove a number of restrictions on interstate trade; and

- to encourage the development of a nationally integrated and competitive natural gas market by establishing a national regulatory framework for third party access to natural gas pipeline systems, and facilitating the interconnection of pipeline systems.

The reforms have come some way since the early 1990s. Governments have removed regulatory and legislative impediments to inter-State trade in gas and in 1997, governments agreed to implement a uniform national regulatory framework to govern third party access to natural gas pipelines. The access regime consists of the Gas Pipelines Access Law and the Gas Pipelines Access Code. The access regime establishes a framework for third parties, such as gas retailers and end-users, to negotiate access to transmission and distribution gas pipelines on fair and reasonable terms and conditions. It aims to increase competition in the sale of natural gas by addressing bottlenecks in the non-contestable segments of the industry.

The Gas Pipelines Access (South Australia) Act 1997 was enacted in South Australia and adopted in other jurisdictions through an application of laws, except in Western Australia which has enacted essentially identical legislation to apply the law. The legislation and gas code may be found at the following website: <http://www.coderegistrar.sa.gov.au/>. There are also a number of Commonwealth, State and Territory acts that govern safety and gas and petroleum exploration and production. Under the new market arrangements, consumers are able to contract directly with a service provider for the transportation of the gas.

Reforms in the gas industry have proceeded on a similar timetable to electricity industry reforms, although there are different timetables for gas and electricity retail contestability. Reforms in the gas and electricity industries gained momentum from recommendations of the Hilmer Committee on National Competition Policy in 1993. As part of their commitment in 1995 to implement National Competition Policy and the related reforms, State and Territory Governments agreed that progress in reforming the energy sector would be a condition for National Competition Payments from the Commonwealth Government.

3. Regulatory institutions

Under the gas pipelines access regime, the Australian Competition and Consumer Commission (ACCC) is the regulator for all transmission pipelines except those in Western Australia, where a State-based regulator has been appointed for both transmission and distribution pipelines. The aim of having a common regulator for transmission pipelines is to provide maximum uniformity for regulation. Distribution pipelines are regulated by a local regulator in each jurisdiction, except for the Northern Territory where the ACCC is the distribution pipeline regulator.

Table 1 sets out the key regulatory institutions for gas pipelines in each jurisdiction, and indicates whether the regulator is headed by a Commission, Tribunal or a single person.

Table 1: Key Regulatory Institutions for Gas Pipelines

State or Territory	Regulator	Type of Regulator
Australian Capital Territory		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	Independent Pricing and Regulatory Commission	Commission
New South Wales		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	Independent Pricing and Regulatory Tribunal	Tribunal
Queensland		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	Queensland Competition Authority	Authority
South Australia		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	South Australian Independent Pricing and Access Regulator	Regulator
Northern Territory		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	Australian Competition and Consumer Commission	Commission
Western Australia		
• Transmission pipelines	Office of Gas Access Regulation	Regulator
• Distribution pipelines	Office of Gas Access Regulation	Regulator
Victoria		
• Transmission pipelines	Australian Competition and Consumer Commission	Commission
• Distribution pipelines	Office of the Regulator-General	Regulator-General

Under the gas pipelines access regime, regulators are responsible for considering and approving access arrangements submitted by service providers under the Gas Pipelines Access Code. Access arrangements set out the terms and conditions under which a pipeline operator/owner (service provider) will allow third parties to have access to a pipeline. Regulators may also arbitrate disputes relating to the terms and conditions of access.

State and Territory regulators may also have responsibilities for approving gas tariffs for customers who are not yet eligible to choose their gas supplier. Retail tariffs for customers who are eligible to choose their gas supplier are not regulated.

The ACCC is also the national competition regulator and is responsible for administering the provisions of the Trade Practices Act 1974, including competitive conduct provisions such as those governing mergers and anti-competitive agreements. Most State and Territory regulators have an ex-officio representative on the ACCC.

Regulators are required to be independent authorities established by statute. The independence of regulators (i.e. independence from governments and incumbent firms) is assessed by the National Competition Council as part of the process of approving each jurisdiction's access regime.

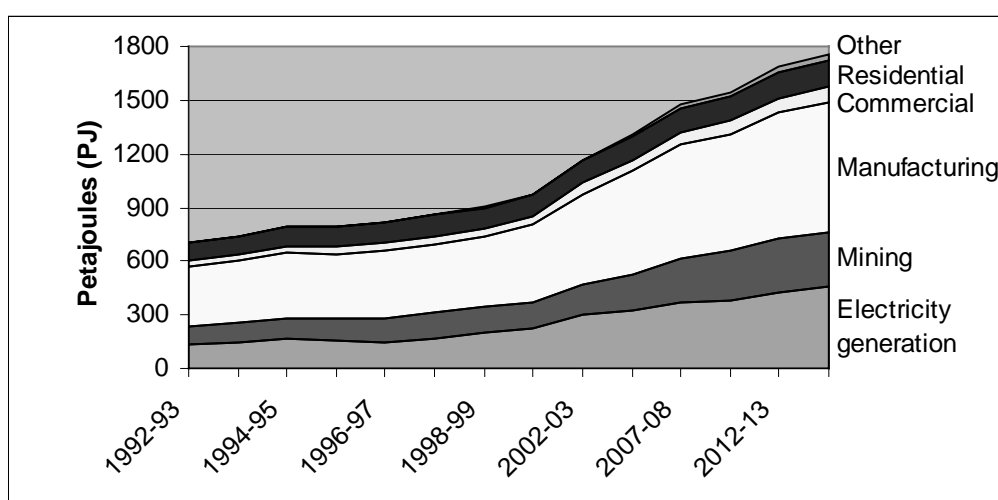
The Gas Reform Implementation Group, which comprised representatives of government, industry and regulators, was responsible for developing the gas reforms. Other key bodies are the National Gas Pipelines Advisory Committee and the Code Registrar. The National Gas Pipelines Advisory Committee monitors the Gas Pipeline Access Law (including the Code) and prepares advice and

recommendations to Ministers on amendments to the law and the Code. The Code Registrar has a number of functions, including maintaining an up-to-date version of the Gas Pipelines Access Code, a public register of access arrangements submitted under the code, and the decisions of regulators and arbitrators. Membership of the National Gas Pipelines Advisory Committee includes an independent Chair, the Code Registrar and representatives from government, regulators and the industry.

4. Key features of the demand for gas

The domestic natural gas industry makes a significant contribution to the Australian economy, providing a fuel source for industry, electricity generation, transport, commerce and households. It is also a major source of feedstock for some industries.

Chart 1: Natural Gas Consumption, by sector¹



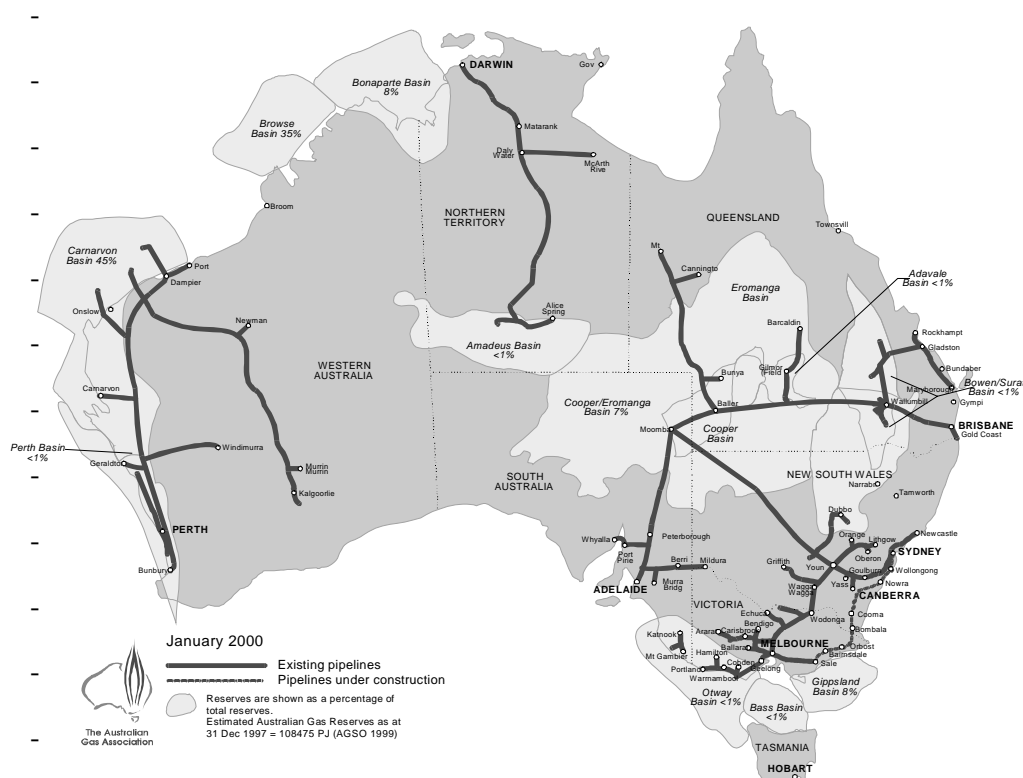
As Chart 1 illustrates, the manufacturing sector is the main consumer of natural gas in Australia, accounting for 44 per cent of gas consumption in 1997-98. Electricity generation currently accounts for 20 per cent of natural gas consumption, although gas consumption in the electricity generation and mining sectors is projected to increase significantly.

Hot water, space heating and temperature control for commercial and industrial applications are the main uses where consumers may substitute gas for other fuel sources (such as diesel, coal and electricity). Switching from one fuel source to another usually involves changes to, or the replacement of, machinery using the energy source. The extent of price competition between gas and other fuels is therefore affected by the cost of switching to alternative fuel sources. There may also be a lag in responding to price changes.

5. Key features of the supply of gas: market structure

The map below illustrates Australia's existing transmission pipelines and natural gas reserves.

Figure 1: Australia's Natural Gas Basins and Pipelines



Source: Australian Gas Association

As indicated in Figure 1 above, most major markets in Australia are served by one major pipeline connecting a single basin to a market. Within that basin, a single joint venture (or unitised joint ventures) has generally supplied the gas to a single distributor/retailer.

This situation arose for a number of reasons, including:

- the concentration of gas supplies, generally at a significant distance from major population centres;
- the relative immaturity of the market (the natural gas industry in Australia did not begin to develop until the 1960s); and
- a desire by State and Territory governments to ensure that sufficient gas supplies were available to service their energy needs.

5.1 *Separation and unbundling*

The national gas pipelines access regime requires contestable gas businesses (e.g. retailing and production) to be separately owned from the monopoly pipeline transmission and distribution businesses. This includes a requirement to have separate accounts, marketing staff and customer information for each business. Where a pipeline has a related gas production or retailing business, the business must be a separate legal entity. In addition, contracts between related businesses must be approved by the regulator, with a decision by the regulator not to approve a contract between related businesses subject to administrative appeal.

These ring-fencing arrangements aim to ensure that related businesses cannot gain preferential treatment at the expense of other market participants. The regulator may vary these arrangements on a case-by-case basis, either by imposing additional obligations or by waiving certain obligations. Any decision by the regulator to vary the arrangements is subject to appeal.

Transmission and distribution pipelines are also expected to unbundle pipeline services where reasonable and practical, so that prospective access seekers can obtain a service that includes only those elements that the user wishes to be included in the service. Where unbundling occurs, pipelines should also charge a separate tariff for each element of a service.

5.2 *Production*

The aim of the gas pipelines access regime is to ensure that the owner of the facility will make access to the facility available to other firms on reasonable terms in order to allow the benefits of upstream and downstream competition to be passed onto end users. However, competition has been, and continues to be, limited in the upstream gas production sector in Australia.

As Table 2 below illustrates, the main gas production basins supplying Australia are the Carnarvon Basin which supplies gas to Western Australia, the Cooper/Eromanga Basin, which supplies South Australia, Queensland and New South Wales, and the Gippsland Basin, which supplies gas to Victoria.

There is a relatively high level of cross-ownership between joint ventures within each basin and across basins. Santos, for example, has a significant interest in the South Australian Cooper Basin Unit joint venture and the South West Queensland Cooper Basin Unit joint venture. Esso holds interests in both these joint ventures and a fifty per cent interest in the Gippsland Basin. While Western Australia has a larger number of actual and potential gas production joint ventures, a degree of common ownership exists between these projects, particularly between those projects capable of supplying gas to larger industrial users.

Table 2: Gas Field/Basin Production and License Ownership, 1998²

Field/Basin	Main market(s)	Production Sales Gas mmcf (1997)	Santos %	Esso %	BHPP %	Boral %	Others %
Cooper/Eromanga	Qld, SA, NSW	191,933					
SA Cooper Basin			59.75*	20.21	-	13.19	6.85
Patchawarra East			69.35*	17.14	-	10.54	2.97
SWQ JV Unit			58.86*	23.2	-	16.74	1.2
Surat/Bowen	Qld						
Denison Trough		12,202	50*	-	-	50	-
Kincora		3,499	-	-	-	100*	-
Moonie		36	100*	-	-	-	-
Roma		2,324	85*	-	-	-	15
Silver Springs		3,574	50*	-	-	-	50
Gippsland Longford	Victoria	175,557	-	50*	50	-	-
Otway							
Port Campbell	Victoria	2,795	-	-	-	100*	-
Katnook, Ladbroke, Haselgrove	SA	2,208	-	-	-	55.71*	44.29
Amadeus	NT						
Palm Valley		7,586	46.72	-	-	1.25	52.03*
Mereenie 4& 5		8,891	65*	-	-	-	35
Adavale Gilmore	Qld	1,806	-	-	-	-	100*
Perth	WA						
Beharra Springs		10,691	-	-	-	67*	33
Dongara		3,272	-	-	-	-	100*
Woodada		1,239	-	-	-	-	100*
Carnarvon	WA						
Griffin		5,590	-	-	45*	-	55
NW Shelf JV		135,613	-	-	16.67	-	83.35*
Tanami		1,185	-	-	-	-	100
Tubridgi		7,085	-	-	-	56.65*	43.35
East Spar JV		7,707	45	-	-	-	55*
Harriet JV/Rosette		25,915	-	-	-	-	100*
Thevenard Is.		363	-	-	-	-	100*

* Operator of field/basin.

The Upstream Issues Working Group (UIWG) presented a report to Australian governments in December 1998 on the implications of current approaches to gas exploration and production on downstream competition. The focus of the report was to ensure that the benefits of reforms in the pipeline and retail sectors of the industry are not eroded by a lack of competition in the upstream gas sector (i.e. exploration and production). The report recommended:

- that reforms be undertaken in relation to acreage management policies;
- that industry and jurisdictions develop best practice principles for third party access to gas production facilities; and

- that the existing authorisation provisions in the Trade Practices Act 1974 be maintained for approving joint marketing activities, but that separate marketing of gas by participants in joint ventures should be encouraged whenever and as soon as this is feasible.

The UIWG recommendations relating to acreage management are largely being addressed by jurisdictions in the context of reviews of their petroleum legislation. The upstream petroleum industry has developed principles for its members to apply in commercial negotiation of access to spare capacity at upstream facilities. The upstream industry principles did not include a number of key features (cost reflective pricing, arbitration or mediation) which most jurisdictions and other industry groups had been calling for. Accordingly, Commonwealth, State and Territory Energy Ministers, at their meeting in August 1999, noted the industry principles, but did not endorse them, and agreed that their effectiveness in improving competition in the upstream sector should be reviewed in two years.

At present no natural gas is imported into Australia. However, there are plans to build a natural gas pipeline from Papua New Guinea to Queensland. If the pipeline proceeds, it will provide an alternative source of supply and should promote supply competition in the Australian gas market.

No end-user customers are currently supplied directly by gas production firms without passing through the transmission or distribution network. Most natural gas production facilities are located a long way from customers and therefore have to go through at the least the transmission network to supply customers.

5.3 *Transmission*

A number of firms operate transmission pipelines in Australia. The key pipelines, and their operators, are listed in Table 3 below.

Table 3: Major transmission pipelines

State	Pipeline location/route	Operator	Length (km)
<i>Queensland</i>	Wallumbilla to Brisbane	AGL Pipelines Ltd	434
	Ballera to Wallumbilla	Epic Energy Pty Ltd	750
	Wallumbilla to Rockhampton	Duke Energy International	627
	Ballera to Mt Isa	AGL Pipelines Ltd	840
<i>New South Wales & ACT</i>	Moomba to Sydney	East Australian Pipelines Ltd	1,950
<i>Victoria</i>	Rural Eastern	GPU GasNet Pty Ltd	505
	Rural Central Northern	“	497
	Rural Central	“	388
	Rural Western	“	231
<i>South Australia</i>	Moomba to Adelaide	Epic Energy Pty Ltd	1,067
<i>Northern Territory</i>	Amadeus Basin to Darwin	AGL Pipelines Ltd	1,815
<i>Western Australia</i>	Dongara to Pinjarra	CMS Gas Transmission of Australia	445
	Dampier to Bunbury	Epic Energy Pty Ltd	1,803
	Goldfields Gas Pipeline	AGL Pipelines Ltd	1,427

In most instances, competition between transmission pipelines is limited. This is partly attributable to the long distance between customers and most gas sources, which makes it uneconomic to duplicate pipelines.

However, there is now the potential for some competition between pipelines and gas sources following the recent and proposed expansion of the network in eastern Australia. For example, the Victorian and New South Wales transmission systems were interconnected in 1998, which has provided an additional source of gas supply to the Victorian market (as most gas currently flows south into Victoria over the Interconnect pipeline). A transmission pipeline is currently under construction from the Victorian gas production plant at Longford to Sydney that will enable Gippsland Basin gas to be sold directly into the Sydney market. The pipeline is expected to promote competition between the Cooper Basin and Gippsland Basin gas producers, and with the Moomba-Sydney transmission pipeline.

At present, only a relatively small number of gas consumers are supplied directly off high-pressure transmission pipelines (i.e. without passing through a retail distribution network).

5.4 *Distribution and retailing*

As noted above, ring-fencing requirements under the Gas Pipelines Access Code require distribution activities to be separate from retail businesses.

The major distribution and retailing companies in each region are set out in Table 4. There are also a number of smaller distributors and retailers, which generally supply smaller markets in regional areas.

Table 4: Major Distributors and Retailers

Region	Distributor(s)	Retailer(s)
<i>Victoria</i>	Multinet Energy Pty Ltd Westar (Gas) Pty Ltd Stratus (Gas) Pty Ltd	Kinetik Energy Pty Ltd Boral Energy Pty Ltd Energy Partnership (Retail) Pty Ltd
<i>New South Wales & Australian Capital Territory</i>	AGL Gas Networks	AGL Retail
<i>Queensland</i>		
• South Brisbane, Gold Coast, Toowoomba & Oakey	Allgas Energy	Allgas Energy
• North Brisbane, Ipswich, Gladstone, Rockhampton	Envestra/Boral Energy Ltd	Envestra/Boral Energy Ltd
<i>Northern Territory</i>		
• Alice Springs	Centre Gas	Centre Gas
• Darwin	NT Gas Pty Ltd	NT Gas Pty Ltd
<i>Western Australia</i>	AlintaGas	AlintaGas
<i>South Australia</i>	Envestra Ltd	Boral Energy Terra Gas Trader

Owing to the natural monopoly nature of gas distribution pipeline systems, most distributors have a local or State-wide monopoly over distribution. In recent years, the number of gas retailers has increased, in part due to government initiatives. For example, prior to the privatisation of the Victorian gas businesses, the incumbent retail/distribution company was separated into three retail and three distribution companies. Each gas distributor was commercially stapled to a gas retailer, and services another retailer as well.

Distribution pipelines are generally separately owned from transmission pipelines, although in the case of the Northern Territory the key distribution and transmission pipelines are operated by the same company. Some distribution companies have an interest in transmission pipelines – for example, the New South Wales and ACT gas distributor AGL has a majority shareholding in EAPL, which operates the Moomba to Sydney gas transmission pipeline.

Gas retailers may provide a range of services, including connections for natural gas and electricity, energy audits for businesses and appliance repair and maintenance. Some retailers also have an interest in gas appliance sales and installation.

5.5 *Ownership*

With the exception of AlintaGas in Western Australia, Allgas Energy in Queensland, Terra Gas Trader in South Australia, and the Power and Water Authority in the Northern Territory, all the major gas companies in Australia are privately owned. Allgas Energy is owned by Energex, a State Government owned electricity distributor/retailer. The Power and Water Authority is primarily an electricity business, but owns a gas pipeline on behalf of the Northern Territory Government. Terra Gas Trader and AlintaGas are expected to be privatised in the near future.

The state-owned gas firms operate as corporatised entities, with governments setting key financial and non-financial performance targets. Allgas Energy, Terra Gas Trader and AlintaGas are registered corporations, and are required to comply with Corporations Law provisions in the same manner as any privately owned company.

Many gas companies in Australian are foreign-owned. For example, apart from those pipelines owned by AGL, all major transmission pipelines are owned by foreign companies. Foreign-owned companies are also prevalent in gas production (e.g. Esso, Chevron and Shell).

5.6 *Multi-utilities*

In recent years, gas distributors and retailers have expanded their range of business activities. For example, AGL is an electricity and gas retailer and Boral Energy has an interest in electricity retailing as well as gas production, transmission, distribution and retailing. At this stage, no gas companies provide water, telecommunications or cable television services, but many companies are actively considering expanding the range of services they provide. No gas producers are currently directly involved in the market for electricity generation.

6. Key features of the regulatory regime

6.1 *Entry regulation*

As noted above, ring-fencing requirements in the national gas pipelines access regime require businesses engaging in gas retailing or production to be separately incorporated from gas transmission and distribution businesses.

6.1.1 *Production*

There are no regulations/restrictions on competition between gas production sources, or on gas importation or re-gassification of Liquefied Natural Gas. However, licensing requirements may apply. For example, potential gas producers need to successfully bid for exploration permits and production licences.

6.1.2 *Transmission and distribution*

There are no regulations/restrictions on competition between transmission pipelines. In fact, investment in transmission pipelines has increased in recent years, with the result that consumers in some jurisdictions are now able to receive gas supplies from more than one production source and via more than one transmission pipeline.

Transmission and distribution pipelines in most jurisdictions that wish to transport gas must obtain an authorisation from the relevant jurisdiction. Firms wishing to construct a pipeline for the direct supply of large gas customers may be required to comply with standard licensing and environmental approval processes, but apart from these there are no general restrictions on pipeline construction. Transmission firms are also allowed to be integrated into gas distribution, although most such businesses are separately owned.

6.1.3 *Storage*

Competition in gas storage is permitted, although linepack accounts for the bulk of existing storage. Underground gas storage facilities have been recently developed in Victoria. It is envisaged that these storage facilities will be used to supplement the supply of gas during periods of high seasonal demand, and enable gas suppliers to balance loads when supply and demand imbalances occur. Some underground storage facilities also exist in the Cooper Basin in South Australia. LNG storage may also be used to supplement gas supplies and is used for peak shaving on the Victorian transmission system.

6.1.4 *Retail*

In the retail sector, competition is being introduced with the gradual phasing out of restrictions on the ability of customers to choose their gas supplier. While the timetable for phasing out these restrictions varies between jurisdictions, large industrial customers in most jurisdictions are currently able to choose their gas supplier. All customers are scheduled to be able to choose their gas supplier (i.e. become contestable) in New South Wales and the Australian Capital Territory by July 2000, in South Australia by July 2001, and in Victoria and Queensland by September 2001. Most gas customers in Western Australia are expected to be able to choose their gas supplier by July 2002.

At present gas retailers are generally required to obtain authorisation from the relevant jurisdiction to supply gas. Governments have agreed to phase out or reform any exclusive franchise arrangements, with the exception of a regional franchise arrangement in Western Australia that is expected to expire in February 2008. Future exclusive franchises for gas retailers and distributors will only be granted if the applicants meet strict criteria.

Following reforms in the Victorian gas industry, the government has imposed restrictions on the retailing activities of the dominant gas producers in that state. These provisions aim to promote competition in the retail gas market and limit the incumbent producer's market power by restricting the gas producers to selling gas to the largest 35 gas customers in the state.

6.2 Access regulation

6.2.1 Transmission and distribution

The gas pipelines access regime, which incorporates the Gas Pipelines Access Code, establishes the rights and obligations of service providers and users in relation to third party access to natural gas transmission and distribution. It is designed to promote competitive market outcomes where there are pipeline facilities with natural monopoly characteristics serving a market.

The access regime applies to most transmission and distribution pipelines, and requires service providers to submit an "access arrangement" for approval to the relevant regulator. The access arrangement sets out the proposed terms and conditions of access, including reference tariffs for the maximum price to access the services provided by a pipeline. The terms and conditions approved by the regulator will apply in the event of an access dispute that requires third party arbitration. Parties are free to commercially negotiate other terms and conditions for access to a pipeline.

When submitting an access arrangement, service providers are also required to provide information covering factors such as capital and operations and maintenance costs, and pipeline capacities. This information may be publicly disclosed, at the discretion of the regulator. The terms and conditions of access approved by a regulator, including reference tariffs, will be made publicly available. However, if a third party negotiates access to a pipeline on other terms and conditions, these details may be kept confidential.

The Gas Pipelines Access Code also makes provision for interconnection between pipelines, by providing a right for third parties to interconnect with a distribution or transmission pipeline. In addition, a regulator may require a service provider to expand the capacity of a pipeline to meet the requirements of a prospective user.

As some pipelines have only limited spare capacity, as part of their access arrangement pipelines are required to submit a queuing policy for the regulator's approval. The queuing policy sets out rules for allocating spare and future capacity in the pipeline in a non-discriminatory fashion. This may include provisions for allocating capacity at peak and non-peak times, if applicable. Parties who have a contracted right to pipeline capacity may also trade their unused contracted capacity to other parties. The service provider may only withhold consent to transfer capacity on reasonable commercial or technical grounds.

The Gas Pipelines Access Law also contains provisions that prohibit service providers or users and their affiliates from engaging in conduct for the purpose of hindering access to a transmission or distribution pipeline.

6.2.2 *Market carriage*

In Victoria, a market carriage system applies to the main transmission pipeline system, with no requirement for retailers to contract for specific capacity over pipelines between points of injection and delivery. Instead, users of the pipeline system have a right to vary the amount of capacity on the system that they utilise, with charges based on capacity and volume usage. A net pool has been established to determine market clearing prices and help resolve physical constraints. Gas storage facilities may bid to inject or withdraw gas like any other participant. If the system operator, VENCORP, has to intervene to resolve congestion, system users may be liable to pay an 'uplift' charge. The uplift charge reflects the cost to VENCORP of resolving the constraint, such as by requiring LNG to be injected into the system.

6.2.3 *Production facilities*

Gas producers are not required under the Gas Pipelines Access Code to grant third-party access to their gathering lines and production facilities. However, the Upstream Issues Working Group, which reported to Commonwealth, State and Territory governments in December 1998, recommended that industry and jurisdictions develop best practice principles for access to gas production facilities. The upstream petroleum industry has developed principles for the commercial negotiation of access to spare capacity at upstream facilities and has requested its members to apply them. However, the principles did not include a number of key features called for by most jurisdictions and other industry groups (e.g. cost reflective pricing, arbitration or mediation). Accordingly, Commonwealth, State and Territory Ministers agreed that the effectiveness of the principles in improving competition in the upstream sector should be reviewed in 2001.

6.3 *Price regulation*

6.3.1 *Retail prices*

The gas reforms introduced from the mid 1990s aim to promote competition at all stages of the industry – from production to gas transportation and retailing. As restrictions on competition are still being phased out, some elements of the industry are still subject to price regulation. For example, the prices paid by retail customers who are not eligible to choose their gas supplier are regulated by jurisdictional regulators or relevant government ministers. Such regulation will be removed, or in some cases reviewed, when all customers are eligible to choose their gas supplier.

In most jurisdictions, retail gas prices are subject to CPI-X based incentive regulation. The price cap sets a maximum final delivered gas price, which may reflect the commodity price of gas and haulage costs plus a margin for retailers. Gas retailers are provided with some flexibility to adjust components of the tariff within the price cap, although in some jurisdictions the regulator's approval must be obtained before increasing fixed supply or minimum bill charges. Some jurisdictions also require that customers pay a uniform charge throughout or in most parts of a state. Gas retailers are not required to charge different prices for peak and off-peak times, or for different end-uses.

6.3.2 *Transmission and distribution prices*

Prices for transmission and distribution are regulated in the sense that pipelines are required to obtain regulatory approval for reference tariffs that establish the maximum price for services provided by a

pipeline. If a pipeline provides more than one reference service, it must submit a proposed reference tariff for each service.

The principles to be used in setting reference tariffs are set out in the Gas Pipelines Access Code. The principles provide regulators with a high level of discretion and flexibility to take into account pipeline-specific circumstances. The key requirement is that reference tariffs should be based on the efficient costs (direct and indirect) of providing pipeline services. Regulators have some discretion to determine which costs may be passed on to customers. For example, if the pipeline's proposed operation and maintenance costs are judged to be excessive compared to industry benchmarks, the regulator may require that only a portion of these costs be reflected in the reference tariff. Incentives for the service provider to share in productivity improvements are also encouraged.

There are three alternative methodologies that may be used, or a combination of these, in determining total revenue, and hence the reference tariffs, for a pipeline – a cost of service approach, internal rate of return, or a net present value approach.

Regulators also have some flexibility in relation to asset valuation and depreciation. A full spectrum of methodologies, including past asset valuations and tariffs, may be used by a regulator to assess the initial capital value of an asset. It is expected that the initial capital value of an existing pipeline would normally not be below depreciated historic cost and not be above the depreciated optimised replacement cost. Redundant assets are also to be written out of the cost base, to encourage service provider to be efficient and to seek to expand the market.

There is no requirement for access prices to vary according to peak and off-peak periods, although service providers may propose this as part of their access arrangement if desired. As noted above, the terms and conditions of access approved by a regulator, including reference tariffs, will be made publicly available.

Regulators also have some discretion to determine whether reference tariffs should be distance-based, or apply a single price for an entire zone. For example, a single zonal price may be considered appropriate for a new pipeline in order to generate sufficient demand across a region for the services provided by the gas pipeline.

Reference tariffs are typically for "firm" supply of gas. In Victoria, where a market carriage system applies, pipeline users do not receive a contractual right to capacity. However, pipeline users may be offered a choice as to whether they are interruptible or non-interruptible customers, with charges based on the type of service provided.

The Gas Pipelines Access Code does not specifically require regulators to ensure that quality of service standards are maintained. However, service providers are required to provide information on Key Performance Indicators to justify 'reasonably incurred' costs and to provide comparative information on performance with other pipelines.

There are also some constraints on the ability of firms to price discriminate. For example, while access seekers can negotiate access prices at a rate less than the reference tariff, pipelines may only recover these discounts through higher reference tariffs on other users if the regulator approves them as prudent discounts.

6.3.3 *Production*

The gas production sector is not subject to price regulation. Although the limited competition between gas producers is of concern, policy action in this area has been aimed at addressing the causes of limited upstream gas competition, rather than applying a regulatory solution to counteract its effects.

Although the production sector is not price regulated, Victoria has introduced legislation to prevent significant Victorian gas producers from misusing their market power, particularly in a manner that prevents or discourages gas retailers from seeking alternative sources of gas. A competition rule prohibits the dominant producers from discriminating among gas retailers in a manner that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a Victorian gas market.

6.4 *Non-commercial service obligations*

Some jurisdictions impose a requirement on retailers to provide non-commercial service obligations.

For example, in New South Wales the Government requires retailers to provide discounts to pensioners holding pensioner concession cards. The amount of these concessions is approximately \$3.50 a person per quarter. The Government has a legislative requirement to fund these rebates, but has deferred this obligation until all gas customers are eligible to choose their gas supplier. The cost is therefore currently paid by the existing gas retailers through internal cross-subsidisation.

In Victoria, the Government requires gas utilities to provide a 17.5 per cent Winter Energy Concession and an Energy Relief Grant Scheme. These non-commercial service obligations are funded from the State budget. New entrants are also subject to these obligations.

6.5 *Trade and investment issues*

6.5.1 *Trade*

International trade in gas is currently limited to exports of LNG. LNG exports are expected to rise slightly to 7.9 megatonnes in 1999-2000, valued at \$1.66 billion. There are no restrictions on trade in LNG.

At present, Australia has no gas pipeline links with other countries. However, a proposal to construct a natural gas pipeline to import gas from Papua New Guinea to Queensland is well advanced.

6.5.2 *Foreign investment*

The Australian Government's approach is to encourage foreign investment consistent with the interests of the community. Overall, the general stance of Australia's foreign investment policy is welcoming, in recognition of the contribution that foreign investment has made and continues to make to the development of Australia.

The natural gas industry is subject to the general foreign investment rules that apply to most sectors of the economy. In brief, all investment proposals by foreign interests in the natural gas industry above certain thresholds need prior approval and therefore need to be notified to the Government. The

general notification threshold for either a direct acquisition of a substantial interest in an existing Australian business or for an offshore takeover is \$50 million, while the notification threshold for the establishment of a new business is \$ten million.

The ultimate objective of Australia's foreign investment screening system is to encourage foreign investment while allowing the Australian Government to determine whether foreign investment is or is not contrary to Australia's national interest. This is done by implementing the 'national interest test' (i.e. a negative test rather than a prescriptive test to a list of criteria, whereby the onus is on the Australian authorities to have reason to reject a proposal, rather than on the investor to show benefits to Australia resulting from a proposal). Through the national interest test, the foreign investment screening process is applied on a non-discriminatory basis as to the source economy of investment funds. Very few proposals are rejected using this test.

6.6 *Miscellaneous issues*

6.6.1 *Existing contractual rights*

In reaching agreement on reforms to the gas industry, it was acknowledged that existing contracts would merit some protection. Accordingly, the Gas Pipelines Access Code provides that a regulator must not make a decision that would impede the existing rights of a user to obtain services, or deprive any person of a contractual right that existed prior to the submission of an access arrangement or the notification of a dispute, other than an exclusivity right which arose on or after 30 March 1995. An exclusivity right is a contractual right that expressly prevents or limits a service provider from supplying services to certain parties.

6.6.2 *Environmental issues*

Reforms to the natural gas industry have not been made with specific environmental objectives in mind. However, as energy market reform proceeds towards full implementation, it is envisaged that natural gas will increasingly be used as an alternative to other fossil fuels for electricity generation and energy supplies, resulting in a significant reduction in greenhouse gas emissions.

Existing fuel taxes reflect a preference for fuel sources that are a lower source of greenhouse gas emissions and other pollutants. For example, natural gas and liquefied petroleum gas (LPG) are currently not subject to excise. Excise duty applies to refined petroleum products and certain crude oil and petroleum condensate used as fuel substitutes, as well as stabilised crude petroleum oil and condensate produced from onshore and some offshore projects.

The major excisable refined products include gasoline (leaded and unleaded petrol and aviation gasoline), diesel fuel, kerosene (including aviation turbine kerosene), and fuel and heating oil. The rates of excise applicable are based on intended end use. The highest rates are imposed on on-road transport fuels such as gasoline and automotive diesel fuel. Concessional rates apply to products used for non-transport fuel use – for example, heating oils, kerosene and fuel oils.

6.6.3 *Long-term contracts*

From the time of the development of the natural gas industry in Australia, the majority of gas produced has been supplied under long-term contracts that commonly included take-or-pay and annual

contract quantities commitments. Although the duration of contracts has varied, contracts negotiated in the early stages of the market were typically for terms of 20 years and in some cases 30 years. At that time, the justification for these terms was the buyer's and seller's need to underwrite significant up-front capital expenditure and the buyer's need for security of supply.

However, as the market in Australia has developed, this justification has become less relevant and in some cases long term contracts have instead become regarded as a barrier to entry for other producers. While the term of gas supply contracts has tended to become shorter, a large proportion of current contracts are typically for terms of 10-15 years. The predominance of long-term contracts is not expected to lessen until parties are able to source gas from different suppliers with varying terms and conditions. This has been demonstrated in Western Australia where, given the greater number of competing production joint ventures than elsewhere in Australia, some larger gas users are now adopting a portfolio approach to gas supply contracts with a combination of long term, medium term and shorter term supply contracts.

There are indications that producers in eastern Australia are now encountering indirect competition between basins as the major long-term contracts wind down. Furthermore, recent interconnection of transmission pipelines of the Victorian and New South Wales markets, the impending entry of the Eastern Gas Pipeline from Victoria to New South Wales and several proposals to source gas externally to Australia, are likely to bring competitive pressure on the producers and impact on contract terms.

A transition to separate marketing by production joint venture members in the future is also considered likely to result in varying contract terms and conditions given the expected differences in incentives between firms within the joint venture. While no separate marketing currently takes place in Australia, due in part to the relative immaturity of the market, this is expected to change as the market moves from a project-based market to a commodity market.

6.6.4 Spot and futures market trade in gas

The proportion of gas traded on the spot or future market in Australia is currently negligible. Victoria is the only State in Australia to have introduced a wholesale gas spot market. The market is still in its infancy, with trading activities accounting for a small proportion of the market. For example, spot trading accounted for between 3 and 8 per cent of total Victorian gas demand monthly during the period August to December 1999.

7. Key competition issues

7.1 Application of and enforcement of competition law

In addition to its role as regulator for gas transmission pipelines, the ACCC is responsible for administering and enforcing the national competition and consumer protection laws enacted in the Trade Practices Act 1974 (TPA). The administration of regulatory functions and competition law functions within the one organisation in Australia is unique. By contrast, a large proportion of countries have separate institutions administering the regulatory functions and general competition law.

Broadly speaking, Part IV of the TPA prohibits a range of anti-competitive conduct including:

- anti-competitive agreements and exclusionary provisions (s.45) which relate to, for example, market sharing and price fixing;
- misuse of market power (s.46). If a business has market power it is prohibited from taking advantage of that power for the purpose of eliminating or damaging a competitor, or preventing the entry of a person into any market;
- exclusive dealing (s. 47). Section 47 prohibits anti-competitive exclusive dealing that has the purpose or effect of substantially lessening competition in a relevant market;
- resale price maintenance (s. 48);
- mergers that have the effect of substantially lessening competition in a substantial market for goods or services (s.50).

Conduct that may substantially lessen competition under the TPA may be granted authorisation under the TPA, which is a mechanism that provides immunity from legal proceedings for certain arrangements or conduct that may otherwise contravene the Act.

Authorisation may be granted on the grounds of prevailing public benefit. The ACCC must be satisfied that the arrangement results in a benefit to the public that outweighs any anti-competitive effect; or that the conduct results in such a net benefit to the public that the conduct should be allowed to occur. Decisions made by the ACCC in relation to authorisations can be appealed to the Australian Competition Tribunal.

For example, conditional authorisation was granted for the participants in the North West Shelf Project to discuss and agree on common prices, terms and conditions for the sale of natural gas made available from the proposed expansion of the Project to domestic customers. The parties were also conditionally authorised to co-ordinate their method of marketing and selling gas. This authorisation was granted for a seven years period on the basis that the public benefits likely to result from the expansion would outweigh the anti-competitive effects.

In addition, in limited circumstances statutory exemptions for certain prohibited conduct is available under section 51(1) of the TPA. Prior to 1995, section 51(1) enabled the Commonwealth, the States and Territories to exempt conduct in areas otherwise subject to the TPA. Since then, statutory exemptions have continued to be available, but only where the legislation or regulation expressly refers to the TPA.

7.2 *Market definition issues*

In the Australian gas industry, the most recent court consideration of market definition was by the Australian Competition Tribunal in 1997.³ This matter was in the context of the Tribunal's review of the ACCC's determination revoking authorisation of the Australian Gas Light Company's gas supply arrangements from the Cooper Basin to New South Wales.

7.2.1 *Product market*

The Tribunal stated that the natural gas market extends at the margin to encompass, at times, alternative and complementary energy sources, principally electricity. It also found that there were three

product markets of relevance to the application, namely natural gas, and the services of transmission and reticulation (distribution).

The Tribunal also considered that the content of the product market was expanding over time. The Tribunal stated:

So far as the natural gas market is concerned, the main factor is the relationship with electricity, which has become much more important. In today's market, gas and electricity may be substitute fuels in industrial, commercial and domestic uses, and they are complements in co-generation.⁴

However, the Tribunal recognised that in industrial applications, gas is the fuel of choice. The Tribunal stated:

Statements from several industrial users as to the logic of their continuing choice among alternative fuels, and from environmental authorities as to their attitudes and practices in the regulation of industrial emissions and wastes, satisfy the Tribunal that (unless the supply of natural gas somehow becomes unreliable or the costs of gas use relative to alternative fuels become highly disadvantageous) natural gas will be increasingly entrenched in the market as the industrial fuel of choice in NSW.⁵

In a recent decision, the ACCC⁶ stated that competition between gas and electricity is more common in the domestic and commercial segments than in the industrial segment. While gas and electricity may be considered substitutes in a commercial or domestic environment in the sense that they can be put to the same use, for example, heating, this is not necessarily the case for large industrial users.

7.2.2 *Geographic market*

The Tribunal considered that the geographic scope of these markets was expanding over time, from New South Wales in 1986 to southeast Australia (New South Wales, Victoria, South Australia and Southern Queensland). In the Tribunal's view⁷, the 'future market' would be Australia-wide, including offshore sources of gas in Western Australia and the Northern Territory, and also Papua New Guinea.

The Tribunal concluded that just as the scope of the markets is expanding, so the market structures are evolving from monopoly to at least 'contestability' in present-day markets and possibly to full workable or effective competition in the markets of the future.

7.2.3 *Other factors*

In view of the anticipated increase in competition between firms operating in the markets for gas and for electricity in the future, convergence between utilities is likely to become an increasingly significant issue in the ACCC's assessment of market definition in relevant markets.

7.3 *Abuse of dominance*

The ACCC has considered a limited number of cases of alleged abuse of dominance in the natural gas sector since the introduction of the regulatory regimes from 1997. Of those considered, none of the matters progressed to court either because the conduct ceased or a settlement was reached with the ACCC.

An overview of one of these matters and of the outcome is presented below.

AlintaGas/EPIC

In February 1998 the ACCC advised Gas Corporation (trading as AlintaGas) that it believed that the agreement between AlintaGas and Epic Energy Pty Ltd for the haulage of gas to the An Feng Kingstream Steel Project near Geraldton in Western Australia was anti-competitive.

In the ACCC's view, the agreement for haulage services involved the misuse of market power by AlintaGas for an anti-competitive purpose. It concluded that AlintaGas had, by virtue of its then ownership and operation of the Dampier-Bunbury Natural Gas Pipeline (DBNGP), which is the only gas pipeline connecting the south west of Western Australia with the North West Shelf gas fields, a substantial degree of market power for the haulage of gas.

The ACCC formed the view that AlintaGas misused its market power by offering access to the DBNGP to Epic, under the agreement, on uncommercial terms and made for the purpose of preventing the entry of a second competing pipeline to the market.

The ACCC advised the parties that it believed that such conduct was at risk of contravening sections 45 and 46 of the TPA and that the appropriate course was to not proceed with the agreement.

In light of the ACCC's concerns, AlintaGas advised that it had decided not to proceed with the agreement.

7.4 *Other competition enforcement issues*

7.4.1 *Anti-competitive arrangements*

In the past two years, there has been only one case involving an alleged anti-competitive arrangement in the gas industry that has been pursued by the ACCC. The number may be low in part because firms may apply for authorisation of certain arrangements, as outlined above.

Gasgo

In May 1999, the ACCC instituted proceedings against Gasgo, a company that buys natural gas and on-sells it, mostly to the Northern Territory Power and Water Authority (PAWA). The ACCC alleged that, in January 1999, Gasgo had given or threatened to give effect to a pre-emptive right clause in a 1985 gas purchase agreement between Gasgo and the Mereenie Producers in respect of natural gas proposed to be supplied by the Mereenie Producers to a competitor of PAWA, NT Power Generation Pty Ltd.

The Mereenie Producers are collectively a group of companies that supply natural gas from the Mereenie gas field in the Amadeus Basin of the Northern Territory. NT Power is the owner of a gas powered electricity generation plant located at Mount Todd in the Northern Territory. It proposed to supply electricity to consumers in the Darwin/Katherine area of the Northern Territory.

The pre-emptive right required the Mereenie Producers, prior to selling gas to third parties, to first offer that gas to Gasgo at the same price and for the same quantity. Gasgo then had a limited time in which to choose whether to accept the offer, or alternatively decline or waive its rights with respect to that gas, in which case the Mereenie Producers could then sell that gas to the third party.

The gas sold to Gasgo is predominantly used by PAWA for the generation of electricity for sale to industrial, commercial and domestic consumers in the Darwin/Katherine area.

The ACCC alleged that this conduct was in breach of section 45 of the Trade Practices Act 1974 which prohibits firms from giving effect to a contract, arrangement or understanding that has the purpose or likely effect of substantially lessening competition.

The ACCC's primary objective in instituting these proceedings was to prevent Gasgo from exercising its pre-emptive right. This objective was achieved when Gasgo agreed, by way of a court enforceable undertaking, not to exercise its pre-emptive right in respect of gas sales by the Mereenie Producers to any third party wishing to use that gas for the commercial generation of electricity for supply to customers in the Darwin/Katherine area.

The ACCC viewed the pre-emptive right as a significant barrier to entry for any potential new entrant to the commercial electricity generation market in the Northern Territory. The aim of the undertaking was ensure that any potential new entrant would be able to secure a supply of natural gas from the Mereenie Producers, without Gasgo having a right of first refusal.

7.4.2 *Mergers*

Section 50 of the Act prohibits acquisitions that would be likely to substantially lessen competition in a substantial market in Australia, in a State or in a Territory. Merger law is especially important given the absence of a divestiture law in Australia that enables existing firms to be broken up and the substantial number of privatisations that have been occurring at all levels of the energy markets.

In the assessment of a merger proposal, the ACCC follows its published Merger Guidelines, which outline its policy for administration and enforcement of those provisions of the TPA that deal with mergers and related matters. The guidelines state the factors taken into consideration by the ACCC when considering a merger proposal.

An overview of the key gas industry mergers that were considered by the ACCC in the past two years are outlined below.

Boral/Allgas

Allgas Energy Limited was initially the subject of takeover bids from Texas Utilities and Boral Energy Resources Limited. Given its existing interests in gas distribution and retailing, the bid by Boral was considered by the ACCC to potentially lessen competition in the relevant markets.

The Brisbane domestic and commercial gas loads, together with most industrial loads in the Brisbane metropolitan area, are supplied by Boral on the northern side of the Brisbane River and by Allgas on the southern side. Boral is a gas retailer and also operates Envestra's gas distribution network. Allgas had a combined gas retail and distribution business. Boral and Allgas were assigned retail/distribution franchise areas by the Queensland Government that were proposed to be phased out in the transition of the market to contestability.

Market inquiries undertaken by the ACCC indicated that there was already competition between Allgas and Boral in the supply of gas to industrial customers, and that this competition was expected to increase when the market was deregulated. Contracts had already been written with customers in anticipation of deregulation at rates lower than those offered under previous contracts. The ACCC concluded that this competition would be lessened if the acquisition were to proceed.

Inquiries identified a number of factors that indicated that barriers to entry were high. There was also evidence that sources of competitive gas supplies to new entrants were limited. The incumbents' existing long-term take-or-pay contracts with gas producers gave them a strong advantage in terms of retaining existing customers. In particular, the take-or-pay obligations would have given the incumbents an incentive to do everything possible to retain their existing customers, and would have had the effect of deterring new entrants.

After extensive consideration, the ACCC concluded that entry was not likely to occur, nor occur on such a scale, and in a sufficiently short time as to compensate for the loss of competition between Allgas and Boral when the Queensland market was deregulated. The ACCC also found that the threat of new entry was not sufficiently credible to constrain the merged entity.

The ACCC therefore concluded that the acquisition was likely to substantially lessen competition. The ACCC sought an undertaking from Boral not to proceed with its proposal to acquire Allgas.

Energex, a Queensland based electricity utility, subsequently announced a takeover bid for Allgas. Boral then advised the ACCC that it would not proceed with its bid, stating that Energex's bid had gone beyond an amount that Boral was prepared to pay for Allgas.

Energex/Allgas

On 27 July 1998 the ACCC announced that it would not intervene in the acquisition by Energex of Allgas.

Energex is an electricity utility based in southeast Queensland that serves just under one million customers. At present the only other franchise electricity retailer in Queensland is Ergon Energy. Following reforms by the Queensland Government the customer franchises held by the existing electricity retailers are being progressively removed to enable users to purchase electricity directly from generators or from other retailers. The entire Queensland market is expected to become contestable by January 2001.

The ACCC noted that the gas and electricity industries in eastern Australia were undergoing substantial regulatory reform, including the move toward a national electricity market, a national code on access to gas pipelines, and ongoing State programs to progressively remove franchises held by incumbent retailers.

The ACCC considered that there were, at the time, separate gas and electricity markets in Queensland, and that Energex and Allgas did not compete in the same market.

7.4.3 Privatisations

The ACCC has considered a significant number of privatisations in the gas sector in recent years.

The ACCC has no role in advising governments on whether assets should be sold or on the structure of the markets. However, proposed acquisitions of government assets or businesses by private sector companies, suppliers or customers are still subject to section 50 of the TPA and are examined by the ACCC.

In the past two years, the ACCC has assessed the sale of a number of Victorian gas assets, including each of the three retail/distribution businesses and the gas transmission business, Transmission Pipelines of Australia. The ACCC took a pro-active role in the sale process and liaised with the State Government on potential competition issues raised by the bidders prior to the sales.

In relation to the sale of the retail businesses, the ACCC did not raise any concerns with the majority of bidders. Its considerations included an assessment of the competitive impact of the sale of the retail businesses on other Victorian electricity retail businesses. The ACCC's inquiries indicated that some degree of convergence between gas and electricity retail/distribution businesses might result in efficiency gains. Given the number of participants in the market with 'dual fuel' capabilities, this convergence was unlikely to substantially lessen competition. The ACCC will, however, continue to monitor future cross-utility merger proposals on a case-by-case basis.

In relation to the sale of Transmission Pipelines of Australia, the ACCC considered that its sale to GPU Powernet could potentially raise some competition issues. Given that GPU Powernet also operates the State electricity transmission network, this would potentially place the owner of electricity and gas transmission networks in a position to influence the development of the energy industry, particularly in Victoria. However, on the basis of market inquiries it appeared unlikely, in this particular situation, that significant competitive detriment would be likely to occur. Accordingly, the ACCC did not oppose any of the Victorian asset sales.

NOTES

1. Data from *Australian Energy: Market Developments and Projections to 2014-15*, ABARE, April 1999.
2. Source: *Report of the Upstream Issues Working Group to ANZMEC and COAG*, Upstream Issues Working Group, December 1998, p.12.
3. Australian Competition Tribunal, Review of ACCC Determination revoking Authorisation No A90424 (No VI of 1996), 14 October 1997.
4. Australian Competition Tribunal Decision, p. 95.
5. Australian Competition Tribunal Decision, p. 68.
6. Australian Competition & Consumer Commission, Determination: Application for Authorisation – North West Shelf Project, 29 July 1998, pp. 23-25.
7. Australian Competition Tribunal Decision, pp. 94-95.

AUSTRIA

1. Industry overview: regulatory framework and market structure

1.1 National context and key regulation

Full liberalisation of the Austrian energy market (including also natural gas) leading to competitiveness and job security is the key objective of the Austrian government.

This objective should be reached with a view to Austria's general energy policy goals:

- cost effectiveness;
- security of supply;
- environmental compatibility;
- social compatibility.

The EU Gas Directive went into force on 10th August, 1998 and has to be transformed by the Member States into national law within a period of two years.

At present a new Austrian Gas Act is in preparation, the bill of this law will be submitted to Parliament for decision in spring 2000.

1.2 Regulatory institutions

As already mentioned the new Gas Act is under preparation, this questions cannot be answered before adoption of Parliament which is expected in spring 2000.

1.3 Key features of the demand for gas

In 1998, 20 percent of the natural gas consumption are used in powerplants, 45 percent by industry for generating electricity and production processes and 35 percent by the residential/commercial sector.

Nearly all power generators can be fired either by gas or oil or coal. In Austria import prices as well as final prices are effected by inter-fuel competition.

1.4 *Key features of the supply of gas: market structure*

Two companies are engaged in the exploration of Austrian gas reserves: OMV AG (market share in 1999 approx. 60 percent) and RAG (market share in 1999 approx. 40 percent). Nearly 20 percent of Austria's gas consumption are produced domestically. The main gas fields are situated in Upper and Lower Austria.

80 percent of the gas consumed in Austria is imported. Austria's main supplier is Russia (88 percent). Further amounts of gas are imported from Norway (seven percent) and Germany (five percent).

The structure of the Austrian gas Industry as well as its ownership can be seen in the attached graph (attachment 1).

The most important import and transmission pipelines are the West-Austria Gasleitung (WAG) and the Trans-Austria Gasleitung (TAG) but also the Hungaria-Austria-Leitung (HAG) and the Süd-Ost-Leitung (SOL) owned by the OMV. The location of these pipelines can be seen in the attached map (attachment 2).

There is effective competition between the two gas producing companies in Austria. Both of them are also vertically-integrated into gas transmission and storage. There is also competition between pipelines in some area.

In the attached Structure of the Austrian Gas Industry (attachment 1) the main gas transmission and distribution companies can be found. In Austria there are no regional monopolies. Some of the distribution companies are integrated into transmission - but only to a very small extent.

The legal status of the gas industry's employees is the same as in private corporations.

OMV is also active in oil industry, chemical industry and refinery. Some of the gas distribution companies are providing electricity and heat services too.

1.5 *Key features of the regulatory regime*

Competing sources of gas production are permitted in Austria as well as gas importation. These firms are also allowed to be integrated in gas transmission. As Austria has to implement the EU Gas Directive, third party access will be granted according to this Directive, by the enactment of the new Austrian Gas legislation.

Competition is also permitted between transmission pipelines, storage and retailing.

1.6 *Entry regulation*

In Austria there are licensing systems for construction, operation and closing down gas production, storages and pipeline systems. These licenses are generally based on technical, environmental and right of passage conditions.

The main objective of the Austrian government is a total liberalised energy market with full competition for all firms and the right even for small customers to choose their suppliers for energy.

1.7 Access regulation

In Austria there isn't any obligation to interconnect with a rival pipeline or gas producer determined in the legislation.

Prices for the use of pipelines are not determined by authorities. According to the new Austrian Gas Act distribution and transmission companies will have to publish their tariffs and other terms and obligations for use of their systems.

1.8 Price regulation

Gas prices are not determined but monitored by the Austrians authorities. In exceptional cases when market forces do not suffice the authorities are entitled to determine prices temporarily.

According to the monitoring system for gas prices which will be established together with the new Austrian Gas Act all price related data must be provided by the gas industry to the responsible Austrian authorities.

1.9 Non-commercial service obligations

Public service obligations are taken into consideration in the EU Gas Directive. Such obligations may, when justified in the general economic interest, be imposed by public authorities on service operators such as gas companies when the market fails to provide the service in question or when considered necessary to protect consumers as well as the integrity and safety of the system.

Also the new Austrian Gas Act will include public service obligations laid on the gas industry. The cost of these obligations should be made transparent and born by those taking profit of them.

1.10 Separation and unbundling

Like the Gas Directive also the Austrian Gas Act will require accounting separation.

The accounts of all integrated natural gas undertakings will have to be separated for different activities to avoid discrimination, cross-subsidisation and other distortions of competition.

Provisions for unbundling are under discussion at present and will be enacted together with the new Gas Act.

1.11 Trade and investment issues

There are neither import nor export gas trade monopolies in Austria. For monitoring and supply security purposes export and import contracts have to be notified to the public authority.

There are no controls on foreign ownership or foreign investment.

1.12 *Miscellaneous issues*

Concerning potential serious economic and financial difficulties related to take or pay-commitments accepted in one or more gas-purchase contracts the EU Gas Directive regulations will be implemented by Austria in full accordance.

So the Gas Industry Law will take into account that in such cases an application for a temporary derogation from access to the system may be sent to the public authorities without delay. The application and all relevant information on the nature and extent of the problem and on the efforts undertaken by the gas company to solve the problem has to be analysed. Only if alternative solutions are not reasonable and the economic and financial difficulties proved to be serious public authorities may decide to grant a derogation.

Due to environmental objectives and social compatibility natural gas in Austria receives another energy tax treatment as for example oil and electricity. Value added tax-percentage is equal for all energy sources.

About 90 percent of gas production and imports are tied up with long term commitments. As already mentioned 80 percent of the gas consumed in Austria has to be imported mainly from non EU member countries. So there will be no significant changes concerning the duration of gas contracts in the near future.

Due to the ongoing liberalisation of gas markets in all of Europe a tendency towards shorter-term contracts is to be expected in the long run.

2. Key competition issues

2.1 *Application and Enforcement of Competition Law*

The Austrian Cartel Act of 1988 fully applies to the gas sector without any specific exemptions or exceptions.

Decisions are held by the Cartel court. Procedure at Cartel court provides legal parties (Amtsparteien). Position as legal party is granted by Sector 43 of Cartel Act to:

- the Finanzprokuratur (Counsel of the Federal State);
- the Federal Chamber of industry and commerce;
- the Conference of the presidents of the Chambers of agriculture;
- the Federal Chamber of employee.

In procedure of merger the presiding judge may request for an expertise of the joint committee, which consists of experts in the field of Economic Affairs or Cartel and Competition Law (Section 133 Cartel Act).

2.2 *Market definition issues*

In the last years the question of market definition within the gas sector has arisen only once. The case concerned a merger between EVN – the monopolistic lower -Austrian energy distribution company – and the Burgenland Holding – a holding for the sole energy distributor of the Burgenland. The Joint Committee of Cartel Matters defined the gas distribution market within the exclusive distribution areas of the two companies as relevant. As natural gas is used 2/3 in the production of heat and 1/3 in the production of electricity. The Committee looked into the possible substitution effects of alternative means of production for heat and electricity. As the market of heat and energy production were seen as highly competitive, no objections to this merger were found.

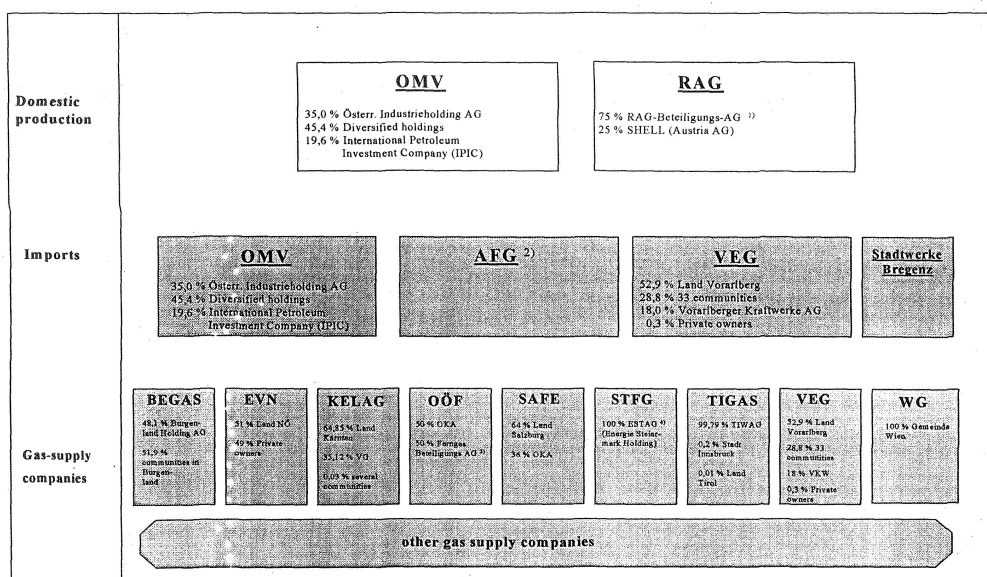
2.3. *Abuse of dominance*

No legal action was taken by any complainant.

24 *Other competition enforcement issues*

Only one second merger case came up during the last years, concerning the gas sector. It passed the examinations by the legal parties without any veto.

Structure of the Austrian Gas Industry



Fußnote 1: RAG-Beteiligungs-AG

40,00 %	EVN AG
40,00 %	Bayernwerk AG
10,00 %	Salzburger AG für Energiewirtschaft
10,00 %	Steirische Ferngas AG

Fußnote 2: AUSTRIA FERNGAS Ges.m.b.H.

23,75 %	EVN AG
23,75 %	Steirische Ferngas AG
23,75 %	WIENGAS GmbH
1,00 %	BEGAS – Burgenländ. Erdgasversorgungs AG
1,00 %	KELAG – Kärntner Elektrizitäts AG
1,00 %	Oberösterreichische Ferngas AG
1,00 %	Salzburger AG für Energiewirtschaft
1,00 %	VEG – Vorarlberger Erdgas GmbH

Fußnote 3: FERNGAS BETEILIGUNGS AG

68,23 %	OMV Erdgas-Beteiligungsges.m.b.H.
10,59 %	E-Werke Wels
10,59 %	SBL
10,59 %	ESG

Fußnote 4: Energie Steiermark Holding

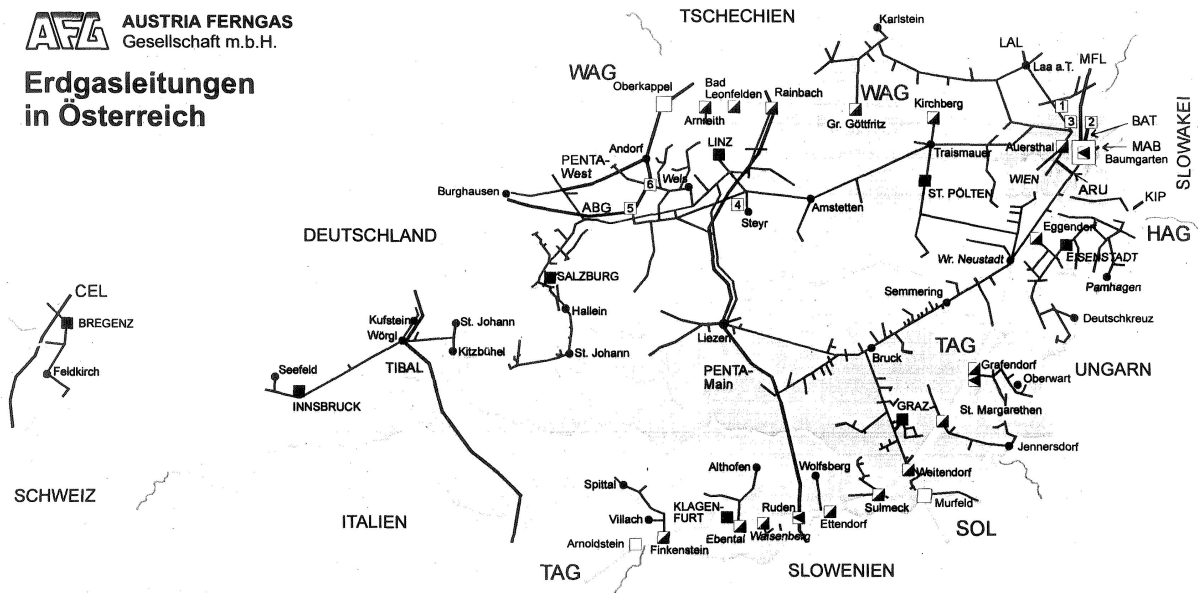
75,00 %	Land Steiermark
25,00 %	Konsortium der Electricité de France (EdF) und Gaz de France (GdF)

Fußnote 5: Importe aus

Russische Föderation, Norwegen und Deutschland OMV)
Norwegen (AFG)
Deutschland (VEG)

AFL AUSTRIA FERNGAS
Gesellschaft m.b.H.

Erdgasleitungen in Österreich



Stand: Mai 1999

Erdgasleitung		<input type="checkbox"/> Meßstation / Grenze	Untertage - Erdgasspeicher		WAG West-Austria-Gasleitung	ABG Austrian-Bavarian-Gasleitung
— in Betrieb	<input checked="" type="checkbox"/> Übergabe-/Übernahmestation		[1] Matzen	WAG	TAG Trans-Austria-Gasleitung	ARU Aderklaa-Rutzendorf-Gasleitung
— projektiert	<input checked="" type="checkbox"/> Verdichterstation		[2] Speicher "1" (Tallesbrunn)	TAG	SOL Süd-Ost-Leitung	MFL Marchfeldleitung (BG-Reintal)
— geplant oder in Bau			[3] Schönkirchen - Reyersdorf	SOL	HAG Hungaria-Austria-Leitung	BAT Baumgarten-Tallesbrunn
			[4] Thann			CEL Central European Pipeline
			[5] Puchkirchen			KIP Kitzsee-Pettralka-Gasleitung
			[6] Haag			LAL Laa-Anbindungsleitung
						MAB March-Baumgarten-Gasleitung
						TIBAL Tirol-Italien-Bayern Leitung

CANADA

1. Industry overview: regulatory framework and market structure

1.1 National context and key regulation

What are the government's primary objectives for this sector?

The main objectives of current federal energy policy are to ensure:

- that Canadians have secure, reliable access to competitively priced energy supplies;
- that development of Canadian energy resources and associated technology offers the maximum economic benefit to Canadians; and
- that Canada's energy needs are met and that energy production and consumption are environmentally responsible.

The government has a market-oriented policy for the natural gas sector. Canada's energy policy framework allows the marketplace to determine natural gas prices and supply, without undue government involvement or burdensome regulations.

The best assurance that Canadian consumers will have reliable and reasonably priced supplies of energy is to have a healthy producing sector. This is fostered by market-determined commodity prices and assured market access.

Since deregulation in 1985, natural gas prices in Canada have been determined by markets. Market pricing has resulted in lower energy costs for Canadians compared to the preceding period of regulated prices.

Through trade agreements with the US and Mexico, Canada has secured market access for Canadian natural gas producers.

Natural gas will also be expected to help in the challenge of climate change, since it is a less carbon-intensive than other fuels.

What is the title, date and main purpose of the key governing legislation or regulation in this sector?

Jurisdiction over energy policy is divided between the federal and provincial governments. The provinces generally own energy resources, and develop energy policies and regulations associated with the management of those resources. Federal powers are associated with federal lands (mostly in the offshore and the Arctic), with inter-provincial and international movement of energy and energy-using equipment, and with projects extending beyond a province's boundaries.

The major piece of legislation concerned with inter-provincial and international movement of energy is the National Energy Board Act. Details are provided below.

1.2 *National energy board act (1959)*

The purpose of this statute is, in part, to regulate the construction and operation of pipelines and the exportation of oil and gas resources.

Key regulations made under that statute are:

- Gas Pipelines Uniform Accounting Regulations (1983)
- National Energy Board Act Part VI (Oil and Gas) Regulations (1996)
- National Energy Board Act Cost Recovery Regulations (1990)
- National Energy Board Act Export and Import Reporting Regulations (1995)
- National Energy Board Pipeline Crossing Regulations , Part I (1988)
- National Energy Board Pipeline Crossing Regulations , Part II (1988)
- National Energy Board Rules of Practice and Procedure, 1995
- Onshore Pipeline Regulations (1989)
- Pipeline Arbitration Committee Procedure Rules, 1986
- Pipeline Overhead Crossing Order (prior to 1978)
- Toll Information Regulations (1979)

The National Energy Board Act (“NEB Act”) and Regulations also apply in the Accord areas provided that there is no conflict or inconsistency with the Accord legislation.

Currently, there is no such inconsistency.

The following would apply on federal lands, excluding the Nova Scotia and Newfoundland Accord areas:

Canada Petroleum Resources Act (“CPRA”)(1986)

The purpose of this piece of legislation is to regulate the issuance of interests (exploration licences, significant discovery licences and production licences and to establish the royalty regime. It applies to both oil and gas.

Key Regulations made under that statute are:

- Environmental Studies Research Fund Regions Regulations (1987)
- Frontier Lands Petroleum Royalties Regulations (1991)
- Frontier Lands Registration Regulations (1988)

Canada Oil and Gas Operations Act (“COGA”) (1992 -- Formerly the Oil and Gas Production and Conservation Act)

The purpose of this statute is to promote safety, protection of the environment, conservation and joint production agreements in respect of the exploration for and exploitation of oil and gas. This is the technical statute.

Key Regulations made under that statute are:

- Canada Oil and Gas Certificate of Fitness Regulations (1986)
- Canada Oil and Gas Diving Regulations (1988)
- Canada Oil and Gas Drilling Regulations (1982)
- Canada Oil and Gas Geophysical Operations Regulations (1966)
- Canada Oil and Gas Installations Regulations (1996)
- Canada Oil and Gas Operations Regulations (1983)
- Canada Oil and Gas Production and Conservation Regulations (1983)
- Canada Oil and Gas Spills and Debris Liability Regulations (1990)

The following applies in the Nova-Scotia Accord Area:

Canada - Nova Scotia Offshore Petroleum Accord Implementation Act (1988)

This Act creates a joint management regime for offshore oil and gas. Part I of the Act creates the joint Board, Part II mirrors the CPRA and Part III mirrors the COGOA. The other parts deal with various funds and fiscal regimes etc.

There is a provincial version of this statute that is almost identical.

Key Regulations are:

- Canada-Nova Scotia Oil and Gas Spills and Debris Liability Regulations (1995)
- Nova Scotia Offshore Area Petroleum Diving Regulations (1995)
- Nova Scotia Offshore Area Petroleum Geophysical Operations Regulations (1995)
- Nova Scotia Offshore Area Petroleum Production and Conservation Regulations (1995)
- Nova Scotia Offshore Certificate of Fitness Regulations (1995)
- Nova Scotia Offshore Petroleum Drilling Regulations (1992)
- Nova Scotia Offshore Petroleum Installations Regulations (1995)
- Nova Scotia Offshore Revenue Account Regulations (1993)
- Nova Scotia Offshore Revenue Fiscal Equalisation Offset Payments Regulations (1996)
- Offshore Area Exclusion Order (1987)

The following applies in the Newfoundland Accord Area:

Canada - Newfoundland Atlantic Accord Implementation Act (1987)

This Act creates a joint management regime for offshore oil and gas. Part I of the Act creates the joint Board, Part II mirrors the CPRA and Part III mirrors the COGOA. The other parts deal with various funds and fiscal regimes etc.

There is a provincial version of this statute that is almost identical.

Key Regulations are:

- Canada-Newfoundland Oil and Gas Spills and Debris Liability Regulations (1988)
- Newfoundland Offshore Area Oil and Gas Operations Regulations (1988)
- Newfoundland Offshore Area Petroleum Diving Regulations (1988)
- Newfoundland Offshore Area Petroleum Geophysical Operations Regulations (1995)
- Newfoundland Offshore Area Petroleum Production and Conservation Regulations (1995)
- Newfoundland Offshore Certificate of Fitness Regulations (1995)
- Newfoundland Offshore Petroleum Drilling Regulations (1993)

- Newfoundland Offshore Petroleum Installations Regulations (1995)
- Newfoundland Offshore Petroleum Resources Revenue Fund Regulations (1995)

1.3 Regulatory institutions

Who are the key regulatory and policy-making agencies in this sector? Briefly, what are their structure and responsibilities? What are their relationships to one another? To what extent is the regulatory institution independent of the government? Is the regulator headed by a commission or by a single person?

The key regulatory agency for international and inter-provincial trade, and regulation of international and inter-provincial pipeline tolls and tariffs, is the National Energy Board (NEB). For further information on the NEB's responsibilities, see attachment 1.

Provincial agencies regulate activities under provincial jurisdiction, which includes resource development, and natural gas distribution.

The key policy-making institution is Natural Resources Canada ("NRCan"). For more background on NRCan's roles and responsibilities, see attachment 2.

1.4 Key features of the demand for gas

What are the primary uses of gas in your economy? In particular, what proportion of gas consumption is used to generate electricity?

Primary uses: heating - residential and commercial (40 percent), industrial use (50 percent), electric power generation (ten percent).

For which of these uses can consumers substitute other fuels (such as oil, coal or electricity)?

A proportion of natural gas use in the industrial and electric generation sectors is substitutable with other fuels, primarily fuel oil.

Which and what proportion of gas users are prepared to purchase interruptible gas supply?

Interruptible volumes account for 20-30 percent of gas exports. Marketers purchase most interruptible volumes for export. Industrial users tend to purchase interruptible volumes in their gas supply portfolios.

1.5 Key features of the supply of gas: market structure

Please briefly summarise the overall market structure in the gas industry: Who are the major firms and in which segments of the industry do they operate?

Producing Sector

Major gas producers include PanCanadian, BP Amoco, Petro-Canada, Alberta Energy Company and Canadian Natural Resources Limited. The Western Canada Sedimentary Basin (WCSB) contains some 45 000 producing gas wells in about 20 000 pools. There are over 200 gas producers but, only the major producers have a marketing subsidiary; the remainder tends to have large marketers selling on their behalf.

Gas Transmission

TransCanada Pipelines extends over some 2000 miles from the WCSB to eastern Canada. The Westcoast Energy system collects and distributes gas in British Columbia. Alliance Pipeline is under construction and will extend from WCSB to Chicago. Alliance and TransCanada will be in direct competition. A negligible amount of gas reaches consumers through a bypass of a distribution system.

Gas Distribution

The main distributors are: Union Gas, Enbridge Consumers Gas (Ontario), Gaz Métropolitain (Québec), Centra Gas (Manitoba), SaskEnergy (Saskatchewan), ATCO Gas (Alberta) and BC Gas (British Columbia). Each distributor operates in its own franchise area and they are not integrated into transmission.

Gas Retailing

Agent/Broker/Marketer are very active in the Ontario (the largest market) but this function is primarily done by gas distributors in other provinces. These retail marketers are not integrated with the distributors and are not involved in transportation; only buying and selling gas supplies.

General

The major producers and transmission pipelines are publicly traded companies. The major distributors are generally owned by transmission companies. Some gas distribution companies are involved in the provision of services in non-energy unregulated businesses (e.g. water). Some pipeline companies have subsidiaries involved in electric power generation.

1.6 Key features of the regulatory regime - a national energy board perspective

In responding to the specific questions posed, the National Energy Board (the Board or NEB) focussed exclusively on its mandate regarding regulation over natural gas pipelines as set out in the *National Energy Board acts* (the NEB Act). The Board has federal regulatory authority over the construction, operation, and abandonment of inter-provincial and international oil, gas, and commodity pipelines and over the setting of tolls and tariffs with respect to those pipelines.

With some notable exceptions (Westcoast's gathering and processing and the Sable off-shore), the Board does not exercise regulatory authority over gas gathering and processing, gas distribution, and gas storage facilities - these are typically regulated by various provincial regulatory authorities.

Geography and the associated long distances between gas supply sources and main markets have had a significant and direct impact on how gas is traded/transported in Canada.

Given those logistics, there is virtually no pipeline-on-pipeline competition in Canada to serve domestic and export markets - that is, there have been few entrants, those willing to pay the high price tag associated with pipeline construction in Canada - the effect is that each gas pipeline is a virtual monopoly having essentially carved out its own niche market - that situation is slowly changing as can be seen from the following.

In Canada, most of the gas supply transported in inter-provincial and international trade is produced from fields located in the Western Canadian Sedimentary Basin (the Provinces of British

Columbia, Alberta, and Saskatchewan - the WCSB), with additional supplies just recently becoming available from Canada's offshore fields (e.g. Sable Island), but which for now will serve markets in close proximity - i.e. the Maritimes and the US Northeast markets.

In addition, recent gas pipeline facility additions will allow more US and/or Canadian supply to be delivered via the US interstate pipelines to serve Canadian domestic markets in Ontario and Quebec, e.g. Vector. There is therefore virtually no competition between Canadian producing supply basins - there is however, between individual producers. Basin-to-basin competition could occur in the near future as the Sable Island producers compete with WCSB producers for the same domestic and export markets. This would be a business decision, one over which the Board would have no regulatory authority. The Board's regulatory authority would be over the construction and operation of the necessary connecting pipeline facilities; the Board would have to make a finding that those were in the Canadian public interest.

Recently, the new Board has made a significant shift from economic to physical regulation in approving new pipeline facilities and facility expansions. That is, the Board has concerned itself less with the economic justification of those facilities and more with whether those facilities will be constructed and operated in a safe and environmentally sound manner - e.g. it will be the marketplace, through the execution of long-term firm service agreements, which will determine whether those facilities will be constructed. The Board is still required to determine that over the long term, those facilities will be used and useful. i.e. is there sufficient supply, do those agreements ensure payment of the associated demand charges covering the fixed costs associated with the construction and operation of those facilities etc.?

There are no regulations prohibiting producers from owning and operating gas pipelines. In fact, recent new facilities have been very much producer sponsored and driven. e.g. Alliance and Sable.

Canadian gas pipelines have been "open access" pipelines since the gas industry was deregulated starting in 1985. Canadian federal and provincial governments decided to bring competition to the market place by, among many other things, unbundling the transportation from the merchant functions of the Canadian gas pipelines and thereby allowing: more shippers access to transportation networks; consumers to negotiate directly with producers and marketers; and, allowing the marketplace to determine the price of the commodity.

A consequence of unbundling is that most gas pipelines have created their own marketing affiliates to compete with the multitude of marketers who sprang up overnight to fill the void created when the pipelines divested themselves of the responsibility of purchasing and selling their own gas. There is however a necessary arm's length relationship between the gas pipeline and its marketing affiliate, a relationship which was not established in accordance with specific federal regulations, guidelines or criteria etc., i.e. it simply happened. The Board monitors that relationship and it has legislative authority to handle any complaints.

Gas pipelines are required to provide non-discriminatory "open access" to all prospective shippers provided they are able to comply with the various tariff provisions governing access and service, including demonstration of supply, market, and financial integrity etc. Those provisions are set out in the individual company tariffs which are approved by the Board and which can differ from pipeline to pipeline. The Board and interested and affected parties follow events closely to ensure that the pipeline's marketing affiliate is not accorded special transportation or other privileges.

The same principles regarding open access apply to Canadian gas pipelines constructed under the Board's jurisdiction to import gas from the US. That is, jurisdiction is restricted to Canadian pipelines and the Board cannot apply that jurisdiction over US pipelines connecting Canadian pipelines at the international border - those fall under the jurisdiction of the Federal Review Committee ("FERC"). Should

it become necessary, the Board can force a Canadian gas pipeline to provide service to a US shipper wanting to transport gas either to a Canadian market or in-transit, to a US market. (Refer to Q1.7/Access Regulation)

As noted above, there is increasing pipeline-on-pipeline competition in Canada, and for that matter throughout North America, as the industry in both countries becomes more fully integrated and as shippers and marketers increasingly take advantage of swaps, displacements, increased access to storage, and other marketing and transportation tools and services.

Regarding direct service to a large consumers, typically for federally regulated gas pipelines the Board has jurisdiction over the tie-in facilities (e.g. meter station or sales tap), whereas the provincial regulator has jurisdiction over the downstream connecting facilities of the Local Distribution Company (LDC). The LDC will own and operate those connecting facilities in accordance with franchise rights granted by the provincial regulator. A recent example of such a direct connect involved the construction of a co-generation facility in proximity to a federally regulated gas pipeline by one of its affiliates.

1.7 Access regulation

Is there an obligation to interconnect?

Oil pipelines are subject to a statutory obligation to “receive, transport and deliver all oil offered for transmission” on its pipeline. This “common carrier” obligation for oil pipelines is set out in subsection 71(1) of the NEB Act.

On the other hand, gas pipelines are “contract carriers” and may, for particular reasons, refuse to enter into a contract to receive, transport and deliver gas for a certain shipper. In that situation, the shipper may apply to the Board under subsection 71(2) of the NEB Act for an order, on terms and conditions specified in the order, to require the pipeline company to receive, transport and deliver any gas offered by the shipper for transmission on its pipeline. In most cases, the applicable toll would be set equal to the tolls in effect for transmission of gas under similar services over similar transportation routes. Before issuing such an order, the Board would consider the relevant facts and make a finding that granting the order was in the public interest.

Related to an application under subsection 71(2), there may be a requirement for additional facilities. If it considers it necessary or desirable to do so in the public interest, the Board may require a pipeline company under subsection 71(3) of the NEB Act to provide adequate and suitable facilities for the receiving, transmission and delivery of the oil or gas offered by a shipper. The Board would only issue such an order if it found that no undue burden would be placed on the company by requiring it to do so.

For reasons of market growth or other factors, there may be times when demand is greater than the capacity available on certain pipelines. On oil pipelines, the available space is apportioned to all shippers based on a pro rata allocation of their requested volumes. On gas pipelines, the available capacity is designed and built on the basis of the aggregate contract demand (CD) volumes of all the shippers. On a day-to-day basis, if shippers require more gas than their CD entitlement, they can contract for interruptible or peaking services or draw down gas previously injected into storage. Increased demand, through requests for new or additional services, may trigger the need for an expansion of a pipeline, which would be brought to the Board for consideration. An application for such an expansion usually would only be approved if it were supported by shippers willing to sign long-term, firm service contracts.

By way of a specific example, Westcoast has initiated an “Interconnection Policy” with respect to how shippers can connect to its gathering and processing facilities either in competition to or in co-

operation with Westcoast. The Policy was developed to reduce the barriers to competition and to ensure an orderly and economic development of the WCSB.

1.8 Price regulation

Underlying principles of price regulation?

In 1985, the Federal Government, by way of agreement with the three producing provinces, effected an unbundling between the price of natural gas and the price of transportation. As a result of this agreement, natural gas prices have been completely deregulated in Canada since 1986. There are well over 600 gas producers located in the Western Canada Sedimentary Basin. Competition is strong and, in this environment, there is no need to regulate well-head prices.

The Board is responsible for approving the tariffs on inter-provincial and international oil and gas pipelines, but has no regulatory control over the prices of the commodity.

The NEB Act only requires that tolls be just and reasonable and not unduly discriminatory. Within this broad directive, the Board has considerable latitude to interpret what constitutes a just and reasonable toll.

A few examples will help illustrate the breadth of the Board's latitude. These are as follows:

- The Board is responsible for approving the tolls for gathering and processing on a system owned by Westcoast Energy Inc. in Northeast British Columbia. The Board approved a "light-handed framework" under which Westcoast negotiates rates with each individual shipper; moreover, these rates are confidential and are not disclosed either publicly or to the Board, except on an aggregate/average basis.

The rationale behind this approach is that gathering and processing is a contestable business and, if the company does not provide reasonable rates, the service will be provided by competitors.

- TransCanada Pipelines Limited, the largest gas transmission system in Canada, provides a service known as "parking and loan" service. Under this service, shippers may "park" gas at points along the system and withdraw it at a later date. The service is considered to be in competition with storage services provided by other non-TransCanada owned facilities. Accordingly, the Board approved market-determined rates for this service on the basis that it is essentially a competitive market service.
- More generally, the tolls on most of the major gas and oil Pipelines are determined according to agreements that are negotiated between the pipeline companies and their shippers. These agreements embody various forms of incentives, under which the Pipelines have opportunities to retain additional revenues derived from cost saving measures and/or opportunities to earn additional revenues from providing discretionary services. The Board's only criteria are that all parties agree to the terms and conditions that are negotiated and that all affected parties were involved in the negotiations.

- Tolls for long-distance transmission on the major gas Pipelines must be published. The toll is generally a two-part toll, with a demand (or reservation) charge, which recovers the fixed costs of the pipeline, and a small variable charge which recovers the variable operating costs. To the extent that the demand charge is still based on a cost-of-service approach, assets are valued at their historical cost, net of depreciation.

Although the Board does not have explicit pricing “policies”, the Board can be said to adhere to the following guidelines:

- market-determined tolls are superior to tolls determined by regulatory fiat;
- wherever possible, encourage Pipelines and shippers to negotiate rates;
- where strong monopoly power exists, the Board stands ready to arbitrate disputes as required.

1.9 Non-commercial service obligations

Are there obligations on one or more firms to provide service to certain customers below cost?

NEB-regulated pipelines, being inter-provincial and international natural gas transmission pipelines, do not provide service to individual residential end-users. Those customers typically receive their gas through gas marketers and/or local distribution companies (“LDCs”) which are under provincial jurisdiction. There is no obligation on federally- regulated pipelines to provide service below cost to any targeted groups, such as low-income persons.

1.10 Separation and unbundling

Are there regulatory controls on cross-subsidization?

Many NEB-regulated pipelines, including TransCanada Pipelines Limited and Westcoast Energy Inc., conduct both regulated and non-regulated businesses within the regulated entity. Accounting separation is the primary regulatory tool used by the National Energy Board to prevent and detect cross-subsidization of competitive activities by the regulated ones. Books and records of regulated pipelines are kept on the basis of a uniform system of accounts approved by the Board. Inter-corporate transactions above prescribed dollar thresholds between certain regulated companies and non-regulated facilities are reported periodically to the Board.

There are no regulatory provisions in place preventing NEB-regulated companies from owning or entering any particular businesses. While the Board has not used structural separation as a regulatory tool, NEB-regulated companies hold their gas marketing operations in separate non-regulated affiliated companies.

1.11 Trade and Investments Issues

What is the nature of international trade in gas? Are there any restrictions on such trade? Are there controls on foreign ownership or foreign investment?

Canada is the second largest exporter of natural gas in the world, after Russia. Canada trades gas only with the US. Canada exports over half of its production (54 percent) to the US, and also imports minor amounts from the US. Canadian gas exports to the US in 1998 were 3.1 Trillion Cubic Feet.

Natural gas exports are regulated by the NEB. Natural gas export licences (for long term exports, over two years) or orders (for short-term exports) are required before exports are permitted. The NEB monitors the supply and demand of natural gas, including the performance under existing export authorisations. This ensures that the quantity of gas exported does not exceed the surplus remaining after Canadian requirements have been met.

There are no set limits on how much foreign investment or ownership may occur. However, acquisitions over a certain threshold (all Canadian gas Pipelines would be over the threshold) must be approved by the Minister of Industry Canada under the Investment Canada Act.¹

1.12 *Miscellaneous issues*

In the transition to competition have concerns been expressed about stranded costs of stranded contracts? How have these concerns been addressed?

The Board does not have any formal policy towards the treatment of potential stranded assets. This is due, in part, to the fact that the natural gas transmission sector in Canada continues to be characterised by a high degree of monopoly power. Since its system was constructed in 1958, TransCanada Pipelines Limited has been the only transporter of natural gas from western Canada to eastern Canadian markets in Ontario and Quebec. Due to the long distances involved, and the relatively small markets, there has been little opportunity for new entrants to share the market with the incumbents.

In the early 1980s, two pipeline systems, the Westcoast system and the Foothills system, were seriously under-utilised (load factors of 40 percent and 30 percent respectively). At the time, natural gas prices were very high. The Board allowed the pipeline to spread their costs across the remaining system users, and rates were simply increased to ensure that the Pipelines recovered all of their costs. Eventually, gas prices fell, gas demand increased, throughput increased and rates could be reduced. This experience typifies the Board's past approach to under-utilised assets.

In the fall of 1998, the Board approved the construction of a new pipeline system, Alliance that will provide some competition to TransCanada. A number of shippers are not renewing their transportation contracts on TransCanada and are switching to the Alliance system, raising concerns that the TransCanada system will be under-utilised for a number of years. However, the expectation is that the system will be fully utilised as soon as gas demand catches up with the growth in pipeline capacity.

In summary, the Board does not have any formal policies for the treatment of potential stranded assets. The Board treats each case on the basis of its particular merits.

How have environmental objectives influenced policy decisions over the regulatory regime?

The Board's corporate purpose is to promote safety, environmental protection and economic efficiency in the Canadian public interest, while respecting the rights of individual landowners. In fulfilling its corporate purpose, the Board must often balance the demands of the marketplace with the potential impacts of pipeline projects on the environment.

For the most part, the impacts associated with pipeline construction and operation are local in nature, and the impacts can be mitigated with proper construction and operation techniques. The Board gives potential environmental impacts close scrutiny during the application process to construct new facilities. Typically, approval to construct and operate pipeline facilities is granted subject to requirements that a number of environmental protection measures be implemented. Thus, environmental considerations tend to result in a lengthier approval process than would otherwise be the case and frequently result in modifications to a project, such as minor changes in the proposed route. However, environmental considerations rarely result in denial of a project.

Population density in Canada is much less than it is in either the United States or Europe. Therefore, there are more choices for pipeline corridor routes that result in minimal conflict with public land use or potentially sensitive environmental areas. Nonetheless, as public concern with environmental protection grows, and population pressures increase, the Board is putting increasing emphasis on ensuring that pipeline construction and operation results in minimal adverse environmental impacts.

What proportion of gas production is tied up with long-term commitments?

A significant portion of gas production is under long-term contracts to aggregators (marketers). However, very little production is shut-in because of contractual reasons. About 75 percent of gas exports are on a short-term basis. Data is unavailable for the domestic market but it is likely that the same proportion is short-term. The trend is toward shorter-term contracts.

2. Key competition issues

2.1 Application and enforcement of competition law

Does the national competition law apply to this sector without exemption or exception? Describe the exemptions or exceptions that apply?

Who is responsible for enforcing the various components of the competition law in this sector?

In Canada, the *Competition Act* is of general application; there are no specific provisions in the Competition Act for specific industries. The Competition Act includes among its provisions criminal sanctions against conspiracies to prevent or lessen competition unduly as well as civil remedies in respect to mergers or abuse of dominant market positions where their effect is to prevent or lessen competition substantially.

The Competition Act, with certain exceptions, applies to all competitive business activity in Canada. A key exception, and one that is important to consider in the natural gas industry, relates to regulated activities. Where business conduct is subject to oversight by a valid federal or provincial regulatory authority, such conduct is deemed to be in the public interest and, therefore, beyond the application of the Competition Act. This “regulated conduct defence” is not a defence for all types of behaviour in a regulated industry.² It applies only where a specific business conduct is approved by the regulatory authority.

With respect to activities, which are subject to the provisions of the Competition Act, the Commissioner of Competition under the Competition Act is responsible for enforcement. Cases are adjudicated by the courts, if criminal, and by the Competition Tribunal, if civil.

2.2 Market definition issues

Have the competition authority or the courts had the opportunity to define relevant markets in competition cases arisen in this sector? How have gas markets been defined?

Several transactions have been subject to review by the Competition Bureau under the mergers provisions of the Competition Act, mostly in the highly competitive upstream and downstream markets of the natural gas industry. Depending on the transaction reviewed, the examination concluded that the relevant product markets were natural gas exploration, natural gas production, natural gas transmission, natural gas gathering, and natural gas marketing.

The Bureau determined that the relevant geographic markets in which the different parties compete, for the production and exploration markets, were within Canada or North America.

As for the marketing of natural gas, the Competition Bureau distinguished different markets depending upon the type of customers. With respect to the wholesale of natural gas to residential/small commercial customers, the Competition Bureau identified two possible separate product markets. On the one hand, there is the regulated market, which is occupied by the local distribution companies whose tariffs are subject to the approval of provincial utility boards. On the other hand, there is the direct market (supply of natural gas to customers through natural gas direct purchase programs) which is comprised of agents and brokers and whose conduct may or may not be subject to a province's oversight depending on the provinces where they operate³.

In 1999, in its assessment of a merger involving the two most important natural gas wholesalers (or direct marketers)⁴, the Competition Bureau surveyed industry participants in order to determine whether to include the local distribution companies in the relevant market. There were differing views on this issue. For some, the relevant market for residential customers should be limited to direct marketers whereas for others, the relevant market should include local distribution companies, which, although regulated, remain a viable option for consumers. The Competition Bureau considered the market shares under the two suggested relevant market definitions and concluded that the merger would not likely prevent or lessen competition substantially in either case as a result of other competitive factors. For example, when adopting the market definition under which the parties have the biggest market shares i.e. the direct market, the Competition Bureau determined that the low barriers to entry in conjunction with the regulations applying to the conduct of direct marketers limited the direct marketer's ability to erect higher barriers through deceptive or misleading marketing practices.

Was gas distinguished in the market from other fuel sources?

In its analysis of the above noted acquisition, the Competition Bureau considered oil, wood, propane and electricity as alternative sources of energy to natural gas. It concluded that these alternatives were not true substitutes to natural gas, mainly because they were not cost competitive alternatives. The Bureau noted that there is little or no proof that consumers are actually switching to other alternatives and, if anything, they are switching to natural gas. Contrary to what can be observed with industrial customers, residential and small commercial customers do not move away from natural gas to alternative fuels to take advantage of price differentials. The amounts that could be saved in this manner by those small users are not important enough to justify the costs incurred in modifying or changing installation equipment.

2.3 Abuse of dominance

Have instances of alleged abuse of dominance arisen in this sector?

There has been no conclusive evidence of predatory pricing brought to the attention of the Competition Bureau that would substantiate a case of abuse of dominance.

However, in his advocacy role, the Commissioner of Competition has addressed a number of issues that might arise in abuse cases undertaken by the Competition Bureau.

The Commissioner has, in addition to his enforcement role, the statutory authority, under section 125 of the Competition Act to make representations and call evidence with respect of competition before any federal board or tribunal where such representations and evidence are relevant to the matters under consideration. Under section 126 of the Competition Act, the Commissioner of Competition may make representation before provincial boards or tribunals, subject to their consent. In this regard, in the natural gas sector, the Commissioner has participated in support of competition in proceedings before the National Energy Board, the Manitoba Public Utilities Commission, the Ontario Energy Board and more recently before the Board of Commissioners of Public Utilities of New Brunswick.

In these proceedings, the Competition Bureau argued for open access to common carrier pipelines, provided advice for the introduction of further deregulation and provided advice on ways to guarantee the protection of consumers.

In November 1996, pursuant to section 125 of the Competition Act, the Competition Bureau intervened in a National Energy Board (NEB) hearing to consider the application of PanCanadian Petroleum Limited for an order requiring Inter-provincial Pipe Lines Inc. (IPL) to transport PanCanadian's natural gas liquids. Although IPL is a common carrier pipeline regulated by the NEB, Amoco Canada Petroleum Company Limited controls facilities required to transport natural gas liquids on the IPL and was the only natural gas liquids shipper on the IPL.

The Competition Bureau argued in favour of open access to common carrier pipelines. The Bureau urged the Board to consider whether restrictions on access were limiting competition in natural gas liquids markets. In the Competition Bureau's view, the order sought by PanCanadian held out the possibility of competitive benefits in the form of higher prices for producers and lower prices for consumers of natural gas liquids.

In its decision, the Board granted PanCanadian's request for an order requiring IPL to transport PanCanadian's natural gas liquids east from Alberta. The Board emphasised that it considers open public access to pipelines under its jurisdiction to be of overriding importance.

In addition to the above noted issue, the Competition Bureau has made representations to the Ontario Energy Board with respect to the prevention of deceptive or misleading marketing practices of direct marketers of natural gas in Ontario. These representations were made in response to new legislation proposed by the Ontario government designed to curb if not eliminate misleading and unfair marketing practices in the Ontario natural gas market place. The Competition Bureau has also commented on proposals made by the Ontario Energy Marketers Association to administer and control the resolution of consumer complaints. Throughout this transition period, the Competition Bureau provided advice to protect against future anti-competitive and unfair marketing practices as well as to develop a clear set of rules of conduct for all direct marketing participants in the natural gas industry in Ontario. Examples of previous marketing practices which raised concerns to the Competition Bureau consisted of door-to-door sales misrepresentations, less-than-ethical telephone or direct mail techniques and the communication of misleading or insufficient information to contractually commit consumers to long term contracts, typically five years or longer.

Have there arisen cases of predatory pricing, or raising rivals costs?

There has been no conclusive evidence of predatory pricing brought to the attention of the Competition Bureau that would substantiate a case of predatory pricing.

2.4 *Other competitive enforcement issues*

*Have instances of mergers or anti-competitive arrangements between firms arisen in this sector?
What remedies were imposed?*

As mentioned above, numerous mergers have arisen in the natural gas sector, mostly in the upstream markets of exploration and/or production in the market of direct marketing of natural gas. These markets have large numbers of participants and are highly competitive. The transactions that have been subject to the review of the Competition Bureau under the mergers provisions have involved parties with small market shares and thus did not raise issue under the Competition Act.

In 1998, the Competition Bureau reviewed a transaction involving two integrated natural gas companies, Nova Corporation and TransCanada Pipelines, involved in the transmission, gathering and marketing of natural gas. At the conclusion of its review, the Competition Bureau determined that the merger would not likely prevent or lessen competition substantially. The pipeline industry is heavily regulated with respect to key aspects of competition such as price, entry and exit, service as well as access for producers and other pipeline companies, thus mitigating the need for the Competition Act to be invoked in protection of these important elements of competition. In addition, an industry accord between the Canadian Association of Petroleum Producers, the Small Explorers and Producers Association of Canada, and the merging parties helped to resolve concerns expressed by various third parties.

The accord endorses three guiding principles: (1) support for competition and greater customer choice; (2) the need to construct competitive incremental pipeline capacity; and (3) the need for pro-competitive regulatory changes. The accord also provides for a specific provision dealing with interconnection policy between different pipeline companies. The principles set out in the proposed interconnection policy should enhance economic efficiency and competition in the natural gas pipeline industry.

In the other areas of competitive overlap between the merging parties, natural gas gathering, processing as well as in natural gas marketing, it was concluded that there are a significant number of competitors remaining as well as substantial countervailing buying power on the part of customers. In addition, NOVA divested its natural gas marketing business. As a result, no remedies or actions were required from the Competition Bureau.

What analysis was carried out in approving or opposing these mergers arrangements?

The analytic framework used by the Bureau to determine whether a merger is likely to substantially lessen or prevent competition in a market is outlined in the Bureau publication "Merger Enforcement Guidelines".⁵ Central to this determination under the merger provisions as well as any other provision of the Competition Act having a competitive effects test, is an assessment of whether the relevant business has or would have significant market power. In other words, to what extent would the relevant business be able to increase prices or alter the other terms or conditions of supply in a market.

Following the approach described in the Appendix, a merger review involves accurately defining the relevant markets, measuring the size of the merged entity in the relevant market and assessing the likely impact of the merger on prices and other terms of sale.

With respect to the size of the merged entity in the relevant market, the merger guidelines include market share thresholds below which the Bureau is unlikely to have concerns regarding the exercise of market power. These thresholds are a market share of less than 35 percent for the merged entity or a market share of less than 65 percent for the largest four firms in the post-merger market.

Market share values above these thresholds will not automatically trigger action under the Competition Act. Other factors mentioned in the Competition Act and supported by the economic analysis of markets and competition are also considered. Chief among these are barriers to entry, the analysis of which is described in the Appendix.

As a final point on the assessment of mergers, it may be noted that even where a merger is likely to result in a substantial lessening or prevention of competition, the Competition Act specifically provides that it be allowed if it is also likely to result in compensating efficiency gains. As part of the analysis, therefore, we also examine claims that a merger would have efficiency benefits. The merging parties must demonstrate that the gains in efficiencies which will likely arise from a merger will be greater than, and will offset, the effects of any likely substantial prevention or lessening of competition, and that these gains would not likely be attained if a prohibition order were obtained. These claims will be taken into consideration where they reflect a real resource saving to the economy, not just a financial gain to the relevant businesses.

NOTES

1. Foreign takeover proposals in the natural gas industry are treated no differently than those in most other industries. The current threshold for review is \$192 million (assets of Canadian business), unless the investor is from a non-WTO country where the threshold falls to \$5 million.
2. To date, no jurisprudence has been developed under the *Competition Act* as to potential application of the regulated conduct defence to the natural gas industry.
3. For example, in Ontario, the Ontario Energy Board (“OEB”) adopted a Code of Conduct for marketers. The Code makes it mandatory for direct marketers to obtain a licence from the OEB in order to be able to sell or offer to sell natural gas in Ontario. If any of the sections of the Code are not complied with, the Board has the authority to suspend or revoke the gas marketer’s license.
4. Alliance Gas Management Income Fund and Direct Energy Marketing Limited
5. It is also summarized in the Appendix III to this submission.

APPENDIX I

HISTORY AND RESPONSIBILITIES OF THE NATIONAL ENERGY BOARD

1. What is the national energy board?

The National Energy Board (the NEB or the Board) is an independent federal regulatory agency that was established in 1959. The Board regulates the following specific aspects of the energy industry:

- the construction and operation of inter-provincial and international pipelines; pipeline traffic, tolls and tariffs;
- the construction and operation of international and designated inter-provincial power lines;
- the export and import of natural gas;
- the export of oil and electricity; and
- Frontier oil and gas activities.

Other responsibilities include:

- providing, where the Board has expertise derived from its regulatory functions, energy advice to the Minister of Natural Resources;
- carrying out studies and preparing reports when requested by the Minister; conducting studies into specific energy matters;
- holding public inquiries when appropriate; and monitoring current and future supplies of Canada's major energy commodities.

In addition to its responsibilities under the National Energy Board Act (NEB Act), the Board also has responsibilities under the Canada Oil and Gas Operations Act, the Canadian Environmental Assessment Act, the Northern Pipeline Act, and certain provisions of the Canada Petroleum Resources Act. As a result of the Canada Transportation Act, which came into effect on 1 July 1996, the Board's jurisdiction has been broadened to also include pipelines that transport commodities other than oil or natural gas.

The Board's corporate purpose is to make decisions that are fair, objective and respected. This principle guides the Board in carrying out and interpreting its regulatory responsibilities. The Board is accountable to Parliament, to which it reports, through the Minister of Natural Resources.

The Board deals with approximately 750 applications annually. For major applications, the Board holds public hearings where applicants and interested parties can participate. These hearings can be either written or oral proceedings and are usually held at locations across Canada where there is a particular interest in the application and which will be most affected by the Board's decision. Normally, a panel consisting of three Board Members is assigned to hear applications.

The Board operates as a court of record, very similar to a civil court. Its powers include the swearing in and examination of witnesses and the taking of evidence. Before a hearing, individuals, interest groups, companies and other organizations are given an opportunity to register as intervenors or interested parties and in this way actively participate in the process.

2. Why was the national energy board created?

In the early post-war years, western Canadian oil and gas resources were discovered and developed for inter-provincial and international use. Important policy issues arose regarding the conditions for the construction of new pipelines and the approval of long-term exports, particularly of natural gas.

The 1957 Diefenbaker administration set up a Royal Commission on Energy to examine whether a national energy board should be created and what authority it should exercise. The Commission in 1959 recommended that a national energy board be established. Prior to the tabling of its report, the 1955 Royal Commission on Canada's Economic Prospects had also recommended that a national energy authority be created to regulate energy exports.

The government acted promptly on the Commission's recommendations, drafting a legislative proposal and introducing it to Parliament in May 1959. As a result, the National Energy Board Act was proclaimed in November of the same year. The Act transferred to the new Board responsibility for pipelines from the Board of Transport Commissioners and responsibility for oil, gas and electricity exports from the Minister of Trade and Commerce. In addition, it granted the Board responsibility for regulating tolls and tariffs and defined its jurisdiction and status as an independent court of record an important new factor.

Since then, the Board has developed its expertise on energy matters and enjoys a respected national and international reputation. In 1991, the Board relocated from Ottawa, Ontario to Calgary, Alberta. In 1994, legislative amendments expanded the Board's jurisdiction to include decision-making authority for Frontier lands not administered through provincial/federal management agreements.

3. Who is the national energy board?

Under the NEB Act, up to nine Board Members may be appointed by the Governor in Council. A Member is appointed initially for a seven-year term. Reappointment may be for seven years or less until the age of seventy. In addition, up to six temporary Board Members may also be appointed subject to terms and conditions set out by the Governor in Council. Members typically have a wide range of government and energy industry experience.

The Governor in Council designates the Chairman and Vice-Chairman of the Board from among the Members. The Chairman is the chief executive officer.

Members are assisted by approximately 280 employees who possess the diverse skills required to support the work of the Board. Employees may be financial analysts, computer specialists, economists, engineers, environmentalists, geologists, geophysicists, lawyers, human resource and library specialists or administrative staff.

4. What are the board's responsibilities?

4.1 The construction and operation of pipelines and power lines

4.1.1 Pipelines

Inter-provincial and international oil and gas pipelines and additions to existing pipeline systems under federal jurisdiction require the Board's approval before they may be built. Public oral or written hearings are held for pipeline construction applications exceeding 40 kilometres in length or any other applications at the discretion of the Board. Pipelines which lie completely within the borders of a single province are regulated by that province's regulatory body.

In determining whether a pipeline project should proceed, the Board reviews, among other things, its economic, technical and financial feasibility, and the environmental and socio-economic impact of the project.

To ensure that engineering, safety and environmental requirements are met, the Board audits and inspects the construction and operation of pipelines. Since February 1987, Board inspectors have also been responsible for enforcing Part II of the Canada Labour Code, applying to the occupational safety and health of pipeline workers in the field.

The NEB shares responsibility with the Transportation Safety Board for incident investigation. The NEB investigates pipeline incidents to determine whether its regulations have been followed and if those regulations may need to be changed. The Transportation Safety Board investigates the cause and contributing factors. The NEB also monitors excavation activity by third parties near pipelines to ensure compliance with existing regulations.

4.1.2 Power lines

Most electric power lines and facilities fall within provincial jurisdiction. The Board authorizes the construction and operation of international power lines and designated inter-provincial lines under federal jurisdiction.

In determining the suitability of an application, the Board reviews, among other things, the technical feasibility of the project, its effect on adjacent provinces and its environmental impact.

Almost all provinces bordering the US have interconnections with neighbouring American utilities.

4.1.3 Environmental protection

The Board's environmental responsibility includes ensuring environmental protection during the planning, construction, operation and abandonment of energy projects within its jurisdiction. When making its decisions, the Board may take into consideration environmental concerns related to air, land and water pollution, disturbance of renewable and non-renewable resources, the integrity of natural habitats, the disruption of land and resource use, and the protection of landowner rights.

Companies preparing an application to the Board are usually required to anticipate the environmental issues and concerns that the proposed project could create and to discuss these with all levels of government, public interest groups, and affected landowners.

If the project application is approved, the Board ensures that the company continues to protect the environment and public health and safety by auditing and inspecting the company's construction activities, the operation of its system, and the company's routine maintenance and monitoring procedures.

4.1.4 Environmental assessment

Under the NEB Act, the Board is required to consider matters of public interest as they may be affected by the granting of an application. The Board has assumed a mandate for environmental protection as a component of the public interest. The Canadian Environmental Assessment Act (CEA Act) provides an additional mechanism to ensure that projects receive appropriate levels of assessment before they proceed. The CEA Act sets out uniform requirements for environmental assessments by all federal government departments and agencies. As a "responsible authority" under the CEA Act, the Board ensures that appropriate environmental assessments are conducted for projects under its jurisdiction, according to standards prescribed by the legislation.

4.1.5 Public safety

Safety is a matter of primary public interest and has been included in the Board's mandate since 1959. The Board is responsible for ensuring companies comply with regulations concerning the safety of employees, the public, and the environment, as they may be affected by the design, construction, operation, maintenance and abandonment of a pipeline. For 35 years the Board has worked with CSA International to develop safety regulations and technical standards currently in effect for federally regulated pipelines.

In addition, through an agreement between the Board and Human Resources Development Canada, Board staff has been designated as Safety Officers for the occupational health and safety of pipeline company field staff. These health and safety duties are usually combined with other construction site and facility inspections.

4.1.6 Traffic, tolls, and tariffs

The Board regulates pipeline tolls and tariffs under its jurisdiction to ensure they are just and reasonable and that there is no undue discrimination in tariffs or services.

Pipelines under the Board's jurisdiction are divided into two groups: Group 1 consists of ten major oil and gas pipeline companies and Group 2 encompasses the remaining smaller pipeline companies. This grouping tailors the degree of financial regulation to the extent of the public interest in a company's operations. To reduce the regulatory burden on smaller companies, the Board regulates three of the Group 1 pipelines and all of the Group 2 companies on a complaint basis. Under the complaint basis of regulation, the parties are encouraged to work out any problems with the Pipeline Company. If this is unsuccessful, a complaint may be filed with the Board.

When establishing tolls for the Group 1 companies, the Board traditionally examines their capital and operating costs to ensure that companies shipping oil or natural gas are protected from unjustified high transportation costs. Tolls set by the Board cover the cost of service plus a fair and reasonable return to investors.

Major toll applications normally warrant a public hearing. However, the requirement for lengthy and costly oral public hearings has been declining, in large part due to the advent of negotiated multi-year settlements. In 1995, the Board republished its Guidelines for Negotiated Settlements of Traffic, Tolls and Tariffs. The guidelines are intended to facilitate a negotiated settlement process which will allow pipeline companies, producers, shippers, consumers, governments and other interested parties to resolve toll and tariff matters through consensus building and negotiation, without resorting to a lengthy hearing process. Any negotiated settlements must still be approved by the Board. Some of the largest pipeline companies regulated by the Board have reached multi-year incentive toll settlements with their stakeholders.

In 1994/95 the Board conducted a generic multi-pipeline cost of capital proceeding. Capital structure and rate of return on common equity for some Group 1 companies are set based upon an adjustment mechanism established in this proceeding. This mechanism has also helped to reduce the requirement for hearings.

A pipeline company's tariff contains the conditions under which transportation service is provided. The tariff includes conditions on accepting new shippers, on allocating capacity to shippers and on determining which position a prospective shipper will occupy on the waiting list for service.

The Board requires that pipeline companies operate according to the principle of "open access". This means that all parties must have access to transportation on a non-discriminatory basis. In addition, tolls for services provided under similar circumstances and conditions with respect to all traffic of the same description, carried over the same route, must be the same for all customers. The Board conducts compliance audits as part of its monitoring responsibility.

4.1.7 The export and import of energy

The Board regulates the following specific forms of energy:

Natural Gas

The export and import of natural gas is authorized by the Board under either long-term licences or short-term orders. Following a public hearing long-term licences may be issued for up to 25 years subject to Governor in Council approval. Short-term orders for a maximum period of two years can be issued without a public hearing and do not require Governor in Council approval.

Natural gas exports occur at several major export points along the Canada/United States border. The volume exported depends upon market supply and demand as well as available pipeline capacity. Canada's imports of natural gas are relatively small, compared to its exports, and are used primarily to serve markets in southern Ontario and British Columbia.

Propane, butanes and ethane are by-products extracted from natural gas processing and refinery processing of crude oil. Board approval is required for export, usually in the form of a short-term export order. Ethylene is a compound produced by cracking ethane and does not require approval for export purposes. All four products are classified as natural gas.

The Board monitors the supply and demand of natural gas, including the performance under existing export authorisations. This ensures that the quantity of gas exported does not exceed the surplus remaining after Canadian requirements have been met.

Oil

The Board authorises oil exports by issuing short-term orders for periods less than one year for light crude oil and less than two years for heavy crude oil. These exports occur under short-term orders due to characteristics of the oil market. The Board does not regulate oil imports.

Canada produces enough oil to meet its own needs and has been a net exporter of oil for some time; however, oil is imported to supply both the Atlantic Provinces and Quebec. Most Canadian oil exports are to the American Midwest and Montana markets. Smaller volumes are shipped to the US West and Gulf coasts.

The Board monitors the supply and demand of oil, as it does with natural gas, to ensure quantities exported do not exceed the surplus remaining after Canadian requirements have been met.

Electricity

Normally, permits are issued to export electricity without a public hearing unless the Governor in Council, after recommendation by the Board, designates a particular application for licensing or certification. The Board does not regulate electricity imports.

Issues which the Board considers when making its decisions may include the effect of exports on adjacent provinces, the environment and fair market access for Canadians.

The amount of electricity exported is influenced by several factors. First, the amount exported cannot exceed the limits set by the Board. Secondly, the weather plays an important role because approximately 70 percent of exports are generated by hydro-electric facilities; low water levels in Canada reduce the amount of power generated and the amount available for export. Strong domestic demand can also reduce quantities available for export. Finally, the economics of export transactions influence the amount sold.

Frontier Oil and Gas Activities

The Board regulates Frontier lands and offshore areas not covered by provincial/federal management agreements.

Responsibilities include the regulation of oil and gas exploration, development and production, enhancing worker safety, and protecting the environment. Other Frontier activities include the calculation of discovered and undiscovered hydrocarbon resources, the development of emergency environmental contingency plans, and fostering research programs, which support and complement the Board's regulatory responsibilities.

Northern Pipeline Agency

The Board provides technical and administrative assistance to the Northern Pipeline Agency which, under the Northern Pipeline Act, has primary responsibility for overseeing the planning and construction of the Canadian portion of the proposed Alaska Natural Gas Transportation System by Foothills Pipe Lines Ltd. A Board Member serves as Administrator and Designated Officer of the Agency.

Energy Studies and Advisory Function

When required, the Board conducts studies or research into energy matters to meet its regulatory responsibilities. The Board may also hold inquiries on its own initiative, when appropriate. With this

knowledge and expertise, the Board reports to and advises the Minister of Natural Resources on energy issues.

4.1.8 *Co-operation with other agencies*

The Board co-operates with other agencies, wherever practical, to reduce regulatory overlap and provide more efficient regulatory services. In addition, the Board provides assistance to other countries who seek to benefit from the Board's long experience and success as a leading regulatory agency.

4.1.9 *Co-operation with other government and regulatory agencies*

Northern Pipeline Agency

The Board provides technical and administrative assistance to the Northern Pipeline Agency, which, pursuant to the Northern Pipeline Act, has primary responsibility for overseeing the planning and construction of the Canadian portion of the proposed Alaska Natural Gas Transportation System by Foothills Pipe Lines Ltd. A Board Member serves as Administrator and Designated Officer of the Agency. In 1996, the position was vacant until August, when Mr. Kenneth Vollman was appointed to a one-year term.

Transportation Safety Board of Canada

While the National Energy Board has exclusive responsibility for regulating the safety of oil and gas pipelines under federal jurisdiction, it shares the responsibility for investigating pipeline incidents with the Transportation Safety Board of Canada. The roles and responsibilities of each body with regard to pipeline accident investigations are outlined in a Memorandum of Understanding ("MOU") between the two boards.

Human Resources Development Canada

The Board has an MOU with Human Resources Development Canada to co-ordinate the safety functions under the COGO Act and the NEB Act. This MOU applies to all Board-regulated pipelines and associated facilities.

Natural Resources Canada

In May 1996, the Board signed an MOU with Natural Resources Canada ("NRCan") to reduce duplication and increase co-operation between the agencies. This MOU covers items such as data collection and development, the enhancement of energy models and special studies.

Yukon Territory Government

The Board continues to work with Yukon officials to facilitate the transfer of oil and gas regulatory responsibilities in accordance with the Yukon Accord Implementation Agreement. The Board provides expert technical advice to the Yukon Territory Government.

Alberta Energy and Utilities Board ("AEUB")

In 1995, the Board and the Alberta Energy and Utilities Board ("AEUB") entered into an MOU on Pipeline Incident Response. The agreement provides for mutual assistance and a faster and more effective response by both boards to pipeline incidents in Alberta.

During the year, the Board continued its involvement in a Pipeline Task Force with the AEUB. The purpose of this task force is to develop consistent and compatible regulatory requirements. It is expected that this process will result in more efficient use of organisational resources, leading to a reduced regulatory burden on both the pipeline industry and the public.

The Board and the AEUB have developed a common reserves database for oil and gas reserves in Alberta. Both boards are committed to developing more efficient methods for maintaining estimates of reserves and to exploring other opportunities for co-operation.

In April 1998, the NEB and the AEUB will be co-hosting the 1998 CAMPUT Educational Conference. For more information, visit the CAMPUT Web Site.

British Columbia Ministry of Employment and Investment

Following a technical protocol agreement signed in 1995, discussions are continuing to investigate areas of co-operation and collaboration.

Ontario Energy Board

The Board is pursuing its Electronic Regulatory Filing ("ERF") initiative as a joint venture with the Ontario Energy Board ("OEB") and twenty other key participants in the regulatory arena. The ERF initiative will result in a fully functional electronic system for the creation, exchange, use and reuse of regulatory information. Co-operation with the OEB will ensure its applicability in both jurisdictions.

Saskatchewan Department of Energy

Preliminary discussions have been held with regard to establishing a common reserves database.

4.1.10 Co-operation with there countries

During 1996, the Board co-operated with several foreign countries by providing information on the Board's regulatory role and other energy-related matters. Consultations took place with representatives from Argentina, Australia, Brazil, Chile, China, Columbia, France, India, Japan, the Kyrgyz Republic, Mexico, Norway, Russia, the Ukraine and the United Kingdom.

APPENDIX II

ABOUT NATURAL RESOURCES CANADA

1. Who we are

Natural Resources Canada (NRCan) is a federal government department specialising in energy, minerals and metals, forests and earth sciences. At NRCan, we deal with natural resource issues that are important to Canadians. We look at these issues from both a national and international perspective, using our expertise in science and policy. How we manage our land and resources today will determine the quality of life for Canadians both now and in the future.

2. What we do

NRCan provides four main services to Canadians:

- We conduct leading-edge science and technology to provide Canadians with ideas, knowledge and technologies. This helps Canadians use their country's resources wisely, reduce costs, protect the environment and create new products and services.
- We build and maintain a national knowledge infrastructure on Canada's land and resources, so all Canadians can easily access the latest economic, environmental and scientific information.
- We ensure that federal policies and regulations on issues such as the environment, trade, the economy, Canadian land and science and technology enhance the natural resources sector's contribution to the economy. At the same time, we make sure these policies and regulations protect the environment and the health and safety of Canadians.
- We promote Canada's international interests, together with international agencies and other nations. This helps Canada meet its commitments related to natural resources, and keeps access open to global markets for Canadian products, services and technology.

3. Our mission

A Better Energy Future for Canada. The Energy Sector enhances the economic and environmental well being of Canada by fostering the sustainable development and use of the nation's energy resources to meet the present and future needs of Canadians.

4. Our vision

The Energy Sector's vision is to demonstrate a valued contribution to Canadian society and to be recognised for our expertise, our management practices and our service to clients.

5. Our organisation

5.1 *Energy resources branch*

The Energy Resources Branch Mandate is:

- to facilitate the economic development of Canada's petroleum, electricity and renewable energy resources;
- to develop and implement Canadian government policy on nuclear energy, uranium and radioactive waste;
- to enhance access to domestic and international markets;
- to bring a balance between economic and environmental concerns to energy supply issues;
- to promote renewable energy alternatives to manage frontier resources and to develop policies that will enhance the value to Canada of its uranium and nuclear industries in a safe and secure way.

5.1.1 *Frontier lands management division*

The Frontier Lands Management Division manages the national interest in Accord and Non-Accord areas. Advises the Minister of NRCan on her statutory obligations under various frontier oil and gas legislation. Negotiates MOUs with respect to environmental assessment review processes and co-operative regulatory arrangements for projects in the offshore. Manages the Canada-Newfoundland Offshore Development Fund and the Canada-Nova Scotia Development Fund; and administers offshore revenues and statutory payment systems.

5.1.2 *Oil division*

The Oil Division assesses developments in Canadian and international oil supply, demand, prices, and trade. Performs economic and policy analysis related to oil market and associated public policy issues. Ensures that public policies related to oil production, transportation and refining contribute to the attainment of national economic, social and environmental policy priorities. Represents Canada in international energy agency bodies dealing with oil market and oil emergency planning matters; and prepares oil emergency response measures.

5.1.3 *Natural gas division*

The Natural Gas Division fosters free and open trade in natural gas. Promotes market access for the Canadian industry. Facilitates transparency in gas markets. Facilitates the evolution of the North American natural gas market into a deregulated, integrated, and competitive marketplace, which recognises the principle of environmentally responsible development; and manages the Pipeline Arbitration Secretariat.

5.1.4 Renewable and electrical energy division

The Renewable and Electrical Energy Division advises the Minister of NRCan on policy matters related to renewable and electrical energy; Develops and implements a renewable energy strategy. Develops and implements a federal strategy to encourage the development of a harmonised approach to open transmission access on inter-provincial and international power lines, and reciprocal access for US companies. Supports Canada-US negotiations regarding the Columbia River Treaty; and supports the Minister in responding to the National Electricity Round Table.

5.1.5 Uranium and radioactive waste division

This division is responsible for maintaining a thorough and current understanding of Canadian uranium supply capabilities, industry developments and related policies, and for providing effective information, advice and representation in these areas as well as maintaining a sound understanding of the international uranium market, monitoring Canadian uranium exports and market opportunities.

The division is also responsible for policy on all aspects of radioactive waste management including used nuclear fuel, low level radioactive waste, uranium mine tailing, radiation protection issues and the Nuclear Liability Act.

5.1.6 Nuclear energy division

The division is responsible for policy in the area of nuclear energy, both domestic and export.

5.2 Energy policy branch

The Energy Policy Branch (EPB) takes the lead on federal energy policy and international energy issues, environmental issues pertaining to energy, sustainable development and other long-term strategies, fiscal analysis, forecasting and other cross-cutting energy issues. EPB provides the linkages between the efficiency, resources and technology branches within the Energy Sector when issues are of a general nature or require central co-ordination. In many ways, EPB is a service branch. The major clients are the Minister and Deputy Minister and to a large degree, other branches and divisions in the Sector. The Branch also provides policy briefing co-ordination services to the Sector.

The Branch is divided into five permanent divisions and one temporary project specific, program division:

5.2.1 Policy analysis and co-ordination division

Policy Analysis and Co-ordination (PAC) Division takes the lead in the development and elaboration of broad federal energy policy (such as the sustainable development energy strategy). It co-ordinates the management of sectoral issues and the preparation of briefing materials for the Minister and Deputy Minister that require cross-sectoral inputs. PAC provides strategic planning for the Branch and some aspects of Sector planning. PAC also elaborates federal energy policy for other government departments, other levels of government and foreign delegations.

5.2.2 International energy division

The International Energy Division (IED) fulfills the co-ordinating role for the Sector on international activities and issues, including for example, those relating to trade policy and trade facilitation, energy security, and other policy issues with an international dimension. IED acts as a window to and from outside agencies, foreign governments and other players dealing with international issues pertaining to energy, and represents and defends Canadian positions and interests internationally. It has a policy role in linking domestic and international issues and in relating with international agencies dealing with energy, such as the International Energy Agency.

5.2.3 Environment division

The Environment Division has lead responsibility in the Department on policy relating to air issues, principally climate change, acid deposition and urban smog. The Division's main focus is climate change where activities include overall policy development and co-ordination, co-ordination of supporting analysis, federal/provincial and stakeholder liaison and international negotiations.

5.2.4 Economic and fiscal analysis division

Economic and Fiscal Analysis (EFA) provides economic, financial and fiscal studies relevant to the Canadian energy sector. EFA also provides analytical support to policy, program or project development in the Energy Sector. The Division examines the implications for the energy sector of developments in other sectors, governments, departments or the economy at large. EFA participates in the preparation of budget submissions to the Department of Finance. The Division collects and disseminates economic and energy statistics. It also analyses input of budget measures on the energy economy. The Division also provides advice on the economic viability of energy projects, negotiates federal financial participation in such projects and manages the contractual arrangements for projects in which Canada is a participant.

5.2.5 Energy forecasting division

The main responsibility of the Energy Forecasting Division (EFD) is the development of the Department's long-term energy and energy-related emissions projections in the form of Canada's Energy Outlook. The Outlook provides a reference scenario for energy and emissions-related analysis and policy formulation within the Department and an official baseline projection of energy-related greenhouse gases for National Action Program on Climate Change. EFD's modelling framework is used in the quantitative assessment of energy and environmental policy options and proposed measures. EFD synthesises departmental views, incorporating both science and policy considerations in the preparation of its forecasts.

APPENDIX III

ANALYTICAL FRAMEWORK FOR ASSESSING THE COMPETITIVENESS OF MARKETS

This Appendix describes the basic analytical framework that the Competition Bureau uses to assess the competitive implications of business practices in connection with the provisions of the Competition Act having a competitive effects test. The provisions include, for example, those pertaining to abuses of dominant market positions and mergers.

In assessing the state of competition in a market, the Bureau ascertains whether any firm in the market can exercise significant influence over prices or the terms or conditions of sale other than by superior competitive performance. The Bureau generally considers a market to be effectively competitive if no firm operating in it has sufficient market power to unilaterally and profitably impose a significant and non-transitory price increase. This is a simple enough definition, but putting it into practice normally involves a detailed step by step process that requires accurate information.

The first step in assessing the competitiveness of markets is establishing the boundaries of the relevant market. This is defined as the smallest group of products or customers for which sellers, acting as a single firm, could profitably impose a significant and non-transitory price increase.

To assess the relevant market, the Bureau examines various factors relating both to the willingness of consumers to switch between products and suppliers and to the likelihood of entry occurring as a result of price increases. Evidence of substitutability that we may look at includes: buyers' views and consumption behaviour in relation to the products in question; any physical and technical characteristics of products that could limit their interchangeability; costs that customers might have to bear to switch between products; or whether there are potential suppliers with facilities that could be easily adapted to producing the relevant product.

Having defined the relevant markets, the Bureau then determines whether or not a supplier, or a subset thereof, has the ability and incentive to significantly increase prices for a sustained period. The determination of what constitutes a significant and non-transitory price increase will depend on the nature of the relevant practice and the market. When examining mergers, for example, a general guideline used by the Bureau is whether the merger would likely result in a five per cent price increase for two years.

The size of the company or companies under examination in relation to the relevant market is an important, but not a determinative consideration in this part of the analysis. The higher are both the market share of the relevant businesses and the level of concentration in a market, the more likely it is that we will be concerned about the existence of market power.

However, high market share alone will not lead to a conclusion that market power exists. Rather, other factors mentioned in the Competition Act and supported by the economic analysis of markets and competition must also be considered. These factors include, for example: the availability of substitutes that are acceptable to buyers; the barriers facing new competitors who wish to enter the relevant market; and the nature and extent of change and innovation in the relevant market.

Of these factors, barriers to entry may be particularly important to consider in assessing whether a business has or would have market power. Entry impediments exist to some extent in all markets. To determine their importance, we tend to concentrate on the following questions:

- (i) what must be done and what commitments must be made by potential competitors in order to enter on a scale that would be sufficient to eliminate significant market power;
- (ii) what factors are likely to delay entry, and are they collectively likely to prevent sufficient scale entry; and,
- (iii) are potential competitors likely to enter, given the commitments that must be made, the time required to become an effective competitor, the risks involved and the likely rewards?

From an economics perspective, the notion of commitment or sunkness embodied in these questions is particularly important to keep in mind. Costs of entry that are recoverable should not be considered as barriers to entry. Only those that must be sunk or committed to enter the market and cannot be recovered on exit should be viewed as actual barriers to entry.

Market power is not the only concern when examining markets and business practices. The Bureau also considers whether the actions under consideration have efficiency or other pro-competitive advantages that outweigh their anti-competitive effects. The benefits that we take into consideration in this part of the analysis are only those that involve a real resource cost to the economy. That is, it is not sufficient that there be a pecuniary gain to some market participants or customers. Rather, this gain must also be linked to a real economic benefit.

CZECH REPUBLIC

1. Industry overview: regulatory framework and market structure

1.1 *National context and key regulation*

The Czech Republic's energy policy is based on the same pillars as the European Union's energy policy, i.e. safety and reliability of energy supplies; environmental protection; observance of the principles of sustainable development; and support of the national economy's competitiveness. Since the Czech Republic is almost 100 percent dependent on natural gas imports, this sector is perceived as a strategic one.

The reform process in the gas industry is not closely tied with an analogous process, which is taking place in the electricity industry.

The key document for the energy sector, and therefore also the gas industry, is Act No. 222/1994 of 2 November 1994, On Conditions of Engaging in Business and Discharge of State Administration in the Energy Industries, and on the State Energy Inspection Office ("the Energy Act"), which also contains provisions on governmental regulations.

In terms of price regulation, the primary legislation is the Price Act No. 526/1990. Secondary legislation is the Ministry of Finance's Price Decree, which sets regulated prices applicable to the sellers as well as the buyers (both individuals and corporations).

1.2 *Regulatory institutions*

The Ministry of Industry and Trade ("MIT") exercises governmental regulation under the above Energy Act. The importance and scope of regulation has necessitated underpinning governmental regulation in both organisational and staffing terms. A separate section was therefore set up at the MIT with effect from 1 January 1998, called the Energy Regulation Administration ("ERA"), headed by a chief director who reports directly to the Minister. The ERA is composed of two departments – the regulation and analysis department and the authorisation department. The ERA carries out financial analyses of the financial management and cost analyses of regulated companies, i.e. those engaged in gas transmission, storage and distribution (including sales). Being the governmental regulator, MIT is the only authority empowered to present proposals for price changes to the Finance Ministry, which is, under the Pricing Act, entitled to set gas prices with finality. It also grants governmental authorisation to carry on business in the electricity, gas and heat-supply industries.

Gas production is not regulated. Gas import licences are granted by MIT, but not by its ERA section. Neither does ERA interfere with contractual negotiations on gas imports.

1.3 *Key features of the demand for gas*

The share taken by natural gas in the consumption of primary energy sources has been growing at a fast pace in the past few years. The reasons include the statutory requirement for all energy sources over five MW to meet emissions limits by the end of 1998, as well as the Government's massive financial support of households' connection to gas supplies. In combination with the restructuring of industrial production, consumption of solid fuels dropped heavily while that of natural gas increased. The following table shows the percentage of natural gas in the consumption of primary energy sources.

1990	1991	1992	1993	1994	1995	1996	1997	1998
10.8	12.9	13.9	14.2	14.2	15.6	18.6	18.2	19.6

There is currently no gas-fired power station in the Czech Republic generating merely electricity. Nevertheless, there are several combined cycle units fired by natural gas, which generate electricity and heat by burning the gas in a boiler or a gas turbine. Some electricity-producing units use lignite as their chief fuel while resorting to natural gas when they need to increase their output rapidly.

In 1998, the Czech Republic consumed a total of 9.22 bcm of natural gas; of this volume, 320 mcm of gas was consumed in the above combined cycle units.

Natural gas prices are still not based on fuel competition; they are set by the Ministry of Finance as maximum and regulated prices.

The new tariff system that introduces two-component prices, in place since 1 January 2000, is the first step towards the provision of interruptible services.

1.4 *Key features of the supply of gas: market structure*

Some 100 mcm of natural gas is lifted in south Moravia in the Czech Republic annually. This production accounts for about one per cent of the country's annual consumption of natural gas. There is only one producer – Moravian Oil, a shareholding company based in Hodonin, which sells this gas to South Moravian Gas, plc, a distribution company. Virtually the entire Czech demand for natural gas is met by gas imports, chiefly from the Russian Federation (79 percent) and Norway (19 percent). Natural gas is imported into the Czech Republic by state-owned Transgas, which is also the sole operator of the gas transport system and underground gas storage facilities (see Fig 1 for a detailed scheme of the gas transit transmission system, including the border transfer [metering] stations). Six end users are directly connected to the transmissions system, who altogether take some 10 mcm of gas annually. State-owned Transgas is the sole importer of natural gas to the Czech Republic, and its position is provided for in MIT's Decree No. 318 of 1996. This decree, which *de facto* provides for Transgas' monopoly position, will terminate on the day of the Czech Republic joining the European Union. Eight regional gas distribution companies ("RDCs") distribute and sell gas. These RDCs buy gas from Transgas and sell it to end users; each of them has monopoly in its respective region. There is no competition among RDCs at this moment.

Moravian Oil, plc, is basically a privately owned company in which the State holds, through Transgas, an equity stake of about 25 percent. Transgas is wholly owned by the State, its Founder is MIT. Its activities are overseen by a Supervisory Board headed by Deputy Minister of Industry and Trade. Transgas' organisational structure is rather similar to that of a state administration authority. Distribution companies – North Moravian Gas, South Moravian Gas, North Bohemian Gas, East Bohemian Gas, South Bohemian Gas, West Bohemian Gas, Central Bohemian Gas, and Prague Gas – are all shareholding

companies. With the exception of Prague Gas, the State holds a controlling (i.e., more than 50-percent-stake) in all of them. Minority shareholders are foreign, mostly gas companies. Each RDC's organisational structure is somewhat different but on the whole, their structure resembles that of a privately owned company more than a state administration authority.

Companies that operate in the gas industry are not active in any significant way in any other industries at the moment. Moravian Oil is the only exception – it produces oil in addition to gas; Transgas operates in telecommunications. His optical fibre system has been designed and implemented for gas network control. In terms of the control required by Transgas, the telecommunication system supports the following main functions: telephone services, dispatching control system services, corporate services, e-mail and Internet. Spare capacities of the telecom system are offered on the telecom market in the form of data services in co-operation with Global One Communications.

1.5 *Key features of the regulatory regime*

The production company's business is not regulated and it therefore may sell gas to any customer under terms and for prices subject to mutual agreement. Since the amount of the natural gas produced in the Czech Republic is negligible, this does not constitute any competition – it is just a supplementary source of gas.

As mentioned above, Transgas is the only organisation, which meets the statutory conditions for gas imports and its transport to RDCs. RDCs hold governmental authorisation for gas distribution and supply (sale) to their customers within their respective franchise. Consequently, this arrangement also does not represent any competition between Transgas and RDCs, nor competition among RDCs. Third-party access to networks has not been introduced to date.

The regulator (ERA) reviews the usefulness of the development and upgrading of gas facilities, i.e. underground gas storage facilities, and transport and distribution networks from the perspective of the respective regulated company's financial standing, but the construction of such facilities is not subject to the regulator's approval.

The issue of company integration does not fall within the regulator's powers; it is a matter of the Government's energy policy.

1.6 *Entry regulation*

As mentioned under 1.5, natural gas production is not subject to regulation, and therefore is not licensed (no governmental authorisation is required).

For all practical purposes, only new companies for gas distribution to end users can be considered. The regulator does not stipulate to which customer categories such companies may or may not supply gas.

1.7 *Access regulation*

Neither legislation nor the regulator is concerned with these relations among gas companies.

1.8 *Price regulation*

Gas prices are set on the basis of cost-plus regulation. This approach is necessary mainly because prices still remain distorted from earlier times, do not reflect the costs incurred, and there still exist cross subsidies. A gradual rebalancing of these distortions has already been started, and will be completed in 2002.

Gas prices (still set by the Finance Ministry) are set as maximum prices. This implies that a company sells gas for a price determined by the Finance Ministry or lower. Companies are not required to publish these lower prices.

Gas purchase and selling prices, and their components, are published by the Finance Ministry in the form of an assessment in what is referred to as the Price Gazette.

A new pricing system based on multi-component prices and more detailed customer categorisation was introduced on 1 January 2000 with a view to facilitating better differentiation of the nature and profile of gas consumption throughout the year.

For industrial customers with a high annual consumption, fitted with automatic registration and recalculation of their daily gas consumption, the price has three components: a rate for maximum daily consumption (capacity charge), and prices for gas supplied in summer and in winter (commodity charge). Industrial customers with lower gas consumption only have rates differentiated to summer and winter prices.

Low-offtake customers (the commercial sector) have two-component prices, i.e. a flat monthly charge and the price for gas supplied. Household prices are spread into four bands of annual consumption, reflecting the nature of gas uses (cooking, water heating, space heating). These are two-component prices. One component is a flat monthly charge, the other is price for gas supplied.

This tariff (the capacity charge) reflects to a certain degree, the costs of gas storage. The individual gas prices are not directly tied to transport distances because networks are interconnected and gas flows in more than one direction.

Separate rates for interruptible supplies have not been set in the pricing system.

In its analyses of regulated companies, the regulator does not use asset value directly; it includes asset (gas facility) depreciation in full into the costs calculated for the purposes of gas pricing. Asset revaluation will have to be done soon because the value of the assets procured before the liberalisation of other prices is incomparable with the current situation. The regulator uses the Return on Equity (ROE) ratio to determine the companies' profit from gas sales.

1.9 *Non-commercial service obligations*

As mentioned above, Transgas sells gas to RDCs for maximum prices set in the Finance Ministry's assessment. The regulation distinguishes inland gas transport from other activities (such as transit transmission). Up to 1998, maximum prices were set in such a way that Transgas subsidised inland transport from its other transmission. A decision was taken in 1999 to discontinue such subsidies, provided that Transgas would generate zero profit from inland transport. This approach still allows cross subsidies to households. As mentioned above, the Czech Government's Energy Policy Paper envisages removal of cross subsidies by 2002.

1.10 Separation and unbundling

Regulated and non-regulated activities have not yet been separated in gas companies. With a view to the expected entry into force of the new Energy Act as from January 2001, which implements Directive 98/30/EC in full, gas companies are making preparations for separating the two types of activity. Nevertheless, the new law will not require any physical separation of the companies, merely accounting separation. Nor will the regulatory authority – the position of which is also being addressed in the new Energy Act – require physical separation.

1.11 Trade and investment issues

State-owned Transgas is the sole importer of natural gas to the Czech Republic; its position is provided for in secondary legislation (i.e. MIT's Decree No. 318/1996). This Decree will terminate on the day the Czech Republic joins the European Union.

Supervision over or restriction of foreign investments or ownership of foreign entities are non-existent.

Miscellaneous issues

1.12 The regulator is not concerned with this issue

1.13 The issue of the so-called environmental tax on fuels has not been resolved to date. The Ministry for the Environment monitors this issue with a view to making it possible to align the relevant Czech laws with the European equivalent once the question of tax harmonisation is resolved in the European Union.

1.14 In 1999, about 9.4 bcm of natural gas was consumed in the Czech Republic. The Czech Republic signed a twenty-year contract for Norwegian gas imports in 1997, while a 15-year contract for Russian gas imports was signed in 1998. Both of these long-term contracts contain the take-or-pay clause. The contract for Norwegian gas imports of 3 bcm/year will remain in force to 2017; the contract for Russian gas imports of 8 to 9 bcm/year will remain in force to 2013 with an option to extend it by another ten years.

2. Competition issues

2.1 Application and enforcement of competition law

In the Czech Republic, the protection of economic competition is governed by Act No. 63/1991, Coll., on the Protection of Economic Competition, in the wording of Act. No. 495/1992, Coll. and Act No. 286/1993, Coll. ("the Competition Act"). The Competition Act applies to all sectors without exemption. It applies to both private and public undertakings. The Competition Act is enforced by the Office for the Protection of Economic Competition ("the Office") which is fully independent in its decision-making.

As already mentioned above, the behaviour of gas producers and gas suppliers is regulated by the Energy Act. Entities doing business under the Energy Act are subject to the state regulation exercised by MIT.

MIT is empowered to control the purposefulness of expended costs and is the only body competent to submit proposals concerning changes in electricity, gas and heat prices to the Ministry of Finance. The compliance with the Energy Act by undertakings operating under this Act is administered by a special body of state administration, namely the State Energy Inspection ("SEI").

When enforcing competition law in the gas industry, the Office does not go beyond the scope of the Energy Act, i.e. in so far as an undertaking operates in compliance with the Energy Act, its conduct does not represent a breach of the Competition Act. In concrete cases, the Office co-operates with SEI or MIT, respectively.

2.2 *Market definition issues*

The Office perceives the relevant market as a correlation between supply and demand at a given place and time of goods capable of satisfying consumer needs. In practice, the Office defines product and geographic markets in each individual case.

Relevant product market

The relevant product market includes all products and services which are identical, or which are regarded by the consumer as substitutable and interchangeable by reason of the products' characteristics, their prices, and their intended use.

The relevant product market in the gas industry has been defined by the Office as the market for gas supplies to final consumers. When defining the market, the Office takes into account that gas can be interchangeable with other kinds of energy only after overcoming significant investment and time barriers. Even so, from the point of view of the consumer, gas would be non-interchangeable due to the difference in prices.

Relevant geographic market

The relevant geographic market comprises the area in which the given undertakings are involved in the supply and demand of products and services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from other geographic areas particularly because the conditions of competition are appreciably different in those areas.

The relevant geographic market in the gas industry has been defined by the Office as the area covered by a network system of a particular gas distribution company, i.e. territories of individual regions.

2.3 *Abuse of dominant position*

In the gas industry, the Office has dealt with a number of abuses of dominance cases concerning two types of conduct considered to be in contravention of the Competition Act. The first type of abuse pertained to the situations where gas distribution companies conditioned entering into a gas supply contract with a new customer by guaranteeing the previous customer's debts by the latter. The second type of

abusive practices consisted in requiring by individual gas distribution companies that consumers cover the costs of procuring and installing the gas-meter. Such requirement was in contravention of the Energy Act.

The Office has not yet dealt with dominance abuses in the form of predatory pricing or raising rivals' costs.

2.4 *Other enforcement issues*

Agreements distorting competition

The Office has granted two exemptions from the ban on restrictive agreements in the gas industry. Both cases concerned franchising agreements for distribution of liquefied heating gas (propane, butane, and the mixture of these gases) sold in bottles. The agreements included exclusive purchasing and exclusive distribution provisions as well as bans on active sales outside of the contract territory. Such provisions restrict competition. At the same time, however, the agreements enabled the franchise holder to establish a common sales network and provided consumers with an adequate share of the resulting benefit through the combined effect of the common sales network and the existence of undertakings interested in the effective functioning of their businesses. The Office supplemented the exemptions by two restrictive conditions: (i) contractually allocated territory can be changed only with the approval by the Office, and (ii) the Office's approval is necessary also for the renewal of the franchise agreement.

The Office has dealt with one case of a prohibited restrictive agreement concerning the sale of bottled liquefied heating gas. The agreement included the following obligations: (i) resale price maintenance, (ii) an obligation not to sell more than ten percent of non-contractual goods, and (iii) a non-competition clause for two years following the expiry of the agreement. The Office found this agreement to be an agreement distorting competition pursuant to the Competition Act and imposed a fine for the breach thereof.

Concentrations between undertakings

The Office has dealt with five concentrations in the gas industry. In all cases, the relevant product market was defined as the market for liquefied heating gas sold in bottles. All of these concentrations were approved by the Office as they did not effect a change in the market share on the relevant geographic market.

FRANCE

Au cours des dernières années le Conseil de la concurrence a exposé dans plusieurs avis et décisions les raisonnements qu'il suivait en matière de régulation concurrentielle dans les secteurs récemment ouverts à la concurrence ou dont l'ouverture à la concurrence était programmée, en particulier dans le cadre de l'intégration du marché européen.

Compte tenu du thème retenu par le groupe de travail n°2 dans sa séance du mercredi 23 février 2000, l'ouverture à la concurrence du secteur du gaz, la présente note procède donc à un examen de la structure du marché de l'industrie du gaz en France (*I*), à l'organisation et au fonctionnement de la régulation (*II*) et aux principaux problèmes de concurrence qui ont été rencontrés ou qui sont susceptibles d'être rencontrés de la part des opérateurs dans ce secteur d'activité (*III*).

1. La structure du marché de l'industrie du gaz en France

Quatre grandes fonctions caractérisent les activités de l'industrie du gaz : la production, l'approvisionnement en gros (en réalité, il s'agit souvent d'importation à l'échelon national), le transport sur longue distance internationale et de transit (auquel on adjoint généralement le stockage) et la distribution aux clients finals. La France ne dispose pas de réserves significatives sur son territoire ; son taux de dépendance avoisine les 95 pour cent.

1.1 La production et l'importation

Dans le cas de la France, la consommation de gaz a atteint 431 TWh en 1998, soit une augmentation de 6,4 pour cent par rapport à 1997. Ses quatre principales sources d'approvisionnement sont la Norvège (28 pour cent), la Russie (27 pour cent), l'Algérie (27 pour cent) et les Pays-Bas (13 pour cent). La production nationale - représentant donc cinq pour cent de la consommation nationale - provient essentiellement du gisement de Lacq, exploité depuis 1951 mais qui sera prochainement épuisé.

Les voies d'approvisionnement sont terrestres et maritimes. Le gaz est livré par gazoducs de grand transport, à l'exception du gaz d'Algérie acheminé sous forme de gaz naturel liquéfié (GNL) par bateaux aux terminaux méthaniers de Fos-sur-Mer et de Montoir. Les sources d'approvisionnement se diversifieront dès l'automne 1999, avec le Nigeria, et, en 2000, avec la mise en production des gisements Elgin et Franklin en mer du Nord britannique.

1.2 La faible part du gaz dans le bilan énergétique français

Les statistiques disponibles font apparaître, au plan national, une progression continue du gaz dans la consommation totale d'énergie. La consommation française a progressé de 3,3 pour cent l'an de 1990 à 1996. Cependant, la part du gaz dans le bilan énergétique français (14 pour cent) reste faible par rapport à la moyenne européenne égale à 23 pour cent.

	Allemagne	Belgique	Espagne	France	Italie	Pays-Bas	RU
Part de gaz (%)°	21	22	8	14	28	51	35
Consommation (Gm3)	85	14	10	38	55	44	85
Dépendance	77	100	95	93	64	export.	1

La fonction de production d'électricité représente 2,1 pour cent de la consommation de gaz en France, alors qu'elle atteint 39 pour cent en Espagne, 22,4 pour cent en Italie et 15,2 pour cent en Allemagne. Seulement 1,4 pour cent de l'électricité est produite à base de gaz en France ; c'est aussi une particularité française (52,7 pour cent dans les Pays-Bas, 26,4 pour cent au Royaume-Uni et 22,4 pour cent en Italie).

1.3 Structure de la demande

Le chauffage dans le «résidentiel-tertiaire» constitue le principal débouché pour GDF (53,3 pour cent des usages du gaz, contre 40,7 pour cent à l'industrie, 1,9 pour cent à la sidérurgie et 0,7 pour cent à l'agriculture). Le développement du gaz est encouragé par les pouvoirs publics, les contrats de plan entre l'Etat et GDF ayant régulièrement fixé à cette entreprise des objectifs quantitatifs de pénétration du marché à la hausse. Le développement des énergies renouvelables, encouragé par les pouvoirs publics, notamment grâce à l'adoption de dispositifs législatifs incitatifs (loi n°92-646 du 13 juillet 1992 relative à l'élimination de déchets, loi n° 96-1236 du 30 décembre 1996 sur l'air et l'utilisation rationnelle de l'énergie notamment), reste limité. Si le contre-choc pétrolier et l'amélioration qualitative des matériels, moins consommateurs d'énergie, ont ralenti la chute de la part du fioul domestique, les statistiques traduisent l'érosion continue de la part de cette énergie dans le chauffage, puisqu'en 1996, selon le CEREN,¹ la part du fioul dans la consommation du secteur résidentiel s'élevait à 14,3 pour cent alors qu'elle était encore de 15,2 pour cent en 1993.

A l'exception de la concurrence exercée par les réseaux de chaleur, pour lesquels les opérateurs principaux sont des entreprises de dimension nationale, voire internationale, mais qui ne concernent que certaines zones géographiques et au total représentaient moins de quatre pour cent du marché du chauffage domestique en France,² la concurrence exercée par les autres opérateurs, compte tenu notamment du caractère local de la distribution d'énergie, provient souvent de petites entreprises qui ne peuvent rivaliser avec GDF sur le plan de la notoriété ou des moyens techniques et financiers. A défaut d'une position dominante, GDF dispose d'une position prééminente sur le marché de l'énergie destinée au chauffage.

1.4 Structure du marché du côté de l'offre

Comme l'Italie, la Grèce, l'Irlande et la Belgique, la France est, en terme d'organisation de son système gazier, un des pays européens les plus intégrés.

1.4.1 Un monopole à l'importation et à l'exportation

En vertu de la loi du 8 avril 1946, les activités de production, transport, distribution, importation et exportation de gaz combustible ont été nationalisées et la gestion des entreprises nationalisées a été confiée à Gaz de France ; ont été exclues de la nationalisation les entreprises gazières dont la production annuelle moyenne de 1942 et 1943 était inférieure à six millions de m³/an, seuil porté ultérieurement à 12 millions de m³/an.

En 1949, la production et le transport du gaz naturel ont été exclus de la nationalisation, tandis qu'un régime particulier a été prévu pour la production de gaz des houillères nationales, des cokeries sidérurgiques, des hauts fourneaux et des raffineries. La loi de 1946 a été interprétée (avis du Conseil d'Etat du 1^{er} décembre 1966) comme conférant à GDF les monopoles d'importation et d'exportation du gaz en France.

Actuellement, 95 pour cent du gaz consommé en France est importé par GDF, les cinq pour cent restant étant constitués par la production française d'Elf sur le gisement de Lacq. Ce gaz est acheminé jusqu'au point d'entrée sur le territoire national, soit par gazoduc (solution la plus rentable jusqu'à environ 4000 kilomètres), soit par méthanier sous forme liquéfiée pour des distances supérieures.³ Le transport du gaz importé de Norvège coûte 1,7 cF/kWh, celui du gaz importé de Russie près de 4 cF/kWh (sur des prix de vente moyens aux industriels de 7,2 cF/kWh et aux usagers domestiques de 21 cF/kWh).

1.4.2 Trois opérateurs assurent le transport

Le transport du gaz naturel n'entre pas dans le champ d'application de la loi de nationalisation, mais celui-ci ne peut être assuré que par un établissement public ou une société nationale dans laquelle la majorité du capital est détenue par l'Etat ou par des établissements publics.⁴

Le transport du gaz, destiné à approvisionner par des canalisations à haute pression les distributions publiques et les clients industriels et commerciaux, a été considéré comme une activité de service public dans un avis du Conseil d'Etat du 28 septembre 1995. L'article 8 de la loi n°46-628 de 1946 l'a exclu de la nationalisation. Cependant, les sociétés opérateurs de transport doivent comporter au minimum 30 pour cent de capitaux publics, en vertu du décret n° 50.578 du 24 mai 1950 qui dispose : « les transports de gaz combustible à distance par canalisations sont (...) concédés (...) (par l'Etat) en ce qui concerne le gaz naturel, aux organismes prévus à l'article 2 de la loi n° 49-1090 du 2 août 1949 » ; les transporteurs sont soumis à un cahier des charges type approuvé par le décret n° 52.77 du 15 janvier 1952.

Les concessions concernent les canalisations jusqu'au compteur d'entrée des distributions. Elles alimentent, par ordre de priorité, les distributions publiques, les ouvrages de transport et les clients directs. Les obligations de service public qui pèsent sur cette activité sont définies par l'article 19 (continuité du service) et par l'article 23 (égalité de traitement) du cahier des charges.

L'article 4 du décret n° 85-1108 du 15 octobre 1985 dispose que « dans les zones de distribution publique, le transport ne peut, sauf accord avec le distributeur, alimenter directement que des entreprises industrielles dont la consommation annuelle est supérieure à cinq millions de KWh ». Ce décret régit les procédures administratives de concession ainsi que le transit de gaz naturel entre grands réseaux de transport.

Le transport du gaz naturel est donc réalisé en France par deux concessionnaires, Gaz de France et GSO, et par un fermier de GDF, CFM ; tous trois disposent de monopoles géographiques, Sud-Ouest pour GSO, Centre-Ouest pour CFM et le reste du territoire pour GDF. Le capital de ces sociétés est détenu à plus de 30 pour cent par des personnes publiques. Les actionnaires de GSO sont Elf (70 pour cent) et GDF (30 pour cent) ; CFM est une filiale à 55 pour cent de GDF, le reste du capital étant réparti entre Elf (30 %) et Total (15 %). Les livraisons annuelles de GSO et CFM ont atteint respectivement en 1998 38,8 milliards et 91,3 milliards de kWh, soit environ 10 et 22 pour cent du gaz naturel consommé en France. CFM livre 330 clients industriels importants qui représentent 18 pour cent des consommations totales de gaz naturel de l'industrie (consommation de 25 milliards de kWh par an) et 505 distributions publiques (70 milliards de kWh). Elle dispose d'un réseau affermé par GDF, de 6350 km de canalisations souterraines et du réservoir souterrain de Chémery. GSO approvisionne 450 points de livraison.

Enfin la distribution de gaz de réseau, qui entre dans le champ de la nationalisation prévue par la loi du 8 avril 1946, s'opère dans le cadre de concessions de distribution publique accordées aux centres de distribution GDF, même si des « distributeurs non nationalisés » (DNN), essentiellement des régies municipales et des organismes assimilés (au nombre de dix-sept), demeurent habilités à assurer cette distribution, en vertu des modifications apportées à la loi de 1946 par la loi du 2 août 1949. La capacité de distribution de ces régies municipales a été étendue aux communes limitrophes, restreignant en droit le monopole de la distribution du gaz de réseau confié à GDF, en vertu de la loi n° 96-314 du 12 avril 1996.

1.4.3 Deux opérateurs ont la propriété des sites de stockage et autres installations connexes

80 pour cent des capacités de stockage européennes sont concentrés dans trois pays, l'Italie (SNAM 15 Bcm), la France (GDF 10,9 Bcm) et l'Allemagne.

L'activité de stockage est soumise en France à un régime d'autorisation, par l'ordonnance n° 58.1132 du 25 novembre 1958. Il s'agit d'une activité concurrentielle, mais en pratique, compte tenu du coût des investissements, seuls GDF et Elf disposent de telles installations. Quatorze lieux de stockage existent en France (douze pour GDF, deux pour Elf), dont onze en nappes aquifères et trois en cavités salines. Les volumes de gaz naturel effectivement stockés sont équivalents à quatre mois de consommation nationale (égale en 1998 à 38 Gm3), soit 12 Gm3 de capacité en service, sur une capacité totale de 25 Gm3. Les stockages en cavités salines ont de très fortes capacités de soutirage pendant de très courtes périodes. Ils sont mobilisés dans les cas de très grand froid ou lors d'une interruption brutale d'approvisionnement.

1.4.4 Plus de 90 pour cent de la consommation nationale est distribuée par GDF

L'activité de distribution du gaz combustible consiste dans l'alimentation par canalisation, essentiellement en basse pression, des clients finals (usagers consommant des quantités de gaz inférieures à cinq millions de KWh/an, essentiellement domestiques et petits industriels). Elle incombe aux collectivités locales territoriales (essentiellement aux communes). Qualifiée expressément de service public dans l'article 3 de la loi n° 46-628 du 8 avril 1946, la distribution du gaz par réseaux en France est un service public local à caractère industriel et commercial organisé sous le régime de la concession.

Aux termes de ces concessions, pour une durée comprise en général entre vingt et trente ans, sur un modèle type négocié au niveau national par la Fédération nationale des collectivités concédantes et des régies (FNCCR), « l'autorité concédante (la commune ou groupement de communes) garantit au concessionnaire (distributions publiques de GDF) le droit exclusif d'exploiter le service public de distribution de gaz dans le périmètre défini et à cette fin, d'établir les ouvrages nécessaires ».

Les ouvrages du domaine concédé de la distribution, à savoir les canalisations et installations connexes, sont des biens de retour, propriété des communes ou des groupements de communes.

Echappent toutefois au monopole de GDF dix-sept distributeurs non nationalisés [régies municipales ou sociétés d'économie mixte exerçant une seule activité ou d'autres activités (telles l'électricité, l'eau et le chauffage urbain)] desservant 170 communes (soit trois pour cent de la consommation nationale de gaz naturel). Les plus grosses DNN sont Gaz de Bordeaux (dont le capital est détenu par Elf, Dalkia et GDF, à hauteur de 16 pour cent chacun) et Gaz de Strasbourg (GDF : 24,9 pour cent et Total : 25 pour cent).

En 1999, 6514 communes regroupant plus de 39 millions d'habitants, soit plus de 70 pour cent de la population, sont desservies par Gaz de France.

Jusqu'en 1998, GDF détenait le monopole de la desserte de gaz combustible en réseaux et était seul à pouvoir entreprendre la desserte des communes non encore alimentées, si le respect d'un taux minimal de rentabilité était assuré, « afin de veiller à ce que l'extension de la desserte ne se fasse pas au détriment d'une concurrence loyale entre énergies substituables », ainsi que le stipulait la circulaire du ministère de l'industrie du 3 mai 1996 ; ce taux (bénéfice actualisé/montant actualisé des investissements) avait été fixé à 0,3.

Deux ouvertures ont été apportées dans ce monopole de GDF par la Commission européenne. Celle-ci, faisant application de la jurisprudence du « monopole défaillant » développée par la Cour de justice des communautés européennes dans l'affaire Höfner/Elser du 23 avril 1991, a estimé que, dans les zones non encore desservies en gaz pour des raisons de rentabilité, le monopole conféré par la législation française à GDF conduisait l'opérateur public à commettre un abus de position dominante sur le marché national de la distribution de gaz, en empêchant tout opérateur concurrent de desservir ces zones. Cette analyse se situe dans le cadre de la doctrine de l'abus automatique des monopoles publics.

A la suite de cette intervention de la Commission, le Parlement français a adopté deux textes :

- l'article 97 de la loi n° 96-314 du 12 avril 1996, portant diverses dispositions d'ordre économique et financier, permet aux régies et sociétés mixtes non nationalisées d'étendre leurs activités de distribution de gaz aux communes non desservies en gaz, voisines de celles qu'elles desservent ;
- l'article 50 de la loi n° 98-546 du 2 juillet 1998 permet par ailleurs aux communes non desservies en gaz par GDF de recourir au distributeur de leur choix. Cependant, GDF bénéficie d'une sorte de droit de préemption des communes les plus rentables. En effet, l'article 50 instaure un plan national de desserte des communes non desservies qui souhaitent être alimentées par GDF ou par les DNN. Les collectivités concédantes avaient jusqu'au 14 août 1999 pour demander leur inscription sur ce plan, élaboré au niveau départemental et arrêté au niveau ministériel. Toutes les communes présentant un seuil de rentabilité supérieur ou égal à zéro (B/I) peuvent demander leur inscription sur le plan, sous réserve de l'incidence de la future desserte en gaz naturel « sur les activités énergétiques concurrentes et sur la situation économique et sociale locale » ou « sur la politique énergétique nationale ». GDF devra engager les travaux dans les trois ans. Ce plan sera publié au plus tard le 14 avril 2000 ; il ne concerne que la desserte en gaz naturel, à l'exclusion des autres gaz combustibles. La mise en œuvre de ces dispositions pourrait se traduire par la desserte de 800 à 1200 communes supplémentaires, ayant 1 500 habitants en moyenne, dans les trois ans à venir, portant ainsi le nombre des communes raccordées à 7 600 (sur un total de 38 000 communes).

Les communes ne figurant pas dans le plan de desserte ou celles qui ont postulé dans l'hypothèse de la non publication du plan avant le 14 avril 2000 ou encore celles qui n'ont pas été desservies dans le délai de trois années (c'est-à-dire au 14 avril 2003) pourront recourir à l'opérateur de leur choix pour assurer le service de distribution de gaz. Elles pourront donc déléguer la distribution du gaz à toute entreprise ou société d'économie mixte régulièrement agréée par le ministre chargé de l'énergie. De nombreux opérateurs sont intéressés par ce marché nouveau, des vendeurs de propane et de butane notamment, tels Butagaz et Primagaz. Ces derniers construiraient des réseaux de distribution alimentés par une citerne de gaz de pétrole liquéfié (GPL) située à l'entrée des communes.

2. Organisation, fonctionnement et évolution de la régulation

Actuellement, la situation est celle du monopole décrite ci-dessus, dont le principal opérateur est Gaz de France (GDF), sous le contrôle direct du gouvernement, sans autorité indépendante pour régler des litiges d'accès aux réseaux qui demeurent théoriques dans la structure monopolistique précitée.

Pour l'avenir, une directive européenne n° 98/30/CE⁵ ouvre à la concurrence l'industrie du gaz dans un souci de création d'un marché unique européen pour ce produit. Cette ouverture devrait imposer une série de mutations structurelles et institutionnelles.

2.1 *Les mutations structurelles imposées par la directive n° 98/30/CE*

Des mutations sont imposées à l'industrie du gaz par l'approfondissement du processus d'intégration du marché européen. Ces mutations sont traduites par la directive de 1998 précitée visant à l'établissement d'un marché unique du gaz.

Les communautés européennes n'ont pas prévu à l'origine de politiques d'ensemble de l'énergie. Seuls ont été concernés le charbon et l'atome. Cette orientation tient à la spécificité du secteur, dont les caractéristiques rendaient moins opérants les avantages à attendre d'une ouverture à la concurrence. L'impératif de sécurité d'approvisionnement a été à l'origine d'une planification à long terme des sources d'approvisionnement. Les réseaux de transport et de distribution du gaz et de l'électricité ne peuvent être dupliqués que très difficilement, pour des raisons de coût, et de respect de l'environnement. Le gaz et l'électricité sont des produits de première nécessité pour les usagers domestiques et ne sont pas substituables ou difficilement substituables pour les entreprises. La fourniture de ces énergies en tout point du territoire pour l'électricité, dans les communes où sa distribution est économiquement rentable pour le gaz, et à des prix plus ou moins péréqués, a été considérée comme une mission de service public.

Dans la plupart des pays européens, les secteurs électrique et gazier étaient dominés par des monopoles publics au niveau national, comme en France et en Angleterre, ou au niveau régional, comme en Allemagne. Dans les années 70, la préoccupation principale était de garantir la sécurité d'approvisionnement et la tendance était plutôt au renforcement de ces monopoles. Ce n'est que dans les années 80 que l'on a commencé à les remettre en cause, à mesure que les prix de l'énergie en tant que composante importante des prix industriels (dans la chimie, jusqu'à 60 pour cent des coûts de production) sont devenus une préoccupation majeure. Or, selon la Commission européenne, les prix de l'électricité et du gaz seraient en moyenne de 40 pour cent plus élevés en Europe qu'aux Etats-Unis. La première étape du mouvement de libéralisation des marchés s'est manifestée dans les années 1980, avec l'adoption de deux directives, la directive du 29 juin 1990 instaurant une procédure communautaire assurant la transparence des prix au consommateur final industriel d'électricité et de gaz et les directives du 29 octobre 1990 et du 31 mai 1991 pour le transit de l'électricité et du gaz. Le processus a enfin débouché sur l'adoption des directives du Parlement européen et du Conseil de l'Union européenne n° 96/92/CE du 19 décembre 1996 concernant des règles communes pour le marché intérieur de l'électricité et n° 98/30/CE du 22 juin 1998 concernant des règles communes pour le marché intérieur du gaz naturel. Cette dernière directive a été publiée au JOCE le 21 juillet 1998 ; elle doit être transposée dans le droit national pour le 10 août 2000. Elle ne concerne que le gaz naturel (y compris le gaz naturel liquéfié [GNL]), et non le propane butane. Elle ne traite pas de la production de gaz, réglementée par la directive n° 94/22/CE du 30 mai 1994, ni des canalisations off shore. Son objectif est de permettre à des clients dits « éligibles » d'acheter leur gaz à l'opérateur de leur choix et d'instaurer ainsi une concurrence « gaz-gaz » sur l'aval gazier (transport et distribution).

La directive pose quatre exigences majeures : l'accès des tiers aux réseaux, la transparence des coûts et des prix, la dissociation comptable des activités (unbundling) et une régulation du secteur.

Les négociations de cette directive ont fait ressortir les intérêts divergents des opérateurs. Certains réclamaient l'ouverture du marché gazier, notamment les producteurs d'électricité (en Italie et en Espagne), gros consommateurs de gaz, qui souhaitaient contracter directement auprès des producteurs de gaz. Inversement, les compagnies gazières, importatrices, étaient tentées de « verrouiller » le marché, en saturant leurs canalisations. La multiplication des contrats « take or pay », ces dernières années, a réduit singulièrement la marge de manoeuvre des Etats ; en 2005, sur 455 Gm3 de consommation gazière attendue, 435 Gm3 auraient déjà fait l'objet de contrats ; en 2010, 450 Gm3 sur 490 Gm3. Ces contrats « take or pay » consistent dans des conventions par lesquelles un acheteur prend un engagement à long terme d'acheter un certain volume de gaz. Cet engagement trouve une contrepartie dans l'indexation des prix du gaz livré à la frontière sur le cours du pétrole, avec pour contrainte de soutenir la compétitivité du gaz naturel en termes de prix facturés aux clients finals par l'opérateur national, après transport et distribution à un producteur (principe du « net back »). Lorsque l'acheteur ne veut ou ne peut enlever la quantité qu'il s'est engagé à acheter, il doit payer des pénalités de non enlèvement. Les contrats prévoient généralement une certaine marge de manoeuvre annuelle, généralement plus ou moins dix pour cent par rapport à la quantité d'enlèvement convenue. C'est ainsi par exemple que si l'acheteur enlève une quantité inférieure de cinq pour cent à la quantité prévue, il paiera la somme relative à la quantité prévue et le fournisseur pourra lui restituer le surplus acheté et non enlevé lors d'une autre période. Ces contrats prévoient aussi des marges de souplesse pour les enlèvements journaliers et contiennent des clauses de révision de prix qui permettent de corriger régulièrement le prix de base convenu entre les parties au début de la période contractuelle, dans le but de maintenir la compétitivité du gaz par rapport aux énergies concurrentes (formule d'indexation ; prise en compte du risque de change ; clause de révision de prix triennale).

Ce mécanisme a été conçu pour garantir un débouché stable aux producteurs, de nature à rentabiliser les investissements d'infrastructure nécessaires à l'exploration et à l'exploitation des champs. Il résulte de ces dispositions que les opérateurs nationaux gaziers se trouveraient confrontés à de graves difficultés s'ils ne pouvaient enlever les quantités de gaz prévues dans ces contrats parce que leurs clients se seraient approvisionnés auprès d'autres fournisseurs, qui offrent du gaz sur les marchés de court terme, à des prix inférieurs.

Les modalités de transposition de la directive, en application du principe de subsidiarité, sont en grande partie laissées à l'initiative des Etats ; l'ouverture à la concurrence peut être totale, comme au Royaume-Uni ; elle peut être partielle, ainsi que l'a préconisé le groupe Energie 2010-2020 du Plan, et, sous réserve du respect d'un certain nombre de principes, limitée aux industriels. L'ouverture à la concurrence peut être dans ce cas circonscrite à l'introduction marginale de nouveaux opérateurs et de nouveaux modes de commercialisation. La problématique de transposition de la directive varie selon les Etats et reflète les différences dans l'organisation et la place du secteur gazier (plus ou moins grande dépendance aux importations, usages du gaz...).

2.2 Les mutations institutionnelles

Sur le plan institutionnel, la directive prévoit la désignation d'une autorité indépendante pour régler les litiges contractuels d'accès aux réseaux. L'article 21 de cette directive dispose notamment que « les Etats membres désignent une autorité compétente qui doit être indépendante des parties pour régler rapidement les litiges relatifs aux négociations d'accès aux réseaux. Cette autorité doit notamment régler les litiges concernant les négociations et le refus d'accès dans le cadre de la présente directive. L'autorité compétente présente ses conclusions sans délai ou, si possible, douze semaines au plus tard après avoir été

saisie du litige ». En outre, l'article 23 de la directive prévoit aussi la mise en place d'un système similaire « pour permettre la résolution rapide des litiges portant sur l'accès aux réseaux de gazoducs en amont », c'est-à-dire au réseau utilisé pour transporter du gaz naturel d'un site de production vers une usine de production ou un terminal d'atterrissage. La France n'est pas concernée par cet article, à cause du faible niveau de sa production. En vertu de l'article 12, ces « autorités de règlement des litiges (...) ont le droit d'accéder à la comptabilité des entreprises de gaz naturel (...), lorsque cette consultation leur est nécessaire pour exercer leurs fonctions ». Elles préservent la confidentialité des informations commercialement sensibles dont elles ont connaissance. Certains articles se réfèrent à la désignation facultative d'une autorité compétente pour accorder les autorisations aux opérateurs gaziers (article 4), pour fixer les critères relatifs à l'octroi de construction ou d'exploitation de conduites directes (article 20), pour connaître des demandes de dérogation à l'accès des tiers au réseau des entreprises de gaz naturel, basées sur leurs engagements « take or pay » (article 25).

S'agissant des autres composantes de la mission de régulation, elles sont dévolues par la directive à l'Etat. C'est ainsi que l'Etat doit veiller à l'édiction de prescriptions techniques d'interopérabilité des réseaux (article 5), prend les mesures nécessaires pour que les entreprises de transport, de stockage de GNL (article 6) et de distribution (article 9) exploitent et développent leurs réseaux et s'abstiennent de toute pratique discriminatoire à l'égard des tiers utilisateurs du réseau et pour qu'elles tiennent des comptes séparés de leurs différentes activités, lorsqu'elles sont intégrées (article 13). Enfin, il est par ailleurs précisé à l'article 22 que « les Etats membres créent des mécanismes appropriés et efficaces de régulation, de contrôle et de transparence afin d'éviter tout abus de position dominante, au détriment notamment des consommateurs, et tout comportement prédateur. Ces mécanismes tiennent compte des dispositions du traité et notamment de son article 86 ».

En outre, un « Livre blanc »⁶ du gouvernement français rappelle quelles devraient être les caractéristiques de la régulation du secteur (articulation avec les politiques publiques de l'énergie ; rapidité d'intervention ; pouvoirs de sanction ; compétence technico-économique ; articulation avec les autorités de concurrence et les juridictions de droit commun) et suggère la création d'une Commission de régulation. Il laisse ouvert le choix entre la création d'une commission spécifique au gaz et l'extension au gaz de la compétence de la Commission de régulation chargée de l'électricité. La mise en place d'un système de régulation efficace et transparent apparaît en effet indispensable à l'ouverture réelle du marché à la concurrence. Les tâches qui lui seront dévolues seront essentiellement de régler les litiges d'accès au réseau.

Pour sa part, dans un avis n° 98-A-05 du 28 avril 1998 sur l'électricité⁷, le Conseil de la concurrence a exposé les différentes solutions envisageables pour assumer ces tâches. La solution d'une formation spécialisée au sein du Conseil de la concurrence avait été envisagée à cette occasion, par comparaison avec les pays dans lesquels l'autorité de concurrence exerce une fonction de régulateur. La solution de l'autorité administrative autonome, selon le Conseil, « permet une concentration des compétences et manifeste le souci d'indépendance vis-à-vis de la tutelle de l'opérateur public, notamment aux yeux de la Commission européenne et de la Cour de justice ».

Quelle que soit la forme finalement retenue pour cette autorité, ses compétences, d'ordre réglementaire, de sanction ou d'avis, devraient être notamment les suivantes :

- intervenir sur les points suivants : les tarifs de transport et les tarifs destinés aux consommateurs captifs ;
- sanctionner les manquements des entreprises gazières (à la confidentialité, à la séparation comptable, au droit d'accès) ;

- régler les litiges d'accès au réseau (gazoducs, installations connexes) entre les entreprises gazières exploitant les réseaux et les tiers utilisateurs ;
- apprécier la validité des demandes de dérogations fondées sur les contrats « take or pay » ;
- fixer les règles de séparation comptable entre les activités de transport, stockage et distribution.

En tout état de cause, la création d'une nouvelle autorité administrative indépendante appellerait la formalisation d'une coordination avec le Conseil de la concurrence, comme c'est déjà le cas avec l'Autorité de régulation des Télécommunications (ART) dans le secteur des télécommunications.

3. Les principaux problèmes de concurrence rencontrés ou susceptibles d'être rencontrés

Le Conseil de la concurrence a eu l'occasion à de multiples reprises d'exposer les raisonnements et méthodes d'analyses à suivre pour prendre en compte la dimension concurrentielle des problèmes posés par l'ouverture à la concurrence, notamment dans un avis de 1994 sur les problèmes soulevés par la diversification des activités d'EDF et de GDF au regard de la concurrence et dans deux avis de 1998 concernant le fonctionnement concurrentiel du marché électrique et les principes devant guider et encadrer la politique tarifaire d'EDF.⁸

Pour l'industrie du gaz, l'ouverture à la concurrence devrait entraîner plusieurs conséquences sur les structures de l'offre (A). Par comparaison avec les conséquences de l'ouverture à la concurrence pour le secteur de la production et de la distribution de l'électricité imposée par la directive 96/92/CE, l'ouverture à la concurrence de l'industrie du gaz devrait entraîner des problèmes de concurrence d'une nature similaire (B). Toutefois, des problèmes de concurrence spécifiques à l'industrie du gaz pourraient aussi intervenir (C).

3.1 Les conséquences structurelles de l'ouverture à la concurrence

Les sociétés de transport et de distribution gazières jusqu'ici en monopole sur leurs marchés nationaux (comme GDF) risquent de perdre leurs clients éligibles au profit des pétrogaziers (oligopole pétrogazier de mer du Nord : Statoil, Norsk Hydro, Shell, Exxon, Mobil, BP) qui offriront non seulement le gaz qu'ils produisent mais aussi des prestations de transport. Longtemps protégées sur leur marché national, les entreprises disposant de monopoles nationaux rencontreront des difficultés à mettre en œuvre une stratégie adaptée aux nouvelles conditions du marché, et notamment à faire face aux effets de ciseau résultant des engagements fermes à long terme (take or pay) qu'elles ont contracté et des aléas de la demande finale désormais partiellement gouvernée par la concurrence. Elles n'auront d'autre solution que de consolider leurs avantages concurrentiels (installations de stockage pour GDF), l'internationalisation de la distribution et la diversification dans les services énergétiques aux consommateurs finals pouvant également constituer des orientations fructueuses. Enfin, de nombreuses synergies sont possibles au niveau de la production et de la distribution entre le secteur de l'électricité et le secteur du gaz ; ainsi, la plupart des sociétés distributrices de gaz sont aussi distributrices d'électricité sur le marché anglais. Les compagnies d'électricité de leur côté ont intérêt à contrôler la ressource gazière, appelée à devenir la matière première de la production d'électricité ; Power Gen ou RWE, présents dans la production de l'électricité, se retrouvent naturellement dans le transport et la distribution de gaz.

L'apparition et le développement de marchés spot du gaz (comme celui de Zeebrugge) permettront progressivement aux prix de refléter la compétition gaz-gaz et non plus seulement l'évolution

des prix des autres énergies. Elle entraînera une plus grande volatilité des prix et un besoin de couverture des risques pour les compagnies gazières. Les modalités d'achat et de vente du gaz en seront profondément transformées.

A l'heure actuelle en Europe, seul le Royaume-Uni a totalement ouvert son marché du gaz à la concurrence, y compris pour les ménages. L'Allemagne a d'ores et déjà transposé la directive dans une loi du 29 avril 1999 et n'a pas prévu de restrictions quant à l'éligibilité. L'Italie a fait de même. En Hollande, Gasunie accorde un accès des tiers à son réseau de grand transport, mais cet accès est en réalité restreint par le mode de tarification retenu. L'Espagne a instauré en 1996 un accès des tiers (ATR) au réseau gazier pour les clients industriels importants (chimistes et électriciens), en prévoyant des dispositions restrictives, notamment si les volumes additifs de gaz importés empêchaient l'opérateur national Enagaz de remplir ses obligations « take or pay ».

3.2 *Les problèmes de concurrence communs à l'industrie du gaz et de l'électricité*

Ces problèmes concernent, d'une part, le choix des critères d'éligibilité et d'autre part, l'accès au réseau.

3.2.1 *Le choix des critères d'éligibilité*

Les clients éligibles de chaque Etat membre sont, selon la directive, « les clients qui ont la capacité juridique de passer des contrats de fourniture de gaz naturel ou d'achats de gaz naturel » auprès des fournisseurs de leur choix, même si ces fournisseurs sont situés dans un autre Etat membre. De leur définition dépend donc le degré d'ouverture des marchés. Comme la directive 96/92/CE sur l'électricité, la directive 98/30/CE n'impose qu'une ouverture limitée et progressive à la concurrence.

Sont éligibles par nature les producteurs d'électricité à partir du gaz quel que soit leur niveau de consommation, et les gros clients finals ayant une consommation supérieure à 25 millions de m³ par an et par site (seuil porté à 15 millions puis à cinq millions de m³ en 2003 et 2008). Pour le reste, les Etats sont libres, en vertu du principe de subsidiarité, de définir les critères d'éligibilité, dans le respect d'un seuil minimal d'ouverture, évolutif, imposé par la directive : une ouverture du marché égale à 20 pour cent au moins de la consommation annuelle totale de gaz du marché national du gaz le 10 août 1998, portée à 28 pour cent cinq ans après l'entrée en vigueur de la directive, soit le 10 août 2003, puis à 33 pour cent dix ans après cette entrée en vigueur, soit le 10 août 2008.

Les Etats peuvent aller au-delà des prescriptions de la directive. L'objectif affiché par la directive est cependant d'aboutir à un niveau comparable d'ouverture des marchés des différents Etats membres. Dix années après l'entrée en vigueur de la directive, la Commission pourra proposer une nouvelle ouverture du marché (article 28).

Compte tenu de la faible part de la production d'électricité à partir du gaz en France, l'application des critères d'éligibilité automatique (consommateurs de plus de 25 millions de m³) aboutit à l'ouverture minimale voulue par la directive (20 pour cent), contrairement aux autres pays européens qui dépassent nettement les seuils minimaux en appliquant mécaniquement les critères d'éligibilité automatiques.

3.2.2 *La question de l'accès au réseau*

La directive n'impose pas, contrairement à la directive sur l'électricité, la désignation d'un gestionnaire de réseau indépendant.

GSO et GDF ont chacun un système de gestion de leur réseau de transport (dispatching) chargé d'assurer l'équilibre du réseau au jour le jour. C'est une fonction plus simple à assurer que la gestion du réseau de transport de l'électricité. En effet, l'équilibrage de l'offre et de la demande n'a pas à s'effectuer « en temps réel », compte tenu de la possibilité de stocker le gaz et du temps de détente du gaz sur le réseau. En outre, le gestionnaire de réseau de transport de gaz n'a pas à mobiliser des installations de production selon un ordre de préséance économique. Son rôle essentiel est de faire transiter le gaz sur ses canalisations.

Comme pour le gestionnaire du réseau de transport de l'électricité, il conviendrait notamment que des sanctions pénales soient prévues à l'encontre des personnes physiques en charge des opérations de gestion qui divulgueraient des informations commercialement sensibles susceptibles de créer un désavantage pour les concurrents ou qui favoriseraient indûment leurs entreprises liées.

Par ailleurs, si des tarifs de transport du gaz plus élevés que ceux supportés par GDF étaient proposés à des producteurs ou des importateurs nouveaux entrants, il en résulterait un désavantage pour les concurrents de l'opérateur historique qui ne pourraient pas pratiquer des prix de vente de gaz compétitifs par rapport à l'opérateur public. Cette pratique pourrait être anticoncurrentielle. Des prix de transport trop élevés pourraient constituer un obstacle rédhibitoire à l'ouverture du marché. Dans un avis de 1993 déjà cité, relatif aux conditions d'exploitation de l'oléoduc Donges-Melun-Metz, le Conseil de la concurrence a rappelé que si les tarifs de base du transport et les conditions éventuelles de remises doivent être objectifs, transparents et non discriminatoires, « tout système comportant des avantages tarifaires en fonction de quantités transportées serait de nature à affecter le jeu de la concurrence, car cela peut avantager indûment certains utilisateurs par rapport à d'autres ».⁹ Une tarification du transport comportant une composante tenant largement compte des quantités transportées risquerait d'introduire une dissymétrie dans la concurrence avantageant l'opérateur historique.

Dans l'industrie du gaz, la question de l'accès au réseau pose également le problème sectoriel spécifique de l'accès aux installations de stockage. Cette question est traitée ci-après.

3.3 *Les problèmes de concurrence spécifiques à l'industrie du gaz*

Trois problèmes sont plus particulièrement susceptibles d'affecter l'industrie du gaz, contribuant à distinguer ce secteur de celui de l'électricité : l'accès aux installations de stockage, la problématique des contrats « take or pay », la question du monopole d'importation et d'exportation.

3.3.1 *L'accès aux réseaux de stockage*

La définition du réseau comprend aussi les installations de stockage. Cependant, les installations de stockage ne sont pas soumises au principe d'accès des tiers au réseau, sauf, ainsi que l'exposent les déclarations interprétatives sur le 13 de l'article 2 de la directive, « si un tel accès est techniquement nécessaire pour fournir un accès efficace au réseau de transport et/ou de distribution ».

Les futurs concurrents de GDF et certains clients éligibles revendiquent un droit d'accès aux installations de stockage. Ils prétendent qu'il s'agit d'infrastructures essentielles en l'absence desquelles l'ouverture à la concurrence ne pourra se faire, en raison de l'impossibilité des fournisseurs de répondre à la demande modulée selon les saisons de leurs clients industriels.

Il n'est pas indispensable de prévoir un droit d'accès systématique d'accès aux installations de stockage dans les textes de transposition de la directive en droit national, à l'exception de la part du stockage limitée à deux pour cent des capacités servant à l'équilibrage au jour le jour du réseau, pour

plusieurs raisons et notamment parce que les installations de stockage sont utilisées par les deux opérateurs nationaux GDF et ELF pour faire face à des scénarios de rupture d'approvisionnement ou de pointe d'hiver, et donc les capacités disponibles dans les installations de stockage de GDF et d'ELF pour un éventuel accès aux tiers sont limitées.

Par ailleurs, pour la satisfaction des clients éligibles, la fonction de modulation saisonnière ne semble pas « techniquement » nécessaire pour assurer un accès efficace au réseau de transport, conformément aux termes des déclarations interprétatives sur la directive gaz. En effet, au niveau des besoins à satisfaire, on constate que le profil de charges des consommateurs éligibles est assez plat et prévisible (à l'exception des cogénérations). En outre, il existe des alternatives au stockage, telles le recours à des prestations de modulation (Gazunie), les achats spot et enfin les contrats des clients dits « interruptibles ».

Les installations de stockage sont certes des infrastructures lourdes et difficilement reproductibles, à cause de leur coût, de la rareté des sites géologiques et des préoccupations environnementales ; il n'en résulte pas pour autant une impossibilité totale de les mettre en place. Il existe sur le territoire français quelques sites « déplétés », anciens gisements, qui pourraient être reconvertis en installations de stockage.

D'autre part, l'octroi a priori d'un droit d'accès ne peut être automatiquement considéré comme une condition préalable pour que s'opère une concurrence effective. Si une entreprise en position dominante doit s'abstenir de tout comportement anticoncurrentiel, elle n'est pas tenue de promouvoir activement la concurrence en accordant systématiquement à ses concurrents un droit d'accès aux installations qu'elle a construites pour elle. Dans une décision Oscar Bronner/Mediaprint, la Cour de justice des Communautés européennes a jugé que, pour que le refus d'accès à son système de portage à domicile opposé par un journal à son concurrent constitue un abus de position dominante, il fallait que ce refus « soit de nature à éliminer toute concurrence sur le marché de la part du demandeur du service et ne puisse être objectivement justifié, mais également que le service en lui-même soit indispensable à l'exercice de l'activité de celui-ci, en ce sens qu'il n'existe aucun substitut réel ou potentiel audit système ». Or, en l'espèce, la Cour a constaté que, d'une part, d'autres modes de distribution existaient, « même s'ils devaient être moins avantageux », et, d'autre part, que la création par le demandeur d'un tel système n'était pas impossible, car il ne suffit pas « pour démontrer que la création d'un tel système ne constitue pas une alternative potentielle réaliste et que l'accès au système existant est donc indispensable, (...) de faire valoir qu'elle n'est pas économiquement rentable ».

La construction d'installations de stockage a permis à GDF de suppléer à l'absence de gisements sur le sol français. Permettre aux futurs concurrents de GDF ou d'ELF, tels SHELL ou Distrigaz d'accéder à leurs installations de stockage, alors que réciproquement GDF ou ELF n'auraient pas accès aux gisements de ces producteurs, reviendrait à défavoriser les opérateurs nationaux, de manière disproportionnée par rapport à l'intérêt pour l'ouverture de la concurrence. Cette solution présenterait en outre des dangers de spéculation sur le prix du gaz et de saturation des capacités au détriment des obligations de service public de GDF et d'ELF (fourniture des clients captifs, dont la consommation subit d'importantes modulations saisonnières).

Toutefois, en cas de refus d'accès ou d'accès dans des conditions discriminatoires, le Conseil de la concurrence devrait apprécier, au cas par cas, les éventuels abus de position dominante des deux détenteurs d'installations de stockage, GDF et ELF.

3.3.2 *La problématique des contrats « take or pay »*

La conjonction des besoins des pays importateurs de gaz et de l'importance des infrastructures nécessaires à l'exploitation du gaz ont conduit à l'apparition de contrats à long terme comportant des clauses appelées « take or pay ». Il s'agit de clauses de partage de risques, entre les producteurs et les sociétés gazières. Ces contrats « take or pay » consistent dans des conventions par lesquelles l'acheteur de gaz prend un engagement à long terme d'acheter un certain volume de gaz vis-à-vis du fournisseur. Cet engagement trouve une contrepartie dans l'ajustement des prix livrés à la frontière sur la valeur du cours du pétrole, avec pour objectif de soutenir la compétitivité du gaz naturel en termes de prix facturés aux clients finals par l'opérateur national, après transport et distribution (clause de net back). Lorsque l'acheteur ne peut enlever la quantité qu'il s'est engagé à acheter, il doit payer des pénalités de non-enlèvement. Les contrats prévoient généralement une certaine marge de manoeuvre annuelle, généralement plus ou moins dix pour cent par rapport à la quantité convenue. C'est ainsi par exemple que si l'acheteur enlève une quantité inférieure de cinq pour cent à la quantité prévue, il paiera la somme relative à la quantité prévue et le fournisseur pourra lui restituer le surplus acheté et non enlevé lors d'une autre période. Ce mécanisme a été conçu pour garantir un débouché suffisant aux producteurs, leur permettant d'engager les gros investissements d'infrastructure nécessaires à l'exploration et à l'exploitation des champs. De leur côté, les pays importateurs se voyaient assurés d'être approvisionnés en gaz. On voit bien que les opérateurs nationaux gaziers qui ont conclu de tels contrats sont pris en ciseau entre ces engagements à long terme et des risques de perte de marchés à la distribution ou au transport.

L'existence des contrats "take or pay" conduit à privilégier une ouverture progressive et maîtrisée du marché. Toutefois, des possibilités de renégociation des contrats avec des marges de flexibilité plus importantes sont possibles.

Il est donc important de veiller à ce que les engagements "take or pay" n'aboutissent pas à empêcher toute ouverture réelle du marché. Le régulateur devra attentivement s'assurer que les entreprises gazières n'abusent pas de cette justification pour refuser l'accès des tiers à leur infrastructure.

3.3.3 *Les monopoles d'importation et d'exportation*

Le monopole des importations et des exportations de gaz naturel a été confié à GDF. 95 pour cent du gaz consommé en France est importé par GDF, les cinq pour cent restant constituant la production française d'Elf sur le gisement de Lacq.

La directive ne contient aucune disposition directement relative aux monopoles d'importation et d'exportation des compagnies gazières. Cependant, en instaurant la faculté pour les clients éligibles de s'approvisionner auprès du fournisseur de leur choix, elle réduit la portée de ces monopoles, car ces clients éligibles auront une relation contractuelle directe avec ces fournisseurs, sans passer par les opérateurs nationaux.

La Cour de justice des Communautés européennes, dans une affaire Commission contre France du 23 octobre 1997, n'a ni validé ni infirmé les droits exclusifs d'importation de GDF.

La directive ne prévoit comme droits exclusifs, motivés par l'accomplissement des missions d'intérêt économique général des compagnies gazières, que les droits exclusifs de distribution et non pas les exclusivités d'exportation et d'importation.

Le maintien des monopoles d'importation et d'exportation de GDF paraît donc difficilement envisageable : si les transporteurs - fournisseurs (CFM, GSO) ne pouvaient importer librement du gaz pour leurs clients non éligibles, ils ne pourraient pas réaliser d'infrastructures nouvelles sur leurs réseaux, en

l'absence d'un marché suffisant pour les amortir (l'ouverture des marchés européens devrait cependant leur garantir à moyen ou long terme d'autres marchés géographiques). GDF resterait le seul opérateur à pouvoir investir dans des infrastructures lourdes (par exemple, la construction de méthaniers). Il n'y aura donc pas de réalisation d'infrastructures concurrentes de GDF. Par ailleurs, les trois transporteurs-fournisseurs ayant exactement les mêmes obligations de service public au regard de la clientèle des distributions publiques, il serait difficile de justifier l'existence de monopoles d'importation et d'exportation pour l'un d'entre eux exclusivement.

Pour ces raisons, la fin des monopoles d'importation et d'exportation de GDF apparaît donc comme une condition nécessaire de l'ouverture à la concurrence du secteur.

3.4 Les problèmes de concurrence tenant à la position dominante de l'opérateur historique

Le monopole historique va rester en position dominante pendant une certaine période, après la date théorique d'ouverture à la concurrence. Pour le Conseil de la concurrence, cela entraîne nécessairement la définition d'un certain nombre de critères d'analyse, notamment en ce qui concerne la définition du marché pertinent, les conditions d'octroi de certains avantages commerciaux dans des relations contractuelles, les conditions de tarification et de diversification des monopoles.

3.4.1 La définition du marché pertinent

Dans la situation de monopole, le Conseil a défini un certain nombre de marchés :

- dans une décision 96-D-80 du 10 décembre 1996,¹⁰ le Conseil a considéré qu'il y avait un marché national de la production de l'électricité, sur lequel EDF détenait une position dominante (92 pour cent), nonobstant l'existence d'une obligation d'achat de la part d'EDF et la réglementation des tarifs, considérant qu'une concurrence existait entre les producteurs autonomes et EDF, non pas sur les prix, mais sur la compétitivité des divers moyens de production de l'électricité. La Cour d'appel a confirmé cette analyse dans une décision du 27 janvier 1998 ;
- dans une décision (publiée dans le Monde) n° 99-D-51 du 20 juillet 1999,¹¹ le Conseil a défini un marché de la fourniture d'énergie destinée au chauffage des bâtiments et un marché de la fourniture d'énergie destinée à la climatisation des bâtiments, sur lesquels EDF et GDF sont apparus comme disposant d'une position dominante. Dans cette décision, le Conseil a également précisé qu'en l'état actuel « les marchés du gaz et de l'électricité sont également des marchés nationaux ». Cette décision a aussi permis au Conseil de définir un marché pertinent spécifique au gaz distinct du marché de l'énergie pour le chauffage : « les marchés pertinents à retenir sont, d'une part, les marchés de fourniture de l'énergie destinée à assurer le chauffage et la fourniture de l'énergie destinée à assurer la climatisation, marchés qui se caractérisent par une rencontre de l'offre et de la demande opérée au stade du choix de l'équipement, et, d'autre part, les marchés du gaz et de l'électricité, marchés caractérisés par une rencontre de l'offre et de la demande au stade de l'expression des besoins quotidiens de chaud ou de froid. » L'un et l'autre des opérateurs en cause ont été condamnés pour avoir abusé de cette position dominante.

Par ailleurs, en ce qui concerne la défense de parts de marché, le Conseil a rappelé, dans une décision n°96-D-10 du 20 février 1996 relative à des pratiques mises en œuvre par France Télécom et par l'office d'annonces¹², « qu'une entreprise disposant d'une position dominante et confrontée à l'arrivée d'un

concurrent, est en droit de défendre ou de développer sa part de marché pourvu qu'elle demeure dans les limites d'un comportement loyal et légitime ; qu'en revanche, le fait, pour l'entreprise disposant d'une telle position de tenter de limiter l'accès du marché à son concurrent en recourant à des moyens autres que ceux qui relèvent d'une concurrence par les mérites revêt un caractère abusif ».

Le Conseil sanctionnera donc, conformément à sa jurisprudence classique concernant la Poste ou France Télécom, les abus de position dominante visant à empêcher l'entrée sur le marché ou à pénaliser les consommateurs en leur faisant payer les tarifs bas consentis aux gros clients (lesquels tarifs pourraient s'analyser comme des prix prédateurs).

3.4.2 *Pratiques commerciales discriminatoires*

Le Conseil a ainsi sanctionné certaines pratiques commerciales d'EDF dans la décision précitée n° 99-D-51.¹³ Il s'agissait d'aides consenties par EDF à la BNF pour l'inciter à se doter d'une installation autonome de production de froid, à l'exclusion du raccordement au réseau de froid de Climespace, filiale de Suez-Lyonnaise des Eaux.

Le Conseil a estimé que les aides commerciales accordées par une entreprise en position dominante ne sont pas en elles-mêmes anticoncurrentielles d'autant moins qu'elles constituent la seule marge de négociations commerciales pour les entreprises dont les prix sont régulés par la puissance publique. Pour qu'elles soient constitutives d'un abus de position dominante, il faut démontrer soit qu'elles ont permis de pratiquer des prix prédateurs, soit que leurs conditions d'octroi sont discriminatoires.

Il a sanctionné en revanche les pratiques consistant à subordonner l'octroi d'aides à des clauses d'exclusivité. En l'espèce, il était reproché à EDF et GDF d'avoir, dans le cadre de la construction de la Bibliothèque nationale de France, subordonné l'octroi d'aides financières au raccordement électrique à l'engagement par le client (Etablissement public de la Bibliothèque de France), de s'approvisionner en énergie exclusivement et directement auprès d'EDF pendant une durée d'au moins vingt ans, et sous peine de pénalités financières.

3.4.3 *La tarification*

Le Conseil a eu l'occasion, en 1998 d'examiner des questions relatives à la tarification d'EDF : une demande d'avis émanait du Syndicat National des Producteurs Indépendants d'Electricité Thermique (SNPIET) et une autre de la Fédération Nationale de la Gestion des Equipements, de l'Energie et de l'Environnement (FG3E). Les analyses développées en matière d'électricité sont dans une certaine mesure transposables dans le secteur du gaz.

Les questions examinées par le Conseil présentaient deux dimensions : d'une part, la gestion des tarifs d'EDF dans la situation historique du monopole et d'autre part, les orientations futures à adopter en matière de réglementation des prix dans le cadre de l'ouverture partielle du marché de l'électricité, à compter du 1^{er} février 1999.

S'agissant de la tarification actuelle du monopole, les syndicats professionnels concernés prétendaient qu'EDF s'était éloignée de son système de tarification au coût marginal de développement, afin de baisser ses prix sur les périodes de pointe (hiver) et d'augmenter ses prix sur la période de base, et soutenaient que la réforme tarifaire amorcée le 8 avril 1997 affectait les producteurs autonomes ayant investi dans les installations de pointe et les gros consommateurs d'électricité.

S'agissant de la réglementation future des prix de l'électricité dans la concurrence, le Conseil a été amené à examiner certains des principes qui pourraient être appliqués à la tarification d'EDF dans le cadre de l'ouverture prochaine du marché de l'électricité afin de garantir une saine concurrence et de permettre l'accès à ce marché à de nouveaux entrants. Il était en quelque sorte demandé au Conseil d'anticiper sur l'organisation future des marchés et les formes de concurrence et d'analyser les moyens d'éviter les subventions croisées et les prix prédateurs : les gros clients industriels qui seront bientôt éligibles (c'est-à-dire qui auront le choix de leurs fournisseurs) auront probablement une consommation d'électricité régulière. Les besoins à satisfaire nécessiteront donc des installations de production fonctionnant toute l'année, c'est-à-dire, selon les modes de production les plus performants, des turbines à gaz, des cycles combinés au gaz, de la grosse cogénération), donc de taille moyenne et décentralisée.

Le système de tarification d'EDF au coût marginal de développement a été plus particulièrement analysé par le Conseil quant aux prix à la clientèle captive, dans le cadre de l'ouverture du marché à la concurrence, car, outre les avantages liés intrinsèquement et par construction à ce système de tarification :

- il fournirait des outils tout prêts pour calculer les seuils de prédation (la somme des coûts marginaux de court terme étant égale aux coûts moyens variables, et la somme des coûts marginaux de développement étant égale aux coûts moyens totaux) ;
- il permettrait, en appliquant aux clients captifs un prix-plafond (price cap) égal au coût marginal de développement, de vérifier l'absence de subventions croisées entre clientèle captive et clientèle éligible.

Enfin, d'autres pratiques naissent du fait qu'une entreprise détenant une position dominante sur un marché exerce à la fois des activités d'intérêt général et des activités ouvertes à la concurrence.

3.4.4 *La diversification des monopoles*

Le Conseil s'est exprimé sur la diversification des activités de l'opérateur dominant, dans un avis n°94-A-15 du 10 mai 1994, relatif aux problèmes soulevés par la diversification des activités d'EDF-GDF.¹⁴

La diversification de l'activité d'un monopole historique peut générer des distorsions de concurrence, car l'entrée sur le marché de ces monopoles n'exerçant pas dans les mêmes conditions que les opérateurs concurrentiels peut poser problème. La disposition essentielle susceptible de trouver application en l'espèce réside dans la prohibition des abus de position dominante que permet l'existence de monopoles ou de droits exclusifs ou spéciaux ; Ces abus peuvent prendre diverses formes telles que la discrimination dans les conditions de vente ou le refus de vente ; la pratique de prix prédateurs, mais c'est surtout l'existence de subventions croisées qui apparaît spécifique à la problématique de la diversification.

Au regard du droit de la concurrence, le Conseil de la concurrence a souligné que la situation particulière des filiales des monopoles historiques leur permet d'obtenir de manière privilégiée des moyens de financement, que l'accès au consommateur final est facilité par l'existence d'un réseau couvrant l'intégralité du territoire national et qu'ils bénéficient de l'image d'intérêt général du service public, toutes caractéristiques qui constituent des avantages incontestables, notamment pour ce qui concerne :

- l'accès aux infrastructures du réseau commercial EDF-GDF Services ;
- l'accès à des informations privilégiées concernant les marchés connexes à ceux détenus en monopole ;

- l'accès à des compétences techniques (brevets, recherche) ;
- les mises à disposition de personnels.

Le Conseil a préconisé un certain nombre de mesures propres à garantir que les filiales d'EDF exercent leur activité dans des conditions comparables à celles des entreprises privées du même secteur. Il a ainsi demandé le regroupement de toutes les activités de diversification de l'entreprise sous un holding commun qui accèderait au marché des capitaux, la filialisation de chacune des activités et la mise en place, pour chacune des filiales, d'une autonomie juridique, matérielle et comptable. Le même type de raisonnement ou de principes d'analyse pourrait être suivi dans le secteur du gaz dans la jurisprudence que le Conseil sera amené à développer dans les années à venir au gré des saisines des opérateurs intervenant dans ce secteur et les secteurs connexes (amont et aval) qui y sont liés.

NOTES

1. Centre d'Etudes et de Recherches sur l'Energie.
2. Voir la décision du Conseil de la concurrence n° 99-D-51 du 20 juillet 1999 relative à des pratiques constatées dans le secteur des applications thermiques de l'énergie.
3. Pour ce qui concerne les conditions d'accès à des infrastructures de transport de produits énergétiques, voir la décision du Conseil de la concurrence
4. Concernant la jurisprudence du Conseil de la concurrence dans le domaine du transport de combustibles, voir notamment l'avis n° 93-A-15 en date du 28 septembre 1993 relatif à une demande d'avis sur les conditions d'exploitation de l'oléoduc Donges-Melun-Metz.
5. Directive 98/30/CE du Parlement européen et du Conseil de l'Union européenne du 22 juin 1998 concernant les règles communes pour le marché intérieur du gaz naturel.
6. « Vers la Future organisation gazière française », Livre Blanc du gouvernement français concernant la définition des consommateurs éligibles, les conditions d'entrée sur les marchés du négoce et de la fourniture de gaz naturel, l'accès des tiers aux réseaux gaziers, les conditions d'utilisation des autres infrastructures gazières, Paris, 1999.
7. Avis n° 98-A-05 en date du 28 avril 1999 relatif à une demande d'avis sur les principes à respecter ou les dispositions à prévoir pour assurer le fonctionnement concurrentiel du marché électrique dans le cadre tracé par la directive européenne 96/92/CE.
8. Avis n° 94-A-15 en date du 10 mai 1994 relatif à une demande d'avis sur les problèmes soulevés par la diversification des activités d'EDF et de GDF au regard de la concurrence, avis n° 98-A-05 en date du 28 avril 1998 relatif à une demande d'avis sur les principes à respecter ou les dispositions à prévoir pour assurer le fonctionnement concurrentiel du marché électrique dans le cadre tracé par la directive européenne 96/92/CE et avis n° 98-A-22 du 8 décembre 1998 relatif à deux demandes d'avis sur les principes devant guider et encadrer la politique tarifaire d'EDF. Voir également les rapports annuels du Conseil de la concurrence pour 1994, 1997 et 1998.
9. Avis du Conseil de la concurrence n° 93-A-15 en date du 28 septembre 1993 relatif à une demande d'avis sur les conditions d'exploitation de l'oléoduc Donges-Melun-Metz.

10. Décision n° 96-D-80 du Conseil de la concurrence en date du 10 décembre 1980 relative aux saisines présentées par la Compagnie générale de chauffe (CGC), la société Valernerg, la société UTEC SA, la société auxiliaire de chauffage (SAC), la société lyonnaise d'exploitation et de chauffage (SLEC) et la société d'exploitation de chauffage de Vénissieux (SECV) à l'encontre d'Electricité de France, ainsi qu'aux saisines présentées par MM. Bastide et Ségur, la société SA 2 EM et le syndicat indépendant d'électricité thermique (SNPIET) à l'encontre d'Electricité de France.
11. Décision n° 99-D-51 du Conseil de la concurrence du 20 juillet 1999 relative à des pratiques constatées dans le secteur des applications thermiques de l'énergie.
12. Décision n°96-D-10 du Conseil de la concurrence en date du 20 février 1996, relative à des pratiques mises en œuvre par France Télécom et par l'Office d'Annonces (ODA).
13. Déjà cité.
14. Déjà cité.

HUNGARY

1. Industry overview: regulatory framework and market structure

Gas consumption of Hungary exceeded 12 billion m³ in 1998. This represents 38.6 percent of the primer supply, which is the second highest proportion in Europe. In the structure of communal and households' energy consumption gas represents more than 40 percent, moreover, around 70 percent of households and institutions use this source of energy.

1.1 National context and key regulation

The objectives of the Hungarian Government are incorporated in the Governmental Decision of 2199/1999. (VII. 6.): "Basis of Hungarian energy policy, a business model for energy sector". This document has been made public in the Official Gazette of Hungary.

Major objectives relating to the gas industry are as follows:

- through the progressive establishment of competition on the market of gas industry the Hungarian energy transmission has to be placed on entrepreneurial basis;
- the Hungarian gas industry has to be made an integral part of the single European energy trade with special emphasis to provisions of EC Directive of 98/30/EC;
- further (physical) diversification of gas import has to be stimulated by economic policy incentives;
- system of a transparent supply fee-structure has to be elaborated in order to run supply and distribution;
- for non-authorised consumers service obligation will be maintained further on, in order to protect small consumers and to ensure certainty, gradual character, quality and regulated prices of supply.

The reform process going on in the gas industry is closely connected to other industries, mainly to electric industry. There is about one year time lag between the schedules of reregulation of electric industry on the one hand and that of gas industry on the other hand. In the electric industry new regulation will enter into force in 2001. The planned date for introduction of the new regulation in the gas industry is 1 January 2002. According to information of January 2000 the government intends to accelerate the work aiming at reregulation of gas industry, in order to promote competition to be developed in the electric industry.

There are 7 Acts, 6 Government Decrees, 1 Parliamentary Resolution, 23 Government Resolutions and 9 Ministerial Decrees containing detailed rules for gas industry.

The Acts are as follows:

- Act on Price Setting (Act No LXXXVII of 1990);
- Act on Concessions (Act No XVI of 1991);
- Act on Mining (Act No XLVIII of 1993);
- Act on Gas Supply (Act No XLI of 1994);
- Act on General Rules for Environment Protection (Act No LIII of 1995);
- Act on Prohibition of Unfair and Restrictive Market Practices (Act LVII of 1996).

1.2 *Regulatory institutions*

Institutions shaping economic policy in the field of energy sectors are as follows:

Parliament	makes energy policy public through its resolutions and requires report about their fulfilment every two years.
Government, Ministry of Economic Affairs	as part of the economic policy form the energy policy of the country and submit it to the Parliament for approval.

Regulatory institutions:

Ministry of Economic Affairs	shapes the main directions of the regulation drawing into this work other ministries, the competition authority and undertakings as well
Hungarian Energy Office	concrete regulatory authority. According to relevant directives this institution works out the detailed rules. All institutions taking part in the formulation of the directives (managed by the Ministry of Economic Affairs) are involved to this work also. The HEO issues permission, which are necessary for the undertakings to operate.

The Hungarian Energy Office is the regulatory authority of the energy sector. The Office is managed by a General Director who is appointed by the Minister of Economic Affairs with the assent of the Government. The Office is dependent from the Government but it enjoys full independence from the industry. (Nevertheless, the principles of the new regulatory system envisage the analysis, how greater independence of the regulatory authority could be created.)

1.3 *Key features of the demand for gas*

In Hungary the primary uses of gas are as follows:

- communal and households' consumption represents around 40-45 percent (for heating, cooking, hot water supply);
- in power generation (around 20-22 percent); and
- for other purposes: about 30-40 percent (in chemistry, construction material industry, metallurgy and agriculture).

In certain areas - mainly in power generation, in some particular industrial sectors (e.g. in construction material industry) and in communal heating gas can be substituted (e.g. by oil). Price is regulated with regard to these substitution possibilities.

Inter-fuel competition has limited impact on final gas prices.

The power stations and also the district heating companies are ready to purchase interruptible gas supply, even completely. For the last few years this has rarely happened.

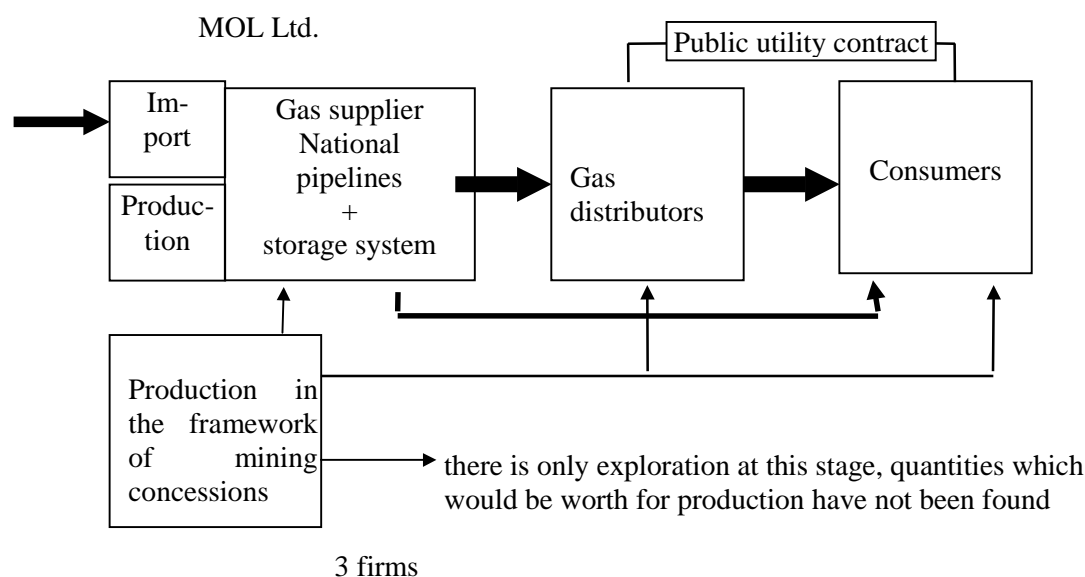
1.4 Key features of the supply of gas: market structure

Today in Hungary gas industry is operated in a two-stage system: the gas supplier is responsible for nation-wide gas supply, while the gas distributors are responsible for distribution of gas for consumers.

The system stands as follows:

Production, import, transmission, wholesaling:	Hungarian Oil Plc. (MOL)
Gas distribution:	6 larger, 3 smaller undertakings operating in territorial separation

The model of the operation of the Hungarian gas industry is as follows:



There is only one firm active on the market of gas production - MOL -, which is a vertically integrated public limited company. Beside MOL, there are three multinational undertakings, which have acquired concessions for exploration, however these have not produced gas yet in the country. MOL is the only undertaking, which imports gas to Hungary. Production covers 1/3, import covers 2/3 of the Hungarian consumption. Two pipelines are available, one of them transmits gas from East the other from Austria. Since there is only one gas producer in the country, competition does not exist in this segment of the industry.

MOL runs the gas storage as well as the high-pressure pipelines. MOL has majority ownership in some smaller distributors and minority ownership in some larger distributors.

MOL distributes about of 23 percent of the annual consumption to consumers directly.

- In Hungary competition does not exist between the two existing pipelines.
- There are 6 larger and 3 smaller undertakings operating in gas distribution. These undertakings have local monopoly positions. Among them the possibility of competition is limited to attainable markets only. These firms have not been integrated to gas transmission
- Retail gas market has not developed in Hungary. Nevertheless, there are some signs of initiations as far as organisation of separate undertakings for works aiming at connecting households to the network is concerned.

Foreign ownership is characteristic to a great extent of leading firms of the Hungarian gas sector. Undertakings are operating in the form of public limited companies. The organisation, governance, and management operate like in private undertakings as well as the incentive on management and managerial discretion are closer to that of the private sector. Legal status of employees are also closer to that of a private corporation.

Firms of the gas sector have not pursued electricity, heat, water, telecommunications or cable television services. However, some of these firms have begun to analyse these markets in order to give chance to penetrate to these markets after a future liberalisation process. It is a fact, nevertheless, that MOL has taken certain steps aiming at restructuring its organisation, in order to make entry possible to the electric power generation within a relatively short period of time.

1.5 *Key features of the regulatory regime*

Parallel, competing pipelines do not exist in Hungary. According to the regulation being in force at present, if an exploration becomes resultful and the exploring undertaking becomes producer, it may establish own pipeline depending on its own business strategy. Access to the pipelines has been made possible by the regulation being in force at present. Access has to be negotiated by the interested parties.

- In theory, competing sources of gas production are permitted by the Hungarian regulations. However, in practice this competition does not exist, since MOL has a service obligation. That is why importers have to offer the gas they are intending to import to MOL and it buys the gas in order to meet domestic demand. Until the present rules remain in force, access to pipelines of gas producers domiciled abroad in order to transmit gas to Hungarian consumers is not possible, since overall service obligation entailed on MOL does not allow it.
- There is only one pipeline in operation in Hungary, nowadays. Today, a foreign undertaking is not allowed to construct a pipeline for direct supply of a large gas consumer. (This would be allowed for domestic producers, if they managed to explore and produce gas.) In Hungary, acquisition of ownership by the transmission firm in a gas distributor is possible. Acquisition of more than 25 percent of the stakes requires the preliminary approval of the regulator - Hungarian Energy Office, while acquisition of more than 50 percent of the stakes require the clearance of the Office of Economic Competition.

- Competition does not exist in gas storage. Regulations make access to storage and pipelines by third parties domiciled in the country possible - through negotiations.
- In Hungary gas "retailing" has not existed so far.

New domestic gas producers can enter the market with permission. The primary condition of the permission is based on the domestic resources of the natural gas. A foreign firm can enter the Hungarian market also with a permission, however, the primary licensing condition is to have a storage with certain capacity.

During the last few years new service providers entered that part of the Hungarian market where gas supply was not existed yet and they had to apply for prior authorisation of different authorities.

1.6 Access regulation

As mentioned above there is no access requirement in Hungary. Primary requirement is that all customers' requests must be satisfied by the licensed undertakings. If some extra capacity (in the storage or pipelines network) above the demand remains it could be exported following a negotiation process. Publication of access conditions is not binding in these cases.

1.7 Price regulation

The price of import gas is based on contracts and follows the price of substituting products. Price setting of domestic gas production is based on costs including VAT.

as prices are regulated in Hungary and those are maximum prices. Different prices are charged for different consumers, however, prices within the certain categories are the same. within the country. Prices are set by the Hungarian Energy Office and published in a ministry regulation by the Minister of Economic Affairs. Prices are defined under consideration of the principle of the lowest costs based on the previously defined and announced price formula. The price formula involves also an efficiency factor, which is defined by the regulator from time to time.

The price regulation considers the "interruptible" supply.

The quality of service is maintained by a control mechanism, built in the regulatory regime. Further, the consumer protection department of the regulator has competence to give legal remedy in cases of unsatisfactory quality.

1.8 Non-commercial service obligations

In Hungary there are no non-commercial service obligations.

Of someone cannot pay the bill for service the supply can be interrupted under the existing regulation.

Service providers are not obliged to distribute gas on unprofitable areas. On these areas customers may establish pipeline network on their own and conclude contracts with gas supply firms for the purpose of supply.

1.9 *Separation and unbundling*

To set prices it was necessary to define the gas industrial activities in each segment (production, transport, supply) and costs must be separated according to this and have to be notified to the regulator. The separation on accounting and the possible ownership is the subject of the current regulatory preparation work.

1.10 *Trade and investment issues*

There is an import monopoly on the Hungarian gas market justified by the service obligation.

As far as the ownership or investment are concerned, the Hungarian regulatory regime is neutral for both Hungarian and foreign firms.

1.11 *Miscellaneous issues*

The questions of stranded costs and the possibility of stranded contracts are just on the agenda of the preparatory work for regulation. At this moment there is no information available yet on this topic.

Costs arisen by the stricter environmental rules gradually become a part of the prices.

Gas receives the same tax treatment as other fuels since the VAT is universally 12 percent.

Two third of the Hungarian demand of gas is originated from import. Similarly to other European countries, in Hungary, there are long term contractual commitments to satisfy the demand. There are several similar contracts with different time periods of termination. These will be reviewed during the establishment of the new regulatory regime. There is no tendency towards shorter-term contracts. There is no area in Hungary where contracts are made for trading of gas on the spot or futures market. According to our knowledge no undertaking from Hungary took part in similar kind of foreign system so far.

2. *Key competition issues*

2.1 *Application and enforcement of competition law*

The national competition law fully applies to those parts of this sector, which are not regulated specially. For instance the market entry or prices are regulated where according to specific Acts, the Hungarian Energy Office and other authorities, like Mining Bureau of Hungary and National Inspectorate for Environment and Nature Conservation etc., have competence to take measures.

As far as other competition issues, like merger control or abuse of dominant position are concerned, on the not-regulated part of this sector the competition authority has competence to enforce the competition law.

During competition proceedings the competition authority requests the opinion of the regulator and takes it into consideration in its decisions.

The competition authority and the regulator are working together on the development of the new regulatory regime.

2.2 *Market definition issues*

Defining the relevant markets in competition cases is relatively easy. Market entry is allowed only with the permission of the regulator. The permitted activities, the geographical areas the customers and to whom service must be provided are defined in the licenses of undertakings.

2.3 *Abuse of dominance*

The competition authority investigated the abuse of dominance in this sector especially in the following fields: (i) application of incorrect assessment methods when time-period for reading the meter in households was changed from quarter year to a half as a basis of making out a bill, (ii) overcharging for connection from households into gas pipe line network, (iii) delay of investment on the areas where service were not provided yet or overcharging the contribution for investment, (iv) reluctance to make contract for operating services and delaying time for own interest.

The competition authority took measures effectively in these cases.

2.4 *Other competition enforcement issues*

Under the privatisation process, taken place in an earlier period, the gas distributor (MOL) was not allowed to take part in this privatisation of the gas service providers, which covered the majority part of the country, to prevent vertical integration. Following the privatisation process a few small gas service providers established businesses on the undeveloped areas of Hungary where no gas supply had existed yet. Because of the lack of capital these undertakings were unable to improve which was obvious after some years when they tried to sell their businesses. MOL was the only potential buyer. The transactions became the subject of notification requirement under the Competition Act.

The competition authority cleared the transactions. Since the gas price is regulated at this moment there is no gap for the abusive market conduct.

IRELAND

1. Basic industry characteristics

Following the first discovery of commercially exploitable indigenous gas reserves in Ireland in 1973, the Gas Act 1976 was enacted to establish Bord Gais Eireann¹ (BGE) as the statutory body with responsibility to purchase, transmit, distribute, sell and supply natural gas in Ireland. BGE is not given statutory monopoly for all its areas of operation, but has a *de facto* monopoly resulting from the statutory protection which it does have. While gas production and supply are potentially competitive, gas transmission and distribution are essentially natural monopolies. While new entrants to the pipeline business may emerge in the future, there are limits to what can be expected in the Irish market. However, there are large parts of the country that are not served by the existing network, which could potentially be served by a new entrant. At present BGE is divided into four business units:

- Transmission Operations(management of the major gas pipelines);
- Distribution Operations(management of the low pressure pipelines);
- Customer Products;
- Asset Development;

The Energy (Miscellaneous Provisions) Act 1995 provides for the introduction of partial competition in the natural gas market, however it is minimal and will only affect a handful of BGE's largest consumers. Therefore regardless of what competitive pressures BGE may face in respect of sales to its top few customers, it is relatively unconstrained in its ability to set prices and terms for the rest of its industrial and domestic customers. Nonetheless, in volume terms, this is over and above what is required under the EU directive on competition in the natural gas sector. It is intended that BGE will remain vertically integrated with the advent of competition, however, BGE's transmission activities must now be operated independently in management terms from its other activities. This entails keeping separate sets of accounts for transmission activities, applying the same charges to its own activities for the transmission of natural gas, and maintaining any commercially sensitive information gathered in the course of the transmission business within that division.

Natural Gas now contributes twenty per cent of Ireland's total primary energy requirements, compared to six per cent in 1980 (see Table 1). Gas faces some competition from alternative fuels such as electricity, oil and LPG. However, cross elasticities of demand are low in the short run, particularly in the household market. This is because consumers have made sunk investments in central heating systems which are generally fuel specific. [BGE would argue however that it is the price of fuel which determines the type of system which is put in place in the first instance and that the base price of gas is set so as to be competitive with other fuels.] Cross price elasticities tend to be higher for those, mainly industrial users, who can quickly and cheaply switch to alternative fuels. Studies of Irish data by Scott et. al. suggest cross price elasticities between fuels are relatively low. UK data suggests that long-run elasticities are somewhat higher but the evidence does not suggest that inter fuel competition at the aggregate level is strong.²

Table 1: Breakdown of Irelands Primary Energy Demand 1998

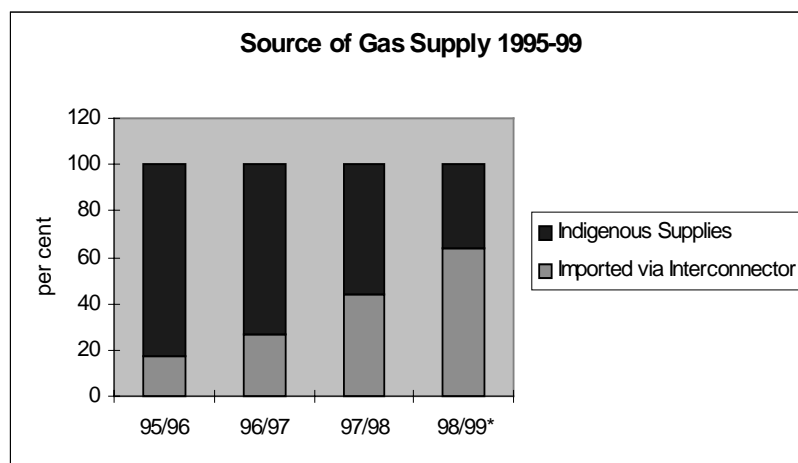
Energy Type	Percentage of Primary Energy Demand 1998
Oil	51
Gas	20
Coal	17
Peat	10
Other	2

Source: Department of Public Enterprise

2. Gas infrastructure

Figure 1 shows the extent of the existing natural gas network in Ireland. There are two indigenous offshore gas reservoirs in Ireland - Kinsale Head and Ballycotton. It is estimated that both indigenous sources will be depleted by 2004. After this time all gas demand in Ireland will have to be met by imports, unless there are further indigenous gas discoveries.

In 1993 Bord Gáis built a sub-sea interconnector pipeline from Loughshinny in North County Dublin to Moffat in SouthWest Scotland. Natural Gas is now imported via the interconnector to supplement the supply of gas to the Irish market. Figure 2 shows the increasing dependency on imports via the interconnector in recent years.

Figure 2

3. Future sources of supply

Several studies³ have been undertaken evaluating Ireland's infrastructural options for meeting gas demand up to 2025. The preferred option at present seems to be a 'twinning' of the existing interconnector between Scotland and North County Dublin. However, any indigenous discoveries would most definitely postpone the development of a second interconnector. Enterprise Oil Ltd has announced gas discoveries 60 km off the coast of Mayo in what is known as the Corrib field and is currently carrying out feasibility studies. Confirmation of a commercial gas find in the Corrib field would provide additional indigenous gas supplies but additional infrastructure would be necessary to transmit such supplies. The Department of Public Enterprise (DPE)⁴ have stated that any decision concerning major capital investment in import pipelines will be delayed pending clarification of the position concerning the Enterprise gas discovery.

4. Storage

Storage of natural gas is required to meet the fluctuating seasonal and peak demand periods there is no storage of natural gas in Ireland. However, BGE provide for fluctuations in demand through supply contracts, which can avail of storage facilities available in the UK.

5. Gas demand

Demand growth has been strong for natural gas in Ireland in recent years. When the Scotland/Ireland interconnector was built in 1993, it was forecast to meet the demand for gas in Ireland until 2015. However gas demand has greatly exceeded these forecasts. Advancing the installation of compressors on the interconnector by up to ten years is expected to enable most demands to be met until 2003-2004, but new infrastructure will have to be put in place by 2004 at the latest.

BGE's two largest customers, ESB and NET⁵, collectively accounted for 70 percent of sales in volume terms in 1998. However, in terms of turnover they only contributed 40 percent as gas is supplied to the ESB and NET at well below market rates. Table 2 shows the contribution to sales in volume and turnover terms by category of customer in 1997.

Table 2

	Volume %	Turnover %	Price per therm
Domestic	11	30.0	73p
Commercial/Industrial	21	26.9	34p
NET	19	7.6	7.8p
ESB	49	35.5	18.1p

Source: BGE and Authority's calculations

A key driver of gas demand has been for power generation, which accounted for 48 percent of the annual demand in 1998. It is expected that gas will have increasing importance in this sector in future years because of the efficiency of combined cycle gas turbine generating sets; and because of the relatively benign environmental impact of gas emissions. In advance of the partial opening of the electricity market to competition in February 2000, BGE has received applications for capacity in the natural gas network, which, in aggregate significantly exceed the capacity, which is available in the immediate short term. The applications received by BGE relate to the provision of network capacity for some 4 000 MW⁶ of new electricity production, i.e. about 90 percent of existing installed electricity production capacity in circumstances where only 28 percent of the electricity market is being opened to competition in the first instance.

Directive 98/30/EC concerning common rules for the internal market in natural gas provides that Member States may, in the general economic interest, impose public service obligations on natural gas undertakings. The Government has stated that the establishment of clear procedures for the allocation of gas network capacity to ensure the early development of power generation capacity is in the general economic interest and warrants regulatory intervention. It is intended that the procedures will be placed on a statutory footing and will be administered by the Commission for Electricity Regulation. Available capacity in the natural gas network has been reserved specifically for the purpose of fuelling new gas powered power stations and will be allocated to selected power producers on an ex ante evaluation of 'first to market' basis.

There is also ongoing increase in gas utilisation in domestic households. In 1998 natural gas was available to over 79 percent of urban households and 46 percent of all Irish households. This reflects increasing availability of gas through both network development and ongoing new household development. While gas is also widely used currently for industrial purposes, this demand will increase and will include further growth of combined heat and power applications in this sector.

6. Legislation

6.1 *Energy (miscellaneous provisions) act 1995*

To some extent the partial opening of the gas market to competition has preceded EU measures. The passing of the Energy (Miscellaneous Provisions) Act 1995 reflected a growing realisation by government that greater competition in the natural gas industry may be beneficial to the economy at large. This act provides a framework for granting third party access [TPA] to the natural gas transmission network, which is owned and operated by BGE. Gas consumers using not less than an annual amount of nine million therms qualify for TPA. On the basis of that figure 75 percent of BGE's market (in volume terms) is opened up to competition. Only 28 percent of the market is required to be opened under the EU directive. Therefore while this Act already meets those obligations, the number of eligible customers is less than ten. Competition therefore will begin in only the heavy industrial sector and there are no

proposals at the moment to facilitate the emergence of a competitor in the domestic consumer market. BGE has around 10 000 industrial customers whose average annual consumption of gas is 22 000 therms. It will therefore continue to enjoy a monopoly position in respect of such customers as well as all domestic customers. Tables 2 and 3 show the different categories of BGE customers. Those classified as 'large industrial' will be the only customers to benefit from TPA.

The Authority has serious concerns about the extent of the introduction of competition in the sector and has raised some of these issues in a submission to the DPE⁷. The Authority believes that competition should be introduced on a much wider scale. This is particularly so, given that in a few years time, the State may be reliant on imports for all of its supplies of natural gas. It sees no justification for retaining BGE's monopoly in respect of the vast majority of gas users in such circumstances. Rather than retaining BGE's monopoly rights so that it can import gas from overseas suppliers, it believes that such suppliers should be allowed compete in the market and supply Irish customers directly. There can be no justification for granting BGE a captive market. Rather it should be required to win the right to supply customers on the basis that it is the most efficient supplier in the market. The Authority has proposed that the threshold for Third Party Access to the transmission and distribution system should be reduced from nine therms to 25 000 therms in two years time and should be further reduced to 2 500 therms after four years. It believes that full-scale competition for all gas consumers should be introduced after six years.

Table 3

Customer Category	Annual Consumption	
	Kilowatt hours	Therms
Small Commercial	900,000	30,709
General Commercial	900,000 - 9 million	30,709 – 307,092
Large Commercial	9 million - 30 million	307,092 – 1,023,638
General Industrial	30 million - 260 million	1,023,638 – 8,871,533
Large Industrial	Over 260 million	Over 8,871,533

Source: BGE

Table 4

Customer Category	Total Number of Customers
Small and General Commercial	9,125
General and Large Commercial	791
General Industrial	168
Large Industrial	5

Source: BGE

6.2 Access pricing

The Energy (Miscellaneous Provisions) Act 1995 also provides for the giving of general ministerial directives to BGE relating to transmission and pricing aspects of TPA. In 1998 the DPE published draft directives for issue to BGE laying down the conditions under which TPA would operate [covering access to, and the cost of, transport within the BGE transmission system]. The directive proposed a rate of return postalised system of pricing [same charges apply irrespective of the point of delivery] for the BGE system and published an indicative tariff based on forecasts at that time. While issues such as access pricing are typically handled by a sector specific regulator, no such regulator has been established for the gas sector as of yet. Therefore, it is likely that they will ultimately be decided in

the absence of a regulator and instead the Minister will set access terms, which will be invoked by statutory instrument.

TPA charges were set so that BGE recovered the cost of operating its transmission network, including a rate of return of 7.5 percent on the relevant transmission assets. The figure of 7.5 percent is derived from the weighted average cost of capital for BGE. BGE's transmission costs were to be recoverable through two different charges. The primary charge, through which 90 percent of costs are to be provided relates to the amount of capacity reserved by shippers. The second is related to the volume of gas throughput on behalf of the shippers and accounts for ten percent of BGEs allowable costs.

Subsequent to the publishing of these draft directives the DPE became concerned that the TPA pricing proposals may, *inter alia*, have the effect of distorting economic signals in relation to building new pipelines and may not be sustainable in circumstances where independent pipelines are deployed. However, the main contentious issue under the current draft directive on access charges, is the proposed postalised tariff structure. There is a concern that the postalised system may not provide appropriate incentives for the promotion of offshore exploration and the exploitation of indigenous natural gas discoveries. This is especially significant in view of speculation of new indigenous gas discoveries, which could be used to serve the Irish market. Gas producers argue that the current postalised system is unfair because it burdens indigenous gas with transportation tariffs that includes costs associated with the UK-Ireland interconnector. For example, Enterprise gas should be cheaper to bring to market than gas from Scotland, because the pipe from the west coast to Dublin will be shorter than the Scotland-Ireland pipeline. Therefore the gas should have a competitive advantage in the market. However, if the price is postalised back to the well head, it will be lumbered with some of the costs of bringing gas in from Scotland. This will make it less commercially attractive for Enterprise to develop their fields. More widely, gas suppliers will be indifferent as to where they bring their gas from, because they know that their costs will be covered by the postalised tariff. Therefore, fields may be developed in areas, which are uneconomic, or gas may be brought from more expensive areas, and the extra cost will be paid by competitors and ultimately consumers.

In July 1999 the DPE requested BGE to conduct a fundamental review of the form of the tariff. BGE have now published a review of the tariff structure for access to the natural gas network. A number of alternative systems were examined⁸:

- full Postalised - current draft directive proposal;
- separated Postalised - separate charges for use of onshore transmission network and interconnector;
- distance-related tariffs - customers pay a tariff based on distance from source of gas;
- zonal Structure - different tariffs for predetermined geographic zones;
- entry/Exit model - point to point tariffs based on a combination of the entry point of the gas to the transmission system and the exit point/zone in which the customer is located.

The different tariff structure options were evaluated against eight tariff design criteria. Of the tariff structure options considered, the full postalised model was still considered to give the most acceptable tariffs from a consumers perspective but not from a gas producers perspective. The Irish Entry/Postalised exit model was considered by BGE to offer an equitable solution for gas producers and was favoured over the Separated Postalised Model. This report will now form the basis of further public consultation on the setting of access charges.

6.3 *Gas (amendment) bill 1998*

The purpose of this Bill is to amend section 37 of the Gas Act 1976. Section 37 provides that ‘all natural gas landed in the state, or got within the jurisdiction of the state, for consumption therein, shall be offered for sale to BGE on reasonable terms’. The section also provides that any gas which is offered to and purchased from BGE shall be disposed of by the board for consumption in the State unless the Minister of Public Enterprise give consent to the export of the gas. In fact, all natural gas produced to date from indigenous reserves has been consumed in the state and no consents have been sought or given.

The Bill has been instigated on the basis that section 37 is anti-competitive and in conflict with the competition provisions of the Energy Charter Treaty which Ireland signed in December 1998. In order to ratify the treaty all contracting parties must ensure that their domestic laws and regulations are compatible with its provisions. Section 37 would have to be repealed in any case to bring the Gas Act in line with EU competition rules.

6.4 *EU legislation*

Directive 98/30/EC establishes common rules on the storage, transmission, supply and distribution of natural gas. It provides for the immediate opening of the market by 20 percent, rising to 28 percent in 2003 and 33 percent in 2008. The DPE is preparing legislation to transpose the directive into national legislation.

6.5 *Gas (capacity allocation) bill*

The government has decided to fast-track a bill which will decide which of the companies planning power stations in Ireland will be allocated gas capacity on the existing gas inter connector between Ireland and Scotland. At present there is only available capacity for two power stations and the allocation is likely to decide which of about ten operators will be in a position to build a station.

6.6 *Gas and electricity*

While a Commission for Electricity Regulation has been established to regulate the sector, no regulator has been established to oversee the introduction of competition in the gas industry. It has been envisaged that the commission may expand to include a gas regulator, but separate legislation would have to be introduced for this. Many commentators feel it is wrong to regulate electricity and not to have regulated gas in tandem. This is a concern since most Independent Power Producers (IPPs) will use natural gas, and BGE is interested in entering the electricity market. However there is not enough gas to provide the needs of all potential IPPs. Therefore, there is a real potential conflict of interest here.

7. *Vertical separation of BGE*

While some degree of competition is being introduced it is intended that BGE should remain vertically integrated. BGE has stated that its ‘natural gas transmission activities will be independent in management terms from its other activities and a separate Management Division within the integrated organisation has been established.’ It has also given guarantees about the confidentiality of commercially sensitive information obtained in the course of carrying out its transmission business and stated that it will charge its own trading arm for transmission services on the same basis as other users of the network. Nevertheless there are strong incentives for a vertically integrated firm such as BGE to restrict

competitors' access to its transmission and distribution network. The Minister for Public Enterprise has set out rules for setting access charges in an attempt to deal with this problem. Such measures may be insufficient since it is widely recognised that the question of determining access charges for use of the transmission and distribution network is made far more difficult where the network operator also competes in downstream markets as it has far more information about the business and a strong incentive to mislead the regulator.

The Authority has called for BGE's transmission and distribution business to be established as a wholly independent state-owned company. It believes that the keeping of separate accounts is not sufficient to eliminate the potential for anti-competitive behaviour. Vertical separation of networks would reduce some of the problems associated with regulating such activities since independent operators of transmission and distribution systems do not have the same incentive as a vertically integrated to discriminate against new firms providing services in competition with the incumbent over their networks. In the absence of further commercial indigenous discoveries Ireland's natural gas requirements will have to be imported. BGE's trading arm will therefore be one of potentially several importers and in such circumstances it is not clear why it should not be established as a totally separate company to the transmission system operator.

8. Other markets in which BGE is active

8.1 *Telecommunications market*

BGE's plan to diversify into the telecommunications market has been marked by Aurora Telecom; a joint venture between BGE and the Norwegian State Telecoms Company Telenor. Aurora plans to use the old town gas networks⁹ as ducts for high speed broadband networks as well as making 'live insertions' into existing mains for this purpose. Aurora has received a general telecoms licence from the Office of the Director of Telecommunications Regulation and is said to be targeting the SME market. However the new venture has been seriously delayed because the Gas Act 1976, explicitly states that BGE cannot get involved in businesses outside its core area. The legislation to remove this barrier is currently going through the preliminary stages.

8.2 *Electricity/power generation*

The demand for power generation is forecast to grow by 6 per cent per annum. With the liberalisation of the electricity market, opportunities in gas fired power generation are available. Although BGE has decided to branch into the electricity market with plans for its own power generation station, the new Gas (Capacity Allocation) Bill may deny BGE access to the scarce capacity on its own pipeline¹⁰. Capacity is to be allocated on a first past the post basis, with three different consortia¹¹ already having passed the planning permission stage. However it is still possible that another operator choosing an uncontentious site might be favoured.

8.3 *CHP*

BGE is active in the Combined Heat and Power market. CHP is being marketed by BGE through its subsidiary Conservation Engineering Limited. Estimates of minimum efficient plant size for CHP plants range from 50 to 350 MW, while some authors suggest it may be even lower¹². BGE have stated that for CHP to be technically and economically feasible, it generally requires a simultaneous demand for heat and electricity on the premises for a minimum of 14 hours per day or 5 000 hours per annum. The

Electricity Regulation Act 1999 provides for the opening up of the electricity market by 28 percent in 2000 and 32 percent by 2003. When the Act was being drafted CHP was defined as an alternative energy which meant that CHP producers would have 100 per cent access to the electricity market from the start. However, it was argued that this definition would result in CHP projects being approved that were not in practice operating as such, but rather as electricity generators, thereby undermining the parameters of competition envisaged by the Act. Following extensive lobbying an amendment was made to the Bill so that CHP was no longer defined as an alternative energy source. CHP is now defined as being where an overall thermal efficiency of 70 per cent is achieved.

8.4 *Enforcement issues*

In 1997 the Authority received a complaint about BGE in respect of the construction of a combined heat and power plant in an industrial premises. The Authority held discussions with BGE to clarify BGE's obligations under the Competition Acts. The Authority indicated that, in its view, BGE could not charge different prices to firms buying similar quantities of gas where those firms were in competition with one another, nor could it offer more favourable terms to a firm which it had an interest where doing so placed a rival firm at disadvantage. In addition, the Authority indicated that in setting charges to competitors for the use of the interconnector and the gas pipeline, BGE could not set charges, which were less favourable than those applying to itself. The Authority had ongoing discussions with BGE regarding the setting of access charges for use of the transmission network. During 1998 the Authority commenced a second investigation into the prices and terms on which BGE supplied gas to certain of its industrial and commercial customers in order to ensure that BGE's terms were not discriminatory. This investigation is still ongoing.

9. Government objectives for the natural gas industry

Physical Infrastructure - Meeting energy requirements post 2004 means putting the required infrastructure in place to deal with the increases in demand.

Regulatory Infrastructure - Designing an appropriate regulatory framework for implementation of the EU Directive and third party access to the transmission and distribution network.

Environmental Obligations - Gas makes a major contribution to enabling Ireland meet its obligations under a number of international environmental treaties and air pollution protocols.

Privatisation of BGE? - Although no government decision to privatise BGE has been announced, the flotation of Telecom Eireann and stated government intentions to proceed to divest State interests in Aer Lingus, suggest that privatisation of the state gas company could arise over the next few years.

NOTES

1. Irish Gas Board
2. UK Department of Energy, The Demand for Energy, in D. Helm, J.A. Kay and D. Thomson Eds. (1989), *The Market for Energy*, Oxford, Clarendon Press.
3. Gas 2025 Study

An Economic Evaluation of Infrastructure Options for Meeting Gas Demand up to 2025, DKM Economic Consultants
4. Department with responsibility for the sector.
5. Electricity Supply Board and Nitirigin Eireann Teoranta
6. DPE
7. Competition Authority Discussion Paper No. 5, Competition in the Natural Gas Sector, November 1998.
8. Review of Tariff Structure for access to the Natural Gas Network, Arthur Andersen and Bord Gais, December 1999
9. Ireland has a long tradition in town gas, which supplied many urban houses since the early 1800s. However by 1980 many of the small town gas companies had shut down. Following the failure of these companies considerable lengths of abandoned pipeline existed, which were purchased by Bord Gais.
10. It is estimated that there is only sufficient capacity for two such power generators.
11. The three consortia are Ireland Power Energy, ESB/Statoil and Viridian/CRH.
12. Competition Authority, Discussion Paper No.7

ITALY

1. National context and key regulation

The presence of a state owned enterprise (ENI) with a de facto quasi-monopolistic position in domestic supply (production and import), and vertically integrated with transmission as well as with final distribution in many local markets is the main feature of the Italian natural gas sector.

The regulatory framework governing the natural gas sector has been recently reformed following the enactment of law n° 481 of 1995 which has granted to the newly established “Authority for Electricity and Gas” (“the Authority”) regulatory responsibilities for the gas and the electricity industries. Three main objectives to be pursued by the Authority are mentioned in the law: 1) promote competition and efficiency in the regulated industries; 2) guarantee adequate quality standards for the regulated services and their homogenous diffusion in all parts of the country; 3) set up a pricing system enabling the economic and financial viability of market operators as well as the attainment of the social and environmental objectives set by the Government.

The Italian natural gas sector is on the verge of wide-ranging regulatory reforms. The Italian Ministry of Industry has recently announced that the EU Directive 98/30/CE aimed at liberalising the European natural gas market will be adopted by the end of February 2000 on the basis of the guiding principles recently indicated by Parliament in art. 41 of law n° 144 of 17 May 1998. In 1999, the Italian Competition Authority and the Authority for Electricity and Gas have submitted to Parliament and to Government two reports on such guiding principles and on the whole regulatory reform process (see section 4).

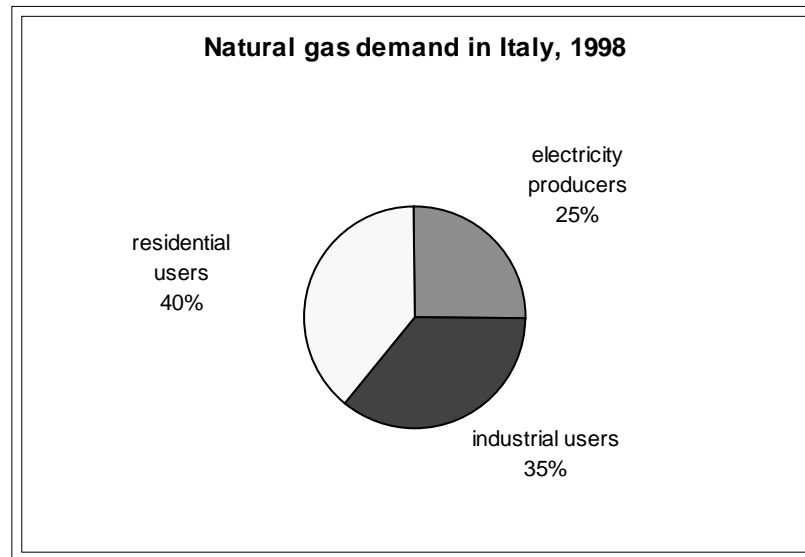
2. Key features of the demand for gas

In Italy, natural gas consumption reached approximately 62 billion cubic meters in 1998. Italy makes up the third largest market in Europe, after Germany and the United Kingdom. Of the total, 24.5 billions cubic meters go to residential use (mainly for heating and cooking purposes), while 21.8 and 15.6 billions are devoted, respectively, to industrial use and electricity generation. Around one third of all industrial supplies refers to interruptible contracts for users with plants able to work with alternative energy supplies (the supplier can unilaterally suspend deliveries of gas).

During the last ten years, the natural gas share of total energy consumption has greatly increased, representing, in 1998, 55 percent of residential energy consumption, 42 percent of industrial energy consumption and 25 percent of electricity production energy requirements. The great increase in natural gas consumption relatively to other sources of energy depends on two main reasons. First, natural gas consumption has been considered to have less negative effects on the environment than oil and coal: as a consequence, its use has been greatly promoted through fiscal and other types of incentives. Second, the use of natural gas in electricity generation has greatly expanded as a consequence of the decision to abandon the use of nuclear technology for energy production. Electricity generation through natural gas has also significantly expanded in relation to the diffusion of the new combined cycle gas turbine

technologies, substantially more efficient compared to more traditional methods of energy generation (at present, around 25 percent of electricity generation occurs through the use of natural gas and this share is rising). The expansion in the use of natural gas is expected to continue in the future: most forecasts agree on estimates for natural gas consumption for the year 2005 to be included in the 81 - 89 billion cubic meters range.

Figure 1



3. Key features of the gas market structure

A very high degree of concentration characterises the Italian natural gas industry. In all the activities making up the industry, ENI's market dominance (directly or through controlled enterprises) is overwhelming, being reinforced by the company's vertical integration in transmission and distribution. ENI (through the AGIP Division) accounts for almost 90 percent of national production of natural gas, while 91 percent of all import contracts are held by SNAM (controlled by ENI) which also buys all the domestic gas from ENI. SNAM holds, in addition, around 97 percent share of the entire transmission network. Finally, SNAM controls ITALGAS, which covers over 30 percent of gas distribution sales. The rest of local distribution is carried out by a large number of small companies, more than 60 percent of those are controlled by the municipalities they serve.

While 49 percent of ENI has been privatized, the State still remains at present the controlling shareholder.

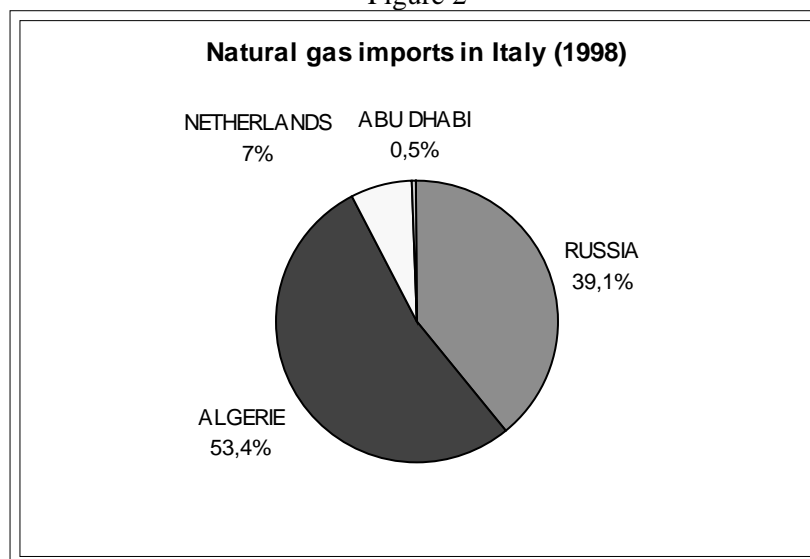
Table 1. Gas Market Structure in Italy

<p style="text-align: center;"><u>Production and Imports</u></p> <p>◇ Around 70 percent of total natural gas demand are covered by imports. The remaining share consists of national production, almost entirely (90 percent) covered by AGIP (a Division of ENI Spa), whereas around ten percent is covered by a number of small producers (Edison among them).</p>
<p style="text-align: center;"><u>Transmission</u></p> <p>◇ SNAM (controlled by ENI) is the dominant transmission company, owning around 97 percent of the national gas transmission network. Around nine percent of total gas transmitted by SNAM is carried for third parties (mainly for ENEL, the state-owned electricity producer).</p> <p>◇ EDISON GAS, the second Italian transmission company, owns around three percent of the national gas transmission network.</p>
<p style="text-align: center;"><u>Distribution</u></p> <p>◇ A very large number of local distribution companies (more than 800) are active in gas distribution. More than 60 percent of these are directly managed by local authorities.</p> <p>◇ ITALGAS Spa (controlled by ENI through SNAM) covers around 30 percent of national gas distribution.</p>

3.1 Gas production and imports

In 1998, domestic demand was met for two thirds by imports (42.7 billion cubic meters) and one third by national production (18.9 billion cubic meters). The imports share is expected to increase considerably, in view of the rise in total demand expected in the course of the next few years. Almost 90 percent of national production are carried out by ENI. The second largest firm (EDISON), which is the only other firm vertically integrated in the transmission activity, holds a seven percent share of national production, while the remaining three percent, is held by other private enterprises (most of them Italian subsidiaries of multinational enterprises).

Figure 2



Law n° 625 of 25 November 1996 has abolished, in line with what required by EU Directive 94/22/EC of 30 May 1994, ENI's exclusive franchise rights (held for over forty years) for exploration, drilling and extraction of natural gas in the Po Valley (located in the northern part of the country), paving the way to the possibility of additional entry. However, while the activity of building and managing pipelines for the transmission of natural gas is formally liberalised, ENI holds legal rights still preserving the company's privileged market position, since all the infrastructure construction activities in which ENI engages maintain a "public service" status. This, *inter alia*, allows ENI to significantly reduce the costs as well as the time necessary to acquire the rights to build facilities on areas owned by private entities. Equivalent rights are assigned to other firms only for the specific areas for which they hold explicit exploitation franchises granted by the Ministry of Industry. For all other areas, obtaining such public service rights is a particularly lengthy process. According to the guiding principles recently indicated by Parliament in art. 41 of law n° 144 of 17 May 1998, these remaining privileges reserved to ENI will be abolished by the announced adoption of the EU Directive 98/30/CE.

Imports of national gas come from Algeria, Russia and, for a smaller share, the Netherlands. Imported gas is transported through three pipelines, connecting Italy to the exporting country delivery points, jointly controlled by SNAM with Ruhrgas AG and Swiss Gas AG (for gas imported by the Netherlands), OMV AG (for gas imported by Russia) and Sonatrach (for gas imported by Algeria). In view of the expected decrease in the available national resources and the rise in demand, imports are expected to represent, by the year 2005, around 75-80 percent of total consumption. To face the expected surge in demand, ENI has recently subscribed new long-term import contracts (with Libia and Norway), substantially expanding its portfolio of contracts. On average, import contracts have a duration of approximately 20 - 25 years and around 60 percent of them contain take or pay clauses which guarantee producers minimum revenue levels, independently of the gas volumes actually delivered (buyers usually maintain the right to spread the take or pay obligations around the duration of the contracts). ENEL (the state controlled electricity company, which has recently privatized a minority share), is another significant importer: ENEL's direct imports, (also conveyed through ENI's pipelines) represent around 10% of total imports.

3.2 *Gas transmission and storage*

ENI owns almost all-existing nation-wide high-pressure transmission capacity (around 29 000 kilometers of pipelines). At present, only around three percent of natural gas is transmitted through facilities owned by other companies. In addition, ENI owns almost all of the available storage facilities, consisting mostly of depleted gas reservoirs, which can contain up to 28 billion cubic meters. The additional storage capacity owned by other firms is very marginal. Storage availability is essential to operate in the production and transmission phases because it allows to ensure constant deliveries despite the high seasonality of consumption (particularly residential consumption). ENI's former exclusive drilling rights in Northern Italy has contributed to originate this quasi-monopoly on storage facilities. Franchises for storage rights are linked to the drilling activities and are not granted generally to firms operating only in the downstream markets (transmission) and not active in exploration and drilling. It can be noted that no public service requirements have been imposed on ENI with respect to setting aside and storing natural gas in order to ensure constant supplies.

Around 60 percent of transmitted gas goes to large users (around 58 percent of this goes to industrial users while 42 percent goes to electricity producers) and 40 percent is transmitted to distribution companies which supply final customers (consumers and small enterprises).

3.2.1 *Gas prices*

Snam adopts a three part tariff for industrial users (buying above 200 000 cubic meters of gas per year) and electricity producers. The tariff is structured into a monthly charge, a fixed fee determined by the transmission capacity made available by Snam and a variable component proportional to the quantity demanded. Seasonal discounts are applied to large users. Interruptible supply contracts are usually adopted by industrial users and electricity producers operating multiple fuel plants.

3.2.2 *Gas prices for industrial users*

The price paid by SNAM's gas buyers is determined by a bargaining process with the industrial associations and the associations of gas distribution companies. Snam is a vertically integrated company with no accounting separation requirements until today. Prices are set at the national level with no geographic differentiation. All industrial users are entitled to pay the amounts set in the industry-wide contracts.

3.2.3 *Gas prices for electricity producers*

With respect to the supply of natural gas to electricity producers, SNAM's supply to ENEL is governed by bilateral long-term contractual agreements (ENEL demands about 12 percent of total gas consumption at the national level). SNAM also signed contractual agreements for the supply of natural gas to private electricity producers. These contracts may contain both continuous and interruptible supply options.

3.2.4 *Gas prices for distribution companies*

Prices for gas supply to local distribution companies (covering both gas procurement and transmission costs) are based on a two-part structure which comprises a fixed fee (revised annually on the

basis of inflation rates) and a variable component proportional to the average annual consumption of end-users and correlated to price variations in heating oil. Tariffs and contractual obligations are agreed at national level between SNAM and national association of municipal authorities (Anci), municipal gas utilities (Federgasacqua) and private owned firms (Anig and Assogas).

In 1998, around 6.1 billions of cubic meters were transported for third parties. Most of it (around 70 percent) has been transported on behalf of Enel, the remaining part, as requested by article 12 of Law n 9/1991, has been transported on behalf of other Italian gas producers for their own internal use or for electricity production.

3.3 *Gas distribution*

Responsibility for natural gas final distribution has been granted to municipalities, which can choose to supply the service through the different alternative modalities listed in law n° 142 of 1990 (directly or through public or private enterprises). Currently, distribution services are carried out by around 800 companies each holding a local exclusivity. At present no third party mandatory access to the local distribution network exists. Of the total, around 400 distributors are part of the local public administration, 112 are municipality-owned enterprises and 300 are private companies. The local distribution network is 65 000 kilometers long and reaches around 82 percent of the Italian population, with gas coverage relatively lower in the Southern regions compared to the other areas of the country.

Final distribution prices (with respect to consumption levels below 200 000 cubic meters) are regulated by an articulated tariff system set at the municipality level. This is based on unified nation wide criteria and related to standard costs of delivery which take raw material and distribution costs into account. In turn, raw material costs have two components: an annually revised fixed component which takes into account the dimension of committed volumes and a variable component which is determined by gas volumes and price. Distribution costs have two components: 1) operating costs increased annually following a price cap formula; 2) distributors' investment costs. Four different tariffs exist according to final use: household uses (cooking and hot water production); single household heating; centralised heating systems (residential and offices uses) and small enterprises; industrial users with annual consumption levels between 100 000 and 200 000 cubic meters. Universal service requirements are imposed at the distribution level: distributors are required to interconnect with all users located in their area of activity, regardless of their relative profitability.

Table 2. The Italian Natural Gas Market
1998, billion cubic meters

	TOTAL	AGIP (ENI)	SNAM (ENI)	ENEL	EDISON and others	DISTRIBUTION COMPANIES (including ITALGAS (ENI))
NATIONAL PRODUCTION	18,9	16,8	0	0	2,1	0
GAS STORED VARIATION	1	1	0	0	0	0
IMPORTS	42,7	0	38,5	4	0,2	0
<i>RUSSIA</i>	<i>16,7</i>	<i>0</i>	<i>16,7</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>ALGERIA</i>	<i>22,8</i>	<i>0</i>	<i>18,8</i>	<i>4</i>	<i>0</i>	<i>0</i>
<i>NETHERLANDS</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>ABU DHABI</i>	<i>0,2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0,2</i>	<i>0</i>
GAS SUPPLY (excluding intragroup dealings)	62,6	0	26,6	4	2	30
Network Leakages	0,7	0	0,2	0	0	0,5
GAS DEMAND	61,9	0	26,4	4	2	29,5
<i>Electricity producers</i>	<i>15,6</i>	<i>0</i>	<i>10,4</i>	<i>4</i>	<i>1,2</i>	<i>0</i>
<i>industrial users</i>	<i>21,8</i>	<i>0</i>	<i>16</i>	<i>0</i>	<i>0,8</i>	<i>5</i>
<i>residential users</i>	<i>24,5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>24,5</i>

Source: Authority for Electricity and Gas, Annual Report, 1999.

3.4 Key competition issues

In several competition advocacy reports, the Italian Competition Authority has identified five distinct relevant markets within the natural gas industry: supply (production-import); transmission; distribution to large customers (industrial customers with annual consumption exceeding 200 000 cubic meters) and electricity producers (defined as “primary distribution”); local distribution; and retailing.

3.4.1 The Snam/Transmission charges case

In February 1999 the Authority completed an investigation into an alleged abuse of a dominant position by Snam in the markets for the transport of natural gas in the national gas pipeline network and the primary distribution of natural gas. The abuses of which Snam was accused concerned in particular: *i*) Snam’s refusal to grant Assomineraria (the natural gas producers’ association) access to its national network for gas for uses other than those referred to in Article 12 of Law no. 9/1991, that is for electricity generation and own consumption; *ii*) Snam’s refusal to accept Assomineraria’s request to revise the agreement of 22 December 1994 with regard to the transmission of natural gas produced in Italy, with special reference to the price of the service; and *iii*) Snam’s practice of monitoring the final destination of the gas carried on behalf of Edison Gas Spa.

In view of Snam’s dominant position in the market for the transport of natural gas and the essential nature of its transport facilities, the Authority concluded that the company was not justified in refusing access to its national network of gas pipelines to actual and potential competitors and that they

therefore had the right to the carriage of natural gas in cases other than those referred to in Article 12 of Law no. 9/1991.

Moreover, the Authority found that the method of calculating the charge for carriage laid down in the 1994 agreement of allowed Snam to fix the price level independently of the effective demand for the transport of third parties' gas and was likely to lead to the imposition of unjustifiably burdensome contractual conditions, in violation of Article 3 of Law no. 287/1990.

In view of the seriousness and duration of the violations identified, the Authority fined Snam 3 584 million lire, equivalent to nine percent of the company's revenues in 1997 for the transmission of gas for third parties.

Snam has appealed the decision by the Authority at the administrative Court of the Latium Region, which has suspended the efficacy of the decision. The Court will rule on the merit of the case in the next months.

3.4.2 Advocacy reports on competition and regulation in the gas industry

On November 1999, the Competition Authority has presented to the Government and to the Parliament a report commenting on the draft decree which will introduce into the Italian legislation the EU natural gas liberalization Directive 98/30/CE. The Government's will adopt the decree by the end of February. Several issues were raised in the report:

- 1) the need to eliminate ENI' remaining legal privileges with respect to exploration, drilling, infrastructure building, and storage, in order to ensure an effective level playing field for all enterprises involved in domestic production. This measure should be matched by the obligation for ENI to dismiss and to sell to other competing firms part of domestic and import natural gas supplies currently controlled by the firm as well as to provide access to storage facilities;
- 2) the importance of structural separation between the potentially competitive (domestic production, import and final sale) and natural monopoly (transmission and distribution) activities of the gas industry in order to ensure effective competition and prevent predatory and exclusionary practices by the vertically-integrated incumbent dominant enterprise. Accounting or administrative separation of ENI's potentially competitive and natural monopoly activities was considered an insufficient remedy to guarantee effective competition;
- 3) the need to ensure a cost-based and non-discriminatory access to essential facilities. Access conditions to the essential networks should not be left to bargaining among the parties but be subject to direct regulation in view of the concentrated structure of supply, a feature which will continue to prevail in the industry for the near future;
- 4) the selection of the categories of users which will be allowed to choose freely their gas suppliers be as wide as possible, taking into account the specific characteristics of the Italian industrial structure, made up by a large majority of small and medium sized enterprises: firms which consume less than five million cubic meters per year make up over 70 percent of total industrial consumption. In fact, while the EU directive prescribes that free choice in supply should be granted "at least" to all economic entities with annual consumption greater than 25 million cubic meters, member States are free to adopt lower thresholds and open up to

competition larger shares of the market. Any limit imposed on categories of consumers with respect of their choice of supply should be limited in time;

- 5) the need for the introduction of public service requirements in the upstream markets. In particular, the Authority suggested the usefulness of introducing obligations with respect to natural gas storage for all enterprises active in the sector, in order to ensure reliable and constant supplies. These obligations should be based on transparent and non-discriminatory criteria and subject to constant monitoring by the regulatory authority.

On December 1999, the Authority for Electricity and Gas has also submitted a report on the natural gas regulatory reforms. The main proposals contained in the report included:

- 1) no individual enterprise would be allowed to supply more than 60 percent of the total of the natural gas supplied at national level (production or imports) by year 2003 (40 percent by 2006);
- 2) a corporate separation of transmission and distribution from other commercial activities should be introduced;
- 3) all users with consumption levels beyond 200 000 cubic meter per year should be allowed to choose their source of supply, regardless of the final destination of the gas purchased.

JAPAN

Introduction

The characteristics of the gas industry in Japan are as follows:

- First, although some natural gas is supplied by domestic companies which develop natural gas, most natural gas consumed in Japan is imported from Malaysia, Indonesia and other countries after being liquefied because Japan does not have sufficient gas fields. Furthermore, in Japan long-distance gas pipelines are not developed and local gas conduit networks are not connected each other.
- Second, gas suppliers are divided into two categories -- general gas suppliers that mainly supply natural gas and community gas/LP gas suppliers that produce gas from liquefied petroleum gas, thereby dividing consumers of gas-based energy into those who use natural gas and those who use gas generated from liquefied petroleum gas.
- Third, general gas suppliers in Japan are responsible for the entire process of producing and supplying gas - from the procurement of materials, transportation through pipelines and distribution and retail of gas (so-called virtually integrated). Therefore, none of the general gas suppliers specialise in gas transportation.

As mentioned above, the Japanese gas business differs in certain ways from the other member countries in some aspects. Therefore, in this contribution paper, we would like to describe the current situation of the general gas industry and outline the regulations governing them (including the deregulation implemented under the revised law in 1999) and give specific examples of actions that could restrict competition.

Most gas industry regulations are based on the Gas Utility Industry Law and other legislation. The Ministry of International Trade and Industry MITI, responsible for enforcing legislation, has jurisdiction over regulations. MITI is an administrative body headed by a state minister, and not an independent administrative committee.

1. The current situation of the gas business sector and on outline of the industry's regulations.

1.1 Gas business sector

1.1.1 Outline of gas businesses

Basically, there are three types of gas businesses – the general gas business, the community gas supply and the LP gas sales business. The general gas business and community gas supply are regulated by the Gas Utility Industry Law.

General gas businesses supply gas to a large number of users in certain areas through conduits, and community gas businesses supply gas from community gas production methods to housing complexes and other places where a certain number of houses are concentrated through conduits.

LP gas sales companies sell liquefied petroleum gas under the Law Concerning the Securing of Safety and the Optimization of Transaction of Liquefied Petroleum Gas (However, those that fall into the category of community gas suppliers are excluded.).

As of the end of the fiscal year 1998, about 48.2 percent of gas users were supplied with gas by general gas suppliers, about 2.8 percent by community gas suppliers and about 49 percent by LP gas sales companies.

There are also large-lot gas suppliers that sell gas to wholesalers - who supply gas to general suppliers through conduits -- and to those who consume a large volume of gas.

1.2 Outline of general gas business

A. Outline

Gas supplied by general gas suppliers accounts for 6.2 percent (FY 1998) of all the final energy sources consumed in Japan¹.

The number of customers of the domestic general gas suppliers -- the number of gas meters installed by such suppliers at households and offices – amounted to 25.23 million at the end of the fiscal year 1998. General gas suppliers sold 22.7 billion cubic meters (10 000 kcal per cubic meter) in the fiscal year 1998. Of that amount, 39.8 percent was supplied to households, 36 percent to factories, 16.4 percent to offices and 7.8 percent to others.

There were 245 general gas suppliers: 1) 13 companies that supply gas to big cities and their vicinities including the so-called “Major Four” - Tokyo Gas Co., Osaka Gas Co., Toho Gas Co. and Saibu Gas Co.; 2) 162 small and medium-sized suppliers that supply gas to smaller cities and 3) 70 public suppliers run by local governments. Tokyo Gas, Osaka Gas and Toho Gas account for about 75.3 percent of the volume of gas sold across the country.

There is a wide gap in the number of customers between large and small suppliers: the largest suppliers have 8 582 493 customers while the smallest company has less than 1 000.

B. Pipelines and conduits

General gas suppliers supply gas to about five percent of the nation's total land area and approximately 21 percent of the land area of the nation's big cities.

There are two types of pipeline-holder: pipelines owned by wholesalers and high-pressure trunk-pipelines mainly owned by the "Major Four" suppliers for transportation. - And regional conduits networks for distribution owned by general gas suppliers in their respective territories.

The total length of all the pipelines owned by wholesalers was 1 544 kilometers at the end of FY 1998 (only those used by gas wholesalers to supply gas to general gas suppliers).

The high-pressure trunk-pipelines owned by the "Major Four" suppliers across the country function as trunk pipelines connected to regional conduit networks. The total length of these pipelines was about 1 331 kilometers (at the end of FY1998).

Regional conduit networks are low-medium pressure conduits that general gas suppliers own in their respective territories. Some of the regional conduit networks - owned by general gas suppliers that supply gas to big cities - cover large areas, but the others laid by suppliers that supply gas to smaller cities cover comparatively small areas.

The laying of gas conduits and pipelines is subject to regulations under the High-Pressure Gas Safety Law in order to ensure safety. Meanwhile, companies that conduct general gas businesses (including supply of gas to large-lot customers) are regulated by the Gas Utility Industry Law in order to ensure safety of the equipment to produce gas and prevent excessive plants and equipment.

C. Types of gas and their supply

General gas suppliers use liquefied petroleum gas (LNG), domestically produced natural gas and LP gas as the materials of gas they produce. Community gas and LP gas sales companies use LP gas as the material [Some community gas suppliers use compressed natural gas (CNG)].

LNG accounts for about 80 percent, LP gas about 13 percent and domestically produced natural gas about 6 percent of the gas used in general gas supply (in calorie: FY 1997). However, many suppliers are switching to natural gas and propane air gas because the use of high calorie gas has been promoted.

Businesses that are importing LNG in Japan are electric power companies (about 69 percent), large-scale general gas suppliers (hereinafter referred to as "major general gas suppliers") that have facilities to receive and store LNG (about 30 percent) and the steel companies (about one percent).

Of the nation's general gas suppliers, 64 companies use LNG as the material to produce gas. Most of them are supplied with the material through pipelines owned by major general gas suppliers².

Some wholesalers use tank trucks to transport LNG to general gas suppliers but most of the suppliers are supplied with gas through pipelines owned by major general gas suppliers that wholesale LNG.

Of the nation's general gas suppliers, 86 companies use domestically produced natural gas (40 of them also use other materials in addition to domestically produced natural gas). They are supplied with natural gas through long-distance pipelines owned by wholesalers.

LP gas consumed in Japan is either imported or produced in Japan by liquefying imported oil at oil refineries etc. Most of the general gas suppliers are supplied LP gas from primary oil distributors.

2. Outline of the regulations on general gas business

2.1 *Entry regulation*

Article 3 of the Gas Utility Industry Law requires that permission to start a general gas business must be obtained from the authorities. Under Article 5, they are required to meet the demand for gas and their facilities must meet government standards as preconditions for obtaining permission.

2.2 *Large-lot supply*

The amendment of the Gas Utility Industry Law that came into force in 1994 has relaxed regulations for the supply of gas through conduits in response to demands by consumers for a fixed amount of a greater quantity of gas (hereinafter referred to as "large-lot supply") as follows:

(a) Where general gas suppliers supply gas in large lot;

General gas suppliers can supply gas in large lot outside of own service area if they obtain prior permission from the minister of International Trade and Industry (Clause 1, Article 23).

As a precondition for such permission, the law stipulates that in cases where general gas suppliers supply gas in large lot to areas outside their business territories, the supply concerned may not hinder the interest of gas users in the areas (Clause 2, Article 23)

(b) Where businesses other than general gas suppliers supply gas in large lot;

Large-lot supply to areas outside the business territories of general gas suppliers

Businesses other than general gas suppliers can supply gas in large lots if they notify the minister of International Trade and Industry in advance (Clause 1, Article 37-8).

However, the minister of International Trade and Industry is empowered to recommend suppliers to change the contents of such notification or to abandon their large-lot supply, and order them to obey the recommendation in cases where the minister recognizes that the large-lot supply could make it extremely difficult for the new general gas supplier to start its service in the areas concerned (Clause 2 and 3, Article 37).

Large-lot supply to the business territories of general gas suppliers

Businesses other than general gas suppliers can supply gas to the business territories of general gas suppliers in large lots if they obtain permission from the minister of International Trade and Industry (Clause 1, Article 37-9). The law stipulates that as a precondition for permission for such supply, it must be ensured that the large-lot supply may not hinder the interest of gas users in the business territories of the general gas suppliers (Clause 2, Article 37-9).

Where general gas suppliers supply gas in large lot, they must compile a business plan on large-lot supply each fiscal year and submit it to the minister of International Trade and Industry before the beginning of the fiscal year (Clause 1, Article 25-2). The minister of International Trade and Industry is empowered to recommend general gas suppliers to change its business plan if the minister recognizes that such change is necessary to ensure proper business activities related to the large-lot supply (Clause 3, Article 25-2).

The scope of large-lot supply has been increased by lowering the minimum standard from two million cubic meters or more per year to 1 million cubic meters or more per year with the revisions enforcement regulations of the Gas Utility Industry Law that came into force in 1999.

2.3 *Duty of supply*

General gas suppliers must not refuse to supply gas to anybody in their business territories without proper reasons (Article 16).

2.4 *Price regulation*

The clauses on gas supply that provide for rules on gas charges must be approved by the minister of International Trade and Industry (Clause 1, Article 17).

The law stipulates that charges provided for in the clauses on gas supply must be calculated by adding proper profits to the proper prime costs under efficient management (the government uses its own yardstick to check the prime costs that gas suppliers calculate during the prime cost calculation period (in principle a one-year period)), that the charges must be clearly determined on the basis of fixed rates or prices, and that they do not treat certain users unfairly or discriminatively.

However, the following deregulation has been implemented with the revision of the Gas Utility Industry Law in 1999.

- Where gas suppliers lower their gas charges or they are not likely to hinder the interest of gas users, they can change their charges fixed in their clauses on gas supply if they notify the minister of International Trade and Industry (Clause 3 and 4, Article 17).
- Gas suppliers can offer optional clauses on charges and allow users to choose between the two charge programs under the original clauses on gas supply and the optional clauses if they notify the minister of International Trade and Industry – on condition that such a measure is expected to contribute to efficient use of facilities for general gas supply and efficient management of their business (Clause 6 and 7, Article 17).

Where it is recognized that optional clauses submitted by gas suppliers treat certain users unfairly or discriminatively, the minister of International Trade and Industry is empowered to order the suppliers to change such optional clauses (Clause 8, Article 17).

On the other hand, gas suppliers can supply gas in large lot to individual users in their own territories without prior permission from the minister of International Trade and Industry if they agree on the terms of supply (proviso in Article 20).

2.5 *Connection supply*

Under the revised Gas Utility Industry Law that came into force in 1999, designated general gas suppliers (currently, the “Major Four” companies) are required to submit and publicize their clauses on charges and other terms of the supply of gas through the connection to pipelines (limited to large-lot supply) (Clause 1 and 4, Article 22-2). (Such clauses are referred by law as "transmission clauses" but generally called "consignment clauses.")

Where the contents of the transmission clauses seem to be unjustly discriminatory to certain users or make it extremely difficult for them to receive transmission, the minister of International Trade and Industry is empowered to order the suppliers to change the contents of such clauses (Clause 3, Article 22-2). Where designated general gas suppliers refuse connection supply without proper reason, the minister is empowered to order them to provide the service (Clause 5, Article 22-2).

2.6 *Regulations on operating other businesses*

General gas suppliers were required to obtain permission from the minister of International Trade and Industry if they intended to operate business other than general gas business. However, this regulation was abolished with the revision of the Gas Utility Industry Law in 1999.

2.7 *Wholesale*

General gas suppliers or gas wholesalers were required to obtain permission from the minister of International Trade and Industry if they intended to wholesale gas to other general gas suppliers. However, from the revision of the Gas Utility Industry Law in 1999 (Clause 1, Article 22 and Clause 1, Article 37-11), suppliers only need notify the minister of such a supply.

3. *Specific examples of efforts to promote competition in the general gas business and actions that hinder competition*

An example of the efforts to promote competition in the general gas business is the introduction of competition in the gas business sector based on the amendments of the Gas Utility Industry Law etc.

In 1994, Some measures were taken such as liberalization in the large-lot supply sector. Furthermore, in response to “The Action Plan for Economic Structural Reform” approved by the Cabinet in May 1997, in which the Government set the target to eliminate high-cost structure, some measures were taken such as the introduction of the transmission system. subsequently, some consideration concerning details of the institution was conducted. And the revised Gas Utility Industry Law came into force in November 1999.

The Japan Fair Trade Commission (JFTC) held a study group on the government regulations and competition policy in 1997. At this study group, attendees discussed what should be done to promote competition policy, such as the review of the regulations on gas business and the enforcement of the Anti-Monopoly Act. The JFTC then published the results of the discussion in a report entitled, "Deregulation in the gas business sector and tasks to promote competition policy."

After the amendments of the Gas Utility Industry Law etc, in 1999, at the study group, attendees examined the system reform and discussed what should be done to further promote competition policy, in view of the promotion of competition in the gas business sector. The JFTC concluded its result in the

report entitled, "Tasks to promote competition policy in the gas business sector." The report affirmatively evaluated the expansion of the scope of large-lot supply, the institutionalization of transmission and the abolition of the Local Gas Business Adjustment Consultative Organization in community gas supply business etc. from the viewpoint of competition policy. On the other hand, the report pointed out the need to 1) review the requirement of permission for large-lot supply; 2) expand the scope of businesses that are required to submit and publicize their clauses on transmission and 3) introduce a wholesale transmission system.

In Japan, general gas suppliers still have a large share of gas supply through conduits in their business territories, it is difficult to lay new conduits networks in some areas and the sources of LNG and natural gas - which are the materials of the gas supplied in the domestic market - are limited.

Faced with such a situation MITI should take certain policy measures (in order to ensure substantial competition in the gas business sector). At the same time, the JFTC that is responsible for enforcement of the Anti-Monopoly Act should clarify what will happen if the law is applied to the gas business sector in order to help promote competition in the sector.

Therefore, the JFTC will cooperate with MITI that is responsible for enforcing the Gas Utility Industry Law to compile and publish the draft of "the Guidelines on Appropriate Trade of Gas (a tentative name)" and seek opinions from various circles. After consideration of the opinions, the JFTC will complete and publicize the guidelines.

The guidelines are expected to cite specific examples actions that could run counter to the Gas Utility Industry Law and the Anti-Monopoly Act, and actions by suppliers that are considered desirable for promoting competition in the market (for example, disclosure of the average prices and standard model prices calculated with reasonable methods, the fair burden-sharing of costs of connection supply, ban the connection supply section and the marketing section of a supplier from sharing the same information on its customers).

Anticipated actions that could hinder competition in the gas business sector in each field are as follows:

3.1 *Liberalisation of gas retail*

Where general gas suppliers offer unreasonably low charges to only large-lot users that are negotiating a contract with new suppliers, if the offer make the new suppliers difficult to operate business, this could be further suspected to violate the Anti-Monopoly Act (private monopolization, unfair low price sales).

However, if general gas suppliers grasp how their individual large-lot customers use gas and set the price that is not below the cost of supplying gas to them, it will not basically violate the Anti-Monopoly Act.

Basically, general gas suppliers are allowed to manage their large-lot supply section at their own discretion. However, if they induce customers to deal with them by offering unjust benefits in the light of normal business practice (for example, offering facilities - for which users usually pay charges -- free of charge) in order to prevent new suppliers from entering the market. it could violate the Anti-Monopoly Act (Customer inducement by unjust benefits).

3.2 *Transmission*

If designated general gas suppliers (those who are required to submit and publicize their clauses on transmission), which usually offer backup, parking and adjustment of calorific value as part of their transmission contract, refuse to provide the services to certain new suppliers without proper reasons, it could violate the Anti-Monopoly Acts (refusal to deal etc.).

If designated general gas suppliers discontinue to provide new suppliers with services that they have provided to them as part of the transmission contract, it could violate the Anti-Monopoly Act (refusal to deal).

3.3 *Wholesale*

If general gas suppliers or wholesalers (domestically produced natural gas suppliers or electric power companies that import LNG, etc.) supply wholesale gas to other general gas suppliers on condition that they not buy gas from other wholesalers, it could violate the Anti-Monopoly Act (dealing on exclusive terms).

If general gas suppliers or wholesalers put customers unreasonable disadvantages in the light of normal business practice by offering conditions for transactions or actually carrying out the transactions to general gas suppliers to whom they supply wholesale gas, it could violate the Anti-Monopoly Act (abuse of dominant bargaining positions).

If general gas suppliers or wholesalers limit the customers of general gas suppliers to whom they supply wholesale gas, it could violate the Anti-Monopoly Act (dealing on restricting terms).

NOTES

1. Gas supplied by general gas suppliers accounted for only 6.2 percent of the final energy sources consumed in Japan in the fiscal year 1998, while petroleum accounts for 60.3 percent, electric power 22.0 percent, LP gas 5.4 percent and coke and others 6.1 percent, according to MITI.
2. Electric power companies imported a large quantity of LNG, but previously they were not allowed to freely wholesale LNG because of the regulations on their involvement in other business. (The regulations were abolished when the Electricity Utility Industry Law was revised in 1999.)

KOREA

1. Overview of the Gas Industry: Regulatory regime and market structure

1.1 National context and key regulation

Among its policy objectives in the gas industry, the Korean government places top priority on enhancing efficiency. In addition, it pursues conventional objectives such as ensuring energy security, universal service and environmental conservation.

The reform in the electricity industry that is under way in a sense necessitates the reform in the gas industry, since the Korean gas industry relies heavily on the electricity industry as a swing consumer to flatten out the seasonal differences in demands.

Key laws governing the gas industry are:

City Gas Business Act

Enacted in 1983, the Act sets forth the framework for the city gas industry, such as licensing requirements for the supply of gas, construction of gas supply facilities, terms and conditions of gas supply, and safety management.

Korea Gas Corporation Act

Enacted in 1982, the Act stipulates the organization and business scope of Korea Gas Corporation (KOGAS).

Act of Safety Management of High-Pressure Gases

Enacted in 1983, the Act specifies safety issues in handling and using high-pressure gases and constructing supply facilities.

2. Regulatory institutions

The Ministry of Commerce, Industry and Energy (MOCIE) is primarily responsible for the regulation and policy-making of the gas industry. MOCIE draws up a long-term LNG supply/demand plan, regulates the construction of facilities and approves LNG wholesale supply rate. The authority of approving retail rates belongs to relevant city or provincial government.

With regard to natural gas industry reform, an independent regulatory body for the gas industry will be established under the aegis of the MOCIE in 2002, whose main function will be to oversee the retail and wholesale trades and facility operation. Its exact status and detailed organisational form is yet to be determined.

3. Key features of the demand for gas

LNG is primarily used for electricity generation and for city gas. As for city gas, LNG is used for residential (62 percent), commercial (17 percent) and industrial (21 percent) purposes. The LNG demand for power generation currently constitutes roughly 39 percent of the total demand. Industrial consumers can usually substitute other fuels for gas. The final fuel price is only partially affected, rather than effectively controlled, by inter-fuel competition. The power generation and industrial customers are expected to be able to subscribe to interruptible supply service, when it becomes available.

4. Key features of the supply of gas: market structure

Major firms in the Korean natural gas industry include the Korea Gas Corporation (KOGAS) and city gas companies.

In Korea, KOGAS is the monopoly importer and wholesaler of entire natural gas demand of over 11 million tons a year (as of 1998). KOGAS owns and operates LNG-receiving terminals and main transmission network. Korea has no indigenous production of natural gas, and thus depends entirely on imports. Two existing terminals are located in Incheon and Pyongtaek, and one is now under construction in Tongyoung, to be completed in 2002. Besides performing the role of facility operator, KOGAS also supplies natural gas to power generation and retail city gas companies.

The main transmission pipeline spans 1,994 km and forms a looping network. Power generation customers receive supplies directly off the main high-pressure pipelines, without passing through a retail distribution network.

Currently, 20 out of 32 city gas companies use LNG as feedstock for city gas (the rest of city gas companies supplies manufactured gas, that is, LPG-air. However, they will gradually replace it with natural gas). City gas companies are retail companies that purchase gas at wholesale from KOGAS and supply it to end-users. They are local distribution companies, having a regional distribution monopoly to end-users within their territories. They own and operate distribution pipeline networks, but there is no competition between pipelines, since each city gas company is granted a territorial monopoly and owns separate pipelines. The retail service provided by city gas companies is the bundled service of gas and transmission.

The current system makes the gas retailing (the sale of gas by third parties over existing transmission network) impossible, since the city gas companies involved enjoy regional monopoly in their districts and have no obligation to allow access to their distribution pipelines.

The wholesaler and facility operator, KOGAS, is state-owned, while city gas companies are privately owned. In the past, all city gas companies were owned by Koreans, but recently foreign firms took over some city gas companies. Nowadays, foreign firms are vigorously pursuing the acquisition of city gas companies.

KOGAS consists of administration (general affairs, finance, security and emergency), marketing (purchasing, marketing, project development), production (terminal operations and construction), facility operation (pipeline operation, regional offices), pipeline construction (regional pipeline offices), and R&D departments. The business operation of KOGAS is guided and regulated by MOCIE. This is well demonstrated by the fact that many of the KOGAS activities, such as importing and construction, require approval from MOCIE. Within this regulatory constraint, however, KOGAS enjoys managerial incentive, which is closer to that of a private corporation. As KOGAS is state-owned, it is subject to an annual audit by National Assembly members. The combination of public ownership and private managerial incentive

of KOGAS places its employees' legal status somewhere between that of a private corporation and of a government agency.

No relevant firm in the gas sector is involved in other public utility industries.

Since Korea has no indigenous production of natural gas, the questions on producers, here and forthcoming below, are not applicable.

5. Key features of the regulatory regime

As was explained above, currently no competition is allowed in any area of the industry. Following the restructuring plan of the natural gas industry, however, competition will be introduced in gas trading from 2002, by allowing three importers of gas (see the Appendix for an outline of the restructuring plan). A regime permitting a third-party access to facilities, including receiving terminals and main pipeline network, will be adopted to foster competition in gas sales. To that end, gas imports and sales and facility operation will be separated by the end of 2002. Since the storage and re-gasification facilities and main pipeline network will be operated by a government-run firm, importers and marketers will be guaranteed equal access to them.

All gas imports are in the form of LNG carried by vessels, and none in the form of PNG. The possibility and viability of PNG imports from eastern Siberia are currently being explored.

As for the competition among regional distribution pipelines, the current system does not allow such competition, since each city Gas Company has a territorial monopoly over distribution with separate pipelines. That is, local distribution and (retail) gas sales services are bundled and monopolised by respective city gas companies. However, according to the restructuring plan, the competition over the construction of distribution facilities is likely to be permitted in 2000. Any company, which earned the certification from the government, will be able to construct and operate distribution facilities in an area where the distribution service is currently unavailable. The construction of pipeline for a direct supply to big gas consumers will be allowed as well. After introducing competition in the supply to big gas consumers, the retail supply businesses will also be separated into the facility operation and gas sales, like in the wholesale sector, in order to spur competition in the retail sector. The realisation of this will require interconnection among rival pipelines.

6. Entry regulation

As stated earlier, competition will be introduced in importing and wholesale trading from 2002 (From 2001, however, anyone can import LNG for self-use). Accordingly, entry will be permitted in these areas, but due to the existing contracted import amount, certain restrictions are expected on the entry into importing, at least in the early stage of competition. According to the restructuring plan, competition for a supply to big customers will be introduced first (the concrete timetable is yet to be decided), and then the scope of competition will gradually expand to include smaller customers.

7. Access Regulation

Since the storage facilities and main transmission network will be owned and operated by one firm even after the restructuring, competition in the main trunk line is not expected. However, competition in the retail distribution pipelines will be gradually introduced. When competition in the retail sector is

fully permitted, retailers are expected to face an obligation of allowing access to their distribution pipelines.

At this point of time, details regarding a third-party access to facilities are not yet worked out. Accordingly, the terms and conditions on gas transportation are not available, but they will most probably be determined by the independent regulatory body that will be set up, rather than by negotiations among private entities. The question of setting the access prices is not yet resolved as well. However, it is highly likely that the access prices will basically reflect the costs arising from each service provision more accurately than now. The terms and conditions on granting access will be made public as soon as they are finalised.

8. Price regulation

The government (MOCIE) issues the Long-term Natural Gas Demand/Supply Plan in alternate years. As such, the operations of KOGAS rely heavily on this centralised plan rather than on the workings of market forces. The prices, which KOGAS offers, have to be approved by MOCIE. In determining the gas tariffs, MOCIE consults with the Ministry of Finance and Economy (MOFE) for macroeconomic policy consideration. Underlying principle of price regulation is cost recovery, rather than competitiveness with respect to other fuels. However, facilitating the natural gas usage has been taken into account in pricing, especially in the early stage of LNG introduction. Another factor in determining the price for each class (distinguished by its use) is the need to meet the varying seasonal demands with limited storage facilities: e.g. in the summer, lower price to boost demand. KOGAS does not have the flexibility to adjust individual prices, since the approval from MOCIE is required for prices of each class.

The supply terms and conditions, including the retail gas tariffs, of city gas companies require approvals from the local government concerned. The local government holds a public hearing before approving the proposed gas tariffs. Typically, policy considerations have more weights in determining gas prices than the need to reflect actual supplies costs.

Currently, linear pricing is employed in all gas tariffs, wholesale and retail alike (that is, non-linear pricing including two-tier tariffs is not used). Different prices are charged for different end-users.

The final gas price consists of feedstock cost and supply cost and all costs are passed on to customers.

To reflect the change in LNG import price following fluctuations in oil prices and exchange rate, the feedstock cost applied to power generation customer (KEPCO) is adjusted on a monthly basis. In contrast, the feedstock cost for city gas companies had reflected the fluctuation in import price only on a need basis out of the concern for consumer price stability, until a new system was set in motion in 1998 to reflect the change on a quarterly basis.

Three seasonally varied tariffs are employed with regard to the supply cost for power generation; winter, summer and the rest. Since winter is the peak season, the highest price is charged, while the lowest is charged in summer. The price does not vary based on the transportation cost, and the current regime does not allow price discrimination according to service varieties like fixed or interruptible supply.

All services are essentially fixed services, but at times of supply shortage in winter, power generation customers are advised to adjust its consumption downward for some period of time.

The basic approach employed in deriving final prices is the cost-plus method. While regulatory incentives are not explicitly used, "yardstick regulation" is used for some city gas companies. To be more

specific, where several city gas companies exist in a city or province, a single rather than different retail price is applied to each company. Thus, a company that has relatively high cost can not fully recover the allowed rate of return.

There is no special mechanism that ensures service quality, such as *ex post facto* penalty provisions. However, comprehensive safety regulations and guaranteed recovery of the safety expenses through gas prices provide an incentive to keep the quality of service high and work in effect as a quality-ensuring mechanism.

9. Non-commercial service obligations

There is no obligation for gas supplying firms to provide service to any customers below cost. City gas companies decide on building distribution network and serving customers within their respective regions from the perspective of business profitability. Thus, some population-sparse regions are left unserved. In some areas, however, distribution is required of suppliers under the terms and conditions for supply. For example, in the Seoul Metropolitan area, gas service should be provided if so requested by more than 25 households within a 100-meter distance, and 60 households in the case of Kangwon province. Even in such cases where the number of households sets the criterion for mandatory supply, however, the threshold is adjusted in order to guarantee an appropriate rate of return on investment for suppliers. Therefore, in effect, suppliers do not have to service unprofitable areas. The gas industry restructuring plan paved the way for competition in the unserved areas, by allowing any firm, with the certification from the local government concerned, to construct distribution facilities and provide gas supply service in the areas where the distribution service is currently unavailable but deemed profitable.

10. Separation and unbundling

Since the Korean gas industry is currently monopolised (in the wholesale market by KOGAS, and in the retail sector by city gas companies), there is no room for cross-subsidization from regulated activities to competitive activities at the moment. In addition, services are offered only in bundles (gas sales and transportation). The restructuring plan will eliminate this practice, separating gas sales and transportation.

11. Trade and investment issues

With regard to the international trade in gas, Korea is involved only in the importation of gas. There is no export from Korea, since there is no indigenous gas production. The current import monopoly right enjoyed by KOGAS will be removed in 2001 when the import of gas for self-use will be permitted. With the gas industry restructuring, several importers are expected to enter the market.

There is no control or restriction on foreign ownership or investment.

12. Miscellaneous issues

According to the restructuring plan (see appendix), KOGAS will spin off its gas import and wholesale units into three affiliated companies by 2001, based on the long-term purchasing agreements of LNG. Two of the three subsidiaries are to be sold off to private investors by the end of 2002, while the other will remain under KOGAS' control until its sell-off, the time of which is to be determined later. The government intends to have purchasers of the contract (subsidiary) undertake any liabilities including those

arising from the take-or-pay provision of the long-term import contracts and default provision for LNG vessels, with the necessary support from the government.

The environmental concern led the government to encourage the use of environmentally friendly natural gas. In 1987, the government started restricting the use of solid fuels in Seoul and metropolitan areas, making it mandatory for buildings with large boiler capacity to use clean fuel. Since then, this criterion has been toughened.

Concerning tax incentives, there is indeed a preferential treatment to gas, in that lower import duty (one percent) is imposed on gas, compared to petroleum products (five percent). Although such differential taxation can be interpreted as reflecting the environmental concern, it would be more correct to say that the preferential treatment to gas was mainly attributable to the government policy to lessen heavy dependency on petroleum products.

As Korea imports all amount of natural gas for consumption, 100 percent of its demand is tied up with take-or-pay contracts. Unless international contractual practice changes, the situation will remain unchanged in the future. According to the restructuring plan, parts of the existing contracts will be taken over by subsidiaries that will be owned by private investors. At this moment, there appears to be no tendency towards shorter-term contracts. Only occasionally has the spot gas trade occurred, mainly to meet unusually high peak demand in winter, and no trade has ever taken place in the futures market.

2. Key competition issues

2.1 *Application and enforcement of competition law*

In principle, Korea's competition laws and regulations apply to all industries without exemptions or exceptions. Thus, the gas industry is governed by competition law, should there arise any anti-competitive acts such as the abuse of market dominant power, undue concerted acts, etc. The KFTC is responsible for enforcing competition-related laws and policy in this sector, just like in other industries.

However, Korea's competition law stipulates that a legitimate business practice pursuant to any effective Act is exempt from its application. Therefore, setting up gas prices under the City Gas Business Act and managing KOGAS under the Korea Gas Corporation Act are exempt from the application of competition law. Presently, MOCIE governs technical regulations and economic regulations in this sector but it is not involved in enforcing competition law. The establishment of an independent regulatory body that will govern the gas industry following the restructuring may lead to a shift in the division of regulatory power. For now, however, details of the division of labor between the regulatory body and the KFTC is yet to be worked out.

2.2 *Market definition issues*

In recent five years, the KFTC dealt with less than ten anti-competitive cases in this sector. However, the nature of those cases did not allow for the chance to define relevant markets.

2.3 *Abuse of dominance*

Since gas prices and operation of KOGAS are heavily regulated by the government, there have been no instances of the abuse of market dominance in Korea.

APPENDIX

Outline of the Korean Natural Gas Industry Restructuring Plan

Import and wholesale businesses

Korea Gas Corporation (KOGAS) will spin off the import and wholesale divisions in 2001 into three subsidiaries, based on the long-term purchasing agreements of LNG to Korea.

- Two subsidiaries are to be sold off to private investors by the end of 2002, while one subsidiary will remain under KOGAS' control until its sell-off. The sell-off date will be decided later for the one remaining subsidiary.
- The purchasing agreements of LNG will be grouped in order to support a fair and transparent competition among the three companies for imports and wholesales.

To that end, an independent regulatory body will be established and the current regulatory structure will be redefined and reinforced to accommodate the plan.

To the private participants of the sell-off, priorities will be given to the choice of the subsidiaries.

- On the premise that purchasers of the contract undertake any liabilities including those arising from the take-or-pay provision of the long-term import contracts and default provision for LNG vessels, the government is to devise an appropriate measure to provide necessary support.

OA will be adopted for all facilities of KOGAS (the terminals and the transmission network).

- By the end of 2002, the government will sell off its stake in KOGAS, while holding a portion of the shares in consideration of the public nature of the company.

In 2001, LNG imports by the consumers for self-use will be allowed.

Retail business

In 2000, competition over the construction of distribution facilities will be introduced.

- Any certified companies will be allowed to construct and operate distribution facilities in the unserved area.
- At first, competition between two or three retail suppliers will be promoted.

Competition in the gas retail sector will be introduced through several phases.

The gas supply service by LNG tank lorry will be introduced to the areas where distribution network is not established.

MEXICO

1. Industry overview: regulatory framework and market structure

1.1 National context and key regulation

1.1.1 *What are the government's primary objectives for this sector? Do these objectives include objectives, which can be interpreted as going beyond conventional economic objectives to include objectives such as ensuring energy security, environmental objectives, or universal service objectives?*

In 1995, the Mexican government introduced far-reaching reforms in the natural gas sector with the following aims:

- to attract private investment to this industry, which had previously been reserved to the Mexican State;
- to enhance the competitiveness of domestic industry through the availability of a sufficient, timely and competitive supply of a cost-effective fuel such as natural gas; and
- to contribute to a better environment by offering a cleaner fuel, in compliance with newly established environmental regulations of the industry.

As the legal reform was established, the industry's structure was redefined along the following lines:

- natural gas exploration and production, processing and first-hand sales were considered strategic activities reserved to Petróleos Mexicanos (Pemex —the national State-owned oil company—); and
- natural gas transportation, distribution, storage, and marketing, including foreign trade, became non-strategic activities in which the private sector could participate;

In order to carry out this restructuring of the natural gas industry, the Mexican government followed a logical order in order to implement each phase. The reform included the following elements:

Policy Decisions: Design and implementation of the policy decisions on which reforms would be based. This guaranteed that all government institutions and offices involved in the process had a common final objective and based their activities on a clear and pre-established framework, avoiding contradictory behaviours that could jeopardise the success of the reform.

Legal Reform: Undertake the necessary legal reforms to establish the legal basis that would allow the development of a clear and predictable regulatory framework. With these reforms, the government aimed to foster private sectors participation and introduce competitive conditions in the market.

Institutional Building: the governments roles as owner (Secretaría de Energía), operator (Pemex) and regulator (Comisión Reguladora de Energía-CRE) were clearly defined in order to determine distinct objectives for each entity, eliminate conflicts of interest and avoid controversies resulting from concurrent roles.

1.1.2 To what extent has the reform process in the gas industry been linked to that in other industries, especially electricity?

The 1995 Natural Gas Reform followed the amendment in 1992 of the Electric Energy Public Service Law, originally enacted in 1975. This amendment opened up power generation to limited private participation. Although Comisión Federal de Electricidad (CFE —the national State-owned utility—) remained the only entity to supply electricity power for public service, domestic and foreign investors were then allowed to invest in the sector through different modalities, the most important of which are self supply and independent power producers (IPPs). Currently, the CRE has granted 156 permits for private power generation, which are shown in the following table:

Activity	Permits	Capacity (MW)	Investment (millions of dollars)
Self Supply	107	3 730.10	2 972.61
Cogeneration	36	1 819.24	943.32
IPP's	7	3 250.86	1 673.60
Importation	6	10.20	2.64
Total	156	8 810.40	5 592.17

Therefore, one of the purposes of the gas reform was to secure a cost effective and environmentally friendly fuel for power generation. With the reform of the main fuel source for electricity well under way, now the time is right to introduce further reform in the electricity sector.

1.1.3 What are the title, date and main purpose of the key governing legislation or regulation in this sector?

- Article 27 Constitution, which establishes the nation's control of natural resources, including oils and gas.
- Regulatory Law of the Constitutional Article 27 on Petroleum (RLCA27) (11/05/95), which redefines the structure of the natural gas industry, distinguishing between strategic and non-strategic activities.
- Law of the Energy Regulatory Commission (LCRE) (31/10/95), which establishes the purpose, jurisdiction and powers of the regulator of the energy sector.

- Natural Gas Regulation (NGR) (08/11/95), which implements the Regulatory Law of the Constitutional Article 27 on Petroleum (RLCA27), establishing the regulations for natural gas first hand sales, transportation, distribution and storage activities.
- The Directive on the Determination of Prices and Rates for Natural Gas Regulated Activities (20/03/96). This regulation contains the methodologies, which must be used by regulated businesses when setting prices and rates in the natural gas industry.
- The Accounting Directive for Natural Gas (03/06/96) the object of this Directive is to establish the criteria and accounting guidelines to be used by regulated firms.
- The Directive on the Determination of Geographic Zones for Natural Gas Distribution (27/09/96). This regulation establishes the criteria and guidelines that will be used by the CRE to determine geographic zones for natural gas distribution.

1.2 *Regulatory institutions*

1.2.1 *Who are the key regulatory and policy-making agencies in this sector? Briefly, what are their structure and responsibilities? What are their relationships to one another? To what extent is the regulatory institution independent of the government? Is the regulator headed by a commission or by a single person? To what extent is the regulator independent of the incumbent firms? Of the government?*

A key feature of the 1995 natural gas reform was the redefinition of the government's roles as owner, operator and regulator. In this sense, proprietor and policy-making duties are within the Ministry of Energy (SE), while regulatory functions were transferred to the newly established Energy Regulatory Commission (CRE).

Enactment of the LCRE by Congress in 1995 enhanced its regulatory duties. Originally, the CRE was created in 1993 as a consultative body reporting to the Ministry of Energy. Its role was purely advisory and limited to the electricity industry. However, the enactment of the LCRE in 1995 changed its role substantially to that of an empowered and independent regulator. The LCRE also contributed to provide a clear legislative mandate to regulate the activities of both public and private operators in the electricity and natural gas industries. Furthermore, the LCRE expanded CRE's scope and it brought together a range of regulatory functions previously spread across a number of government agencies.

The CRE is empowered to regulate first hand sales, transportation, storage, and distribution of natural gas. While fostering contestable gas markets, the CRE grants permits, authorizes rates and prices, approves terms and conditions for the provision of services, issues directives, resolves disputes, requests information and imposes penalties, among others. The regulatory activities carried out by the CRE must not obstruct nor limit private participation.

The CRE has based its regulatory activities on five basic operation principles:

- clear and predictable rules.- The CRE establishes clear and precise rules with respect to its regulatory duties;
- stability.- The rules are designed to promote long-term investment in the energy industry;

- transparency.- Decisions are made by a five-member collegiate body and kept in public record;
- general applicability. - The Law makes no distinction between public and private entities; all participants are required to comply with regulatory provisions. Uniform analysis criteria is applied in a consistent and predictable manner, and
- autonomy. - Decisions are taken by the CRE based on a long-term vision of the industry established in legal provisions not subject to political considerations.

The LCRE also establishes the organization and operation of the CRE. Thus, it defines the CRE, as a technically and operationally autonomous body that makes its decisions through a collegiate body comprised by five commissioners. One of whom is designated Chairman. The Commissioners deliberate in a collegiate manner and their decisions are kept on public record. Commissioners are appointed by the President of Mexico for five-year staggered terms. The five commissioners meet as a group and decide matters on a majority vote.

The CRE's structure includes six areas: the Executive Secretary, an Administration Department, the Electricity Department, the Natural Gas Department, the Economic Policy Unit and a Legal Department.

1.3 *Key features of the demand for gas*

1.3.1 *What are the primary uses of gas in your economy?*

The primary uses of natural gas can be grouped within the following sectors:

- in the electricity sector, for power generation;
- in the petroleum sector, for oil extraction, equipment operation, and feedstock for petrochemicals and refining processing;
- in the industrial sector for manufacturing and mining activities;
- in the household and commercial sector for cooking and heating;
- in the transport sector, as fuel by some vehicles that have been converted to use it.

1.3.2 *In particular, what proportion of gas consumption is used to generate electricity?*

Between 1991 and 1998, the electricity sector's consumption represented 14 percent of total natural gas demand, while experiencing an annual average growth rate of 5.7 percent. Total gas consumption for power generation shifted from 433 million cubic feet per day (MMcfd) in 1991 to 639 MMcfd in 1998. However, it is expected that the annual average growth of natural gas demand lead by power generation will be around nine percent over the next ten years, consequently gas consumption for electricity generation is expected to increase significantly (perhaps reaching between 30 and 50 percent of total demand). This future consumption growth will be due to additional generation capacity as well as conversion of fuel oil-run plants.

1.3.3 For which of these uses can consumers substitute other fuels (such as oil, coal or electricity)?

- in the electricity sector, the main substitute in generation for natural gas is fuel oil;
- in the industrial sector, main substitutes are diesel and fuel oil;
- in the residential and commercial sector, the principal substitute for natural gas is liquid petroleum gas (LPG); and
- in the transport sector, LPG and gasoline are the substitutes for natural gas.

1.3.4 Are final gas prices effectively disciplined by inter-fuel competition?

The final price of natural gas to end-users is determined taking into account the first-hand sales price, the transportation tariff, the distribution tariff, other services, and taxes. Since the first-hand sales price is based upon international reference, the final gas price reflects the opportunity cost with respect to relevant markets in the US.

Regarding inter-fuel competition in Mexico, the natural gas industry is incipient, so competition is feasible with alternative fuels such as LPG, diesel, gasoline, fuel oil and others in the short to medium term.

1.3.5 Which and what proportion of gas users are prepared to purchase interruptible gas supply?

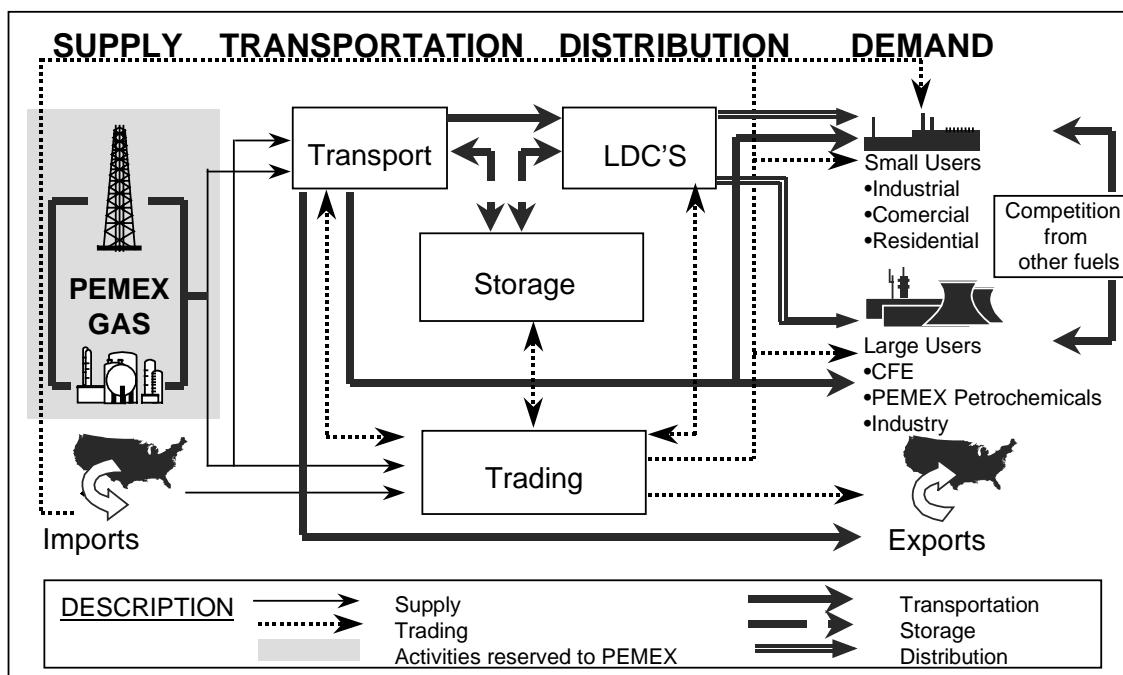
Currently, only the electricity sector purchases interruptible gas supply from Pemex. Interruptible purchases account for one third of total demand.

1.4 Key features of the supply of gas: market structure

1.4.1 Please briefly summarize the overall market structure in the gas industry: Who are the major firms and in which segments of the industry do they operate? In particular, taking each major segment of the industry separately:

In 1995, the Mexican government introduced far-reaching reforms in the natural gas sector with the aim of attracting private investment and promoting the competitiveness of domestic industry. New legislation was enacted to open natural gas transportation, storage and distribution activities, as well as imports, exports and marketing, to private participation. Transportation, storage, and distribution activities shall require a permit granted by the CRE. Until the 1995 reform, Pemex had exclusive control of the industry as a vertically integrated gas company.

Structure of the Natural Gas Industry



1.4.2 Which firms are active in the market for gas production (including the importation of gas or the re-gassification of LNG)?

In Mexico, natural gas exploration and production activities are exclusively reserved to the Mexican State through Pemex. Although legislation allows imports to be made by any market participant, Pemex still remains the main gas importer (main intake points are located in Reynosa-Tamaulipas, Chihuahua and Naco-Sonora). In addition, Pemex has a joint venture with El Paso Natural Gas over an import pipeline also located in Chihuahua. Investors have expressed interest in developing transportation projects to build new infrastructure in order to import gas from the United States. As a result, within the next months, it is expected that the first wholly privately owned importing pipeline (Sempra Energy) will start operations in the city of Tijuana (located in the Northwest border of Mexico). It is worth mentioning that currently three distribution companies located in Mexicali-Sonora (Sempra Energy), Piedras Negras-Coahuila (Cia. Nacional de Gas) and Cd. Juárez-Chihuahua (Gas Natural de Juárez) respectively, also import gas to provide service to their customers.

It is worth mentioning that the Mexican Government unilaterally exempted gas from import duties in August 16, 1999. This decision intends to promote competition in this industry.

Regarding re-gassification, this activity is limited to very small gas imports made by truck in areas where there is no pipeline infrastructure, as there are no LNG projects in Mexico.

1.4.3 How many sources of gas are there? (e.g., distinct gas fields or wells).

In Mexico, natural gas can be associated or non-associated. Of total gas production between 1991-1998, 73 percent was associated, with the remainder being non-associated. In 1998, there were approximately 25 associated gas fields and ten non-associated gas fields, while total gas production amounted to 4.791 MMcfd.

1.4.4 In countries without gas production sites, how many importing pipelines are there?

This question does not apply to Mexico. However, there are three importing pipelines currently operating, which are located in Reynosa-Tamaulipas, Chihuahua and Naco-Sonora. In the next months, it is expected that a new importing pipeline will start operations in the Northwest border of Mexico. Also, three distribution companies import gas to supply service to their customers, these are located in Mexicali-Sonora, Piedras Negras-Coahuila and Cd. Juárez-Chihuahua.

1.4.5 What are the ownership relationships between the gas sources (or importing pipelines)?

See answer 1.4.2.

1.4.6 Is there effective competition between gas producing firms?

Gas production in Mexico is reserved to the Mexican State through Pemex.

1.4.7 Are these firms vertically integrated into gas transmission and distribution?

Prior to the 1995 reform, Pemex was a vertically integrated firm, with control of most transmission and commercial control of the main distribution systems. However, over the past few years it has completely withdrawn from distribution and consequently, its distribution assets have been sold to private investors. In addition to its upstream exclusivity, Pemex owns the main pipeline system in the country, which is 8 704 kilometers long; as well as of two other relatively small local pipelines in the Northwest border: Naco-Hermosillo and Gasoductos de Chihuahua (339 and 38 kilometers, respectively).

1.4.8 To what extent are end-user customers supplied directly by gas production firms (i.e., without passing through the transmission or distribution network)?

Currently, Pemex provides bundled services to all its clients as the industry is undergoing a transition period. As mentioned before, Pemex has exclusivity over first-hand sales and owns the main pipeline system in the country, which is operated under an open access criteria and its operations are regulated by the CRE. With the exception of gas used for upstream activities, supply generally includes the use of Pemex's transmission system, but not necessarily the use of third-party distribution systems.

1.4.9 What proportion of gas is sold in this way?

In 1998, 97 percent of Pemex's total sales was for end-user customers under bundled service contracts, which generally involve the use of Pemex's own transmission system. The remaining three percent was supplied to end-user customers through local distribution systems.

1.5.0 Which firms are active in the market for gas transmission pipelines?

In gas transmission, CRE has granted 16 permits of which only six are operating. Among the market participants there are both international and local companies.

- Petróleos Mexicanos (Pemex);
- KN Energy ;
- El Paso Natural Gas;
- TransCanada Pipelines;
- Tejas Gas;
- Compañía Mexicana de Gas;
- Williams International Ventures;
- Sempra Energy;
- Midcoast Energy Resources;
- Techint.

1.5.1.0 *Where are the key pipelines located?*

- the National Gas Pipeline System operated by Pemex, is 8 704 kilometers long and links the Northern border of the country with all the production regions in the Northeast and Southeast. It crosses eight Mexican states;
- the Energía Mayakan pipeline, operated by TransCanada is 710 kilometers long and links Cd. Pemex, the main production site in the South, with the Yucatan peninsula, passing through the states of Campeche and Yucatán;
- the Naco-Hermosillo pipeline, operated by Pemex, is 339 kilometers long, and links the state of Sonora with the US border;
- the Tijuana-Rosarito pipeline, which will be operated by Semptra Energy, will be 36 kilometers long, and will link the Northwest of Mexico with the US border.

1.5.1.1 *Is there competition between pipelines in some areas?*

Currently, there is no competition among gas pipelines. However, there is a permit granted to Midcon-KN Energy to build up a 150-kilometer pipeline to link the Northeast part of the country with the US. It is expected that in the following years, similar projects will be developed and therefore, Pemex will be facing competition from other suppliers in this key region.

1.5.1.2 *How many gas consumers are supplied directly off high-pressure transmission pipelines (i.e., without passing through a retail distribution network)?*

In 1998, Pemex supplied 2 697 MMcfd to nearly one thousand customers connected directly to high-pressure transmission pipelines. This figure excludes gas supplied for upstream activities as well as for distributors.

1.5.1.3 *What proportion of gas is sold in this way?*

The above mentioned figure amounts to 74 percent of Pemex's total sales in 1998, excluding the oil industry.

1.5.1.4 *Which firms are active in the markets for gas distribution?*

As of January 2000, the CRE had granted 20 distribution permits, of which 18 are operating. Gas Natural SDG (Spain) has six permits, Semptra Energy (US) three, Gaz de France three, Tractebel (Belgium-France) two, Texas Utilities (US) two, KN Energy (US) one and three more for local Mexican companies.

1.5.1.5 *Is there competition between such firms, or does each firm have a regional monopoly?*

According to the NGR all new distribution permits confer a twelve-year exclusivity period on the construction of the system and the receipt, transmission, and delivery of gas within a geographic zone. This is known as simple distribution service. Distribution permits for existing firms confer a five-year exclusivity period to allow tariff stabilization. It is important to mention that physical bypass is permitted

for large users and that distribution permits do not confer exclusivity rights to market gas within a geographic zone because permit holders are obliged to provide open access to their systems (commercial by-pass). Following the expiration of the exclusivity period, the CRE can grant new permits within the same geographic zones, but these permits will not confer any additional exclusivity.

1.5.1.6 Are these firms integrated into transmission?

According to the NGR, a distribution permit holder cannot be granted a transportation permit to serve the same geographic zone, unless the CRE authorizes it for efficiency reasons or lack of interest from third-parties. No such authorisation has been granted yet.

1.5.1.7 What firms (if any) are active in the markets for gas retailing (i.e., the sale of gas by third parties over the existing transmission/distribution network)? What services do these firms provide? Are they integrated into gas distribution or other stages of the gas industry?

Currently, there are no active gas marketers operating in Mexico other than Pemex. Although transportation and distribution systems are subject to open access, retailers have not yet entered into the market. However, many investors have expressed interest in entering into this activity.

1.5.1.8 What is the ownership of the major firms in the industry? Are they foreign owned? Are they state-owned?

As it has been mentioned, all gas production and most parts of the transmission systems currently operating in Mexico are under the control of Pemex, the National State owned oil company. The second largest transmission pipeline, Energía Mayakan, is controlled by TransCanada, while the remaining pipeline projects under construction belong primarily to US companies, namely Tejas Gas, Williams International Ventures, Sempra Energy and KN Energy.

Regarding distribution systems, these are primarily controlled by foreign companies, with Mexican companies participating as single owners or local partners in some cases. The total investment commitments to the 5th year of operation are 920.9 millions of dollars. The major foreign investors in distribution are Gas Natural of Spain and Gaz de France, with both companies having more than 50 percent of coverage commitments as of January 2000. Texas Utilities, Sempra Energy and Tractebel are other major foreign investors in distribution.

1.5.1.9 In those cases where an important incumbent firm is State-owned, how is that firm organised?

Petróleos Mexicanos (Pemex) is the national State-owned oil company. In natural gas, it is involved in exploration & production (E&P), processing, transmission and marketing. Following a corporate restructuring in 1992, oil and gas E&P activities are carried out by Pemex Exploración y Producción (Pemex Exploration and Production), while natural gas processing, transmission and marketing is responsibility of Pemex Gas-Petroquímica Básica (Pemex Gas and Basic Petrochemicals). Additional affiliates include: Pemex Refinación (Pemex Refining), in charge of refining, distribution and trading of oil products; Pemex Petroquímica (Pemex Petrochemicals) is responsible for production and distribution of secondary petrochemical products; Pemex Comercio Internacional (Pemex International), which is responsible for international trade¹.

1.5.2.0 Is its organisation, governance, incentives on management and managerial discretion closer to that of a private corporation or to that of government department?

The separation of Pemex in different specialized subsidiaries was aimed at increasing efficiency and corporate governance for the company as a whole. Each subsidiary is autonomous and acts as a separate profit centre, while having its own Board of Directors. Coordination is managed through a corporate strategy division, which oversees the activities of the operating subsidiaries and has its own Board of Directors.

1.5.2.1 Is the legal status of its employees closer to that of a private corporation or a government department?

The status of Pemex employees is closer to that of a government corporation.

1.5.2.2 In what other industries are the firms in the gas sector active? For example, do gas distribution companies also provide electricity, heat, water, telecommunications or cable television services?

Currently, firms in local gas distribution participate exclusively in this sector. However, some of these firms are interested in participating in Independent Power Producer (IPP) projects, and the other way round.

1.5.2.3 Are gas producers also active in the market for electricity generation?

As the only gas producing company in Mexico, Pemex, is not involved in power generation because this is a market controlled by another State-owned company, *Comisión Federal de Electricidad*.

1.5 Key features of the regulatory regime

This question asks about the broad structure of the regulatory regime, which is followed up by detailed questions on entry regulation, access regulation, price regulation, unbundling and so on.

1.5.1 In which markets is primary reliance placed upon competition to yield efficient process and quality, and in which markets is primary reliance placed upon conventional price and quality regulation? (e.g., is there effective competition between pipelines for serving certain cities)?

Mexico's natural gas reform is aimed at introducing competition in areas which are potentially competitive (e.g. gas marketing), while regulating those activities exclusively performed by the State through Pemex (such as first-hand sales) as well as those with natural monopoly characteristics (e.g. transportation, distribution and storage).

1.5.2 Is there competition between gas producers in the sale of gas to pipelines, distribution companies or consumers?

Current legislation states that gas production is a strategic area reserved to the State through Pemex. For this reason, first-hand sales, that is, Pemex's sales of domestic gas production are subject to

price and conditions of service regulation. However, supply is potentially competitive, as consumers can buy gas from either Pemex or third-parties, including importers.

1.5.3 Is structural separation imposed (i.e. are gas producing firms allowed to own gas transmission facilities, and so on)?

One of the key objectives of the current structural reform of the gas sector is the unbundling of all activities. Pemex has been forced to unbundle first-hand sales from transmission services and it has had to apply for transportation permits, which in turn establish the technical and commercial guidelines for providing transmission services.

Unbundling is enhanced by the so-called permit regime. Three types of activities require a permit: transportation, storage, and distribution. Permits for these activities are granted by the CRE for an initial term of 30 years and may be renewed for one or more additional 15-year periods. The same person may hold licenses for all three activities, but as mentioned before transportation permits to serve a particular geographic zone shall not be granted to a person holding also the distribution permit for the same zone. An exception to this restriction may be granted whenever the CRE deems such vertical integration would result in efficiency gains and more cost-effective rates to customers.

1.5.4 Where structural separation is not imposed, does the regulatory regime require that the vertically integrated firm must allow rival access to its facilities?

All transportation and distribution permit holders are subject to the principle of open access and non-discriminatory service, regardless of whether they have some sort of vertical integration.

1.5.5 Are there competing sources of gas production?

No, as mentioned before, gas production is reserved to the Mexican State through Pemex.

1.5.6 Is competition allowed in gas importation or re-gassification of Liquefied Natural Gas? Are these firms allowed to be integrated into gas transmission?

According to the NGR, natural gas exports and imports, including LNG regassification, are competitive activities, which can be undertaken by any market participant. Although currently Pemex is a major participant in foreign trade activities, it is expected that in the next few years more private participants will enter into this market. It is worth mentioning that in August 1999 the Mexican government eliminated all import duties on natural gas as an effort to eliminate entry barriers. No restrictions to the integration of gas transmission and foreign trade activities apply in Mexico.

1.5.7 Where integration is allowed, is there a requirement on dominant transmission pipeline operators to interconnect with and carry the gas of rival gas producers?

As mentioned before, all transmission permit holders must provide open access and non-discriminatory service, regardless of whether this involves rival producers or marketers. In fact, the NGR (Art. 64) establishes mandatory interconnection to all permit holders provided that there is available capacity and the interconnection is technically feasible according to CRE regulation.

1.5.8 Are gas producers required to grant third-party access to their gathering lines and production facilities?

The RLCA27 establishes that all gathering lines and production facilities are strategic activities, that is, activities reserved to the State through Pemex. Therefore, no third-party access is allowed in gathering lines.

1.5.9 Where the primary source of gas is an importing pipeline, can other gas producers have access to that pipeline?

This question does not apply to the Mexican case. However, any gas producers in the US may have access to importing pipelines' capacity.

1.6.0 Could your country force the pipeline to accept gas producers in another country to grant access?

As of December 1999, Mexico had gas interconnections exclusively with the US, which in turn also offers open access in its pipeline systems. Therefore, gas producers both in Mexico and the US should have open access to their respective transmission systems.

1.6.1 Is competition between transmission pipelines permitted?

Yes, in transmission pipelines, there is no exclusivity period as in distribution. In fact, the CRE may issue multiple permits for the same route.

1.6.2 Is a firm allowed to construct a pipeline for direct supply of a large gas consumer?

Yes, the NGR allows large consumers to apply for self-use transportation permits as long as they are end-user consumers or members of self-supply clubs. If the applicant is located within a distribution zone, it is subject to the following minimum annual average consumption requirements:

- 60 000 cubic meters (m³) per day if the application is made within the first two years of operation of the distribution permit holder;
- 30 000 m³ per day if the application is made within the third or fourth year of operation of the distribution permit holder;
- no minimum consumption requirements are established if the application is done within the fifth year of operation of the distribution permit holder, or if the applicant is located in regions where there are no distribution systems operating.

1.6.3 Are transmission firms allowed to be integrated into gas distribution? Where integration is allowed, is there a requirement on gas distribution firms to interconnect with and distribute gas for rival transmission pipelines?

According to the NGR, transportation and distribution services in a determined geographic zone cannot be provided by (or transferred to) the same person or persons. Exceptions to the former could apply

only if the CRE determines that vertical integration will result in efficiency gains and more cost-effective rates to customers. No such authorisation has been issued so far.

In any case, it is worth mentioning that permit holders are required to grant open access conditions to their pipelines and to provide service in a non-discriminatory basis.

1.6.4 Is competition in gas storage permitted? What are the arrangements for access of third-party storage companies to the transmission or distribution system?

According to the NGR any interested party can apply for a storage permit, although there have not been investments on this area yet.

1.6.5 Is competition in the gas “retailing” function (i.e., contracting on behalf of small customers for gas transportation and distribution) permitted? Are gas distribution firms allowed to be integrated into the market for gas “retailing”? When integration is allowed, is there a requirement on gas distribution firms to contract with rival retailers?

In Mexico, gas retailing or marketing is considered a potentially competitive activity, and therefore no regulation applies to these companies. However, since gas retailers have not yet appeared in the market place, this function is performed primarily by distributors. As such, they are regulated in terms of pricing and conditions of service. In spite of the fact that gas retailing and distribution integration is allowed, distribution permit holders are subject to open access conditions and to non-discriminatory principles. Hence, they cannot refuse to provide service to rival retailers, provided that there is available capacity in their system.

1.6 Entry Regulation

1.6.1 The previous question has asked in which stages of production entry is permitted. Are there any specific licensing conditions that should be mentioned?

Gas production is exclusively reserved to the Mexican State and this activity is performed by Pemex.

1.6.2 Which class of customers are new entrant or competing firms permitted to serve? Is there an intention to expand the class of customers for which competition is permitted over time?

Although the domestic production of natural gas is an activity exclusively reserved to the State through Pemex, the current regulatory framework allows firms other than Pemex to compete to supply natural gas (be it domestic or imported) to any type of customers in the market place.

1.7 Access Regulation

1.7.1 The previous question asked whether there is an access requirement in each of the stages of production. In each case where an access requirement applies: Is the obligation to interconnect with a rival pipeline as or gas producer determined in the legislation or by decision of the

regulator? Where there is an obligation to interconnect how are the terms and conditions for the transportation of gas determined? Are they determined by the regulator or by private negotiation? What principles govern the establishment of access prices? Do access prices vary according to peak and off-peak periods?

The CRE grants open access transportation permits, which must incorporate the principle of open access and non-discriminatory service, while being subject to regulation of rates and general terms of service. These permits are granted upon application, and the ultimate decision to build the pipeline depends on the permit holder's ability to secure demand. The obligation to allow rival pipelines to connect to the permit holders' pipelines is established in the NGR and in the terms and conditions of each pipeline, which in turn are jointly negotiated with the regulator. Access prices are referred to transmission and distribution rates, whose regulation is explained in further detail in the response to question 1.8.

1.7.2 The capacity of certain facilities, such as pipelines, are limited. Not all access requests will necessarily be able to be satisfied. How is capacity allocated at peak times? Is it through a system of auctioning capacity, or a system of peak-load pricing of access? Does the regulator have tools for verifying claims of a lack of capacity?

The pipeline's capacity is allocated on a first come-first served basis. Whenever a permit holder denies access to its pipeline, it needs to demonstrate the lack of capacity. The regulatory framework allows users to present to the CRE claims regarding discrimination on the allocation of capacity at peak times.

1.7.3 Is there a requirement to make public the terms and conditions at which access has been (or will be) granted?

Yes

1.8 Price Regulation

1.8.1 The previous question asked in which markets primary reliance is placed on price regulation to control market power. This could be the market for gas delivered to end-users in the case of the integrated monopoly approach, or the separate markets for gas transmission and gas distribution in the case where end-users are able to contract directly with a gas producer. In each of those markets where prices are controlled and for each distinct class of customers: What are the underlying principles of the price regulation? I.e., are gas prices regulated so as to be competitive with respect to other fuels or with respect to underlying costs? Does the regulated firm have flexibility to adjust individual prices within the context of the overall controls established by the regulator (such as in the case where the regulation applies to a "basket" of prices)? Does the regulator use "yardstick" regulation (i.e., compare prices to an aggregate of costs of similar firms)?

Regulation of the natural gas industry in Mexico includes first hand sales, transmission, distribution and storage. As defined by the NGR, first hand sales are all sales of natural gas produced and delivered in Mexico to end-users other than Pemex. Given Pemex's monopolistic condition as exclusive producer of gas in Mexico, the CRE regulates first-hand sales using an international reference and a netback methodology in order to reflect the opportunity cost of Mexican gas with respect to the North American market. However, it should be noted that the NGR opens the possibility to lift first-hand sales regulation if the Federal Competition Commission (Comisión Federal de Competencia- CFC) determines that there are effective competitive conditions in the marketplace. In principle, a reason for determining

this situation could be a significant inflow of gas imports made by agents other than Pemex in a certain region.

Transportation and distribution rates are regulated under an incentive-type methodology, and particularly under an average revenue formula, which includes some elements of cost of service regulation. This method aims to offer permit holders the necessary flexibility in developing new markets while allowing them the opportunity to achieve an appropriate return on their assets and encouraging the expansion of gas supply to a wide customer base. Additionally, the method is designed to provide transporters and distributors with an incentive to improve efficiency.

The CRE sets an annual revenue cap for a five-year period, which is subject to further review at the end of this period. The formula includes the following elements:

- the base value of the revenue yield cap adjusted by the change in the inflation index and an efficiency factor X;
- the pass-through costs, and
- the correction factor K applied to ensure compliance with the revenue yield cap in a determined year.

For every open access transportation and distribution permit holder, a maximum average revenue (Po) for a 5-year period is determined according to a cost-of-service methodology which allows operators to recover operation and maintenance costs, taxes, depreciation, and an appropriate rate of return. This rate is usually determined using a weighted average cost of capital profitability analysis, although alternative approaches such as the capital asset pricing model and the dividend growth theory are accepted as well.

For those distribution permits granted through competitive bidding, the initial base value of the revenue yield is determined according to the winning bidder's proposal. In the case of transportation and distribution permits granted by application, the revenue cap is proposed by the applicant, subject to detailed analysis by the CRE.

Since the maximum average revenue is denominated in Mexican pesos, the CRE allows permit holders to adjust it over time for inflation and fluctuations in the exchange rate. This adjustment is usually done annually, but the CRE may authorize a quarterly or monthly adjustment if deemed. The inflation factor reflects historic annual changes in the Mexican Consumer Price Index and the Consumer Price Index in the USA.

The achieved revenue must be reported to the CRE on an annual basis according to specific guidelines. Among these is the obligation of the permit holder to adjust (for the revenue calculation) the revenues earned from contract rates (that is, the gas volumes sold below the regulated rate) so that they reflect the revenue which would have been earned if the service had been sold at a regulated rate. Additionally, the CRE allows adjustments in the revenue formula if actual throughput in a calendar year drops by ten percent or more with respect to the previous year.

Finally, it should be mentioned that the CRE reviews all the parameters of the maximum revenue formula every five years. This review takes into account the new business plan for the next period, including investments, operating and maintenance costs, and gas flows, among other factors.

- 1.8.2 *The extent to which the regulated firm can vary its prices according to underlying costs is a factor in determining the incentive for cost efficiency on the regulated firm and (in those industries where consumers do not have direct choice over their gas supplier) its incentives to purchase from the least-cost supplier upstream. What costs is the regulated firm allowed to pass on its customers? What proportion of those costs can it pass on? Does the price regulation provide incentives for efficiency on the regulated firm and incentives for it to purchase from the lowest-cost supplier?*

In Mexico, gas end-users can choose to purchase gas either directly from the distributor or from transporters, marketers or Pemex. When they contract the purchase through distributors, the pass through costs are regulated by the maximum acquisition price (*i.e.* the costs that can be passed through to the final user by the distributor as a result of the acquisition of gas, as well as transportation and storage services).

The costs associated with the acquisition of gas should reflect the price of the natural gas, the transportation and storage costs. It should be mentioned that pass-through costs should reflect prudent contracting of transportation or storage services (that is, utilising appropriate routing and type of services at the rates approved by the CRE for the respective permit holders).

- 1.8.3 *What is the resulting structure of prices? Do the prices have a “two-part” structure? If so, what principles govern the size of the fixed and variable parts? Are different prices charged for different end-uses (such is heating vs cooking)?*

In Mexico, only transmission and distribution rates have a “two-tier” structure, that is, a combination of charges for maximum reserved capacity (capacity charges) and volumes actually supplied (usage charges). This was implemented in order to better reflect an optimal allocation of fixed and variable costs.

Mexico’s gas price regulation does not distinguish different end-uses.

- 1.8.4 *Demand for gas at peak times can be substantially higher than at off-peak times. How does the structure of the regulated prices distinguish between peak and off-peak times? How do the regulated prices vary according to the distance the gas is transported? How do the regulated prices distinguish between “firm” and “interruptible” supply?*

In Mexico, price regulation does not distinguish between peak and off-peak times. Capacity charges are set according to the maximum daily capacity reserved over the system peak period.

- 1.8.5 *What mechanisms ensure that the quality of service is maintained?*

First-hand sales, transmission and distribution are subject to both price and quality of service regulation. Pemex as a first-hand seller, as well as any transmission or distribution permit holder, must present to the CRE their General Terms of Service (GTS) for approval. In every case, the regulator seeks to secure that the GTS offer minimum quality standards.

- 1.8.6 *Are there constraints on the ability of incumbent firms to price discriminate, especially in those markets in which competition is being introduced? Are there floors on prices?*

Several features of the current regulatory framework are aimed at avoiding price discrimination practices among regulated firms. In the case of Pemex, pricing below the maximum price has to be done on

a transparent and non-discriminatory basis, that is, customers under similar circumstances, regardless of their location, must be granted the same prices.

In the case of transmission, firms are subject to a floor price, which must equal the operation and maintenance costs approved by the CRE.

Distribution firms must have in their GTS a detailed tariff schedule for each type of customer and service. Firms are subject to a floor price, which is usually the usage charge or in some cases a lower charge, which must equal the operation and maintenance costs approved by the CRE. However, these costs might differ for each end user, depending upon delivery pressure or volumes contracted.

In all cases, users have the right to appeal to the CRE if they believe they are facing discriminatory practices from the regulated firm. The permit holder will then be required to submit enough data to support CRE's investigation.

1.8.7 What principles does the regulator follow to value the assets of the regulated firms?

All firms to use Mexico's General Accepted Accounting Principles (GAAP) issued by the Mexican Institute of Certified Accountants.

1.8.8 Are regulated firms required to publish their tariffs?

All regulated firms must present their GTS for CRE's approval. Once approved, these GTS, which must include the tariff schedule, become part of the firm's permit and as such they are obliged to make them public.

1.9 Non-commercial service obligations

1.9.1 Are there obligations on one or more firms to provide service to certain below cost (including, for example, a requirement to distribute gas in unprofitable areas or a restriction on the ability to withdraw from serving unprofitable customers)? Is the cost of these obligations made explicit? If so, what methodology is used for calculating the costs? Do other firms have the opportunity to compete to provide these services? If another firm sought to provide these services, could it claim compensation for doing so? How are the funds collected to pay for these non-commercial obligations? Through internal cross-subsidisation, or through a system of explicit subsidies? If the latter, who contributes to the subsidy fund? Are competing firms expected to contribute? On what basis?

Regulated firms in Mexico are obliged to satisfy all economically viable demands for service. Transporters and distributors can only charge rates, which do not exceed the maximum rate approved by the CRE for each type of customer or service. However, they are allowed to offer "conventional rates" as long as they are offered on a non-discriminatory basis and they do not go below the "floor price", previously explained.

Regarding subsidies, the NGR allows them only when these are financed by specific government funds and do not affect permit holder's revenues.

1.10 Separation and unbundling

1.10.1 In many industries, and especially in gas, forms of separation are imposed in an attempt to prevent internal cross-subsidisation from regulated to competitive activities and to improve the effectiveness of access regulation. Are there regulatory controls requiring ownership separation (supported by line-of business constraints)?

In many cases forms of separation short of full ownership separation are required. Are there requirements for “unbundling”, “operational” separation, accounting separation, or requirements to operate in certain markets through arms-length subsidiaries? How do these requirements operate? In what markets? For what purpose?

Unbundling of the natural gas industry has been a key feature of the 1995 reform. In order to achieve this, the CRE has implemented a permit regime to distinguish each activity as well as specific accounting procedures within each activity in order to prevent internal cross-subsidisation.

Permit holders must keep separate accounts for each of the following revenues:

I. Transporters

- revenues and expenditures related to pure transportation service;
- revenues and expenditures related to the provision of connections, and
- penalty revenues.

II. Distributors

- revenue and expenditures relative to the acquisition of gas, storage and transportation;
- revenue and expenditures relative to the provision of pure gas distribution services (e.g. gas delivery);
- revenue and expenditures from the provision of non-standard connections, disconnection's and reconnections, as well as penalty revenues.

These accounting procedures must be filed on an annual basis to verify that there are no cross-subsides among different businesses lines, services, or regions.

1.11 Trade and investments issues

1.11.1. What is the nature of international trade in gas (if any)? Are there any restrictions on such trade? Is there an import monopoly, or an export monopoly?

The NGR establishes that international trade in natural gas may be freely carried out pursuant to the Mexican Law of Foreign Commerce. CRE's only requirement for importers and exporters is to provide proper information on these activities. In addition, and as mentioned before, no import tariff nor other non-tariff barriers exist in natural gas foreign trade.

1.11.2 Are there controls on foreign ownership or foreign investment?

No restrictions on foreign investments are included in the natural gas regulatory framework. It is only required that firms present proof of their technical, financial and administrative capabilities.

1.12 *Miscellaneous issues*

1.12.1 In the transition to competition have concerns been expressed about stranded costs or stranded contracts (such as long-term take-or-pay contracts that were signed under a previous regulatory regime)? How have these concerns been addressed?

1.13 *No.*

1.13.1 How have environmental objectives influenced policy decisions over the regulatory regime? Does gas receive the same tax treatment as other fuels? Why or why not?

One of the main objectives of the 1995 natural gas reform was to provide the Mexican industry with more cost-effective and environmentally friendly fuels. This was complemented by new environmental regulation (Clean Air Act) which requires fuel oil substitution among manufacturing and power industries.

Natural gas tax treatment is the same as for other fuels. However, an exception is observed in the transportation sector, where compressed natural gas (CNG) faces a special tax which puts it in disadvantage with respect to liquid petroleum gas (LPG), which does not face this tax and it is its main substitute. It is important to mention that the fiscal authorities are currently considering the elimination of this special tax on CNG.

1.14

1.14.1 What proportion of gas production is tied up with long-term contractual commitments, such as take-or-pay contracts? How is this expected to change over the next five-ten years? Are there mechanisms for releasing some of the gas tied up in such contracts for use by competitors? Is there a tendency towards shorter-term contracts? What proportion of gas is traded on the spot or futures market? How has this proportion changed over time?

All Pemex contracts until now are take-or-pay. The CRE considers that short-term contracts will prevail in the market, and no mechanisms for releasing long-term contracts on gas sales will be needed. In Mexico there is no futures market yet.

2 Key competition issues

2.1 *Application and enforcement of competition law*

2.1.1 *Does the national competition law apply to this sector without exemption or exception? Describe the exemptions or exceptions that apply.*

The Federal Law of Economic Competition (LFCE) is observed throughout the Mexican territory and applies to all areas of economic activity. The LFCE forbids monopolistic practices and monopolies. However, according to the Mexican Constitution, certain activities can only be performed in an exclusive way by the State, through state companies in the so-called strategic sectors. These include: postal services, telegraph and radiotelegraphy; petroleum and other hydrocarbons; basic petrochemicals; radioactive minerals; nuclear energy generation and electricity, among others.² The activities developed solely by the State in these areas are not regarded as monopolies in the Mexican Constitution.

Regarding natural gas, the State exercises exclusive functions in upstream activities (namely exploration, production and first-hand sales) through Pemex. These activities are not regarded as monopolies in terms of the Mexican Constitution and the LFCE. However, PEMEX is subject to the LFCE as to the prohibition of monopolistic practices in performing these functions.

Likewise, activities not reserved to the State, and thus open to private participation, are subject to the LFCE. These activities refer to transportation, storage and distribution of natural gas, which may be carried out by private agents through a permit granted by the CRE.

2.1.2 *Who is responsible for enforcing the various components of the competition law in this sector? What role does the regulator play in enforcing the competition law, or competition rules?*

The Federal Competition Commission (CFC)³ is the sole agency responsible for the enforcement of the LFCE, which applies to all economic sectors.

In 1992, the Congress approved the LFCE,⁴ which establishes the creation of the CFC to enforce it. The CFC was created as a separate administrative agency, attached to the Ministry of Trade and Industrial Promotion, empowered with technical and operational autonomy, responsible for the prevention, investigation and elimination of monopolies, monopolistic practices and anticompetitive mergers, in the terms of the LFCE and provided with autonomy to issue its decisions.

2.1.3 *What role does the regulator play in enforcing the competition law, or competition rules?*

The CRE is not empowered to enforce the LFCE. It has the authority to develop and enforce the regulatory framework regarding natural gas activities such as first-hand sales, transportation, storage and distribution with an aim to contribute to the promotion of competition in this industry. In turn, the CFC enforces the LFCE in order to promote and protect competition by preventing and eliminating monopolies, monopolistic practices and anticompetitive mergers in the sector.

The RLCA27 includes rulings aimed at promoting system interconnection and open access to transport and distribution infrastructure on an equitable and non-discriminatory basis. It also forbids practices that may affect competition processes. The CRE is the agency in charge of enforcing these rulings.

The CRE and the CFC have complementary roles as to the promotion of competition in the natural gas sector: The CRE enforces RLCA27 and the Natural Gas Regulation (RGN) whereas the CFC enforces the LFCE.

According to RLCA27, regulations on natural gas first-hand sales, transportation, storage and distribution are aimed at ensuring an efficient supply, including elements such as: open access to transportation, storage and pipeline distribution services and the determination of prices and tariffs whenever no effective competition conditions exist, according to the CFC. It also establishes that any transportation, storage and distribution permits granted by the CRE may be revoked if the permit holder engages in unduly discriminatory practices against users and for not complying with the prices and tariffs approved by the CRE.

The LFCE also forbids and penalises practices that reduce, harm or impede competition. Hence, an economic agent could be penalised by both commissions. Other activities where the CFC interacts with the CRE are:

- (a) Agents interested in obtaining a natural gas permit must file a notice before the CFC, following RGN article 18.

Before granting any permit, the CRE evaluates technical proposals and rejects those that do not comply with the technical standards and requirements set out. In the first phase, it must also discard proposals of bidders that are blocked by the CFC. Thus, only the economic proposals of bidders that make it through the first stage are eligible for holding a permit.

- (b) Agents interested in transferring a permit must notify the CFC.

The request to the CRE for transferring a permit must be filed along with a copy of the notice brought before the CFC regarding the permit holder modification. The purpose is to avoid undue permit and activity concentration as regards natural gas.

- (c) Establishment of methodologies to determine applicable prices and tariffs whenever the CFC judges no effective competition conditions exist.

The CFC is empowered to investigate and decide about the existence of competition conditions in the natural gas industry in order to determine if the price and tariff regulation developed by the CRE is desirable. Thus, the CFC declaration of non-existence of effective competition conditions opens the possibility that the CRE sets out methodologies to determine prices and tariffs that favour the development of an efficient industry, allow first-hand sales and permit holders services to reflect competitive market conditions; avoid undue price discrimination, foster competition and open access to services and prevent cross-subsidisation.

- (d) Permit withdrawal for discriminating and failing to comply with prices and tariffs.

The RGN considers the refusal to deal with similar users or customers in similar conditions as unduly discriminatory. However, discriminatory treatment differences accruing to the existence of different service modalities, location or categories of users or customers is not deemed discriminatory.

According to the LFCE and related regulation, the sanctioning of discriminatory practices by the CFC requires, besides the harm to competition, that the alleged responsible party has substantial power in the relevant market.

2.2 *Market definition issues*

2.2.1 *Have the competition authority or the courts had the opportunity to define the relevant markets in competition cases arising in this sector?*

A technical opinion as regards competition issues is elaborated for every matter dealing with natural gas brought before the CFC. This opinion addresses the determination of the relevant market.

Economic agents interested in obtaining permits for the transportation, storage or distribution of natural gas file a notice before the CFC, which carries out the corresponding analysis and issues an opinion from the competition perspective. The CFC also receives notification of economic agents interested in transferring a permit to a third party and of agents involved in mergers in the natural gas sector.

2.2.2 *How have gas markets been defined?*

The definition of the relevant market addresses the following issues:

- Identification of goods and services comprising the relevant market which includes those produced, commercialised or supplied by the economic agents, and their actual or potential substitutes, of domestic or foreign origin.
- Cases referring to supply in natural gas distribution zones (GDZ) as defined by the CRE.

The CFC has identified natural gas as the relevant product and LPG, diesel and fuel oil as its main substitutes, depending on the composition of fuel demand within the GDZ.

It is worth mentioning that electricity is not considered a substitute for natural gas. In the cases filed before the CFC it has been noticed that the infrastructure of homes and industries consuming fuel is such that an attempt to switch to electricity would imply a considerable technological change and incurring in substantial costs.

Until now, LPG is the main fuel for residential and commercial use in urban centres throughout the country. In addition, distribution and transportation projects make it feasible supplying natural gas to the industrial sector, which traditionally registers significant levels of diesel and fuel oil consumption.⁵

The above observations highlight the fact that the importance of every type of fuel as substitute to natural gas will depend on their relative weight in the energy balance of the area where the merger, permit or permit transference has effects.

In order to be able to identify substitute products conforming the relevant market, the CFC has had the support of the CRE in relation to natural gas distribution issues by

systematically providing information regarding the demand structure for fuel in the corresponding GDZ.⁶

- Cases referring to natural gas provision outside GDZ.

In cases regarding merger notifications or natural gas transportation permits, the relevant market definition has differed from that set out for cases involving natural gas provision in GDZ.

In such cases the route served by the system is crucial to establish the geographical limits of the market. Besides, in these cases the definition of the relevant market also identifies the type of actual and potential users, which will be provided with natural gas, taking into account whether these users have an alternative energy source that may be considered a substitute product.

Up to now, notified mergers and transportation permits have only involved systems which provide natural gas to distributors of GDZ, electricity plants technologically designed to consume natural gas, industrial parks and industries located beyond the GDZ which do not have access to alternative supply sources.

- Determination of the geographical area of the relevant market

In order to determine the geographical area of the relevant market in cases referring to mergers and transference's or permits requested, the CFC has considered the geographical area within which natural gas would be provided and where potential demanders would be indifferent to access supply.

- Cases referring to supply in GDZ as defined by the CRE.

The CFC has defined the geographical dimension of the relevant market as the area including urban centres conforming the GDZ previously defined by the CRE. This zone is the geographical area where the agent obtaining a new distribution permit would have exclusivity to supply final users for a twelve-year period, without any other agent being able to perform distribution activities. The majority of users have no possibility to access alternative natural gas suppliers within this zone⁷, at least during the exclusivity period granted by the new distribution permit.

- Cases referring to natural gas provision outside GDZ.

The definition of the geographical area of the relevant market is given by the route of the natural gas transportation system, as long as the actual or potential users are located along this route and taking into account that users have access to alternative sources of supply.

2.2.3 *Was gas distinguished in the market from other fuel sources?*

In its competition analysis of cases dealing with natural gas supply within GDZ the CFC has made no distinction between the market for natural gas and fuels such as LPG, fuel oil and diesel, as long as actual or potential final users are able to satisfy their energy requirements by using alternative fuels. In

addition, no economic or legal restrictions limiting users access to alternative fuels in the geographical zone have been identified.

The new exclusive distributor will compete in GDZ delimited by CRE with fuel providers that have traditionally satisfied energy requirements of economic sectors and that generally correspond, listed in order of importance, to LPG, oil fuel and diesel. It is therefore foreseeable that once natural gas is available to economic sectors, a competitive process will be spurred.

2.2.4 *What other market definition issues have arisen?*

To this date, no market definitions have been elaborated by the CFC other than those mentioned above.

2.3 *Abuse of dominance*

2.3.1 *Have instances of alleged abuse of dominance arisen in this sector? Have there arisen cases of predatory pricing, or raising rivals costs?*

No abuse of dominance cases have been filed before the CFC in this sector, nor cases of predatory pricing or raising rivals costs. Regulation impedes monopoly pricing and undue output restriction, amongst other things.

2.3.2 *Have the current regulatory requirements designed to control abuse of a dominant position been effective?*

No formal cases regarding anticompetitive practices (abuse of a dominant position) have been filed before the CFC as regards the natural gas sector. Given the present structure of the natural gas market, the current regulation has been adequate to effectively control abuse by agents with a dominant position.

Current regulation foresees that whenever no adequate competition conditions exist, according to a CFC evaluation, a pricing methodology should be applied. As has been commented in previous questions, this imposes a price regulation which prevents service providers from applying monopolistic prices or discriminating among users, and which also avoids predation, as it incorporates all costs arising from rendering the service. In the case of first-hand sales, regulation may also be applied to sales conditions. Regulation foresees transportation, storage and distribution permits granted by the CRE may be revoked for failing to comply with prices or tariffs applied by the competent authority.

When adequate competition conditions exist, according to the CFC, the sector-specific law foresees that regulation be suspended, thus allowing for free market forces to act.

Sector-specific regulations also establish that tariffs should not be unduly discriminatory or conditioned to the rendering of additional services. Permit holders have the obligation to provide users open and non-discriminatory access to their respective system services (limited by their corresponding capacities) and permits may be revoked for undertaking discriminatory practices against users.

The current regulation sets out that permit holders refrain from carrying out unduly discriminatory practices. While the RGN consider refusing to deal with similar users or customers in

similar conditions as unduly discriminatory, differentiated treatment resulting from different types of services, location or categories of users or customers are not considered discriminatory.

On the other hand, The General Terms of Service (GTS) for rendering services regarding natural gas (storage, transportation and distribution to end users) are approved by the CRE and are included in the permit along with the tariffs, the GTS for access and types of services to be rendered; the rights and obligations undertaken by the service provider and the arbitration procedure proposed by the permit holder to settle disputes derived from rendering the services.

Finally, article 8 of the LFCE forbids practices that reduce, harm or impede competition. Therefore, in addition to sector-specific law, agents may be sanctioned by the CFC, whenever they carry out practices such as predation, discrimination, cross-subsidization and tied sales.

2.4 *Other competition enforcement issues*

2.4.1 *Have instances of mergers or anti-competitive arrangements between firms arisen in this sector?*

The CFC has carried out competition analysis in relation to every merger notification filed concerning the natural gas sector. In determining whether the merger should be conditioned or opposed the elements established in article 18 of the LFCE are applied. These refer to determining the relevant market, identifying economic agents that supply the market, analysing their market power and the degree of market concentration.

In terms of the LFCE, it may be asserted that no anticompetitive mergers have taken place in this sector. Up to now, notifications of mergers filed before the CFC have dealt with business restructuring and have not been intended to promote vertical integration nor have they lead to structural changes in their corresponding relevant markets that would convey concentration level modifications.

2.4.2 *What analysis was carried out in approving or opposing these mergers or arrangements?*

Before issuing a decision regarding a merger notification, including those in the natural gas sector, the CFC works on a technical opinion containing both, the legal aspects and the corresponding economic analysis. The former includes issues concerning the legality of the transaction and the identification of the entrepreneurial group or groups. The economic section is devoted to defining the relevant markets, which are affected by the merger, the determination of the existence of substantial market power and whether the merger will facilitate monopolistic practices. Particular attention is given to vertical integration issues.

2.4.3 *What remedies were imposed?*

All mergers in the natural gas sector reviewed by the CFC since the opening up of this sector to private participation have not presented risks to competition. Therefore so far, mergers in the natural gas sector have not been blocked or conditioned.

NOTICE:

Further details regarding the industry overview, the regulatory framework and market structure can be found in:

International Energy Agency (IEA) – Organisation for Economic Co-operation and Development (OECD), *Regulatory Reform in Mexico's Natural Gas Sector*, 1996.

NOTES

1. According to the RLCA27, basic petrochemicals are: ethane, propane, butane, pentane, hexane, heptane, naphthas, and methane used as input for petrochemicals. In turn, secondary petrochemicals are the by-products derived from basic petrochemicals.
2. See Mexican Constitution, article 28, paragraph 4.
3. The CFC is a separate administrative agency attached to the Ministry of Trade and Industrial Promotion empowered with technical and operational autonomy to issue its decisions.
4. The LFCE was published in the Official Gazette of the Federation on December 24, 1992 and entered into force on June 22, 1993. With the issuance of this law, the Organic Law of 1934 which regulated Article 28 of the Constitution on monopolies was abrogated, as well as the 1950 Ley de Atribuciones del Ejecutivo Federal en Materia Económica, the 1941 Ley de Industrias de Transformaciones and the 1937 Ley de Asociaciones de Productores para la Distribución y Ventas de sus Productos.
5. Natural gas has been basically consumed by the industrial sector in the central and northern regions of the country, following the pipeline national system configuration. However, the pattern for natural gas consumption is increasing in response to the introduction of private parties in natural gas transportation and distribution activities registered in the last four years.
6. It should be noted that in order to identify the minimum market scale or size to delimit a distribution zone, the CRE considers parameters such as: fuel consumption levels, economic activity and industrial development. According to sectorial rulings, both the issuing and the transferring of natural gas transportation permits are subject to previous opinion of the CFC, which is empowered to veto a transaction.
7. In certain distribution zones, the CRE have granted self-use transportation permits for big consumers according to the conditions commented in question., which are directly supplied by Pemex Gas and Basic Petrochemicals.

THE NETHERLANDS

1. Role of government in the gas sector and the regulatory framework

1.1 Objectives government

The Dutch energy policy has traditionally been aimed at the realisation of a reliable, affordable and clean energy supply infrastructure. In terms of gas, this means a reliable gas capacity, an affordable gas supply and a clean gas supply.

The Third White paper on Energy Policy (December 1995, European Commission) kicked off a policy creating more scope for free market forces.

The traditional objective of the energy policy is to remain intact throughout these changes. Especially with regard to natural gas it is important that a healthy mining climate should be preserved which contributes to the Dutch gas reserves being developed to the highest possible level while contributing to the prosperity of the country as a whole. Given these policy targets, the reliability of availability of gas and the mining climate in particular, a choice has been made in favour of a gradual transition to a more demand-driven market structure.

1.1.1 Key regulation

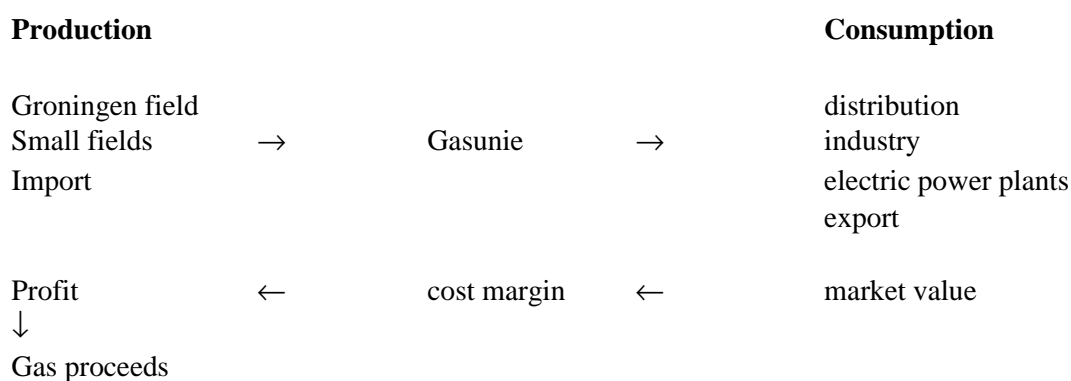
The structure of the Dutch gas supply system, which is described in the next paragraph, was laid down in the “De Pous Memorandum” (this title refers to the minister of Economic Affairs of those days, Mr De Pous). The memorandum was not translated into legislation, but into public-private agreements and arrangements between the Dutch government, Shell, Esso and the State Mines organisation. Those agreements confer certain powers on the minister of Economic Affairs regarding the gas volume to be produced and sold as well as the price charged. Two elements are crucial in these agreements. First the co-ordination of extraction and sale by Gasunie, which enables the production of natural gas from small gas fields, which have been gaining in importance since the 1970s. Second, application of the market value principle of gas, i.e. the price of alternative sources of energy in the constituent market in question. Both the co-ordination of extraction and sale and the market value principle have ensured a good economic utilisation nationally of mineral resources in the Netherlands in the past.

To create a competitive gas market, the Dutch Ministry of Economic Affairs proposed a gas Bill. This Bill contains statutory regulations with respect to the organisation of the transport and supply of natural gas. It is the first time that such specific regulations are applied in the Netherlands with respect to the organisation of transport and supply. The Gas Bill hopefully enters into force before August 2000. As above, this was arranged in public-private agreements between the different players (Government, Shell, Esso, State Mines).

2. The market and the players

2.1 *Creation of the Dutch gas market*

The structure of the Dutch gas market in gas flows and cash flows is schematically summarised in the following schedule:



There are a number of specific characteristics of this structure. Firstly, the discovery of the Groningen field has determined the structure of Dutch gas supply up to this date. Together with the parties involved, namely Shell and Esso, the government has created a structure, which was aimed at utilising those mineral resources as properly as possible from a national-economic point of view. This means to take care of guaranteed gas supply to the domestic market and a considerable gain of the proceeds for the community. The large volume and other characteristics of the Groningen field, such as the flexibility and the quality of Groningen gas, are still decisive for the Dutch supply. Production from the Groningen field may vary in a very flexible way. That is why there is the possibility to use this field as so-called “swing supplier”. About the quality of Groningen gas one can say that Groningen gas has a low combustion value (calorific value) –the gas equipment/appliances of the majority of the customers in the Netherlands (households and small industries) is adapted to that low calorific value. To prevent accidents it is important that the gas is supplied within an accurate quality range. Complication in this connection is that the gas from the other fields comes with a higher, sometimes also lower, calorific value. In the current constellation, Gasunie takes care that the various qualities will be blended with each other or that nitrogen is added, due to which the calorific value will be reduced.

A second specific characteristic for the structure of the Dutch gas market is the high co-ordination of production of gas in the Netherlands as well as the sales (domestic market and abroad). The small fields are able to produce at a constant rate while production from the Groningen field depends on the actual demand. Gasunie is in the position to offer very favourable terms and conditions to the producers: guaranteed offtake at a virtually constant rate and at a favourable price. As a result of this so-called small field policy, certain small fields are produced which elsewhere are not considered sufficiently profitable.

A third specific characteristic is that Gasunie passes on the proceeds –except for a margin- to the producers (the co-called “net back” mechanism). The proceeds are determined by application of the market value principle.

2.2 Demand for gas

There were some 6 747 000 customers in the Netherlands in 1996. These customers vary in scale of use and branches of industry.

The large-scale users (over ten million m³ per year) are bulk users in the chemical, paper and dairy industries, *inter alia*, as well as in the electricity generating sector. The total number of the large-scale users is approximately 150, with a demand of 46 percent of the total Dutch gas demand. The middle-scale users (with a minimum consumption of 170 000 m³ per year), are horticultural industry, small-scale industry and service suppliers. There are 16 000 middle scale users of which 11 000 horticultural industry (this includes the small companies), with a total demand of 16 percent. The small-scale users (consumption less than 170 000 m³ per year), are the households and small businesses like small horticultural companies, retailers, construction, business and financial services. The number of small users is 6 458 000 of which 57 4000 in district heating. Their demand was approximately 38 percent.

2.3 Supply of gas

2.3.1 Gas production

At the production side there are about 13 gas producers active as operator of one or more gas fields. The Nederlandse Aardolie Maatschappij (NAM) is by far the largest of them. NAM takes care of about 75 to 80 percent of total production in the Netherlands, more than half of which originates from the huge Groningen field. The total production in the Netherlands is approximately 80 billion m³ per year, of which the most is sold to Gasunie.

The Netherlands still has considerable gas reserves at its disposal; every year new fields are discovered. The table below summarises the remaining reserves of natural gas at 1 January 1999 in m³ billion.

	Remaining proven reserves	Remaining expected reserves
Groningen field	1119	1212
Other onshore territory	226	321
Continental shelf	209	360

2.3.2 Storage and LNG

In the Netherlands there are three underground storage facilities (Alkmaar, Norg and Grijpskerk) and one LNG-terminal. The underground storage facilities are owned by NAM (Norg and Grijpskerk) and by BP/Amoco (Alkmaar). The facilities are rented by Gasunie under long term contracts. The LNG terminal is owned by Gasunie

2.3.3 Transmission

Gasunie is at present the only transmission company and the only wholesale dealer in the Netherlands. This combination of purchasing, transportation, capacity services and sales in one national

gas company is found in virtually all-European countries. The reason for this is the security of supply and economies of scale and scope. These economies of scope are related to the fact that the different functions are technically and commercially hard to separate. For instance because of the adaptation of capacity of production networks; contracting storage facilities; the necessity to keep the supplied and lifted volumes daily in balance, even if an extremely cold day occurs or a supplier fails to deliver due to circumstances; the fact that in supply contracts volume and capacity are always offered in combination. Gasunie is the owner of the high-pressure network with a total length of about 11 000 km. Although it is allowed for others to build networks as well, the investments are very high. So, basically Gasunie is the only one with a network all over the country.

2.3.4 *Distribution*

Recently there were 35 energy distribution companies in The Netherlands. Most of them were supplying electricity as well. Right now there are five companies left and we expect that by the end of the year only three will be three left. Due to liberalisation there are a lot of mergers between the distribution companies. Some distribution companies also supply other services such as heat and cable services. The distribution companies are both owners of the distribution network and purchaser and seller of natural gas for the benefit of end-consumers. The distribution companies do have a regional monopoly.

The table below shows the position of the various suppliers in relation to the supply to end users in the Netherlands:

Supplier	1996 gas sales (in mln m3)	Dutch market share (%)
Gasunie	20 100	40
Of which		
Industry	14 000	28
Power stations	6,100	12
Distribution companies	28,070	56
Of which		
Small users	18 020	36
District heating	1 020	2
Horticulturalists	4 860	10
Bulk users	4 170	8
Third parties	2 000	4

Sources: EnergieNed, Gasunie, SEP

3. **Towards a competitive gasmarket**

3.1 *Introduction*

Given the policy targets, the reliability of availability of gas and the mining climate in particular, a choice has been made in favour of a gradual transition to a more demand-driven market structure.

In order to safeguard such gradual transition and to ensure that access to transport networks are available on non-discriminatory conditions to the demand as well as the supply side, regulations governing the transport and supply of gas have been included in the proposed Gas Bill. Furthermore the Bill contains

a regulation which deals with supplying gas to captive customers. Also part of the Bill are a number of restricted regulations concerning gas companies.

The Bill has an impact on the Dutch industry as a whole, especially on businesses whose operations entail the trade, transport and storage of gas and the customers.

3.2 *Gradual transition*

Gradual liberalisation is important to give the gas companies enough time to prepare for the new market order. The phased liberalisation of the gas supply market implies that specific categories of customers will not have a free choice of supplier during the transitional period; rather, they will continue to source the gas they use from their current supplier. Although the current set-up does not provide for a legally imposed relationship, a situation effectively exists at practical level in which the customers of local distribution companies in particular depend on their local supplier. The gas Bill will temporarily formalise such relationships. Licenses will be issued to the distribution companies, thus granting them the exclusive authority to provide for the gas supply to the customers in question. The Minister of Economic Affairs will in principle grant such licenses to all companies that supplied gas to the relevant customers at 1 July 1996. The area of which the license holder is allowed to supply gas on a basis of exclusivity is to be defined as part of the licensing process.

The captive customers enjoy a protected status. The monopoly position that the license holder enjoys calls for supervision of the price and quality of the services it provides. License holders will, for example, be subject to a supply duty while the minister of Economic Affairs will fix the maximum rates to be charged to captive customers (see paragraph 4).

In the draft Gas Bill the boundary line between non-captive and captive customers is set at an annual gas consumption of over or under ten million m³; from 1 January 2002 onwards only those using less than 170 000 m³ of gas per year will remain "in captivity". Finally, this last group of customers will be free in their choice of supplier from 1 January 2007 onwards. But meanwhile, due to new developments it is preferable to speed up this process. The Bill provides room to change these dates and right now we are planning to change them and to fasten up the liberalisation process.

The requirements of the license holders are:

- supply obligation with respect to the supply to protected customers;
- separate bookkeeping with respect to the supply to protected customers;
- maximum tariff rates established by the minister;
- providing data and information to the supervisory body and the minister of Economic Affairs;
- willingness to at least comply with general supply terms and conditions and a model of service obligations;
- willingness to join a disputes procedure which may be followed by a captive customer in the event that there is disagreement between license holder and customer about the supply.

3.3 *Access regulation*

The Gas Bill regulates access to downstream networks (the transmission and distribution networks), while provisions of the Netherlands Competition Act apply to access to upstream networks.

3.3.1 *Access downstream networks*

The draft Gas Bill proposes a system of negotiated third party access (Ntpa) to the grid. This is primarily based on the competition Law, which already obliges the net operator to negotiate access in an objective and non-discriminatory way. That is, assuming the net-operator has a dominant position.

There are a number of reasons why a choice in favour of Ntpa would be an obvious choice. First of all Ntpa is in line with existing practice. Some 65 percent of all gas that is consumed in Europe crosses one or more national borders en route to the customer; this takes place on the basis of contracts with the network owner. Secondly the current market trend is one whereby transport contracts are increasingly taken out with gas transport companies, independent of the sourcing or selling of gas. Developments in the supply of gas warrant the impression that the pressure on gas transport companies to transport gas on behalf of third parties is increasing. A further trend that is emerging is that certain parties are considering or proceeding with the construction of gas pipelines of their own. After all there is freedom of network construction in the gas sector.

The system of Ntpa is also most in line with the “minimum regulation” principle. The question should be addressed in this context whether there are reasons to introduce sector-specific legislation in addition to the Competition Act. After all, this Act applies to the full complement of economic sectors and contains bans on anti-competitive arrangements and abuse of economic power as well as provisions pertaining to the supervision of concentration. The Netherlands Competition Authority enforces compliance with these regulations, which are based on European competition regulations. The ban on abuse of economic power implies that access to networks should be granted on reasonable, objective, non-discriminatory and transparent conditions.

Looking at the existing practice in the gas market and the emerging trends in that market, the Competition Act would appear to provide for an adequate foundation for supervision of access to networks. In the Gas Bill supplementary provisions regarding access to the gas transport networks are included, whose purpose is to facilitate and support the competition regulations. The Bill renders explicit the duty (which any gas transport company which is deemed to enjoy a position of economic power has) of negotiating with customers seeking access to the network. This negotiation duty also extends to such other services as are required for the realisation of such transport. Network owners will be able to refuse access to the networks as far as they have no capacity available for the requested transportation. With respect to the question whether no capacity is available, not only the technically available capacity should be taken into consideration but also whether such (reserve) capacity should not already be kept free as a result of the imposition of tasks of general economic interests. In addition it is possible to refuse access on the strength of financial and economic problems with so-called take-or-pay contracts. We, however, do not expect any of these problems in the Netherlands.

By way of follow-up to the Directive, regulations have been set out in the Bill aimed at enhancing transparency in relation to network access. Firstly, the Bill prescribes the separation, in accounting terms, of storage and transport operations in order to enable the Netherlands Competition Authority to gain an insight into the reasonableness of the rates or the existence of cross-subsidy. Furthermore an obligation has been included regarding the allocation of costs in accordance with the actual use of resources in support of the different operations. Secondly, the Bill makes it obligatory for transport

companies to publish indicative tariffs and commercial conditions for the transport of gas and the necessarily related services. Thirdly, the Bill imposes the obligation of erecting “Chinese walls” separating the transport and trade operations so as to prevent confidential information acquired in connection with one activity being abused in support of the other.

The separation of accounts is in line with the optimum functioning of the gas infrastructure, ensuring transparency while giving Dutch companies sufficient leeway to strengthen their competitive position at European level. It also enables the policy of security of supply and exploration of small gas fields to be maintained. Generally speaking integrated gas companies enjoy a position of strength; especially in relation to the Gasunie, the integration of functions will ensure that the before mentioned policy is put in to practice to maximum effectiveness.

3.3.2 Access upstream networks

As said before, the provisions of the Netherlands Competition Act apply to access of upstream networks (including those on the continental shelf). The Gas Bill does not provide for more specific provisions (e.g. publication of indicated rates, negotiation duty, grounds for refusal): the structure of the upstream market and the types of players operating in that market render this unnecessary, in addition to which the Directive does not provide for it. We would point out that there is in fact not much difference between the two regimes, as both are based up on the basic assumption that economic power may not be abused. The Netherlands Competition Act makes it mandatory for the managers of upstream networks too to negotiate access to such networks.

3.4 Impact liberalisation gas sector

3.4.1 Production

Liberalisation will only have impact on the selling price of the gas. The Bill directly affects gas producers in so far as they are the owners or managers of production networks or have set up a gas field by way of storage facility. Special access regulations apply to production networks in relation to third-party gas (see paragraph 3.3.2). Producer operations are otherwise governed by the Dutch (statutory) mining regime, enabling owners of new fields to produce, in so far as they have been licensed pursuant to the Carbohydrate Licensing (Continental Shelf) Decree 1996, or the Carbohydrate Concessions (Netherlands Territory) Decree 1996, to sell the gas to be produced to a supplier of their choice.

3.4.2 Storage/LNG

Instead of transport, storage isn't a natural monopoly function. Therefore regulation of access to storage is unnecessary and not preferable. In the proposed Gas Bill access to storage independent from transport is not foreseen. Furthermore the Competition Act is applicable, with supervision of the Netherlands Competition Authority (reasonable tariffs and conditions). The Gas Bill is only applicable for access to storage facilities (as far as needed for transport) and not for the construction of new storage facilities. Underground storage will be explicitly dealt with in the Mining Act.

The Gas Bill states that companies providing the storage of gas will be required to provide for separate recognition in their accounting records. It already may be assumed that the existing storage companies have maintained separate accounts for their storage operations. Storage and LNG companies are furthermore required to provide one another as well as the transport companies with sufficient information

to ensure safe and effective gas transport and storage. Most of these issues are already provided for in the form of contracts.

3.4.3 Transmission

Integrated undertakings are required to maintain separate accounting records pertaining to their transport operations. They are also under an obligation to exchange information with one another and with storage and LNG companies as well as prepare and make available technical minimum specifications.

3.4.4 Distribution

Gas distribution companies will be under the obligation to comply with regulations concerning the supply of gas to the captive customers. The licensing requirement will apply to all gas distribution companies, as they supply gas to all parties forming part of the category of captive customers. Each supplier will be given one license. License holders will moreover be required to maintain separate accounting records pertaining to the supply of gas to captive customers. The license will be accompanied by administrative charges and stamp duty the level of which cannot yet be accurately specified.

4. Pricing Policy

At the tie of the large-scale introduction of natural gas into the Dutch energy infrastructure, a choice was made in favour of an integrated extraction-cum-take-up policy of which the pricing policy was a prominent element.

The objective of the policy was to enable natural gas to achieve such a position in the energy market as to make a maximum contribution to increasing national prosperity. Partly in view of the fact that the gas market was still in its infancy, pricing was based on the value of gas in the market rather than on its production costs –the so-called market value principle. The system of pricing based on market value gave consumers the certainty that their gas bill would never exceed the costs when using the fuel alternative (i.e. domestic fuel oil or oil fuel); at the same time suppliers enjoyed guaranteed take-up thanks to being shielded from substitution. This guaranteed take-up continues to this day to represent an important condition for development of gas fields in view of the major investments and protracted construction and production period this entails.

The gas market has since matured into a market with an ongoing strong growth in demand and increasing numbers of suppliers. This has done away with the need for arriving at a justified gas price on the basis of the link with only oil product prices. The prices charged by other gas suppliers are gaining in relevance in the determination of the market value. This is bringing pressure to bear on the market value principle in its original meaning. Competition between gas producers and suppliers will increasingly determine the price (although the price of substitutes such as oil will of course continue to make itself felt).

A second development in the context of price formation is abandoning the all-in price. In addition to the price for a cubic metre of gas, a price will be set on the various services. Differences in gas sourcing costs will be determined by the prescribed adjustments to the capacity utilisation rate and the quality as well as other services provided (e.g. transport and provision for spare capacity).

As pointed out in paragraph 3.2, the government will fix a price for the supply of gas to a dwindling number of captive customers during the transitional period.

The aspects which the Minister takes into consideration while setting the rates are, among others, the importance of reliably, effectively and environmentally soundly performing gas supply infrastructure as well as the interest on the part of captive customers of being assured of gas supply on reasonable conditions. These reasonable conditions include, *inter alia*, that the pressure on the rates may not be such as to compromise the service to captive customers. The gas Bill contains a detailed amendment formula in which allowance is made for the rates charged for services relating to the supply of gas as well as for inflation expressed as the consumer price index for all households. An efficiency discount is applied in support of promoting an efficient business operation. Also, a policy regulation will be developed with respect to the application of the efficiency discount. Allowance is made in the formula for the sourcing price as agreed between the license holder and its supplier. As for the sourcing price of gas, it should be noted that gas is supplied exclusively by Gasunie for the benefit of the captive customers pursuant to the prevailing contracts. This situation is also deemed appropriate from a policy point of view with a view to the gradual opening up of the market.

Once the transition is completed, the government is not expected to play a further role in this respect. The government does not think it is necessary due to an expected price cut. The greater scope for free market forces would enable gas prices to decrease due to inefficiency or monopoly gains at existing companies. The development of price levels in countries where the gas market has already been liberalised shows that liberalisation can indeed cause price levels to be cut. Especially a reduction is expected in the prices charged for transport related to supply and other services, by the margins that are realised at this point. Because increased competition is bound to result in greater cost efficiency and pressure on the margins.

5. Competition law and the Netherlands Competition Authority

5.1 Introduction

As regards the proposed arrangements in the gas Bill for access to transport networks, the broader framework offered by the Netherlands Competition Act has been followed. The gas Bill envisages facilitation of the implementation of the Competition Act in so far as it concerns the practice of gas transport and the behaviour of gas transport companies. It also creates greater transparency where it concerns the access conditions, and is therefore expected to improve the practicability of the Competition Act in relation to the gas sector.

The role of the Netherlands Competition Authority, as the supervisory body, is of special importance for the effects that the law envisages to achieve. The Competition Act and the gas Bill govern the behaviour of gas market players. The Director General of the Netherlands Competition Authority (NMa) has a range of instruments such as administrative penalties or judicially imposed penalties at his disposal in the context of the Competition Act. The NMa is also in charge of the execution of certain specific competition-relevant powers as per the gas Bill as well as of the settlement of disputes concerning the implementation of negotiated access.

In principle, a company will grant access to its networks. This provision is the confirmation of what generally follows from competition law. In its capacity as a manager of a gas transport network, the gas transport-company will often hold an essential facility enabling the performance of operations in the gas transport market as well as the supply of gas to customers. European competition law (with which Dutch competition legislation is in line) increasingly revolves around the “essential facilities” doctrine. The crux thereof is that if a business has a facility or infrastructure at its disposal from whose nature it follows that other businesses can only supply services to users by having access to such essential facility.

The business in question may not deny such other businesses access to its facility. If it does, it is guilty of abuse of economic power. The European Commission has since applied this doctrine to port and aviation services on a number of occasions. Moreover a practice has already formed at national level, pursuant to the effect of the Netherlands Economic Competition Act, in connection with access to the television cable network which is in line with the above. The point of departure here is that unrestricted, non-discriminatory access to cable networks -with respect to which the operator enjoys a position of power- should be feasible.

In view of the above, gas transport companies have limited scope for refusing to perform a specific transport service. However, if the parties are unable despite having negotiated in all honesty and good faith to reach agreement on the transport conditions or rates (which conditions and rates should be non-discriminatory), the gas transport-company will not have to perform the dispute serviced. Any disputes in connection with the negotiations or the refusal to perform the transport service can be submitted to the Director General of the NMa.

The fact that the Competition Law already is applicable (since January 1998) has been noticed. The Competition Authority is already investigating several complaints and contracts, mainly about the tariffs and terms of Gasunie. The ratings of the Authority are bound to be guidelines for the way contracts can be negotiated in the future. So even before the Gas Law enters into force, we will have an impression of the functioning of the negotiated tpa-regime.

5.2 *Supervision of network access and supply*

The supervision arrangements for the gas sector, as included in the gas Bill, are based on the Council of Ministers' view regarding the report entitled "Vision of Supervision", key to which is that the general competition regime should have maximum scope in order to prevent legal inequality and forum shopping. The creation of sector-specific competition rules warrants reserve; use is to be made where possible of the regime provided for by the Netherlands Competition Act. In so far as sector-specific statutory provisions are called for, the criteria as set out in the before mentioned report haven been applied with respect to supervision.

5.3 *Dispute settlement*

In view of the fact that the NMa (also) applies to the gas sector, a reference to this Act has been included. Therefore, disputes about the access to networks can be brought before the Director General of the NMa. The tangible standards which have explicitly been included in the gas Bill provide the Director General of the NMa with a reference framework when assessing any particular dispute on abuse of economic power, especially where it concerns the grounds for refusal of the gas transport. If any party is convinced that it has been discriminated against, as regards rates and trading conditions or that the gas transport company applies unreasonable rates and a dispute arises on this, that requesting party has the option of filing a complaint with the Director General of the NMa. The Director General of the NMa can - in the case of a complaint which he upholds- fine the gas transport-company. He may also impose a judicial penalty obliging the company to provide for the transport of gas, for the benefit of the requesting party, at a specific rate or on specific conditions. The reference to the Netherlands Competition Act implies that it is this Act which determines the powers conferred upon the Director General of the NMa, i.e. the rules concerning his powers and the matching procedural rules of the Act will be applied. The Director General may on the strength of the Netherlands Competition Act be regarded as the arbitration institution in connection with disputes on access to the production networks.

In addition to being authorised to settle disputes, the Director General of the NMa obviously remains authorised to carry out investigations into the gas sector on the strength of the Netherlands Competition Act.

NEW ZEALAND

1. Industry overview: regulatory framework and market structure

1.1 National context and Key regulation

What are the government's primary objectives for this sector? Do these objectives include objectives, which can be interpreted as going beyond conventional economic objectives to include objectives such as ensuring energy security, environmental objectives, or universal service objectives?

Government policy for the downstream natural gas industry fits within the context of wider energy policy. In essence the policy is to ensure reliable, efficient, environmentally sustainable energy supply, through market mechanisms wherever possible. The policy does not include a universal service objective for gas.

To what extent has the reform process in the gas industry been linked to that in other industries, especially electricity?

Gas and electricity reforms both arose from the same energy sector review in the 1980s. After that initial review, gas and electricity reform have been treated separately although gas reforms have generally followed the path taken by electricity reform. This is not, however, true of the 1998 package of electricity reforms which introduced mandatory ownership separation of line and supply businesses in that industry. Ownership separation is not being considered for the gas industry.

The New Zealand model of "light-handed regulation" (a broad-based Commerce Act that outlaws anti-competitive practices¹ backed by sectoral public information disclosure regulation and the threat of price control) that applies to the gas industry is also applied to the telecommunications, postal and airport industries.

What is the title, date and main purpose of the key governing legislation or regulation in this sector?

The key legislation is :

Commerce Act 1986

The Commerce Act applies to all commercial sectors. The Act includes provisions prohibiting abuse by a company of a dominant position and the making of anti-competitive contracts. It also includes provisions enabling the initiation of a price control inquiry and the imposition of price control. The Act is enforced through the courts.

Gas Act 1992

The Gas Act performs a wide range of functions. Its contribution to the promotion of competition includes the abolition of exclusive gas franchise areas (achieved when the Act came into force on 31 March 1993) and provisions enabling the making of information disclosure regulations.

Gas (Information Disclosure) Regulations 1997

Information disclosure regulations require gas pipeline owners to make publicly available detailed information regarding their financial and reliability performance, pricing, contractual terms and conditions and pipeline capacity. This information can be monitored by users and government or private analysts for evidence of monopoly pricing or anti-competitive behaviour. These Regulations are currently under review.

1.2 *Regulatory institutions*

Who are the key regulatory and policy-making agencies in this sector? Briefly, what are their structure and responsibilities? What are their relationships to one another? To what extent is the regulatory institution independent of the government? Is the regulator headed by a commission or by a single person (such as a “Director General”)? To what extent is the regulator independent of the incumbent firms? Of the government?

The lead energy policy agency is a government department - the Ministry of Commerce (MoC):

- As a whole, MoC has responsibility for policy across a broad range of areas affecting the commercial environment in New Zealand, including policy relating to the Commerce Act.
- With respect to energy policy in particular, MoC includes a small policy development group and another group that monitors, enforces and analyses information disclosure in electricity and gas and compiles a full range of energy statistics. These groups deal with downstream gas, electricity and oil issues primarily and other energy issues as required. Energy policy is developed by MoC in consultation with other government departments – notably the Treasury, the Ministry for the Environment and the Department of the Prime Minister and Cabinet.
- Issues affecting public safety and other consumer interests are handled by the Ministry of Consumer Affairs (MCA). MCA is structurally part of MoC.

Responsibility for enforcing the Commerce Act (i.e. with respect to all industries) is shared between the Commerce Commission (CC) and private parties, either of whom can instigate court action. CC is an independent but government-funded organisation established under the Commerce Act. Its operational parameters are set out in that Act. Investigations are run in a quasi-judicial manner by a relatively small number of Commissioners (currently five but this can vary), supported by a small permanent staff. Commissioners are appointed for a set term by the government.

1.3 *Key features of the demand for gas*

What are the primary uses of gas in your economy? In particular, what proportion of gas consumption is used to generate electricity? For which of these uses can consumers substitute other fuels (such as oil, coal or electricity)? Are final gas prices effectively disciplined by inter-

fuel competition? Which and what proportion of gas users are prepared to purchase interruptible gas supply?

Table 1: Gas use by sector, year to March 1999. Total net production for the period was 209PJ (Ministry of Commerce Energy Data File, July 1999).

Electricity generation (including cogeneration)	Petrochemicals	Industrial/ Commercial	Residential	Transport
40.8%	42%	14.4%	2.4%	0.2%

Gas provided 22 percent of electricity generated in the year to March 1999, and is often the marginal generator (67 percent of electricity was generated by hydro in the year to March 1999). Gas could be substituted by coal for generation in some situations, but is not substitutable for petrochemical production. For some industrial uses and all residential or transport uses, gas is readily substitutable by other fuels.

There is a general view that gas prices are disciplined to some extent by inter-fuel competition. The CC has taken that view in its investigations of proposed utility mergers, but not to the extent of regarding gas and electricity as a single “energy” market. Some of the utilities have argued that they do not consider inter-fuel competition in setting prices, preferring to focus on returns to shareholders.

We are not aware of any interruptible gas supply contracts.

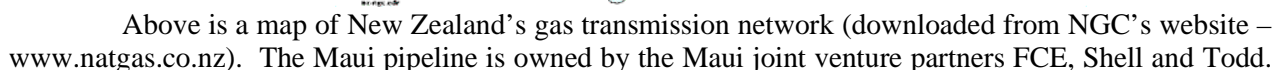
1.4 Key features of the supply of gas: market structure

Which firms are active in the market for gas production (including the importation of gas or the re-gassification of LNG)? How many sources of gas are there? (e.g., distinct gas fields or wells). In countries without gas production sites, how many importing pipelines are there? What are the ownership relationships between the gas sources (or importing pipelines)? Is there effective competition between gas producing firms? Are these firms vertically integrated into gas transmission and distribution? To what extent are end-user customers supplied directly by gas production firms (i.e., without passing through the transmission or distribution network)? What proportion of gas is sold in this way?

In the year to March 1999, 11 fields produced gas. The sole owner or majority joint venture partner in all but one of these fields was Fletcher Challenge Energy Ltd (FCE). The field in which FCE does not have an interest is Kapuni, owned by a partnership of Shell and New Zealand-owned Todd. These two companies are also minority partners with FCE in the Maui oil and gas field, which accounted for almost 80 percent of gas production in the year to March 1999. Other companies involved in gas production joint ventures with FCE are New Zealand Oil and Gas, Bligh Oil and Ngatoro Energy. All producing fields are in the Taranaki region (western part of mid-North Island). Maui is offshore; the other production fields are onshore.

Gas from the Maui field is committed under long-term contracts to three buyers. Two of these buyers are competing wholesalers, one of which is also a major electricity generator. Gas from the Kapuni field (11 percent of national production in year to March 1999) is being sold in competition to other wholesale gas. There is effective competition at the wholesale level.

Which firms are active in the market for gas transmission pipelines? Where are the key pipelines located? Is there competition between pipelines in some areas? How many gas consumers are supplied directly off high-pressure transmission pipelines (i.e., without passing through a retail distribution network)? What proportion of gas is sold in this way?



The rest of the network is owned by NGC. NGC operates the entire network – including the Maui pipeline.

According to NGC's disclosures, it had 12 transmission customers at 30 June 1999. Six of these would be gas retailers, leaving 6 gas consumers.

Which firms are active in the markets for gas distribution? Is there competition between such firms, or does each firm have a regional monopoly? Are these firms integrated into transmission?

Gas distributors (i.e. distribution pipeline owners) are NGC, Orion, Powerco, Wanganui Gas, AGL and Nova Gas. There are no regulatory barriers to the construction of parallel systems but each of these companies, except Nova Gas, essentially operates a regional monopoly (an exception is part of the Auckland market, where NGC and Orion have parallel pipelines).

Nova Gas has built its pipelines parallel to those of incumbent distributors in the Wellington, Hawke's Bay and Auckland regions and targets the larger customers of incumbent retailers.

Of these distributors, only NGC is integrated into transmission. Nova Gas is affiliated to the producer Todd.

What firms (if any) are active in the market for gas retailing (i.e., the sale of gas by third parties over the existing transmission/distribution network)? What services do these firms provide? Are they integrated into gas distribution or other stages of the gas industry?

Gas retailers are NGC, Orion, Wanganui Gas, Nova Gas, Contact Energy (trading as Enerco), Transalta and Fresh Start. There are no regulatory barriers to these retailers selling anywhere. Most retailers are integrated into distribution; NGC is also integrated into transmission and wholesaling; Nova Gas and Fresh Start are integrated into production. Four of these retailers (NGC, Contact, Transalta and Fresh Start) can offer electricity/gas retail packages.²

Retailers contract separately with transmission and distribution for transportation and rebundle these charges for end users. Distributors do not generally have contracts with consumers.

What is the ownership of the major firms in the industry? Are they foreign owned? Are they state-owned? In those cases where an important incumbent firm is state-owned, how is that firm organised? Is its organisation, governance, incentives on management and managerial discretion closer to that of a private corporation or to that of government department? Is the legal status of its employees closer to that of a private corporation or a government department? (Please explain, in either case).

Gas industry participants are in a mixture of private and local government ownership, exemplified by three of the larger participants:

- FCE is a New Zealand-based publicly listed multi-national.
- NGC is 70 percent owned by Australian-based AGL (Australian Gas & Light) – a private listed company. The remaining 30 percent is traded on the New Zealand Stock Exchange.
- Orion is owned by a local government group through a holding company (Christchurch City Holdings). Orion's gas business is currently for sale.

In what other industries are the firms in the gas sector active? For example, do gas distribution companies also provide electricity, heat, water, telecommunications or cable television services? Are gas producers also active in the market for electricity generation?

Gas distributors Orion and Powerco also own electricity distribution networks.

Gas distributor/retailers NGC and Orion also retail electricity.

Gas retailers Contact Energy, Fresh Start and Transalta also retail electricity.

Gas retailers Contact Energy and Transalta are also electricity generators and include gas-fired thermal plant in their portfolios.

Gas producer Todd has connections with electricity retail through Bay of Plenty Energy and its Fresh Start brand. Todd also owns hydro electricity generation assets.

Key Features of the Regulatory Regime

1.5 *This question asks about the broad structure of the regulatory regime, which is followed up by detailed questions on entry regulation, access regulation, price regulation, unbundling and so on.*

In which markets is primary reliance placed upon competition to yield efficient prices and quality, and in which markets is primary reliance placed upon conventional price and quality regulation? (e.g., is there effective competition between pipelines for serving certain cities? Is there competition between gas producers in the sale of gas to pipelines, distribution companies or consumers?) Is structural separation imposed (i.e., are gas producing firms allowed to own gas transmission facilities, and so on)? Where structural separation is not imposed, does the regulatory regime require that the vertically integrated firm must allow rivals access to its facilities?

In wholesale and retail gas markets, primary reliance is placed on competition. In transportation markets, primary reliance is placed on the Commerce Act, supported by public information disclosure to promote price efficiency and access. The regulatory regime does not include “conventional price and quality regulation.”

Are competing sources of gas production permitted? Is competition allowed in gas importation or re-gassification of Liquefied Natural Gas? Are these firms allowed to be integrated into gas transmission? Where integration is allowed, is there a requirement on dominant transmission pipeline operators to interconnect with and carry the gas of rival gas producers? Are gas producers required to grant third-party access to their gathering lines and production facilities?

Where the primary source of gas is an importing pipeline, can other gas producers have access to that pipeline? Could your country force the pipeline to accept gas producers in another country to grant access?

Competing sources of gas production are encouraged. Gas importation and re-gassification are not an issue (neither is economic at this time). Gas producers may be integrated into transmission and, until 1999, our major producer (i.e. FCE) was integrated into transmission. There are no mandatory requirements for interconnection, carriage or third-party access. However, a refusal to interconnect, carry

gas or negotiate access may be subject to scrutiny under the provisions of the Commerce Act for anti-competitive implications.

Is competition between transmission pipelines permitted? Is a firm allowed to construct a pipeline for direct supply of a large gas consumer? Are transmission firms allowed to be integrated into gas distribution? Where integration is allowed, is there a requirement on gas distribution firms to interconnect with and distribute gas for rival transmission pipelines?

The answer to the first 3 questions is “yes” (the Resource Management Act sets out a regulatory regime for pipeline construction). There are no mandatory requirements for interconnection or distribution on behalf of rival transmission pipelines. However, a refusal to interconnect or distribute may be subject to scrutiny under the provisions of the Commerce Act for anti-competitive implications.

Is competition in gas storage permitted? What are the arrangements for access of third-party storage companies to the transmission or distribution system?

Competition in gas storage is permitted, but there is no gas storage industry as such. Gas may be re-injected in some circumstances, the transmission system operates with linepack and production contracts may allow deferred delivery of take-or-pay gas. Access to gas storage is not an issue.

Is competition in the gas “retailing” function (i.e., contracting on behalf of small customers for gas transportation and distribution) permitted? Are gas distribution firms allowed to be integrated into the market for gas “retailing”? When integration is allowed, is there a requirement on gas distribution firms to contract with rival retailers?

The answer to the first 2 questions is “yes”. There are no mandatory requirements for integrated distributors to contract with rival retailers. However, the government’s intention to promote competition is clear. The gas industry has responded through a voluntary forum known as Gas House, which has developed a gas pipeline access code. New Zealand’s regulatory regime is designed to encourage self-regulation – failure to ensure efficient outcomes may result in a firmer regulatory regime, possibly including price control. A refusal to contract with a rival retailer may be subject to scrutiny under the provisions of the Commerce Act for anti-competitive implications.

1.6 Entry regulation

The previous question has asked in which stages of production entry is permitted. Are there any specific licensing conditions that should be mentioned?

Which classes of customers are new entrant or competing firms permitted to serve? Is there an intention to expand the class of customers for which competition is permitted over time?

Gas prospecting, exploration and production are governed by a licensing system. There is no licensing regime for gas transmission, distribution or retailing. Since 1993, when gas franchise areas were done away with, gas suppliers have been free to compete for any customers.

1.7 Access regulation

The previous question asked whether there is an access requirement in each of the stages of production. In each case where an access requirement applies: Is the obligation to interconnect with a rival pipeline or gas producer determined in the legislation or by decision of the

regulator? Where there is an obligation to interconnect how are the terms and conditions for the transportation of gas determined? Are they determined by the regulator or by private negotiation? What principles govern the establishment of access prices? Do access prices vary according to peak and off-peak periods?

Not applicable.

The capacity of certain facilities, such as pipelines, are limited. Not all access requests will necessarily be able to be satisfied. How is capacity allocated at peak times? Is it through a system of auctioning capacity, or a system of peak-load pricing of access? Does the regulator have tools for verifying claims of a lack of capacity?

Under a voluntary industry access code (developed by the industry body Gas House), pipeline owners publish their policies for allocating capacity and the process for dealing with requests. NGC's policy for its transmission capacity, for instance, is "first come, first served". We are not aware of capacity constraints requiring the enforcement by the pipeline operator of capacity allocation protocols. There is no peak-load pricing. Punitive transmission overrun charges encourage users to book capacity at peak demand levels.

Pipeline owners are required to publicly disclose detailed information about pipeline capacity. This allows users to model potential new loads independently of the pipeline operator and to assess any claims by the pipeline owner of capacity constraints. If false claims emerged, users would have incentives to take private action under the Commerce Act, or to bring the false claims to the attention of the Commerce Commission.

Is there a requirement to make public the terms and conditions at which access has been (or will be) granted?

The terms and conditions of access contracts are required to be disclosed under the Gas (Information Disclosure) Regulations.

1.8 Price regulation

The previous question asked in which markets primary reliance is placed on price regulation to control market power. This could be the market for gas delivered to end-users in the case of the integrated monopoly approach, or the separate markets for gas transmission and gas distribution in the case where end-users are able to contract directly with a gas producer. In each of those markets where prices are controlled and for each distinct class of customers: What are the underlying principles of the price regulation? I.e., are gas prices regulated so as to be competitive with respect to other fuels, or with respect to underlying costs? Does the regulated firm have flexibility to adjust individual prices within the context of the overall controls established by the regulator (such as in the case where the regulation applies to a "basket" of prices)? Does the regulator use "yardstick" regulation (i.e., compare prices to an aggregate of costs of similar firms)?

Prices are not regulated.

The extent to which the regulated firm can vary its prices according to underlying costs is a factor in determining the incentive for cost efficiency on the regulated firm and (in those industries where consumers do not have direct choice over their gas supplier) its incentives to

purchase from the least-cost supplier upstream. What costs are the regulated firm allowed to pass on to its customers? What proportion of those costs can it pass on? Does the price regulation provide incentives for efficiency on the regulated firm and incentives for it to purchase from the lowest-cost supplier?

Prices are not regulated.

What is the resulting structure of prices? Do the prices have a “two-part” structure? If so, what principles govern the size of the fixed and variable parts? Are different prices charged for different end-uses (such as heating vs cooking)?

Prices are not regulated, so the structure of prices does not “result” from regulation. Prices for transportation services and prices paid by end-users for bundled gas/transportation are two-part. Distribution/retail prices are generally set on the basis of customer groupings, defined either by annual consumption or meter size. Transmission charges are made up of a capacity reservation fee (fixed) and a throughput fee (variable).

Demand for gas at peak times can be substantially higher than at off-peak times. How does the structure of the regulated prices distinguish between peak and off-peak times? How do the regulated prices vary according to the distance the gas is transported? How do the regulated prices distinguish between “firm” and “interruptible” supply?

Prices are not regulated. Gas companies do not post peak and off-peak prices. Each offtake point on the transmission system has its own-posted capacity reservation fee. Prices reflect the offtake point’s distance from the origin of the gas and the number of customers taking gas at that point.

What mechanisms ensure that the quality of service is maintained?

This is handled contractually between the relevant parties. To assist negotiations, pipeline owners are required to publicly disclose reliability performance measures under the Gas (Information Disclosure) Regulations. These measures are currently under review, and are likely to be enhanced.

Are there constraints on the ability of incumbent firms to price discriminate, especially in those markets in which competition is being introduced? Are there floors on prices?

Prices are not regulated. Prices are transparent. Price discrimination is not illegal provided it is not anti-competitive.

What principles does the regulator follow to value the assets of the regulated firms?

Prices are not regulated. The “regulator” does not value the assets of pipeline owners. As part of a current review of the Gas (Information Disclosure) Regulations, it is proposed to introduce a mandatory valuation methodology for gas pipeline owners. If this proposal proceeds, pipeline owners would be required to follow a prescribed methodology to produce an optimised deprival valuation (ODV) of their system fixed assets. The valuation, including the full valuation report, would be publicly disclosed and would require certification by the directors of the company.

Are regulated firms required to publish their tariffs?

Yes.

1.9 Non-commercial service obligations

Are there obligations on one or more firms to provide service to certain customers below cost (including, for example, a requirement to distribute gas in unprofitable areas or a restriction on the ability to withdraw from serving unprofitable customers)? Is the cost of these obligations made explicit? If so, what methodology is used for calculating the costs? Do other firms have the opportunity to compete to provide these services? If another firm sought to provide these services, could it claim compensation for doing so? How are the funds collected to pay for these non-commercial obligations? Through internal cross-subsidisation, or through a system of explicit subsidies? If the latter, who contributes to the subsidy fund? Are competing firms expected to contribute? On what basis?

There are no such obligations.

1.10 Separation and unbundling

In many industries, and especially in gas, forms of separation are imposed in an attempt to prevent internal cross-subsidisation from regulated to competitive activities and to improve the effectiveness of access regulation. Are there regulatory controls requiring ownership separation (supported by line-of-business constraints)?

There is no requirement for ownership separation in the gas sector.

In many cases forms of separation short of full ownership separation are required. Are there requirements for “unbundling”, “operational” separation, accounting separation, or requirements to operate in certain markets through arms-length subsidiaries? How do these requirements operate? In what markets? For what purpose?

Accounting separation is applied through the Gas (Information Disclosure) Regulations. Pipeline owners are required to disclose separate financial statements for their transmission, distribution, wholesaling and retailing businesses.

The rules for accounting separation are currently under review. If current proposals are adopted, pipeline owners will be required to:

- disclose separate accounts for pipeline activities only; and
- treat their pipeline business as a “stand-alone” business and allocate expenses etc according to an avoidable cost allocation methodology.

1.11 Trade and Investment Issues

What is the nature of international trade in gas (if any)? Are there any restrictions on such trade? Is there an import monopoly, or an export monopoly?

Not applicable.

Are there controls on foreign ownership or foreign investment?

No. Major investments should be approved by the Overseas Investment Commission, but the relevant regulations are liberal.

Miscellaneous Issues

1.12 In the transition to competition have concerns been expressed about stranded costs or stranded contracts (such as long-term take-or-pay contracts that were signed under a previous regulatory regime)? How have these concerns been addressed?

No concerns have arisen regarding stranded costs or contracts.

1.13 How have environmental objectives influenced policy decisions over the regulatory regime? Does gas receive the same tax treatment as other fuels? Why or why not?

There are no pressing environmental problems arising from gas production or consumption that require direct government intervention at a national level. For instance, there is no policy to promote electricity generation from gas as opposed to some alternative (or vice versa).

Some gas users have entered into Voluntary Restraint Agreements in relation to CO₂ emissions. Measures that implement our commitments under the international Framework Convention on Climate Change may impact on gas users and producers. These measures are still under development.

Site-by-site environmental concerns are handled at the local level through a system of seeking consents under the Resource Management Act for construction, discharges and other activities that might have a local environmental impact.

In general, gas receives the same tax treatment as other fuels. However, most production gas pays an energy resource levy, which was part of the royalty regime in place when the gas was discovered. Gas transport fuels have an advantage over liquid fuels at the retail end, being exempt from some of the liquid fuels taxes and levies. This is a vestige of the preferential tax system that operated for gas transport fuels in the early to mid 1980s.

1.14 *What proportion of gas production is tied up with long-term contractual commitments, such as take-or-pay contracts? How is this expected to change over the next five-ten years? Are there mechanisms for releasing some of the gas tied up in such contracts for use by competitors? Is there a tendency towards shorter-term contracts? What proportion of gas is traded on the spot or futures market? How has this proportion changed over time?*

Almost all gas production is committed by way of long-term contracts but gas is available to competing wholesalers. The production sector still seems to favour long-term contracts to reduce the risk of investment in production fields. There is no visible trend towards shorter-term contracts. There is no spot or futures market, although there is some infrequent trading of low volumes of gas (such trading would not have occurred prior to deregulation).

2. Key competition issues

2.1 *Application and enforcement of competition law*

Does the national competition law apply to this sector without exemption or exception? Describe the exemptions or exceptions that apply.

National competition law (in particular the Commerce Act) applies to the gas sector without exemption or exception.

Who is responsible for enforcing the various components of the competition law in this sector? What role does the regulator play in enforcing the competition law, or competition rules?

See responses to 1.1 and 1.2.

2.2 *Market definition issues*

Have the competition authority or the courts had the opportunity to define the relevant markets in competition cases arising in this sector? How have gas markets been defined? Was gas distinguished in the market from other fuel sources? What other market definition issues have arisen?

The CC has considered the definition of the gas market more than once, in response to proposed merger activities. Over time, its gas market definitions have traced an increase in the contestability of retailers and larger consumers. Small commercial and residential consumers are still generally reliant on the incumbent distributor. The CC still makes a distinction between gas and electricity markets.

2.3 *Abuse of dominance*

Have instances of alleged abuse of dominance arisen in this sector? Have there arisen cases of predatory pricing, or raising rivals costs? Have the current regulatory requirements designed to control abuse of a dominant position been effective?

Allegations arise from time to time, but no such allegations have led to legal action or to an investigation by the CC.

2.4 Other competition enforcement issues

Have instances of mergers or anti-competitive arrangements between firms arisen in this sector? What analysis was carried out in approving or opposing these mergers or arrangements? What remedies were imposed?

There has been significant restructuring activity in the downstream gas industry since mid-1998. This activity did not give rise to competition concerns, and proceeded in a normal commercial manner (i.e. no government approval was required). Three proposals were placed voluntarily before the CC for consideration (part of the CC's role is to assess certain acquisition proposals for possible competition implications). In each case, the CC found no reason to oppose the proposal.

At the production level, the CC initiated legal proceedings against FCE when it acquired a majority interest in the undeveloped offshore Kupe field. The action was based on FCE's already dominant position in oil and gas production, which would be extended by this acquisition. The case was discontinued when FCE sold its holding.

NOTES

1. Certain anti-competitive practices may be approved on application to the Commerce Commission where benefits outweigh costs.
2. At the time this submission was being prepared, NGC was awaiting the clearance of the CC to complete the purchase the electricity and gas retail business of Transalta (NZ) Ltd.

POLAND

1. Industry overview: regulatory framework and market structure

1.1 National context and key regulation

The main objectives of the Polish energy policy are defined in the Energy Law of April 1997. They include creation of the conditions for the sustainable development of the country, energy security, efficient and rational use of fuels and energy, development of competition, counteracting negative consequences of natural monopolies, consideration of natural environment protection requirements and obligations stemming from international agreements and protection of consumers' interest and minimisation of costs.

In the field of the gas sector the objectives listed above will be met, *inter alia*, by the way of intensification of activities aimed at diversification of sources of gas supplies, effective use of indigenous gas resources and building up of gas stocks, organisational and technical decentralisation of the gas network system, liberalisation of the gas market including restructuring and privatisation of the sector, gas prices liberalisation, implementing of efficient methods of management, enhancing competitiveness of gas companies and implementation of the TPA in respect to gaseous fuels.

The Energy Law of 10 April 1997, the Geological and Mining Law of 4 February 1994 and secondary legislation acts are the legal basis for economic activity in the gas sector in Poland. Among acts of secondary legislation of particular significance are:

- the Ordinance of the Minister of Economy on detailed conditions of connecting users to a gas grid, payment of costs of the interconnection, trade in gaseous fuels, provision of transmission services, grid flow management and grid operation and quality standards for customer service;
- the Ordinance of the Minister of Economy on detailed terms of designing and calculating tariffs and terms of settlement in trade in gaseous fuels including settlements with individual users;
- the Ordinance of the Minister of Economy on the agenda for obtaining by particular groups the right to use transmission services.

The Energy Law defines the principles of development of state energy policy, principles and terms of supply and use of fuels and energy, the operation of heat and energy enterprises and authorities relevant in questions of fuels and energy economy.

The Energy Law does not apply to exploitation of minerals, which is regulated by the Geological and Mining Law of 1994. According to Art. 1, "the Act defines in particular the principles and terms of

exploration and extraction of minerals from deposits...as well as principles of protection of deposits of minerals in connection with conducting exploration and extraction activities”.

1.2 *Regulatory institutions*

The Energy Law introduced the division of ownership, policy-making and regulatory functions among three institutions: the Ministry of State Treasury, the Ministry of Economy, Energy Regulatory Office and the Ministry of Environmental Protection.

According to the provisions of the Energy Law the Minister of Economy is the supreme government administration body appropriate in energy policy issues. Tasks of the Minister of Economy in the energy policy issues cover:

- elaboration of energy policy guidelines and co-ordination of their implementation;
- determination of detailed conditions of planning and operation of fuels (including gaseous fuels) and energy supply systems;
- supervision over operation of the national energy systems (including the gas network system);
- co-operation with local government and community authorities in questions of planning and implementation of fuel and energy supply systems;
- co-ordination of co-operation in the energy sector with international governmental organisations.

Within the Ministry of Economy, issues connected with the gas sector belong to the Department of Energy responsibilities.

Tasks pertaining to the regulation of fuels and energy economy (including gaseous fuels) and to the development of competition were entrusted to the Energy Regulatory Office (ERO), established by The Energy Law.

According to the Act, the President of the ERO is a central government administration body appointed by the President of the Council of Ministers. The President of the ERO regulates activities of energy enterprises (including gas sector entities) according to the state energy policy guidelines and the Act, aiming at balancing of interests of energy enterprises and customers. According to Art. 23 of the Act the tasks of the President of the ERO shall be in particular:

- issuing licences for production, transmission, trade and distribution of fuels and energy;
- approval and control of tariffs of gaseous fuels, electric energy and heat in terms of their consistence with the principle of the law;
- agreement of draft development plans to meet present and future demand for gaseous fuels and electric energy;
- control over quality parameters of supply and customer services in the area of trade in gaseous fuels and electric energy;

- resolving disputes concerning the conditions of rendering services;
- imposing fines upon enterprises not fulfilling principles provided in the Act;
- co-operation with organs relevant in counteracting monopolistic practices of energy enterprises (including those in gas sector);
- publishing information with a view to improve the efficiency of energy and fuels utilisation;
- collecting and processing information relating to energy economy;
- control over qualifications of persons handling operation of grid and technical equipment of specified kind.

With the President of the ERO there is the Consultative Council affiliated. It is composed of seven members appointed from candidates proposed by the national professional energy organisations and national consumer's organisations. Members of the Council are appointed and removed by the President of the Council of Ministers.

The ERO includes the following departments:

- the Licensing Department;
- the Quality Control and Supervision Department;
- the Tariff Department;
- the Planning and Analysis Department.

Moreover, the organisational structure of the ERO includes offices responsible for legal affairs, information systems and public relations, international co-operation and administration and budget.

According to the amendments introduced in July 1999 to the Act on Sections of the Governmental Administration of 4 September 1997, the Minister of Economy supervises the activity of the Energy Regulatory Office. According to Art. 24 of the Energy Law the Minister of Economy has the power to claim from the President of the ERO information concerning the field of its operation. Art. 24 also require the President of the ERO to submit to the President of the Council of Ministers annual activity reports.

The ERO is fully independent from the companies operating in the sector.

1.3 *Key features of the demand for gas*

The share of gas in the structure of primary energy consumption in Poland in 1998 amounted to ten percent and is expected to rise constantly in the next years.

Almost one half of the population in Poland uses gas. In 1998 the POGC supplied gas to 6.7 million households, which jointly used 3.9 billion m³ of gas. About 16 percent of households customers (1.1 million) using gas for heating purposes holds 72 percent share in gas consumption by all households.

Traditionally, the most important gas customer is the industrial sector. Its share however decreased significantly at the beginning of the 1990 as the result of the changes in the Polish economy. The limited gas purchases by industrial customers was the main reason for the decrease in gas consumption in Poland during this period. As at the end of 1998 the POGC had 3 486 industrial clients, which jointly used 5.5 billion m³ of gas (five billion m³ including electric energy sector). The differentiation in gas consumption by particular industrial customers must be underlined. From the total number of about 3 500 of industrial customers, five biggest use 40 percent of gas, ten biggest use 51 percent, and thirty biggest – 66 percent. The most important customer is the nitrogenous industry.

To the main customers also belong metallurgy, glass-works and chemical industry.

To the non-industrial customers belong first of all hospitals, schools, kindergartens and nurseries, entities operating in services and small local heating stations. The consumption of gas in this group of customers amounted in 1998 to 0.9 billion m³. The foreseen double rise in consumption by this group in 2010 will result from establishing local heat and power stations.

According to the Guidelines for energy policy in Poland, the share of gas in the primary energy consumption shall increase to 19-20 percent until the year 2020. The growth in demand for gas shall result mainly from the increasing demand for this fuel in the power sector (small and middle-sized combined heat and power stations). At present gas does not play a very significant role in electric energy generation in Poland. Most of the installed capacity in power sector is based on hard coal and brown coal (in 1998 the electric energy production amounted to 131 000 GWh, of these - 51 000 GWh - based on brown coal and 80 000 GWh - based on hard coal).

Till the end of 1999 gas prices were set by the Minister of Finance. For the first time, in accordance with the Energy Law, tariffs (i.e. prices and payment rates) will be calculated by the gas sector enterprises and submitted for the ERO President's approval in March 2000.

1.4 Key features of the supply of gas: market structure

The Polish Oil and Gas Company (POGC) is the main entity operating in the Polish gas sector. Since 30 October 1996 it has a status of a joint stock company with the State Treasury as the sole owner. The enterprise has a multi-branch organisational structure, comprising of local branches, subsidiaries, and associated companies, operating in the following fields:

- geological-exploration works;
- extraction of crude oil and gas;
- production, transmission and distribution of gas;
- designing, building and production of oil, gas and other professional equipment;
- purchasing of gas from import and from domestic suppliers, balancing of gas fuels and power management of the transmission network.

Besides the POGC, to the key enterprises of the gas sector in Poland belongs the Petroleum and Gas Deposits Exploration and Exploitation Enterprise "PETROBALTIC", which operates mainly in the Polish Baltic Sea zone.

Moreover, till 31 January 2000 the President of the ERO issued licenses to 43 entities for different kinds of activities (including six licenses for generation, 36 for transmission, 35 for trade and one for storage).¹

It should be emphasised that competition in the upstream sub-sector has already been introduced. Exploration and production became market-oriented based on the EU regulations and amendments to the relevant legislation on geology and mining. During tenders companies (mainly western) were allowed freedom of activity. Currently, 13 companies have licence rights to about 160 000 km² of geological area.

1.5 *Transforming the regulatory regime: opening, restructuring and privatisation of the gas sector*

1.5.1 *Harmonisation of the polish gas sector with the EU regulations*

The obligation to harmonise the Polish legislation with the EU regulations derives from the Europe Agreement, signed by Poland in 1991. Art. 78 of this Agreement defines the framework of co-operation in the energy sector, referring among others to: modernisation of infrastructure, diversification of supplies, managing of energy resources, promoting effectiveness of energy utilisation, environmental protection, connecting gas and electricity systems, opening of markets and improving conditions for transit.

The EU most important legal act in the field of gas industry is the European Gas Directive of 22 June 1998 on common rules of the internal natural gas market.

The graph below illustrates the provisions of the Polish legislation referring to the process of the gas market opening in Poland.

The legal act regulating the method of the Polish gas market opening is the Ordinance of the Minister of Economy of 6 August 1998 on the agenda for obtaining by particular groups the right to use transmission services. The Ordinance provides for the timetable of acquiring by particular groups of customers the rights to use transmission services, i.e. transmission (among others) of fuels extracted in the country, depending from the total volume of gas fuels purchase per year.

According to the above, customers purchasing gas fuels, annual volume of which is less than:

- 25 mln m³ – acquire the right to use transmission services on 1 July 2000;
- 15 mln m³ – acquire the right to use transmission services on 1 January 2004;
- customers with gas fuels purchase, annual volume of which is less than 15 mln m³, acquire the right to use transmission services on 5 December 2005.

The volume of annual purchase of gas fuels (and other energy sources), referred to in the mentioned Ordinance, is calculated on the basis of data described in the motion to conclude contract on rendering transmission services.

The gas market shows certain similarity to the electricity market, where network enterprises act as monopolies in the area of transmission and distribution and are subject to regulation, while trading

1. One enterprise may receive several licenses, depending on the fields it is operating in as the license is of the subject and objective character.

enterprises and producers as they act in the competitive market conditions are to be deregulated. So the Polish gas market monopolist (POGC) will have to make its network available to the entitled entities (according to the access timetable), and other entities, e.g. newly established gas enterprises, including trading companies. Moreover, the possibility to build new gas grids will be provided. One can then foresee that the POGC monopoly in the field of trade in gas can with time be broken.

“The Program of Restructuring of the POGC” was adopted by the Council of Ministers on 2 April 1996, and provided for the gradual accomplishment of the restructuring process in accordance with the decision of the President of the Antimonopoly Office (present Office for Competition and Consumer Protection) of 12 March 1993 on the POGC division.

The decision issued after the natural gas market analysis by the antimonopoly authority was done and the antimonopoly proceeding conducted, concerned the POGC division by creating separate economic entities on the basis of the existing, within the structure of the Enterprise, organisational units. The decision ordered the restructuring of the Enterprise in a way allowing the technical services units and geological research and oil and gas exploration units to function as separate economic entities.

While issuing the above-mentioned decision, the Office decided that the restructuring would influence the emergence of economic entities capable of participating in the market economy mechanisms and in competition. This also meant that not all the elements of the organisational structure of the divided Enterprise could be included into newly established companies, for the purpose of the Office’s decision was to exclude the ineffective components from these companies’ assets.

While issuing the decision the Office was also aware of the fact that the ordered division would not eliminate all the prerequisites of Art. 12 of the antimonopoly law (“State enterprises and co-operatives, as well as commercial law companies holding a dominant market position, may be subject to division or dissolution if they permanently restrict competition or the conditions of its emergence”) for further division. This division should first of all encompass the creation, on the basis of the local gas plants assets’ components, of the independent enterprise dealing with gas purchase from national producers and importers and with gas transmission. This enterprise holding monopolistic position (natural monopoly) would have to be under particular supervision with the view of protection of consumers’ interests from monopolistic practices.

Concluding, the process of the accomplishment of “The Program of Restructuring of the POGC” develops as follows:

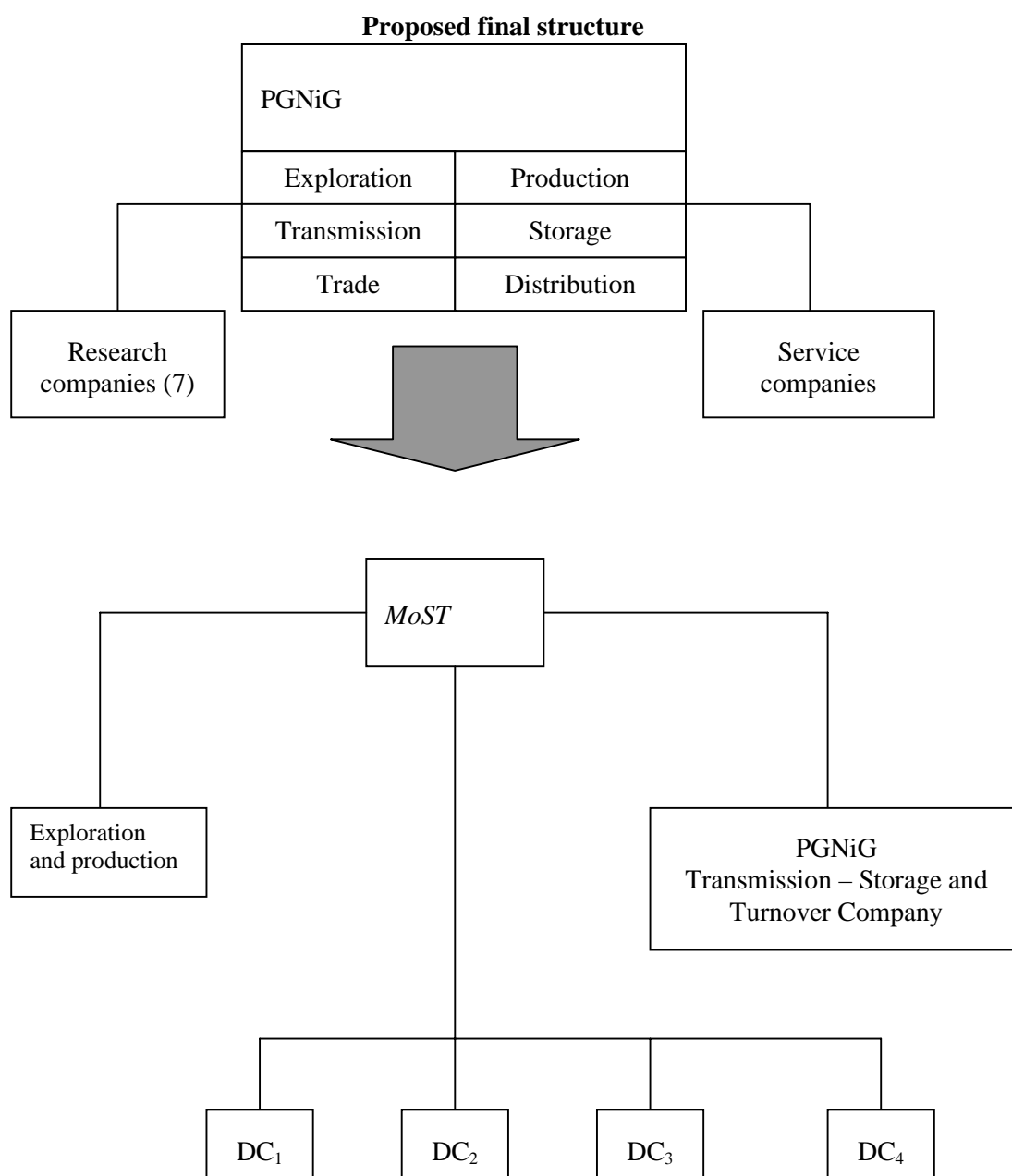
- the first stage (commercialisation of the Company) was completed on 30 October 1996 when the POGC was registered as a joint stock State Treasury company in the Economic Court in Warsaw;
- during the second stage of the Programme, implemented in accordance with the decision of the Antimonopoly Office, mainly in 1998, the POGC separated from its structure the units of auxiliary production and technical services, on the basis of which 16 subsidiary companies were established with assets of 500 million USD and staff of 13 500 persons;
- in the third (the last) stage of the restructuring process two companies were to be set: “Polish Oil Company” based on extraction sections and the Geological Office “GEONAFITA” and “Polish Gas Industry” based on all the gas industry branches.

However, due to the adoption of the new Energy Law in Poland and of the EU “Gas Directive”, the third stage of the implementation of the POGC restructuring Program must have been reviewed. The

respective proposal was therefore prepared by Price Waterhouse Cooper (selected in a tender), acting as an advisor to the Minister of State Treasury. The revised Program will be considered by the Council of Ministers. At present the PWC proposal is being reviewed.

The Program should consider the objectives of the State Treasury, of the POGC and gas consumers. One of the priorities is providing for the security of gas supply as it influences the energy security of the country. At the same time, the Program should enhance the effectiveness of the POGC within the new structure, improve operative capacity and effectiveness of gas sector services in the country as well as prepare the Company for the development of competition.

The proposed structure of the gas industry in Poland, prepared for privatisation, evolves from one centralised enterprise towards decentralised structure, in which the division of activities among different entities would be made. Accordingly, the POGC would deal with transmission, storage and trade, while the other activities would be entrusted to the companies separated from the Company's structure. Regional companies separated from the POGC structure would deal with distribution.



The PWC proposal was passed for the Economic Committee of the Council of Ministers consideration in January 2000.

From the point of view of the regulation of economic entities operating in this market, the restructuring aiming at separation of particular stages of a production-services cycle (i.e. exploration and extraction – transmission and storage – distribution) is sound and will enable the President of the ERO to selectively influence particular market operators. The above is also in line with fundamental rules of the Energy Law and the EU Gas Directive of 1998 (access of third parties to the transmission and distribution infrastructure, separate accounting for different kinds of activities, and other).

The division of the POGC into separate enterprises, depending on the field of operation, will make it possible for the ERO to identify and limit cross-subsidisation between licensed activities. In case of distribution companies it will be possible to conduct comparison analysis between them. The new structure will also enable the President of the ERO to improve the control over the transmission company with respect to its observance of the rule of access of the third parties.

The regulation of this sector is moreover of particular importance for the achievement of the Government objectives in the field of its privatisation.

To these objectives belong:

- arousing investors' interest;
- enhancing effectiveness of entities operating in the gas sector;
- enhancing competition;
- consumer protection (quality of services);
- security of supply.
- Moreover, the ERO will influence the privatisation process through:
 - defining licensing rules for all subjects in the sector;
 - agreement of tariffs;
 - supervision of the quality of services rendered;
 - establishment of the penalties system;
 - supervision of passing over "take or pay" contracts.

1.5.2 Small restructuring program

In its decision on the division of the POGC, the antimonopoly authority pointed out the necessity of the POGC undertaking activities aiming at the separation of the oil and gas extraction entity, as well as the entity which would deal with the re-organisation of the gas distribution sphere by creating distribution entities in the number ensuring effective customer services.

In June 1999, the Governing Board of the POGC adopted, the so-called “Small Restructuring Program”, aimed at adjustment of the organisational structure to the above requirements, which constituted the basis for the decisions on:

- separating the oil mining sector;
- implementation of changes in the gas sector including separation of transmission system;
- privatisation of subsidiary companies operating in the sphere outside the core activity of the POGC.

The separation in question will bring the company in line with the requirements of the Energy Law and finally will result in unbundling of costs of the mentioned economic activities.

The implementation process of the “Small Restructuring Program” in the area of gas sector develops as follows:

- six transmission directorates were appointed. Decisions on organisational structure and number of staff for Regional Offices were taken. Works on division of assets and staff in connection with the change of the internal structure of the sector are coming to an end. Since 1 January 2000 the distribution sub-sector comprises 23 distribution companies, which replaced the regional gas units. The companies will continue the internal restructuring, particularly in the field of technical services.

In the scope of privatisation of subsidiary companies:

- the first stage of a tender for shares in seven subsidiary companies, of which the POGC is the sole owner, has been completed. More than ten companies, which participated in the tender, will be invited to further negotiations.

2. Key competition issues

2.1 Application and enforcement of competition law

Entering into force of the Energy Law of 10 April 1997 and defining the tasks of the Energy Regulatory Office within the scope of approval and control of tariffs of gaseous fuels, electric energy and heat in terms of their consistence with the principle of the law, as well as control over quality parameters of supply and customer services in the area of trade in gaseous fuels and electric energy, resulted in the ERO taking over the responsibilities in this field from the Office for Competition and Consumer Protection (former Antimonopoly Office).

According to the provisions of the Energy Law, apart from the accomplishment of tasks relating to the regulation of the fuels and energy economy, the Energy Regulatory Office performs functions pertaining to the development of competition in the energy sector (including gas) and aiming at balancing of interests of energy enterprises and consumers. At the same time, the ERO is responsible for co-operation with authorities relevant in counteracting monopolistic practices of energy enterprises (including those in gas sector).

The statutory competencies of the ERO are not contrary to the OCCP competence in the field of observance by the energy enterprises (including energy sector enterprises, i.e. POGC) of the Act of

24 February 1990 provisions on counteracting monopolistic practices and protection of consumers' interests.

In this context, the OCCP conducts numerous administrative proceedings against the POGC abusing its dominant position, in most cases by imposing of onerous contract terms, relating to connecting users to a gas grid, yielding unjustified benefits to the one imposing such terms.

The tasks of co-operation of both Offices were subject to several debates of their competent representatives. It should be pointed out that there is a close co-operation in place between the ERO and the OCCP, which is reflected among others in regular meetings of the management of both institutions and *ad hoc* consultations. The last meeting at the management level took place in January 2000.

SPAIN

1. Industry overview: regulatory framework and market structure

1.1 *Key regulations and key features of the regulatory regime*

Key governing legislation in this sector:

- Royal Decree 1914/1997-December 19, on access conditions;
- Law 34/1998-October 7, on Hydrocarbons;
- Royal Decree 6/1999-April 16, on urgent measures to enhance competition;
- Royal Decree 1339/1999-July 31, on Energy National Commission;
- Royal Decree 15/1999-October 1, on measures to liberalize and enhance competition on the Hydrocarbons Sector.

The Hydrocarbons Law enacted in October 1998 approaches gas regulation in a similar way as Law 54/1997 did with the electric sector. It intends to protect the consumer's interests as well as the producer's interests against any intent of abuse of dominance in the market. The Hydrocarbons Law lays down a phased liberalisation of prices (starting with large consumers) over a fifteen years period, the accounting separation of transport, storage and distribution, as well as the setting by government of a single tariff for third party network access under certain pre-set conditions.

Prior to this law, all activities related to the gas sector were considered public service and were reserved to the state, which could through concessions contract them out with private or public enterprises. Once this Law came into force, the activities related to all the stages of the industry are no longer public service obligations for the state to provide. Nevertheless the activities defined as regulated in the Law are subject to general economic interest obligations and need authorisations (permissions) to be carried out.

Hydrocarbons Law classifies activities related to the gas sector in regulated activities (regassification, storage, transmission and distribution) and non-regulated activities (retailing).

Regulated activities need authorisation (permission) to be carried out. Their prices are regulated. Firms carrying out regulated activities are not allowed to carry out non-regulated activities.

Customers are classified depending on their volume of natural gas consumed in: Eligible Customers and Non-Eligible Customers.

The Law defines three kinds of networks:

- the Basic Network: Transmission pipelines with a pressure equal or above 60 bars, regassification facilities, storage sites, upstream pipeline networks;
- secondary Transmission Network: transmission pipelines with a design pressure between 16 and 60 bars;
- distribution Network: transmission pipelines with design pressure between 60 and 16 bars and any other pipeline connecting basic network or secondary network with final customers.

The system designed in the 1998 Hydrocarbon Law in Spain works as follows:

- the transmission undertakings are the owners of the basic and secondary networks. They have third-party access obligations. They must keep security storage, and diversify their providers. They establish contracts with the distributors, at tariffs approved by the Ministry of Industry and Energy. They are entitled to import.

At present, the only transporter or transmission undertaking is ENAGAS, which owns the importing pipelines, the basic pipeline network, the regassification facilities and the storage sites.

- the distribution undertakings are the owners of the distribution networks and supply gas to non eligible customers at regulated prices, approved by the Ministry of Industry and Energy. They have third party access and supply obligations.

According to Royal Decree 6/1999 during a maximum period of ten years no distribution network can be built in a region where a distributor already operates and owns a distribution pipeline network.

- retailers do not own networks, but they have third-party access rights. Retailers, are obliged to keep security storage, and to diversify their providers. They are entitled to access to all facilities and networks of transmission and distribution undertakings. They are the only undertakings entitled to contract with eligible customers, at prices and conditions freely agreed. They are the wholesale customers of Directive 98/307CE. They can import.

Recently the Ministry of Industry and Energy has granted authorisations as retailers to eight firms related to the electricity and petroleum markets. These firms are: IBERDROLA, ENDESA, HIDROCANTABRICO, BP AMOCO, NATURGAS, IBERICA DE GAS, CEPSA and SHELL.

- eligible customers can satisfy their needs either by importing or buying from retailers. According to 34/1996 Law gas-fired power stations are eligible customers irrespective of their annual consumption. To be qualified as an eligible customer, 34/1998 Law approved the following agenda: to consume when the Law was enacted more than 20 Mm3/year on a consumption-site basis, 15 Mm3/year by January 2000, 5Mm3/year by January 2003, ...by 2013 all customers irrespective of their annual consumption would be eligible customers.

Royal Decree 6/1999 modified this agenda establishing the threshold of 5 Mm3/year by January 2000, which represents the liberalization of 63-66 percent of the total market, and approved total liberalization by the year 2008.

Structural separation was imposed by 34/1998 Law, in addition undertakings carrying out regulated activities (re-gassification, storage, transmission and distribution) cannot carry out non-regulated activities (retailing). Natural gas undertakings carrying out more than one regulated activity must have separated accounts for each of them.

1.2 Access regulation

Spain has opted for a procedure of regulated access.

At present, the tariffs for third-party access in force were approved in 1997, prior to the enactment of the Hydrocarbons Law, and have not been modified since then. The tariffs in force are calculated adding four tolls, connexion, regassification, transmission and storage. They have a two-part structure. The connexion toll represents 28 percent of the whole tariff, the regassification toll, 20 percent, the transmission toll, 29 percent, the distribution toll, 19 percent, and the storage toll four percent. Eligible customers argue these tariffs are too high. They also argue they cannot obtain a competitive import price.

The Ministry of Industry and Energy is working on new regulation to calculate tariffs for third party access and to establish the principles that will govern the requirements to become retailers.

Undertakings with third-party obligations could deny access requests on the basis of lack of capacity, general economic interest's obligations and serious financial constraints.

1.3 Price regulation

Price is regulated for non-eligible customers. Non eligible customers are supplied by distributors. The Ministry of Industry and Energy approves the structure and the level of prices for non-eligible customers (industrial and households-commercial) and for distributors. Distributors are supplied by transmission undertakings.

The structure of the reference cost approved by the Ministry of Industry for households and commercial customers has three components related to the acquisition, transmission and distribution costs. The acquisition cost is established in relation to the FOB prices of a basket of petroleum products. There are three tariffs for households and for commercial customers depending on their level of consumption. The tariffs have a two-part structure. The structure of regulated prices does not distinguish between peak and off-peak times.

The structure of the regulated tariffs for industrial customers approved by the Ministry of Industry and Energy has been simplified during 1999. The regulated tariffs are identical for the whole country. The tariffs for firm and interruptible supplies are calculated in relation to the cost of fuel, as alternative energy. An industrial customer can apply for interruptible supply if he has in operation an alternative energy supply, in any case, this tariff can only be applied to consumption's above 10 000 000 termias/year. Distribution undertakings are entitled to supply or not interruptible supplies. And industrial customer with an interruptible supply contract has to be notified with no less than 24 hours if the distribution undertaking is going to stop supplying him. Interruptible supply represents 16 percent of the total natural gas consumed by industrial customers.

Tariffs for eligible consumers are freely settled.

Broadly speaking domestic prices are higher in Spain than in other European countries and industrial prices are lower. Eligible customers although are entitled to import directly they are not doing it at present, and they are buying at regulated prices

1.4 *Regulatory institutions*

The Energy National Commission was set up by the 1998 Hydrocarbons Law, substituting for the existing Electricity National Commission. It has been regulated by Royal Decree 1339/1999, 31 July.

The Commission as a consultative body has to issued binding reports on some aspects of the development of the energy sector. The Commission is the dispute settlement authority in disputes affecting natural gas undertakings, acting as the arbitration body. Disputes concerning negotiations and refusal of access to the system shall be settled by the Energy National Commission. Within the Commission there are two Consultative Councils, one for Electricity and other for Hydrocarbons.

The Commission authorises the stakes taken by companies with activities that are regarded as regulated activities (regassification, transmission, distribution, storage) in any entity carrying out non regulated activities.

The main aim of the Energy National Commission is to ensure effective competition in the energy sector, but restrictive practices in the gas sector will be reported by the Energy National Commission to the Service for the Defence of Competition of Ministry of Economy in order to enforce the Competition Law.

The Energy General Directorate within the Ministry of Industry approves tariffs for non-eligible customers, grants authorisation for transmission, distribution, supply and storage of natural gas undertakings, and fixes third-party access tariffs.

1.5 *Key features of the demand of gas*

In 1998 natural gas represented with 11 816 (ktep) only 10.7 percent of the total primary energy consumed in Spain, the same percentage as in 1997, coal represented 15.5 percent and petroleum 54.1 percent. Spain enjoys mild weather conditions and has a low density of population except in coastal areas and Madrid region.

This demand could have been higher, but the demand for gas-fired power generators decreased 65 percent compared with 1997. Nevertheless total consumption of natural gas as primary energy increased 6.9 percent compared with 1997.

The volatile situation of natural gas demanded by traditional thermal power stations will last until the new combined-cycle power stations, which are at present under construction will start operation. Nevertheless, the total figure of generated electric power using natural gas as primary energy has fallen, in 1998, only by 3.4 percent, due to the progressive use of natural gas in co-generation. As a whole, in 1998, natural gas was used to produce eight percent of the total electric power, coal share was 32,3 percent, and nuclear energy share was 30.1 percent.

The market share of natural gas in the final energy demand, in 1998, was 12 percent, petroleum's being 67.2 percent and electricity 17.8 percent.

The total demand of natural gas by sectors was split in the following percentages: households-commercial 17.5 percent; industrial 73.3 percent; electricity generation (thermal power stations) 4.7 percent. The number of household customers was in 1998 of 3.425.582; the number of industrial customers was 3 772

Geographically, natural gas demand is highly concentrated in the Mediterranean coast.

1.6 Key features of the supply of gas: market structure

Gas Industry in Spain depends heavily on imports, 95.9 percent of the supply of gas in Spain is imported; 62.3 percent of the supply comes from Argelia and 16.5 percent from Norway.

Spain has a total of 30 131 km of gas natural pipelines. 9 910 km are high-pressure pipelines. 13 289 km are medium pressure pipelines and 6 932 km are low-pressure pipelines.

Spain has three regassification facilities (LNG Terminals) in Barcelona, Murcia, and Huelva. Two in the Mediterranean coast and one in the south Atlantic coast. Spain has twelve underground storage sites, two of them are strategic storage sites.

Imports and high-pressure transmission network were developed in the past by the stated owned company ENAGAS, which was privatised in 1994 and integrated in GAS NATURAL GROUP. Local distribution companies were concentrated around GAS NATURAL GROUP.

At present, GAS NATURAL GROUP has a dominant position in the Spanish natural gas industry and market.

GAS NATURAL GROUP is engaged in the supply, transport and distribution of natural gas in Spain:

- Spain has two importing pipelines, one coming from the Maghreb, with a capacity of 10bcm/year, and the other coming from France, with a capacity of 6bcm/year. Through these pipelines imports from Algeria, Libya and Norway arrive in Spain. Both upstream pipelines belong to ENAGAS. The two underground strategic storage also belong to ENAGAS.
- The main firm in the market for gas transmission is ENAGAS. ENAGAS owns 84 percent of the transmission pipelines network in Spain. The three regassification facilities belong to ENAGAS. At present, ENAGAS is the only importing firm in Spain, but 1998 Hydrocarbons law allows other undertakings to import gas and to transport it through the basic network paying a tariff for the access.

ENAGAS shareholder is GAS NATURAL SDG 100 percent. Major investments are being carrying out by ENAGAS to enlarge the basic network.

There is another firm, which owns a regional transmission network, GAS EUSKADI in the Basque Country. GAS EUSKADI is developing a vertically integrated group for transmission, distribution, and retailing natural gas in the Basque Country, owned by Basque Country government.

- The main firm active in the markets for gas distribution is GAS NATURAL SDG, with a market share of 90 percent. GAS NATURAL SDG is responsible for distributing natural gas to the autonomous communities of Madrid and Barcelona. In addition, NATURAL GAS

GROUP has majority holdings in 11 companies which distribute gas in several regions of Spain, and has interests of under 50 percent in another three gas distribution companies in Aragon and the Basque Country. From an end-users point of view GAS NATURAL GROUP has 85 percent of the household-commercial market, 91 percent of the industrial market, and ENAGAS has 100 percent of the power generator market.

GAS NATURAL SDG is a joint stock company whose main shareholders are REPSOL (45.3) and the Catalan saving bank LA CAIXA (25.5).

This monopolistic position was built in a very short period of time, from 1989 to 1994, the story reads as follows:

- in 1981 the government set up, the state owned, INSTITUTO NACIONAL DE HIDROCARBUROS, INH, which owned all state owned companies related to petroleum and gas exploration, production, transmission, distribution and retailing;
- in 1987, all companies related with the Petroleum and LPG were vertically integrated in REPSOL, 100 percent owned by INH. REPSOL became a fully vertically integrated petroleum undertaking. The privatisation of REPSOL, started in 1989, with a tranche of 30 percent of its stake being floated;
- ENAGAS, still 100 percent state owned, through INH, was developing the transmission natural gas network and negotiating the conditions to build a transmission pipeline from Algeria to Spain through Morocco. ENAGAS owned the three regassification facilities and it was an importing and transmission natural gas undertaking, REPSOL being the natural gas exploration, and extraction undertaking;
- GAS MADRID, a private company produced and distributed manufactured gas in Madrid region, and CATALANA DE GAS, distributed gas in Cataluña and Valencia regions;
- in 1990 the state owned INH bought the private owned GAS MADRID. Gas Madrid started its conversion to distribute natural gas. In this same year INH, only shareholder of GAS MADRID, LA CAIXA, main share holder of CATALANA DE GAS, and REPSOL, reached an agreement and GAS NATURAL SDG was created merging GAS MADRID, CATALANA DE GAS, and all the subsidiaries of REPSOL BUTANO, which distributed natural gas. The shareholders were REPSOL 40 percent, INH 14 percent, LA CAIXA 25 percent and 28 000 small share holders;
- in 1993, REPSOL, LA CAIXA and INH reached a new agreement backed by the Ministry of Industry and Energy, GAS NATURAL SDG will take control of ENAGAS. Both companies will have the same chairman (GAS NATURAL chairman) and the same chief executive officer (ENAGAS CEO). In September 1994, GAS NATURAL SDG bought 91 percent of ENAGAS, INH retaining nine percent. Prior to this operation all ENAGAS assets related with the construction of the Maghreb transmission pipeline were segregated from ENAGAS and incorporated to a state owned company, SAGANE. The conditions to incorporate the Maghreb pipeline, once it was finished, to GAS NATURAL were settled in the 1993 agreement;
- in 1998, when Hydrocarbons Law was approved, the state sold to GAS NATURAL the remaining nine percent of ENAGAS;

- in 1989 the Competition Law was enacted, this law fully applies to the natural gas industry sector, nevertheless no communication about this merger was passed to the Service for the Defence of Competition, as notification was voluntary at that time.

2. Key competition issues

Due to its recent liberalisation, the natural gas sector has not been involved in many competition cases with the National Competition Authorities.

There have been some cases related to vertical issues between Gas Natural and its authorised repairers. The Service for the Defence of Competition has forwarded a case to the Tribunal where Gas Natural was found to be responsible for using its dominant position, held in the gas distribution market, to abuse in the neighbour and liberalised market of inspection and installation services to end users. According to the case, Gas Natural had imposed prices to the final services provided by the repairers and helped to share the market among them. In the market of gas installations and inspection services there are several complaints that are presently under investigation.

The supply of natural gas to the future combined-cycle power stations is giving rise to several competition issues. In this context the Service for the Defence of Competition undertook an investigation on a long-term gas supply agreement between the gas monopolist and an electric company introducing some modifications for avoiding a possible discriminatory treatment. In this respect, Gas Natural, which holds a *de facto* monopolist and privileged situation, cannot discriminate between the different electricity operators, otherwise the outcome of the recently liberalised electricity market, due to the relevance of gas as a primary electricity generation input, could be distorted.

In 1999, ENDESA and GAS NATURAL GROUP notified the Service for the Defense of Competition the acquisition of joint control in two natural gas regional distribution undertakings, Gas Aragon and Gas Andalucia. The operation reinforced the position of both companies in their respective markets. The Minister of Finance sent the case to the Tribunal de Defensa de la Competencia, and the Tribunal reported the case to the Council of Ministers, which did not authorize the operation.

The Service for the Defence of Competition has launched an investigation in the LPG distribution market. In this market, REPSOL owns a 98 percent market share. This investigation will focus on the cumulative effect of the exclusivity between REPSOL and its distributors, to determine whether this exclusivity and its conditions may arise barriers to entry for new operators in a recently liberalised market.

In any event, competition cases and issues in these markets are expected to increase as the liberalisation speeds up.



UNITED STATES

This paper will cover four topics:¹

- What is the Federal Energy Regulatory Commission and how does it embody the basic choices the United States has made about how to regulate an industry?
- How has the regulatory system for natural gas changed over the last few years to meet a radically changing industry?
- How have these changes worked to date and what changes are expected over the next few years?
- What are the key competition issues?

1. What is the federal energy regulatory commission?

The Federal Energy Regulatory Commission (FERC), as the name implies, is part of a federal system. The reason lies both in history and in the nature of an integrated utility industry. Until the 1930s, regulation of the natural gas industry took place at the State and local level; in the early days, most gas was either manufactured from coal or produced near where it was consumed. But with the growth of large gas production fields in the Southwest United States, large-scale monopoly pipelines began to transport that gas over longer distances. The industry became inherently interstate in nature.² Because the power to regulate interstate commerce is reserved to the federal government under the United States Constitution, this presented a jurisdictional problem for State and local authorities that had previously regulated local distribution companies. As a result, State and local regulatory bodies were not able to regulate the prices charged for natural gas in the wholesale transactions between interstate pipeline companies and local distribution companies.

The Congress responded to this regulatory gap – between State regulatory goals and State jurisdiction – with the Natural Gas Act of 1938 (NGA). The NGA granted the federal government control over those parts of the industry that involved interstate commerce, but left matters of local concern to the states. For example, natural gas distribution, which involves generally the receipt and delivery of gas to the ultimate consumer within a state, remains under state jurisdiction, while the FERC regulates rates, terms and conditions of service for interstate transportation and sales for resale. The NGA gives the FERC the authority to regulate the rates for transportation (including storage) and sales for resale of natural gas; to authorize the acquisition, construction, and abandonment of facilities; and to authorize the siting of facilities involved with the importation or exportation of natural gas.³ These activities are automatically authorized under blanket certificates held by the pipelines. The NGA specifically exempts production, gathering, and local distribution from FERC jurisdiction. (But, as will be described below, the United States Supreme Court's 1954 Phillips Petroleum Co. v. Wisconsin decision, led to the regulation of wellhead production and pricing from the late-1950's until the early 1980's.)

In the United States the same agency, FERC, regulates several energy industries: natural gas, oil pipelines, electric power and hydroelectric projects. The FERC often implements common policies across the regulated industries. To some extent, the choice and scope of the federal regulatory authority is a historical accident. Hydroelectric jurisdiction came first with the passage of the Federal Power Act in 1920, which created the Federal Power Commission (the forerunner of the FERC). FERC's hydroelectric regulation principally involves licensing hydroelectric facilities with conditions and balancing environmental and other concerns such as the need for power and dam safety issues.

Initially, the FPC did not have authority to engage in economic regulation — for example, to set just and reasonable rates and to police potential abuses of market power. But these and other regulatory responsibilities at the federal level were added over time largely involving issues of regulating companies that may have market power. The FERC also has regulatory responsibility over the construction and siting of interstate natural gas pipeline facilities. As part of this responsibility, the FERC performs environmental analysis associated with pipeline construction proposals. As mandated by the National Environmental Policy Act (NEPA), the Commission considers the environmental impact associated with a project in its decision-making process. When the FERC authorizes pipeline facilities, the pipeline has the authority under the NGA to seek the right to exercise eminent domain (e.g., the right to obtain an easement from private landowners through condemnation procedures, in exchange for compensating them for the fair market value of their property). To obtain eminent domain, the pipeline which has received FERC authorisation to build new facilities must take action in the local district court where the facilities are to be sited. This is unlike oil pipeline and electric utility facility siting responsibilities where the states, not the FERC, authorize the construction of new facilities.

Combining natural gas, oil pipelines and electricity regulation in a single agency makes sense because these industries have strong structural similarities - they are all large-scale transmission grids. The FERC has been able to learn from its experience with one industry lessons that it can apply to the others. Most recently, the FERC has used its experience with applying competitive market forces to the regulation of natural gas in its changing approach to electric regulation. For example, the FERC required open access to wholesale electric transmission services in 1996, similar in many respects to the voluntary open access transportation program for natural gas pipelines initiated in 1985.

Over time, a strong federal regulatory system has evolved. Significant federal economic regulation is one reason the US did not nationalise the utility industries affecting the public interest as many other countries did. Instead, the US chose to regulate a privately held industry to control the exercise of market power.

Through this approach, the US anticipated the basic problem that many other countries now face. Private entities providing necessary public services retain market power, which could allow them to charge captive customers excessive rates and provide service below the level they would have to offer in a competitive market. This would be economically inefficient and unacceptable from a public policy perspective.

2. Why has the US stayed with the commission model of economic regulation?

A single administrator can almost certainly make decisions and set policy more efficiently than a five-member Commission. Yet the FERC has remained a five-member commission since the creation of its predecessor, the Federal Power Commission, eighty years ago. The great advantage of a commission decision-making process is the balance it brings to significant decisions that affect millions of consumers and billions of dollars. With five members, no more than three of which may be from the same political party, divergent philosophies and views are represented. With independence from the other branches of

government, people need not fear that the immediate agenda of any particular administration is controlling decisions. And with a strong tradition of open and due process, all parties can have their fair say. This concern for fair and open decision-making is so deeply ingrained in American culture that the multi-member Commission model is used in nearly every state as well as at the Federal level.

As an independent commission, the FERC has a special relationship with each of the three branches of the federal government. The FERC was created by legislation promulgated by Congress. Each fundamental change in the FERC's regulatory mandate is made by Congress through legislation. The President appoints the five Commissioners and designates the Chairman, but the Senate must approve the nominations. Finally, FERC's actions are subject to judicial review by the federal courts.

Independent commissions also exercise some "borrowed" powers from each branch of government. In rulemakings, the FERC acts in a legislative capacity, implementing the laws that Congress passes, interpreting the statutory provisions to meet changing circumstances and protect the public interest. The FERC writes the regulations that provide the details and the set of rules for implementing the legislation. This system of delegation is particularly effective in that it allows the agency, with input from the industry and affected parties, to create workable rules that are consistent with the guiding principles of the congressional legislation.

Many of the FERC's activities are essentially executive, as when it issues licenses and certificates, investigates complaints, or ensures that companies comply with the terms and conditions to which they have agreed. The FERC also fills a quasi-judicial role when it holds administrative hearings in the many cases that come before it. In each of these roles, the FERC brings its technical and legal expertise to bear on the details of important decisions in a way that would be difficult for courts to administer. On occasion, the Commission makes decisions with which other branches of government disagree. Other federal agencies often file comments or objections in FERC's proceedings or, in some cases, appeal the FERC's decisions to the Courts. Most common are comments filed by such agencies as the Department of Interior relating to the environmental review of natural gas or hydropower projects.

Commission regulation of the natural gas industry is a process that blends economics, public policy, and politics. The primary goals of the FERC are economic efficiency and fairness. The goal of regulation is to protect customers from the exercise of monopoly power. By law, that is the FERC's core mission. The checks and balances built into the federal system ensure that these goals are achieved.

3. How has the federal regulatory system for natural gas changed in recent years?

One of the most difficult tests of any institution is how it responds when the world around it changes drastically. The FERC has had a chance to respond to such a challenge during the past two decades. The natural gas industry has gone from heavy Federal regulation to a much more light-handed form that works in conjunction with competitive market forces. Historically, the FERC relied on a long-standing method of regulating every aspect of the natural gas industry. Interstate pipelines bought gas from producers at FERC-regulated prices. Pipelines then aggregated all their supplies and sold gas at FERC-regulated rates. Most of the gas went to distributors, who in turn sold it at retail to end-use consumers at state-regulated rates.

This system evolved over many years. In some respects it was extremely stable. Almost all contractual commitments in the industry were long term, traditionally twenty years. Pipelines had a contractual obligation to serve their customers and customers often had no alternatives to pipeline supplies at set prices.

In 1954, federal regulation was expanded to include the sale of wellhead natural gas production in interstate commerce, as a result of the *Phillips Petroleum Co. v. Wisconsin* case.⁴ Regulation of wellhead production prices led to the development of bifurcated interstate and intrastate markets and created supply-demand imbalances within 15 years. Eventually, the system began to fall apart. FERC was micro managing gas industry decisions. Regulated prices in the interstate market were much lower than in the largely non-Federal-regulated markets within individual states. A producer in Texas could get a very low price for selling gas to a FERC-regulated pipeline transporting it to out-of-state customers, and another, much higher, unregulated price if the gas were sold to a pipeline delivering the gas to customers in Texas.

This market disparity made it very hard for interstate pipelines to contract for enough gas to supply their customers in the 1970s. This led to major shortages in interstate markets, not because there was any lack of gas, but because producers had no financial incentive to sell into the interstate market. Price controls thus led to significant market distortions. The United States has thousands of natural gas producers. Regulating their prices caused price distortion and inefficient markets, and undermined consumer welfare.

In response to these events, Congress passed in 1978, the Natural Gas Policy Act (NGPA). The NGPA did many things, but most importantly, it began a process of deregulating all natural gas wellhead prices (the price pipelines paid to producers at the point of production). Some prices remained under controls until the early 1990s when the Natural Gas Wellhead Decontrol Act of 1989 ended all remaining wellhead price controls by January 1, 1993. But the logic of a competitive market for gas as a commodity began in 1978 and was irreversible.

At first, the Commission tried to graft a gradually deregulated commodity market onto the traditional regulatory system, but the dynamics of the situation made this all but impossible. In the 1970's OPEC sent oil prices soaring. The relatively small amount of deregulated gas magnified the problem as these prices also soared. Pipeline companies were eager to sign new supply contracts, but because of the NGPA-imposed price ceilings, producers could not get the full market price for their production. Competing pipelines, unable to bid market prices to purchase wellhead gas supplies, began offering more generous non-price terms to win the competitive battle. The result was purchase contracts with long terms, escalating prices, and high annual purchase requirements. Many pipelines agreed to buy almost all the gas a well could produce — or pay for the gas even if they could not take it. These so-called "take-or-pay clauses" later led to many problems when pipelines faced recovering billions of dollars of liabilities that resulted from renegotiated contracts. Similarly, pipelines might have agreed to pay very high prices once some gas prices were decontrolled, in 1985 or 1987 (as was expected in the period immediately following enactment of the NGPA in 1978).

In the short run, this caused only isolated problems. Pipelines still had large quantities of very cheap gas under old contracts, which resulted in average sales prices that were still relatively low. But in the early 1980s, conditions changed. Oil prices declined as did market-driven gas prices. By 1983, pipelines began to find that they were committed to buying so much expensive gas that their average price was no longer competitive for customers with the capacity to switch to an alternative fuel. Thus, those customers with dual fuel capability, particularly industrial customers, could use fuel oil when it was less expensive than natural gas.⁵ They could not decrease purchases of expensive gas because of take-or-pay clauses signed in the early 1980s. If they reduced purchases of cheaper gas, they would only raise the average price still further.

The pipelines' situation became more difficult when the FERC issued its Order No. 380 in 1984, ruling that interstate pipelines could no longer charge their customers for a given amount of gas regardless of how much gas the customer actually took. The so-called minimum bill resembled a take-or-pay clause,

except that it was on the customer side of the pipeline. Freed from these minimum purchase or take obligations, customers could go into the marketplace and switch suppliers, thereby exacerbating the competitive dilemma confronting pipelines with high gas costs.

For a time, the industry worked with the FERC and with state commissions to solve the problem by segmenting gas markets; the FERC allowed different sets of customers to be treated differently. Customers who had alternatives received special treatment because they could choose not to purchase natural gas from interstate pipelines. Under these special marketing programs, they were allowed to buy cheaper, market-priced gas and use the pipeline only as a transporter. Other customers without alternatives — so-called captive customers — continued to buy pipeline supply. The idea was to keep the customers with alternatives on the system so that they contributed something toward the fixed costs of the system; it was thought to be better to have the customers with alternatives make a small contribution to the system costs than to leave the system and make no contributions.

In 1984, the Courts ruled that this market segregation was improper under federal law because it did not give the same choices to captive customers. The Commission responded to the Courts with Order No. 436. This order set up an open access transportation program to promote competition both at the wellhead (as encouraged by price decontrol) and at the city gate (the point where a pipeline delivers gas to a local distribution company, which is regulated by a State commission). Under Order No. 436, pipelines could choose to become open access transporters of natural gas; i.e., they could transport gas owned by others and charge only for the transportation. This gave all shippers access to market-priced gas and made the pipelines eligible for a variety of regulatory benefits that the Commission offered only to open access pipelines, such as self-implementing services and pre-granted abandonment authority (authority to terminate service automatically without additional Commission approval at the expiration of the contract).

Order No. 436 led to what some called the two-straw theory of pipeline services. Under this analysis, the pipeline ran its business in two completely different ways, almost as if there were two pipelines within the single pipeline. Through the first straw, the pipeline served its customers in the traditional way. It bought gas from producers, aggregated the supplies, averaged the costs, and resold the gas to customers at FERC-regulated cost-based rates. The pipeline was responsible if a producer did not deliver gas into the pipeline, so it needed a fairly large gas supply reserve to deal with potential supply/demand imbalances. The gas was guaranteed, but often at higher than spot market prices.

Through the second straw, the pipeline moved gas that producers had already sold either directly to customers or through brokers. In this case, the pipeline had no obligation to warrant gas supply — customers and producers were responsible for their own actions. But the gas was competitively priced, which often produced consumer rates lower than gas that could be purchased from the pipeline and sold under traditional regulation.

This system was unstable; almost every stakeholder had an incentive to game the system to gain unfair short-run advantages. Nonetheless, it endured for several years. This happened despite FERC efforts to make regulation much more flexible by loosening remaining price controls on gas, offering pre-granted abandonment of certain contracts, and allowing a broader scope of self-implementing transactions.

Also during this time, the FERC faced the crucial issue of potential affiliate abuse. Pipeline companies often set up affiliated companies — so-called marketers and brokers — to buy and sell market-priced gas. These pipeline-marketing affiliates used the second straw in the pipeline — that is, they were offering customers competitively priced gas separate from the pipeline's system supply. The problem for the FERC was how to ensure that the pipeline would not use its monopoly control over the physical pipeline system to favor its affiliated marketer over non-affiliates.

The FERC responded in 1988 with Order No. 497. This Order established a code of conduct for pipelines and set up reporting requirements to prevent potential preferential treatment by a pipeline for its affiliated marketer. For example, a pipeline could not offer a discount to its affiliated marketer unless it offered the same discount to other similarly situated shippers that needed to use the pipeline's transportation capacity. The order also required the pipelines to report on affiliate transactions so that the FERC and others could monitor their actions and make sure there was no preferential treatment given to a pipeline's affiliates.

The whole issue of affiliate relationships and the potential abuses they spawn has been contentious ever since it first arose. Reasonable people have held very different views on how widespread potential affiliate abuse might be. The measures adopted by the FERC were intended to be a reasonable balancing of interests; and they seemed far preferable to requiring pipeline divestiture or divorcement of their marketing affiliates.

In the early 1990s, the Commission came to realise that the two-straw approach to pipeline services was inefficient and could not survive. Customers could, and often did, game the system. For instance, they would keep firm rights to pipeline gas, but buy spot gas most of the time and have the pipeline transport it on an interruptible tariff that only recovered a portion of the pipeline's cost of providing service. This meant the pipeline had to stand ready to meet its full service obligation to its customers, but might be called on to do so only a few days a year.

On the other side, the pipelines had economic incentives to make it hard for transportation-only customers to use its system. The system was far from user-friendly. The more a pipeline could force customers to keep firm and secure pipeline sales service to meet their retail service obligations, the more the pipeline could collect both transportation capacity reservation charges and interruptible rates. This offered some compensation for having to maintain large gas portfolios, but only at the expense of making the whole system artificially hard to use. In other words, the system encouraged both sides to poison the well, partly in economic self-protection, and partly to meet government-imposed service obligations. Simply put, the resulting system was inefficient and costly for everyone.

In 1992, the Commission issued Order No. 636 to deal with the full range of problems the system was creating. Under Order No. 636, the pipeline became a single straw again. The pipelines were required to unbundle, or split, their existing services into separate services: gas sales and transportation from the wellhead to the city-gate became separate services. Within transportation services, pipelines had to further unbundle different types of services, such as storage, so those customers would pay only for the services they needed.

To the extent that a pipeline still desires to sell gas, it can do so at market prices just as unregulated companies do. But it must offer exactly the same quality of transportation service to everyone, regardless of whether the customer buys the pipeline's gas or someone else's. On the other hand, the pipeline no longer has an obligation to supply customers with gas. Guaranteeing supply is a customer responsibility and can be achieved through portfolio management, dealing with brokers, marketers, the pipeline, or through purchasing co-operatives.

Order No. 636 also included important new market mechanisms. Under the capacity release program, companies can resell their firm capacity rights to others. With capacity release has come electronic bulletin boards (EBBs) on which customers and pipelines can conduct business much more quickly than before. In the post-Order No. 636 world, market centers, explicitly contemplated in Order No. 636, have begun to flourish around the country. They allow customers to switch gas among pipelines easily. Combined with capacity release, they make the system much more flexible.

Order No. 636 also changed the way pipeline rates are designed. For firm capacity, all fixed costs now go into a reservation (or demand) charge. A reservation charge is a monthly charge for service that is paid regardless of the level of service tendered during the month. Having the majority of the costs in a monthly charge lowers usage charges and evens the competitive playing field among all gas suppliers.

4. How has order No. 636 worked so far?

Not long after the implementation of Order No. 636, the United States faced very severe winter weather in most of its major gas markets at the same time. This was a severe test of the new system. The system passed the test. There were fewer service disruptions than in many past emergencies, and less disruption than in the electric industry, where traditional regulation — at least for the time being — still had a stronger hold.

Two major reasons for this success are the vastly improved industry communications network and the much greater service flexibility that Order No. 636 allowed. With electronic bulletin boards (EBBs) and more recently, Internet web sites, real-time communication and trading has become widespread. Industry players are far better able to recognise rapidly changing events than ever before. The new market mechanisms in Order No. 636 give market players ways to respond quickly to changing market conditions with very little intervention from regulators.

The combination of wellhead decontrol, open access transportation, and the unbundling of pipeline gas sales from pipeline transportation has created opportunities for the gas commodity market as well as the transportation market to become more efficient and competitive. The subsequent efforts of state regulators to allow unbundling of transportation and gas sales on the retail level supplemented the FERC's actions.⁶ As a result, overall gas prices to consumers decreased as more efficient and competitive markets have developed. LDCs began to contract for gas supplies in the production area and separately for transportation service from pipelines. Large industrial consumers began to do the same, contracting for interstate pipeline capacity and transportation service on LDCs. Market centers began to develop to facilitate the buying and selling of natural gas. Marketers and shippers began to use the capacity release mechanism as an alternative to pipeline transportation service, particularly for short-term service.

Today's market is dramatically different from the market of 1993. Upstream and downstream wholesale markets are maturing and the number of market centers and gas trading points is growing, providing shippers with greater gas and transportation choices. The financial marketplace has developed a variety of options and futures contracts that help participant's hedge against price risk. With the rapid growth of electronic commerce has come greater liquidity in commodity markets and the prospect of such liquidity for the transportation market as well. Because the commodity and transportation markets have become so interdependent, changes in one market affect the other. The dynamic growth of the wholesale marketplace has created both challenges and opportunities for FERC regulatory policy.

5. What further changes lie ahead?

The US now has the most stable regulatory structure since the first Arab oil embargo more than 25 years ago. At the same time, the gas industry today is very different from that of the 1970s. Today, companies must be able to respond flexibly and quickly to many different customer needs. In addition, there is a national interest in ensuring that natural gas can compete on even terms with any other fuel in these and other markets. Gas is a cleaner-burning fuel than either coal or oil. Increased use of natural gas will assist in improving air quality, and reduce the generation of greenhouse gases. As the industry finds ways to serve these markets, the Commission must ensure that its regulations are flexible enough to meet the needs of the changing market without creating artificial market distortions.

Along the same lines, the Commission is exploring ways to make decisions more quickly in order to give parties more certainty in this increasingly fast-paced market. The Commission's experience shows that one method that has proved useful in some cases is the utilisation of industry collaborative groups. When producers, pipelines, and customers come together, they can often reach decisions quicker and more sensibly than would be possible under a traditional regulatory approach. A prime example is the Gas Industry Standards Board (GISB). GISB is a group comprised of representatives from various segments of the natural gas industry that has worked to standardise business practices (for example, standards relating to nominations, flowing gas, invoicing, and contracts) to make it easier for everyone to do business.

There is a recognition that workably competitive markets teamed with light-handed regulation create a more effective combination for today's industry than the traditional command-and-control regulatory methods. While FERC regulation has become more light-handed, it is of no less importance. Today's markets, while often workably competitive, are not fully competitive. Light-handed regulation in some ways presents regulators with more challenges than traditional regulation because the market is constantly changing as are the players and the services. Monopoly power in transmission services remains in most regions although this power has been weakened in many areas by competition from released firm capacity. The FERC must continue to protect the public interest by monitoring market power and mitigating resulting abuses of market power.

As a result of all the changes to the natural gas market, the Commission finds that it must focus less on individual companies and more on markets and market-related issues. In addition, rapidly evolving energy markets require ongoing examination and support. The Commission must increasingly consider the competitiveness of energy markets in almost every action it takes. In this new environment, the Commission can no longer rely on the traditional methods of gathering information. For these reasons, the Commission is continuing to re-examine its current regulatory framework so that it can better meet the challenges posed by the growing competitive market.

The FERC's most recent regulatory actions are intended to further extend the reach of competitive market forces into the increasingly competitive natural gas market. In Order No. 637, approved by the FERC on February 9, 2000, the Commission removed price caps for short-term, one-year or less, capacity release transactions. The Commission also adopted a new policy to allow pipelines to implement peak/off peak rate designs, and term-differentiated rate designs. Additional reforms will: further equalise rules and operating procedures that apply to capacity release and to capacity purchased directly from the pipeline; reform pipeline penalty structures; and clarify the operation of right-of-first-refusal rights of long-term firm maximum rate pipeline customers. Another of Order No. 637's initiatives improves market transparency and market monitoring by adopting improvements to reporting of information on new transactions, available capacity, and affiliations between buyers and sellers of capacity. This rule did not adopt proposed mandatory auctions, but continues existing capacity release posting and bidding rules.

As the natural gas industry has evolved into a dynamic, more competitive market, the FERC now focuses on ensuring just and reasonable transportation and storage rates terms and conditions of service offered by interstate pipelines, as well as on authorising the construction, acquisition, and abandonment of interstate gas pipeline facilities, when it determines that such actions are required by or consistent with the public interest. The purchase and sale of natural gas as a commodity is now governed by the marketplace, not the FERC. In the process, the FERC has worked hard to achieve four different values in its regulatory approach — flexibility, efficiency, competition, and fairness. Often these goals have pulled in the same direction, but often they have required balancing. As a result, the Commission has continued to transform the way it regulates the natural gas system so that it works better and far more efficiently without losing sight of the need for basic equity through the whole process.

6. What are the key competition issues?

6.1 *Application of competition law*

As noted above, the Natural Gas Wellhead Decontrol Act of 1989 ended 35 years of regulation of the pricing of natural gas supplies, establishing competition over regulatory control as the best mechanism for pricing natural gas. FERC's Order No. 636 in 1992 required all open access pipelines to unbundle all contracts for sales of gas from transportation service. FERC retains the power to establish rates for the interstate transmission of gas from transportation service. However, FERC has issued blanket authorisation to any willing party to make interstate sales of natural gas at market-based prices, terms and conditions of service. This evolving regulatory environment has resulted in a natural gas industry in which gas pipelines operate in both competitive (gas sales) and monopolistic (gas transportation) markets, although sales and transportation operations must be operated separately.

FERC has no regulatory authority over acquisition of voting securities of natural gas companies. Pursuant to Section 7 (c) of the Natural Gas Act ("NGA") which prohibits the operation of acquired assets without a certificate of public convenience and necessity, FERC regulates asset acquisitions and changes in facilities and services. The courts have held that FERC must consider antitrust policies when it applies the NGA's public interest requirements. The Supreme Court has concluded that the authority granted in Section 7(c) does not deprive the federal courts of jurisdiction to enforce the antitrust laws with respect to the natural gas industry.⁷ Accordingly, the Department of Justice, the FTC, and private parties may challenge FERC-approved acquisitions under the antitrust laws.⁸

6.2 *Federal antitrust enforcement*

One key issue to understanding federal antitrust enforcement is that the courts recognise antitrust enforcement as an important adjunct to regulation by the FERC and by state and local regulatory agencies. Even though natural gas markets are regulated, competition can exert an important influence on the conduct of buyers and sellers and on market performance. Thus, any antitrust enforcement action must pertain to conduct that lies outside of regulatory oversight and is therefore subject to the discretion of buyers and sellers. As deregulation has advanced with respect to natural gas, the scope for antitrust enforcement has naturally advanced as well.

6.3 *Merger enforcement*

Some areas of the natural gas industry pose relatively little competitive concern. For example, ownership of natural gas reserves is relatively unconcentrated. The Commission in 1996 changed the Hart-Scott-Rodino premerger filing rules to create an exception to the notification requirements for acquisitions of natural gas reserves that do not exceed \$500 million on the basis that such acquisitions are unlikely to violate the antitrust laws.⁹

In recent years, there has been a consolidation in many energy-related industries, including natural gas. The FTC has brought merger enforcement cases in the areas of transportation of gas by pipeline, gas gathering, and processing of natural gas products. Competition issues also have arisen in mergers between an incumbent electric utility and natural gas facility of some type (so-called "convergence" mergers).

In defining the relevant product and geographic markets in its merger cases, the antitrust agencies follow the analytical approach set forth in Sections 1.1 and 1.2 the Department of Justice and Federal

Trade Commission's Horizontal Merger Guidelines.¹⁰ The production and sale of natural gas has been found to be relatively unconcentrated markets in most instances and, for that reason, mergers of gas suppliers have not required more detailed antitrust scrutiny.

Natural gas may be treated as a separate product market or it may be only one component of a broader product market containing other forms of energy, such as electricity or steam. Either approach can be valid, depending upon whether other forms of energy exert a significant competitive constraint upon natural gas. In practice, whether natural gas constitutes a relevant product market depends upon the relative prices of fuels in the region, the stage of production in which the merger is taking place, costs of switching between fuels, the customer class under consideration, and the ability to price discriminate between customer classes. For example, the Commission has often found that residential customers do not readily substitute between natural gas and other forms of energy. In contrast - and to an increasing degree in recent years - large commercial or industrial customers do switch readily between natural gas and other forms of energy in some areas of the country. This is one factor motivating the Commission's interest in convergence mergers involving natural gas and electricity suppliers. As distributed generation innovations are commercialised, competition between natural gas and electric power suppliers is likely to expand to include additional groups of customers.

6.3.1 *Transmission*

Competition in the transmission of natural gas products is a significant concern given relatively high market concentration and high entry barriers in this sector. A recent example is the Commission's case challenging Questar Corporation's attempt to purchase a 50 percent interest in the Kern River Gas Transmission Company ("Kern").¹¹ Questar was an integrated energy company, active in natural gas production, interstate pipeline transmission, and local gas distribution. It owned the only pipeline serving large industrial customers in the Salt Lake City, Utah area who generally bypassed the local utility and purchased gas directly from other sources. Those customers used Questar's pipeline services to transport the gas either directly to their facilities or to the local utility, from which they purchased local transportation service. Questar sought to acquire from Tenneco, Inc. a 50 percent stake in Kern, which operated another interstate pipeline running through the area and was planning to build a connecting pipeline to serve industrial customers in competition with Questar. The evidence showed that before any construction commenced Kern River's solicitation of customers was already affecting the market because Questar, in response, was lowering its prices to certain customers. Questar's reaction, according to the Commission complaint, was to buy a major piece of the prospective competitor that was threatening, if not already eroding, its monopoly position.

The parties proposed consenting to an order that would limit Questar's ability to exploit Kern River but would not have dealt with Questar's incentives to bid less aggressively because of its 50 percent stake in Kern River. The Commission rejected this proposed remedy and challenged the transaction in federal court, alleging that the acquisition would re-establish a monopoly over transmission of natural gas in the Salt Lake city area by giving Questar substantial control over a significant new competitor. Upon the Commission's filing of the injunction action, the parties abandoned the transaction.¹²

6.3.2 *Gas gathering*

Gas gathering is the pipeline transportation of natural gas between a well and a transmission pipeline or gas processing plant. As in transmission cases, the Commission's main concern is that gas gathering facilities will create a bottleneck in some geographic areas and producers will be forced to pay monopoly prices to have their gas moved from the wellhead. This concern increased in importance with

the deregulation of wellhead pricing because the benefits of competition could be defeated if the market for transporting gas from the wellhead is not competitive. The geographic market in these cases is defined by the need for proximity of gathering systems to the wellhead; the greater the distance, the greater the cost. A market-by-market analysis is required. Concentration can vary, but can be very high, with few choices for producers and limited potential for entry. Although new entry can be rapid, it may not occur depending on the amount of sunk costs and expected profitability given the flow volumes of producing wells in the area. The least problematic markets are likely those in which producers have some protection from price increases, either because there are several competing companies offering gathering services in the area or because they have long term contracts with gatherers. In addition, the geographic market may be expanded if the size of the reserves in the area would allow competing gatherers to expand profitably if a dominant incumbent attempted to increase prices.

In 1998, the Commission challenged the acquisition by a subsidiary of Shell Oil Company of gas gathering assets located in three States, that was owned by subsidiaries of The Coastal Corporation.¹³ The Commission alleged that the acquisition would have decreased competition in parts of two States where Shell was the largest gatherer and Coastal was a substantial competitor. In many of those areas, Shell and Coastal were the only gatherers or two of only three. The consent order settling the Commission's charges required the divestiture of 171 miles of pipeline and related assets and prohibited Shell from acquiring, within the identified markets, more than five miles of gathering pipe during any eighteen month period for ten years.

6.3.3 Processing

Concern over decreased competition in the processing of natural gas products was the focus of the Commission's NGC/Chevron case in 1996.¹⁴ In that case, NGC sought to purchase assets from a subsidiary of Chevron that included a fractionation plant in Mont Belvieu, Texas, which separates raw natural gas liquids into specification products (methane, propane, butane). The Commission alleged that producers of raw mix natural gas liquids throughout much of Texas, New Mexico, western Wyoming and western Colorado had no practical alternative to Mont Belvieu. The Commission's complaint also alleged that Mont Belvieu was a highly concentrated market into which new entry was unlikely. NGC and Chevron were direct competitors in the fractionation of raw mix natural gas liquid in Mont Belvieu. According to the FTC complaint, the transaction would have eliminated this competition and increased the likelihood that NGC would unilaterally exercise its market power and collude with other market participants.

Prior to the acquisition, NGC had ownership interests in two facilities - Mont Belvieu I and Gulf Coast Fractionators. The consent order required NGC to divest its interests in Mont Belvieu I and, with respect to the other facility, to give up its management role and refrain from participating in future decisions on pricing or capital expansion.

6.3.4 Convergence mergers

Convergence mergers involve an incumbent electricity utility purchasing natural gas facilities to become, or enhance its role as, a provider of both electricity and natural gas in a particular area. These mergers can be either vertical, involving an acquisition of either an upstream or downstream participant in the production process, or horizontal, involving the acquisition of a competitor. In either case, there can be significant cause for concern that the merger will diminish the incentives of the parties to compete and encourage them to exercise market power in ways that they might not have been able to do absent the merger.

In the first challenge of a merger between an electric and a gas pipeline utility, the DOJ in 1998 filed a complaint and proposed consent decree challenging the \$six billion combination of Enova Corporation (“Enova”) and Pacific Enterprises (“Pacific”), allowing it to proceed after the divestiture of important assets to alleviate antitrust concerns. Enova is the parent company of the third largest electricity provider in California. Pacific is a natural gas utility and is virtually the sole provider of natural gas transportation services to plants in southern California that use natural gas to produce electricity, and the sole provider of natural gas storage services in California. California is currently restructuring its electricity industry to allow greater competition and consumer choice. As of March 1998 most electricity generated in California is bought and sold through a “pool” acting as a central, computerised bidding system matching supply and demand during every half-hour period. State regulations require regulated utilities to buy and sell all their electricity through the pool during a four-year transition period. Because the price per unit of electricity for any given half hour is determined by the most expensive unit sold that half hour, with all sellers receiving that price regardless of their costs or their bids, a combined Enova-Pacific would have an incentive to limit gas supplies to competing gas-fired generators if it acquired Enova’s low-cost generating assets, which would profit substantially from increases in the price of electricity during periods of high demand. The relevant market in this case is the provision of electricity in California during high demand periods; limited transmission capacity into California prevents consumers from turning to out-of-state sources. According to the proposed consent decree, Enova will sell its two largest low-cost electricity plants in order to eliminate the incentive to raise prices charged to utility customers in California.

Recently, the Commission issued a consent order settling charges that a proposed merger would combine the dominant provider of electric power in Virginia, Dominion Resources, Inc., with the primary distributor of natural gas in southeastern Virginia, Consolidated Natural Gas Company, through its ownership of Virginia Natural Gas (“VNG”).¹⁵ The complaint also alleges that entry into the electric power generation market in southeastern Virginia by companies unaffiliated with Dominion may be deterred because of Dominion’s control over VNG. Dominion could exercise unilateral market power to raise the cost of entry and production or otherwise gain a competitive advantage that would increase the likelihood that consumers would pay higher prices for electric energy. The Commission alleged that the market for the delivery of natural gas in the geographic market is characterised by high entry barriers and that extension of other natural gas companies’ existing pipelines to south-eastern Virginia would be costly and time-consuming, and extremely difficult in light of the need for an entrant to acquire new rights of way. In addition, nearby pipelines lack sufficient excess capacity to support new electricity generators in southeastern Virginia. VNG, however, had ample excess capacity for serving prospective entrants into electricity generation. Because VNG was uniquely situated to serve new generation, which would compete with Dominion in the wholesale electricity markets, the Commission was concerned that Dominion’s acquisition of VNG would inhibit new entry into electricity generation. The order requires the divestiture of VNG to alleviate these alleged anticompetitive effects. The consent agreement also includes the issuance of an Order to Hold Separate to ensure that VNG remains a viable, independent competitor pending its divestiture.

6.3.5 *Related areas*

In a related market, the Commission challenged a merger of competing firms involved in the collection and sale of well history and production data used by geologists and petroleum engineers to find additional gas and oil reserves and produce from them efficiently.¹⁶ The consent order settling Commission charges required the acquiring firm was required to license a set of complete data to a Commission-approved buyer, which will be an independent competitor.

6.4 *Non- merger enforcement*

In 1995 the DOJ filed a complaint and proposed consent decree to prohibit El Paso Natural Gas Co. -- a major gas pipeline owner and gatherer in the San Juan Basin (ranging from New Mexico to Colorado) -- from tying the sale of meters and meter installation services to the use of the company's gas gathering system. The Division alleged that El Paso was requiring producers to purchase El Paso's meter installation service as a condition for connecting natural gas wells to the El Paso system. The consent decree ends this tying arrangement and allows producers to seek alternative contractors, potentially lowering the cost of natural gas production.¹⁷

ATTACHMENT

1. Key features of the demand for gas

The primary use of gas in the US economy is for industrial purposes, with almost half of the gas consumed in the US by industrial consumers. Residential uses account for almost a quarter of the total while commercial and electric utility uses each are about 15 percent. Electric generation is, however, the fastest growing sector of gas consumers; the amount of gas used for electric generation by electric utilities and non-utility generators is expected to triple by 2020. Many industrial consumers use alternate fuels, typically residual or distillate fuel oil, while residential consumers traditionally cannot. Fuel switching capability in the industrial sector enhances demand elasticity and disciplines gas and transportation prices.

2. Key features of the supply of gas: market structure

The market for gas as a commodity is highly competitive. There are thousands of producers, independent marketers, pipeline affiliates, local distribution companies (LDCs), and end users who compete to buy and sell gas at the wellhead as well as at market centers located across the country. Commodity sales are increasingly short-term in nature, with gas changing hands numerous times between the wellhead and the burnertip.

Natural gas wellhead production is concentrated in Texas and Louisiana and offshore in the Gulf of Mexico, the south-central states, and the Rocky Mountain States. Over 300 000 wells were producing gas in 1998. While a few large producers dominate the market, primarily the major oil companies, individual wells are owned by thousands of natural gas producers, large and small. A substantial amount of natural gas is also imported from Canada to the California, Chicago, and Northeast markets. The bulk of natural gas consumption is concentrated in the Northeast, the Southeast, California, and the Great Lakes region. Over 90 interstate open access pipelines form a nation-wide grid. With the exception of offshore and field gathering, the major oil and gas producers generally do not have significant ownership of the gas pipeline network.

The transmission market is becoming more competitive. Many consumers have choices that they did not have a decade ago. Pipeline expansion has given many consumers access to more than one pipeline and an active secondary market has provided alternatives to single-pipeline consumers as well. Under the capacity release program, a pipeline's firm customers have become its competitors by releasing and selling unneeded capacity to others.

Distribution is performed by several hundred LDCs serving all 50 states. In recent years, the retail natural gas sales market has started to become more competitive as various states have initiated individual retail unbundling programs to introduce more choice to retail consumers. As of June 1999, eleven states have active unbundling programs or are in the implementation phase, nine states and the District of Columbia have pilot programs or partial unbundling programs (with one state scheduled to begin its pilot program in November 1999), eleven states are considering action on unbundling plans, and eighteen states have taken no action.¹⁸ Consumer acceptance of these programs is mixed. In Nebraska, 97 percent of eligible residential consumers have elected to choose their own supplier, while in other states participation of eligible consumers is two percent or less.¹⁹

Retail marketers have begun to compete with LDCs to serve end users through the existing transmission/distribution network. Unlike pipelines or LDCs, marketers typically have no facilities of their

own, but contract with pipelines for transportation service. Marketers often hold a portfolio of gas supplies from a variety of sources, including direct purchases from producers. Marketers are then able to offer a bundled sale and transportation of gas to end-users. Marketers may be affiliated with pipelines or LDCs, but can be independent as well.

The major firms in the natural gas industry are privately owned. Natural gas producers, interstate pipelines and many LDCs are for-profit, private companies. However, many LDCs, especially those serving small communities, are municipal government enterprises. The natural gas industry as a whole is now in the midst of a fundamental restructuring of commercial arrangements. Many firms are merging horizontally, leaving fewer market participants in all sectors of the gas industry: production, transmission, distribution, and marketing. Following the trends towards bigger companies and towards convergence of the natural gas and electric markets, electric companies are buying gas companies as well as merging with other electric companies. There has also been significant merger activity where electric utilities merge with other electric utilities, and natural gas pipelines merge with other natural gas pipelines.

The development of a competitive market for wholesale electric power has increased demand for natural gas. Over 127 000 megawatts of new generation capacity has been proposed to be built within the next five years, most of which is expected to be fuelled by natural gas. Several electric generation firms have acquired natural gas pipelines and plan to use these assets to support their planned generation projects.

3. Key features of the regulatory regime

Federal regulation of interstate pipelines stems from the commerce clause of the United States Constitution which provides for federal, not state, regulation of interstate commerce (i.e., commerce that crosses state lines). Those aspects of the natural gas industry that operate only within state borders, such as distribution, are within each state's jurisdiction.

Production regulation occurs at the state level for non-federal properties. States typically regulate drilling operations, field production levels, and production-related gas processing. Production is not subject to price regulation. Production from Federally owned land, including the Outer Continental Shelf, is regulated by the Department of the Interior's Mineral Management Service. (See Figure 2 for a map of significant US producing regions).

Gathering (transportation from the wellhead to downstream processing) is also state regulated, although few states actively regulate gathering rates. Rates for gathering in Federal offshore waters is subject to neither Federal or state regulation, but access under Federal offshore waters must be provided on a non-discriminatory basis pursuant to the Outer Continental Shelf Lands Act.

Intrastate transmission (transportation of gas produced and consumed within a single state) is primarily subject to state-level regulation. Most intrastate transportation occurs within Texas and Louisiana. However, where intrastate transmission is a link in interstate commerce transporting natural gas that ultimately leaves the state, rates and services are subject to FERC control pursuant to regulations promulgated by the FERC to implement the Natural Gas Policy Act of 1978. (See Figure 3 for a schematic of interstate and international natural gas flows).

Interstate transportation and storage is regulated by the FERC, both in terms of rates, construction, service availability and quality. Import and export authority is controlled by the Department of Energy, while the FERC has jurisdiction over the siting and construction of border-crossing facilities.

Interstate gas sales and sales of natural gas at the wellhead are no longer regulated but are subject to the competitive forces of the marketplace. The Commission has jurisdiction over the sale for resale of natural gas in interstate commerce but chooses to exercise its jurisdiction with a light hand, imposing virtually no regulatory controls over price or service. Sales for resale are done under blanket marketer certificates. In Order No. 636, the Commission issued such blanket sales authority to everyone.

Distribution is regulated at the state level. States regulate the price of delivered gas by local distribution companies and the rates and services for unbundled local transportation. Third-party marketers serving local distribution load are generally not price regulated, but may be subject to service quality and reliability regulation. Retail marketers, those who sell unbundled natural gas directly to consumers, are regulated as to fair market practices, market entry and exit, and standards of conduct by state regulatory authorities.

4. Entry regulation

Market entry differs for the various segments of the natural gas industry. Market entry for producers is not regulated. Retail distribution is regulated by the individual states, which grant service franchises to LDCs. Thus, entry at the retail level is highly regulated by the states. Interstate transmission and storage is regulated by the Commission. The Commission does not prevent new entrants from competing with existing companies and in fact often encourages proposals that provide alternative services to customers served by another pipeline. While entry is not restricted by regulation per se, the high capital cost of constructing facilities to compete with an existing market participant affects entry.

New market entrants for interstate transmission and storage are required to obtain authorisation from the Commission in order to construct and operate facilities. Minor construction can be done under automatic or blanket certificate authorisation, if performed by existing pipeline companies. For larger scale construction, the Commission reviews each proposal, whether for a new pipeline or an addition to an existing pipeline, to ensure that the project is in the public interest. The Commission considers the environmental and rate impacts of the project and assesses the need for the project. In addition, the Commission regulates new service offerings and proposals to terminate ("abandon") service.

A new entrant can generally serve any class of customer. In bypass cases, where a new entrant proposes to serve customers of an existing interstate pipeline, the Commission does consider the impact of the bypass on the existing pipeline and its customers and balances that impact with the benefit of providing a new alternative supply to those customers.

5. Access regulation

Most interstate pipelines (including pipelines that import and export) are open access; they provide service on a non-discriminatory basis. Each pipeline develops its own terms and conditions of service based on its commercial interests but consistent with the regulatory goals of the Commission. The terms and conditions are detailed in each pipeline's tariff, which it is required to file with the Commission and open for inspection. Pipelines that provide a type of service to one customer must be willing to provide the same service to similarly situated customers, pursuant to Commission policy as stated in Order Nos. 436, 636, and 497.²⁰

Pipelines are generally not required to construct facilities in order to serve a customer. Pipelines utilise a variety of methods for allocating capacity depending on the type of capacity available. For capacity resulting from new construction, the pipelines often hold open seasons to receive bids for new capacity. If existing firm capacity is available, the pipeline can allocate that capacity to shippers on a first

come, first served basis. The pipeline can allocate any capacity not used during a given period to shippers willing to purchase interruptible service, even if the pipeline capacity is fully contracted on a firm basis. When capacity is limited (i.e., at peak times), the pipeline will provide service to firm shippers first, curtailing interruptible service if necessary. If operational constraints restrict capacity to the extent that all firm service cannot be provided, the pipeline will prorate service to firm shippers. Pipelines are required to post all available capacity on their electronic bulletin boards or Internet web sites. Uncontracted firm capacity is allocated to the highest bidder up to the maximum allowable rate.

Shippers may also release some or all of their firm transportation capacity to others under the capacity release regulations. Although these releases are re-contracted with the pipeline as a commercial party to the new contract, releasing shippers may choose the replacement shipper, subject to competitive bidding for releases longer than one month in duration. In the event competitive bids are submitted, a pre-arranged replacement shipper has the right to match the competitive bid and retain the capacity. Bidding requirements do not apply to releases of one month or less; however, such short-term releases are subject to prohibitions against continuation of the release beyond the initial term.

6. Price regulation

Pipelines set a maximum rate as well as a minimum rate for each service based on the cost of providing that service. These rates are publicly available. The cost of service includes operating costs, return on and of capital, and taxes. These costs are based on a representative past period and applied to a future period. If the pipeline provides the projected level of service, it will recover its costs, including a reasonable return. Pipelines are allowed to discount rates to select customers in order to attract or retain business. This price discrimination is constrained, however, by the Commission's policy of requiring rates and services to be offered to any similarly situated customers. Thus, transmission rates can rise and fall between the rate ceilings and floors. The ability of a pipeline to recover its costs depends on its success in the marketplace. A pipeline can recover less than or more than its cost of service depending on the total amount of service it provides. Once rates are set, pipelines have an incentive to be efficient and lower costs.

The Commission mandates that pipeline rates for firm service be determined using a two-part, straight fixed-variable (SFV) method. Under the SFV method, all the fixed costs of the service are included in a monthly reservation charge while all the variable costs are included in the commodity rate. The Commission has allowed a few pipelines to deviate from SFV rates for firm service as part of negotiated settlements between the pipeline and its customers, in customised transactions negotiated with individual shippers, and for interruptible service which is priced on a volumetric basis.

Pipeline rates can be mileage-based, zone-based, or postage stamp (one rate for the entire system). All open access interstate pipelines provide firm transportation as well as interruptible. Many pipelines provide a growing array of services including storage, no-notice transportation, and park and loan services. As the market for transmission services becomes more competitive, pipelines are creating new, specialised services to attract new customers and compete with rival providers.

In certain circumstances, the Commission allows market-based rates and negotiated rates. Market-based rates are authorized when the pipeline can show that the market is competitive. The Commission applies a classic market power analysis to assess the applicant's market concentration and market share. The Commission determines whether consumers in that market have sufficient good choices as alternatives to the proposed service. Market-based rates have been employed mainly for storage services.

The Commission also allows negotiated/recourse rates. Pipelines can negotiate individual rates with a specific customer that vary from its authorised tariff rates as long as the pipeline has a viable recourse service, at regulated cost-based rates, available to all customers as an alternative. Negotiated rates can use a rate design other than SFV and can contain other provisions such as minimum volumes.

Pipeline tariffs contain numerous terms and conditions to ensure quality of service. Pipelines also have the ability to issue operational flow orders to restrict service at times when the integrity of the system is in jeopardy. Pipelines can impose penalties when customers fail to abide by the tariff requirements.

7. Non-commercial service obligations

Service to end-use customers is regulated by the states and not on the Federal level. Each state regulates its LDCs' service to end-users in a different way. Most states give franchises to separate LDCs. Many states include "obligation to serve" requirements as part of their franchise regulation. This universal service objective requires LDCs to serve unprofitable customers to some extent. Because of the independent nature of the 50 states, the nature and implementation of the service obligation varies greatly from state to state and is undergoing change as states craft individual retail unbundling programs. With retail unbundling, some states now permit competing firms to serve those markets.

8. Separation and unbundling

The Commission requires an operational separation of function between an interstate pipeline and its marketing affiliate to prevent any preferential treatment of the affiliate by the pipeline. The Commission has established standards of conduct that pipelines must follow to separate the operations of pipelines and their affiliates through means such as prohibiting shared personnel and fair and equal treatment of non-affiliates.

9. Trade and investment issues

Natural gas is imported from and exported to Canada; smaller volumes are imported from and exported to Mexico. Canadian imports totalled 3.26 Tcf in the year ending October 31, 1999, which is nearly a five-fold increase since 1983. Canadian imports now represent close to 15 percent of the US market. Only about a quarter of those imports are sold under long-term contracts. The Department of Energy has jurisdiction over, and regulates in a light-handed manner, the import and export services, which it exercises through the use of blanket import/export authority. Imports and exports are not price-regulated, but rather are priced at prevailing competitive market rates. The FERC authorizes construction of the border facilities. A number of pipelines located across the international borders of the U.S. import and export gas.

Liquefied natural gas (LNG) is also imported, primarily from Algeria, with spot purchases from Australia and the United Arab Emirates. LNG is exported to Japan with a small amount exported to Mexico. Firms that import or export gas or LNG are allowed to be integrated into gas transmission. Firms typically are independent companies affiliated with interstate pipelines.

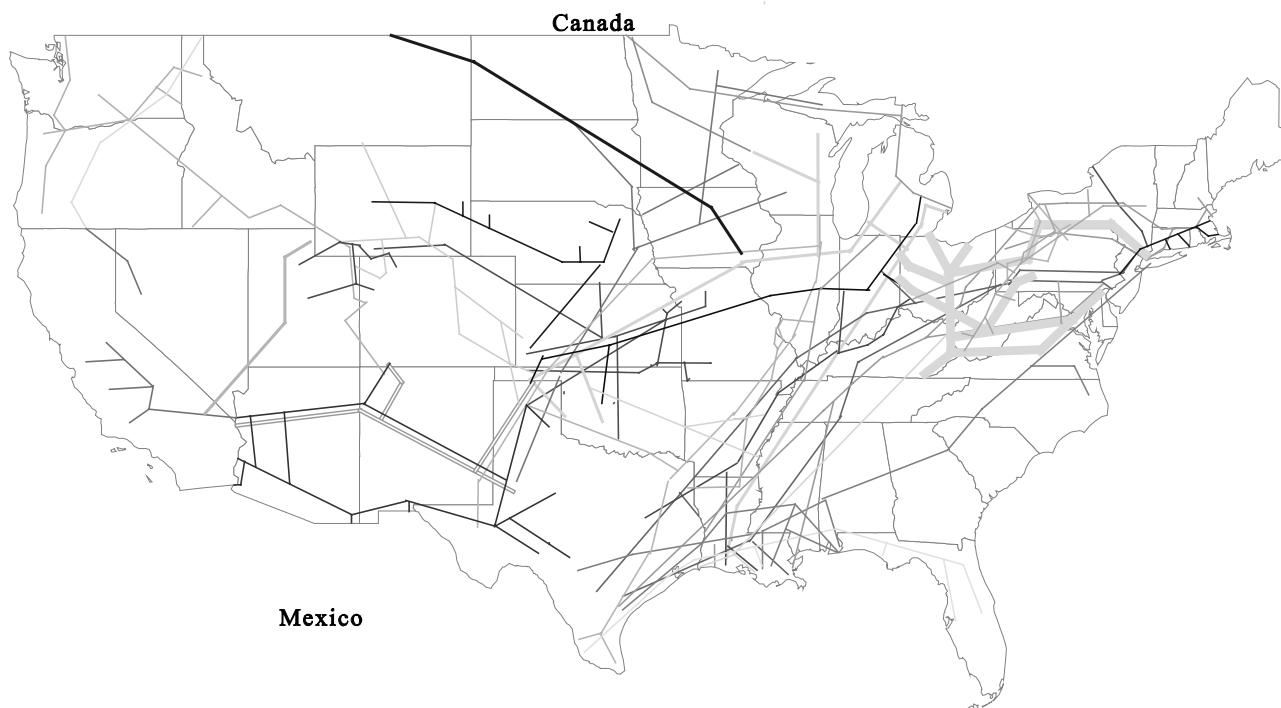
10. Miscellaneous issues

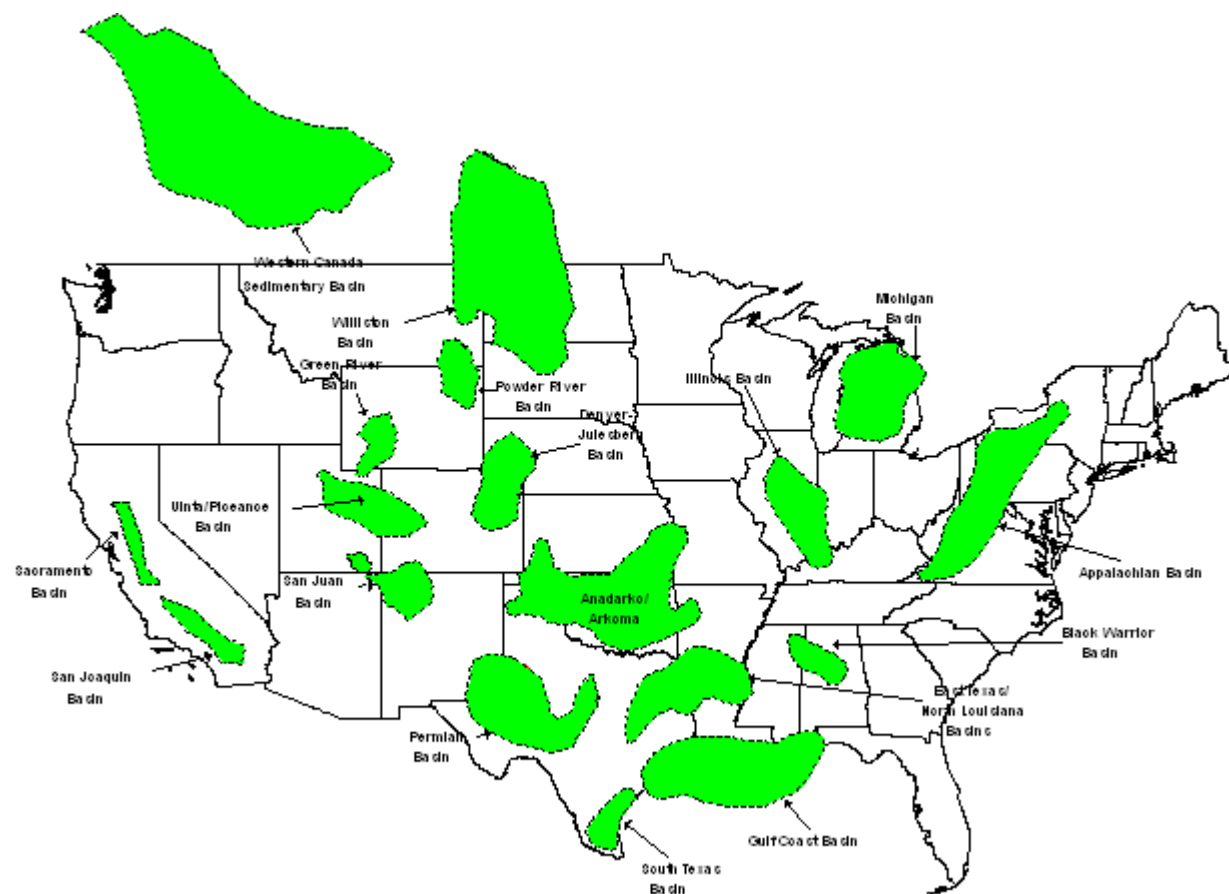
Environmental concerns play an important role in policy decisions regarding the construction of new pipeline facilities. The National Environmental Policy Act (NEPA) ensures that environmental concerns related to construction are included in the decision-making process. An environmental report is prepared for each construction project. That report assesses the impact that the project will have on the affected area, including such impacts as endangered species, agriculture, land use, water resources, and cultural resources. The report also examines any alternatives to the proposed project. The Commission examines the report and considers it along with the applicant's proposal and all comments filed with the Commission when making its decision. Once a project is authorised by the Commission, environmental concerns continue to play a role in the implementation phase. The Commission co-ordinates with the permitting requirements of other Federal agencies and state and local agencies.

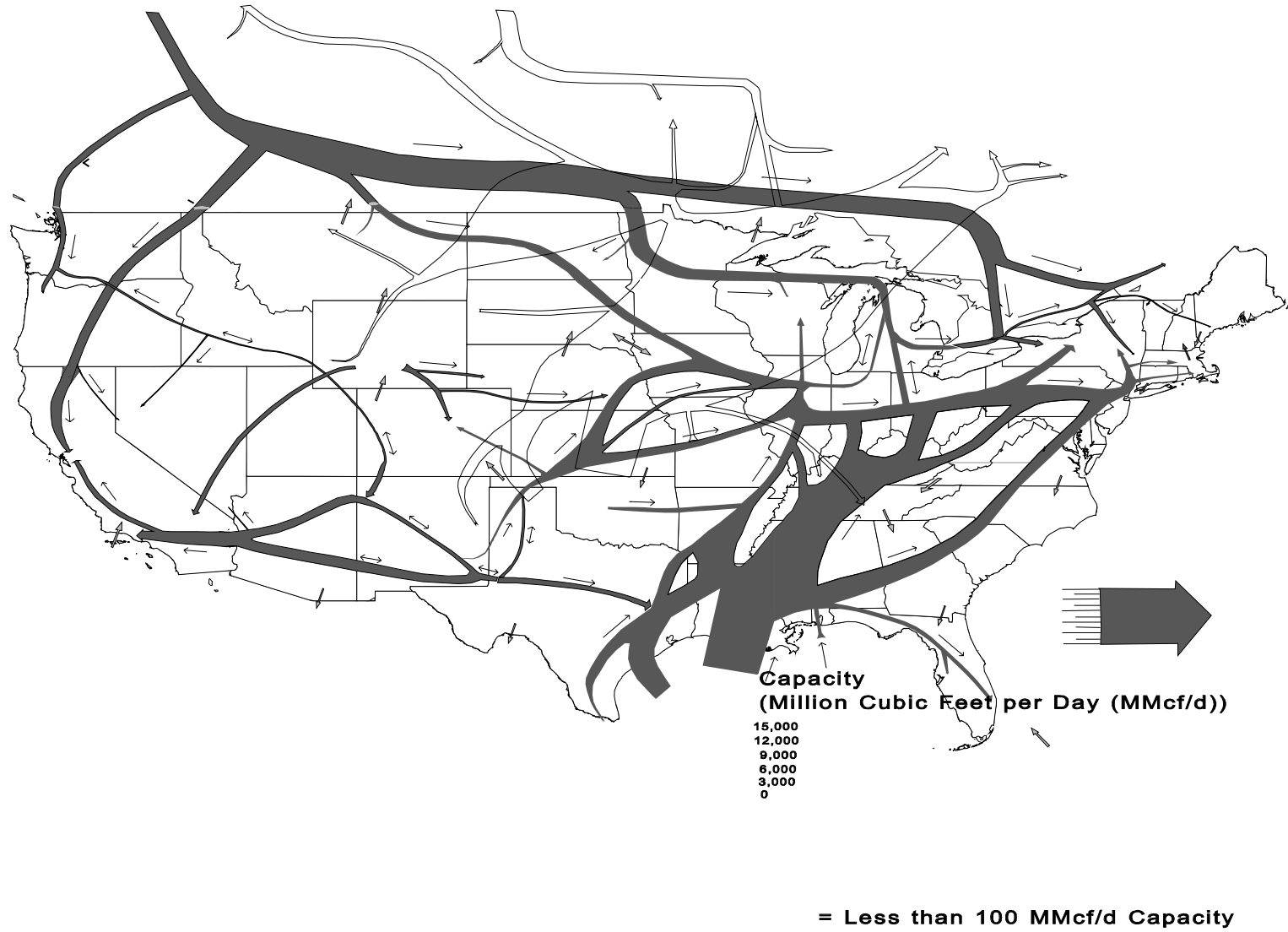
NOTES

1. The discussion of topics one, two, and three, and the Attachments, were prepared by the staff of the United States Federal Energy Regulatory Commission. The discussion of topic four was prepared jointly by the staffs of the United States Federal Trade Commission and the Antitrust Division of the United States Department of Justice.
2. A map showing only the largest interstate natural gas transmission pipelines is attached as Figure 1.
3. While the NGA empowers the United States Federal government to regulate the importation and exportation of natural gas, these authorities and responsibilities have been divided between the FERC, which remains responsible for siting of border-crossing facilities, and the Department of Energy, which is responsible for regulating the actual importation and exportation of natural gas.
4. *Phillips Petroleum Co. v. Wisconsin*, 347 US 672 (1954)(mandating Commission regulation of the gas commodity).
5. For example, Department of Energy, Energy Information Administration (EIA) data on manufacturing consumption of energy in 1991, estimated that of the 5 345 billion cubic feet of natural gas consumed by industrial customers, over 1 860 billion cubic feet was consumed by industrial customers with fuel switching capability, with the bulk of this demand able to be met through consumption of distillate and residual fuel oil and "coal, coke and breeze". For the actual EIA data see: <ftp://ftp.eia.doe.gov/pub/consumption/industry/ta54.pdf>. (This does not include natural gas consumption for electrical generation, a portion of which is also fuel switchable between distillate, residual fuel oil and coal.)
6. The United States Energy Information Agency reports that as of June 1999, 11 states allow residential customers to choose among competing natural gas commodity suppliers, while 11 additional states have begun pilot retail choice programs. (http://www.eia.doe.gov/oil_gas/natural_gas/restructure/state/us.html.) The American Gas Association identified 23 states and the District of Columbia where residential pilot programs are underway or proposed, or where broader customer choice programs are being implemented. Issue Brief 1999-05, Nov.19, 1999.
7. *California v. FPC*, 369 U.S. 482 (1962).
8. The Federal Trade Commission has taken the lead role in merger enforcement in this sector.
9. See 16 C.F.R. § 802.3 and 61 Fed. Reg. 13678 (1996). The exemption includes associated exploration and production assets and gathering facilities that are dedicated to the particular reserves being purchased.
10. US Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines (April 2, 1992).
11. *FTC v. Questar Corp.*, No.2:95CV 1137S (D. Utah 1995) (transaction abandoned).
12. See also *El Paso Energy*, FTC Docket No. C-3915, 5 Trade Reg. Rep. (CCH) ¶ 24,667 (January 6, 2000).

13. Shell Oil Co. and Tejas Energy, LLC., FTC Docket No. C-3843, 5 Trade Reg. Rep. (CCH) 24 510 (December 21, 1998).
14. NGC Corp., FTC Docket No. 3697, 5 Trade Reg. Rep. (CCH) 24 093 (December 12, 1996).
15. Dominion Resources, Inc., FTC Docket No. C-3901, 5 Trade Reg. Rep.(CCH) ¶ 24,668 (December 9, 1999).
16. SoftSearch Holdings, Inc., FTC File Docket No. C-3759, 5 Trade Reg. Rep. (CCH) ¶ 24,171 (July 28, 1997).
17. US v. El Paso Natural Gas Co., 1995-2 Trade Cas. (CCH) ¶ 71,118 (January 12, 1995).
18. United States Department of Energy/Energy Information Administration, http://www.eia.doe.gov/oil_gas/natural_gas/restructure/state/us.html (2/2/00) (New Mexico, New York, West Virginia, Georgia, Maryland, Massachusetts, New Jersey, Ohio, California, Colorado, Pennsylvania).
19. Id.
20. Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, Order No. 436, 50 FR 42408 (Oct. 18, 1985), FERC Stats. & Regs. Regulations Preambles [1982-1985] ¶ 30,665 (Oct. 9, 1985). Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations, Order No. 636, 57 FR 13267 (Apr. 16, 1992), FERC Stats. & Regs. Regulations Preambles [Jan. 1991-June 1996] ¶ 30,939 (Apr. 8, 1992). Inquiry into Alleged Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines, Order No. 497, 53 FR 22139 (June 14, 1988), FERC Stats. & Regs. Regulations Preambles [1986-1990] ¶ 30,820 (June 1, 1988).







EUROPEAN COMMISSION

1. National context and key regulation

1.1 *What are the government's primary objectives for this sector? Do these objectives include objectives which can be interpreted as going beyond conventional economic objectives to include objectives such as ensuring energy security, environmental objectives, or universal service objectives?*

The key objectives of the EU energy policy are:

- overall competitiveness;
- protection of the environment;
- security of energy supply.

The overall objectives of the Gas Directive are to enhance European competitiveness through competition while improving the efficiency of the sector and the services provided. The Gas Directive allows Member States to take into account public service obligations when such are in the general economic interest.

To what extent has the reform process in the gas industry been linked to that in other industries, especially electricity.

The liberalisation of the electricity and the gas sector were negotiated in parallel, the Directive 96/92/EC concerning the electricity sector was adopted first, the Directive 98/30/EC concerning the gas sector followed shortly afterwards. It is important to note that electricity producers using gas as a primary energy source will be among the first to benefit from gas liberalisation.

What is the title, date and main purpose of the key governing legislation or regulation in this sector?

Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas. Its main purpose is to create a common market for natural gas in the EU, in which the above mentioned principles are respected. The directive has to be implemented into national law by August 2000. It foresees a gradual opening of the market (eligible customer principle).

1.2 *Regulatory institutions*

Who are the key regulatory and policy making agencies in this sector? Briefly, what are their structure and responsibilities? What are the relationships to one another? To what extent is the

regulatory institution independent of the government? Is the regulator headed by a commission or by a single person (such as a ‘Director General’)? To what extent is the regulator independent of the incumbent firms? Of the government?

One has to distinguish between the Community level and the Member State level. As far as the EU is concerned the key regulatory and policy making agencies are the Council, the European Parliament and the Commission. Legislation is adopted by the Council and the Parliament following the proposal of the Commission. Regulatory issues are dealt with by the Commission (DG TREN) (“Madrid process”, regular meetings between the Commission and Member States and the national regulators). In addition the competition services of the Commission play an important role.

As far as the Member States of the EU are concerned, the situation is not identical in all Member States. The implementation of the EU directive is generally done by the respective national Parliaments. In order to supervise the liberalisation process, some Member States have created or will create regulatory bodies, others have allocated or will allocate the task to the competition authorities.

1.3 Key features of the demand for gas

What are the primary uses of gas in your economy? In particular, what proportion of gas consumption is used to generate electricity? For which uses can consumers substitute other fuels (such as oil, coal, electricity)? Are final gas prices effectively disciplined by inter-fuel competition? Which and what proportion of gas users are prepared to purchase interruptible gas supply?

In 1998, the primary uses of natural gas in the EU were (the data varies from Member State to Member State):

	In PJ	In %
Residential	4527.0	31.8
Commercial	1471.1	10.3
Industry	5388.3	37.8
Power Plants	2160.0	15.2
Others	705.4	4.9

Source: Eurogas

Certain industrial users and power plants can switch to other fuels, as can residential users after installation of new heating and cooking systems. Gas prices have so far generally been linked to competing fuel prices in particular oil prices in the Community. Certain industrial customers and power plants can and do buy gas on an interruptible basis.

1.4 Key features of the supply of gas: market structure

Please briefly summarise the overall market structure in the gas industry: Who are the major firms and in which segments of the industry do they operate? In particular, taking each major segment of the industry separately:

Which firms are active in the market of gas production (including the importation of gas or the regassification of LNG)? How many sources of gas are there (e.g. distinct gas fields or wells)? In countries without production sites, how many importing pipelines are there? What are the

ownership relationships between the gas sources (or importing pipelines)? Is there effective competition between gas producing firms? Are these firms vertically integrated into gas transmission and distribution? To what extent are end-user customers supplied directly by gas production firms (i.e. without passing through transmission or distribution network)? What proportion of gas is sold in this way?

The main production fields in the EU are located in the Netherlands and the UK. The main gas producers are subsidiaries of oil majors (such as BP Amoco, Exxon-Mobil, Total-Fina) and NAM which is partly owned by the Dutch State. Gas is imported through a number of pipelines from Russia, Algeria and Norway. There are also imports of LNG. The subsidiaries of the oil majors are often vertically integrated companies (e.g. BEB in Germany), which are also active in the transmission business and distribution. The Gas Directive will in future also allow direct sales of producers to eligible customers, including the right of Third Party Access.

Which firms are active in the market of transmission pipelines? Where are the key pipelines located? Is there competition between pipelines in some areas? How many gas customers are supplied directly off high-pressure transmission pipelines (i.e. without passing through a retail distribution network)? What proportion of gas is sold in this way?

The national markets are generally dominated by one or two major players, which are often linked to the oil majors (Netherlands: Gasunie; Germany: Ruhrgas) or are (former) public undertakings (France: Gaz de France, Ireland: Bord Gais, Belgium: Distrigaz; Italy: ENI; Greece: DEPA). These companies hold natural monopolies in most areas, i.e. there is no competition between pipelines, with the exception of Germany where Wingas has erected a new pipeline system, which is in part parallel to the existing systems. - Another pipeline worth mentioning is the Bacton-Zeebrugge interconnector linking the UK with the continent. This pipeline is owned by companies operating in various EU Member States. - The high-pressure transmission owners sell also directly to customers with the exception of the UK (Transco).

Which firms are active in the market for gas distribution? Is there competition between such firms, or does each firm have a regional monopoly? Are these firms integrated into transmission?

The currently existing distribution systems vary from Member State to Member State. Whilst Gaz de France has still a legal monopoly for gas distribution in France, in other countries smaller entities (regional or even local, such as the city works in Germany) exist which carry out the distribution tasks. As there are no parallel distribution networks, the distribution companies have a natural monopoly in the region where they operate. This will change when the Third Party Access regime foreseen in the gas directive becomes operational.

Which firms (if any) are active in the market for gas retailing (i.e. the sale of gas by third parties over the existing transmission/distribution network)? What services do these firms provide? Are they integrated into gas distribution or other stages of the gas industry?

It is expected that gas liberalisation will create new market opportunities for retailers as defined in the question. Currently, there are only very few companies active in the retail business (e.g. Enron).

What is the ownership of the major firms in the industry? Are they foreign owned? Are they state-owned? In those cases where an important incumbent firm is state-owned, how is that firm organised? Is its organisation, governance, incentives on management, and material discretion closer to that of a private co-operation or to that of government department? Is the legal status of its employees closer to that of a private corporation or a government department? (Please explain in either case).

As to the ownership of certain companies, in particular high-pressure transmission companies, see above. As regards local distribution companies it should be noted that they are often linked to the local administration. It should be noted, however, that the sector is currently changing quickly and it is expected that more and more publicly owned companies will be privatised. This development will be further reinforced when the gas directive is fully implemented in the respective Member States in August 2000.

In what other industries are firms in the gas sector active? For example, do gas distribution companies also provide electricity, heat, water, telecommunications or cable television services? Are gas producers also active in the market for electricity generation.

Taking into account certain exceptions such as the city works in Germany which were also active in electricity, heat, water and public transport, the vast majority of the undertakings dealt exclusively with gas in the past. In recent years, the following developments could, however, be observed:

- - increase of multiple energy companies (example RWE, which is active in the gas and electricity business);
- - increase of CHP (combined heat and power plants) often in form of JV;
- - investment of (foreign) gas producers in power plants.

1.5 Key features of the regulatory regime

This question asks about the broad structure of the regulatory regime, which is followed up by detailed questions on entry regulation, access regulation, price regulation, unbundling and so on.

In which markets is primary reliance placed upon competition to yield efficient prices and quality, and in which markets primary reliance is placed upon conventional price and quality regulation? (e.g. is there effective competition between pipelines for serving certain cities? Is there competition between gas producers in the sale of gas to pipelines, distribution companies or consumers?) Is structural separation imposed (i.e. are gas producing firms allowed to own gas transmission facilities, and so on)? Where structural separation is not imposed, does the regulatory regime require that the vertically integrated firm must allow rivals access to its facilities? More specifically:

Are competing sources of gas production permitted? Is competition allowed in gas importation or re-gassification of Liquefied Natural Gas? Are these firms allowed to be integrated into gas transmission? Where integration is allowed, is there a requirement on dominant transmission pipeline operators to interconnect with and carry the gas of rival gas producers? Are gas producers required to grant third party access to their gathering and production facilities?

Where the primary source of gas is an importing line, can other gas producers have access to that pipeline? Could your country force the pipeline to accept gas producers in another country to grant access?

All gas transmission companies are interested to diversify their gas supplies and not to rely on one gas producer only or producers from one country only. This aim can be achieved easily in central Europe (France, Germany, Netherlands, Belgium) where supplies from various sources meet (Norway, Russia, Algeria, UK, the Netherlands, Germany, Denmark). The situation is less obvious in countries like Greece,

Spain and Portugal, which mainly depend on imports from one country only, e.g. Russia or Algeria. Here, diversification takes place through erection of re-gassification plants.

Vertical integration between producers and pipeline owners is currently not prohibited in the EU, and it is also not foreseen under the EU Gas Directive, which has to be implemented by August 2000. The EU opted however for the introduction of a Third Party Access regime and unbundling in order to favour a more competitive structure of the market. Third Party Access also applies to offshore (up-stream) pipelines.

Is competition between transmission pipelines permitted? Is a firm allowed to construct a pipeline for direct supply of a large customer? Are transmission firms allowed to be integrated into gas distribution? Where integration is allowed, is there a requirement on gas distribution firms to interconnect with and distribute gas for rival transmission pipelines?

With the exception of certain Member States (e.g. France) competition between pipelines was not prohibited as was the construction of (dedicated) pipelines or the vertical integration of gas transmission and distribution companies. The gas directive now obliges those Member States in which legal monopolies existed to open up their markets for competition and to allow the construction of pipelines. An exception is only foreseen for the “development of newly supplied areas”. Also Third Party Access to pipelines is one of the key features of the EU gas directive.

Is competition in gas storage permitted? What are the arrangements for access of third party storage companies to the transmission and distribution system?

Competition in gas storage is permitted. The gas directive which is to be implemented until August 2000 in principle also foresees Third Party Access to storage when this is technically necessary for an efficient access to the system.

Is competition in the gas “retailing” function (i.e. contracting on behalf of small customers for gas transportation and distribution) permitted? Are gas distribution firms allowed to be integrated into the market for gas “retailing”? When integration is allowed, is there a requirement on gas distribution firms to contract with rival retailers?

Competition in retailing is permitted, but currently there are only very few retailers. The eligibility of traders (“wholesale customers”) is left to subsidiarity under the Gas Directive. However, most Member States seem to allow these.

1.6 Entry regulation

The previous question has asked in which stages of production entry is permitted. Are there any specific licensing conditions that should be mentioned?

Which classes of customers are new entrants or competing firms permitted to serve? Is there an intention to expand the class of customers for which competition is permitted over time.

The stage of production is not directly covered by the Gas Directive (apart from the unbundling rules). Gas production is covered by the Hydrocarbons licensing Directive (the Upstream Directive). New entrants are in principle allowed to serve the eligible customers.

1.7 Access regulation

The previous question asked whether there is an access requirement in each of the stages of production. In each case where an access requirement applies: Is the obligation to interconnect with a rival pipeline or gas producer determined in the legislation or by decision of the regulator.? Where there is an obligation to interconnect, how are the terms and conditions for the transportation of gas determined? Are they determined by the regulator or by private negotiation? Which principles govern the establishment of access prices? Do access prices vary according to peak and off-peak periods?

The EU has opted for the Third Party Access Regime. When implementing the Directive, Member States are free to opt for negotiated or regulated Third Party Access. Prices are not regulated by the EU, but possibly by national regulators. Community competition law prohibits excessive pricing (i.e. above cost plus a reasonable return on investment or above comparable transmission fees in other Member States).

The capacity of certain facilities, such as pipelines, is limited. Not all access requests will necessarily be able to be satisfied. How is capacity allocated at peak times? Is it through a system of auctioning capacity, or a system of peak- load pricing of access? Does the regulator have tools for verifying claims of a lack of capacity?

The Gas Directive does not foresee a specific allocation method for situations of scarce capacity (congestion). Therefore a number of different methods are currently discussed and applied for the allocation of “firm capacity rights” in cases of congestion. These include auction, lottery, first come first serve, beauty contest, pro rata allocation. All methods have specific advantages and disadvantages. From a competition law point of view it is important to underline that the allocation method chosen must not favour dominant undertakings.

Is there a requirement to make public the terms and conditions at which access has been (or will be) granted?

The gas directive foresees that companies, which are located in Member States opting for a negotiated access regime, must publish their main commercial conditions for the use of the system on an annual basis. Member States opting for regulated TPA shall do this on the basis of published tariffs.

1.8 Price regulation

The previous question asked in which markets primarily reliance is placed on price regulation to control market power. This could be the market for gas delivered to endusers in the case of integrated monopoly approach, or the separate markets for gas transmission and gas distribution in the case where end-users are able to contract directly with a gas producer. In each of those markets where prices are controlled, and for each distinct class of customers: What are the underlying principles of price regulation? I.e., are gas prices regulated so as to be competitive with respect to other fuels, or with respect to underlying costs? Does the regulated firm have flexibility to adjust individual prices within the context of the overall control established by the regulator (such as in the case where the regulation applies to a “basket” of prices)? Does the regulator use “yardstick” regulation (i.e. compare prices to an aggregate of costs of similar firms)?

The extent to which the regulated firm can vary its prices according to underlying costs is a factor in determining the incentive for cost efficiency on the regulated firm and (in those industries where customers do not have a direct choice over their gas supplier) its incentives to purchase from the least-cost supplier upstream. What costs is the regulated firm allowed to pass on to its customers? What proportion of those costs can it pass on? Does the price regulation provide incentives for efficiency on the regulated firm and incentives for it to purchase from the lowest-cost supplier? What is the resulting structure of prices? Do the prices have a “two-part” structure? If so, what principles govern the size of the fixed and variable parts? Are different prices charged for different end-uses (such as heating vs cooking)? Demand for gas at peak times can be substantially higher than at off-peak times. How does the structure of the regulated prices distinguish between peak and off-peak times? How do the regulated vary according to the distance the gas is transported? How do the regulated prices distinguish between “firm” and interruptible” supply? What mechanisms ensure that the quality of services is maintained? Are there constraints on the ability of incumbent forms to price discriminate, especially in those markets in which competition is being introduced? Are there floors on prices? What principles does the regulator follow to value the assets of the regulated firms? Are regulated firms required to publish their tariffs?

The EU Gas Directive does not contain any detailed provisions on price regulation. Member States are free to choose an appropriate pricing setting mechanism. The Commission is currently in the process of analysing the cost structures applied in the sector.

From a competition law point of view it is important to underline that the companies holding a dominant position must not charge excessive prices. Whether prices are excessive is assessed on the basis of the cost-price analysis or the comparative market analysis.

It is also worth mentioning the EU Price Transparency Directives for gas and electricity, which provide some transparency in prices (prices for industrial customers are published twice a year by Eurostat).

1.9 Non-commercial service obligations

Are there any obligations on some or more firms to provide service to certain customers below cost (including for example, a requirement to distribute gas in unprofitable areas or a restriction on the ability to withdraw from serving unprofitable customers)? Is the cost of these obligations made explicit? If so, what methodology is used for calculating the costs? Do other firms have the opportunity to compete to provide these services? If another firm sought to provide these services, could it claim compensation for doing so? How are funds collected to pay for these non-commercial obligations? Through internal cross-subsidisation, or through a system of explicit subsidies? If the latter, who contributes to the subsidy fund? Are competing firms expected to contribute? On what basis?

The EU Gas Directive does not oblige companies to carry out certain public service obligations, but allows Member States - when implementing the directive - to introduce or maintain services of general interest under the condition that this does not effect interstate trade contrary to the Community interest. Community competition rules apply to companies providing services of general interest insofar as the application does not obstruct the performance of such services.

1.10 Separation and unbundling

In many industries, and especially in gas, forms of separation are imposed in an attempt to prevent internal cross-subsidisation from regulated to competitive activities and to improve the effectiveness of access regulation. Are there regulatory controls requiring ownership separation (supported by line-of-business constraints)?

In many cases forms of separation short of full ownership separation are required. Are there requirements for “unbundling”, “operational” separation, accounting separation, or requirements to operate in certain markets through arms-length subsidiaries? How do these requirements operate? In what markets? For what purpose?

The EU Gas Directive requires as a minimum, unbundling of internal accounts for production, distribution, transmission, supply, purchase and storage activities as if these were carried out by separate entities. Transmission, storage and LNG undertakings are not allowed to discriminate in favour of its related undertakings. Similarly, these companies are required to guarantee that the confidentiality of commercially sensitive information obtained in the course of carrying out its business is not abused.

1.11 Trade and investments

What is the nature of international trade of gas (if any)? Are there any restrictions on such trade? Is there an important import monopoly, or an important export monopoly? Are there controls on foreign ownership of foreign investment?

Import and export monopolies that still exist (e.g. in France) will have to be abandoned when the Directive is implemented as it would infringe the Third Party Access regime.

1.12 Miscellaneous issues

In the transition to competition have concerns been expressed about stranded costs or stranded contracts (such as long term take-or-pay contracts that were signed under a previous regulatory regime)? How have these concerns been addressed?

Compensation for stranded costs are not excluded under the Community legal order, however they may be considered to be state aid and therefore have to be approved by the European Commission before the state aid can be granted.

The Gas Directive provides, under exceptional circumstances, for safeguard mechanisms in terms of the possibility of refusing access to pipelines to prevent serious economic and financial problems in relation to take-or-pay obligations. Any such derogation, however, has to be duly substantiated, notified to the Commission for final decision and least restrictive with regard to competition.

1.13 How have environmental objectives influenced policy decisions over the regulatory regime? Does gas receive the same tax treatment as other fuels? Why or why not?

The protection of the environment is one of the key objectives of EU energy policy. However, there are currently no Community wide energy taxes, it is for the Member States to decide on the taxation of gas sales. However state aid rules apply.

1.1.4 *What proportion is tied up with long-term contractual commitments, such as take-or-pay contracts? How is this expected to change over the next 5-10 years? Are there mechanisms for releasing some of the gas tied up in such contracts for use by competitors? Is there a tendency towards short-term contracts? What proportion of gas is traded on the spot or futures market? How has this proportion changed over time?*

Long-term take-or-pay obligations exist in the Community. This is why temporary derogations from the EU gas directive - in particular as regards the Third-Party-Access regime - are possible for companies encountering serious economic and financial difficulties. The Commission will monitor the situation closely, but expects that the issue will disappear in a few years time.

2. Key competition issues

2.1 *Application and enforcement of competition law*

Does the national competition law apply to this sector without exemption or exception? Describe the exemptions or exceptions that apply?

The EU and the national competition laws apply in parallel. In case of conflict, the Community rules prevail. Under the Community legal order there are no sector specific exceptions for the energy sector in general or the gas sector in specific.

Who is responsible for enforcing the various components of the competition law in this sector? What role does the regulator play in enforcing the competition law, or competition rules?

The EU competition law is applied by the European Commission (DG Competition), European and national courts and in some Member states also by national competition authorities. It has also to be respected by national regulators.

In addition, national authorities can and will apply national competition law, in particular if the case has no effect on trade between various EU Member States, which is one of the conditions for the application of EU competition law.

2.2 *Market definition issues*

Have the competition authority or the courts had the opportunity to define relevant markets in competition cases arising in this sector? How have gas markets been defined? Was gas distinguished from other fuel sources? What other market definition issues have arisen?

The relevant product markets were already defined in a number of antitrust decisions. Gas is seen as a product market, which is separate from those for other fuels or energy in general. The various types of gas (high and low calorific gas) are seen as one product.

A further distinction as far as the product market is concerned has been made between the various steps exploration and development, production and sale, processing, offshore transmission, imports, on-shore transmissions, regional and local distribution, storage. The geographic markets were large (world-wide or EEA plus Russia and Algeria) as far as the upstream market (exploration and production) were concerned. They were at most national as far as the downstream markets are concerned.

2.3 Abuse of dominance

Have instances of alleged abuse of dominance arisen in this sector? Have there arisen cases of predatory pricing, or raising rivals costs? Have the current regulatory requirements designed to control abuse of a dominant position been effective?

The Commission is in the process of investigating cases of an alleged abuse of a dominant position. However no formal decisions have been taken yet.

2.4 Other competition enforcement issues

Have instances of mergers or anti-competitive arrangements between arisen in this sector? What analysis was carried out in approving or opposing these mergers or arrangements? What remedies were imposed.

There were a number of mergers in the sector, all were approved until now, however some only after undertakings were offered, namely the divestiture of certain assets or companies as the merger would otherwise have lead to the creation or reinforcement of a dominant position of the merged undertaking. Similarly, it is analysed whether mergers or other JV/arrangements lead to a restriction of competition, e.g. via spill over effects, in which case they were and will be prohibited. Summaries of the some important merger cases are attached. Other important merger cases were the merger of Exxon/Mobil and the Distrigaz case.

Summaries of Recent Merger Decisions

Neste/IVO (case M.931)

Neste Yhtymä Oy (Neste) notified its acquisition of sole control of Imatran Voima Oy (IVO). Neste is active in the oil, energy (natural gas) and chemical business. IVO's main business activities consist of power and heat generation, power trading and electricity distribution. The Finnish State controls both companies.

The product market affected were the markets for natural gas and electricity. Agreeing with the parties, the Commission found that the geographic market followed the location of gas pipelines in Finland.

The Commission found that IVO and Neste had vertical relations in the field of electricity generation that presented competition problems. Neste, through its subsidiary Gasum Oy (Gasum), is the only importer, supplier and seller of natural gas for electricity generation. Gasum controlled by Neste has already prior to the concentration a de facto monopoly on sales of natural gas in Finland. IVO is active in the market for the generation, wholesale and distribution of electricity. The operation as notified would have threatened to create or strengthen Neste-IVO's dominant position on the market for wholesale sales of electricity in Finland. Following the merger, the Commission concluded that Neste-IVO would have been in a position to control, or at least exert significant influence over, both electricity and gas prices in Finland due to its strong position in both the electricity and natural gas market.

To address these concerns Neste-IVO undertook to give up its control of Gasum and to reduce its shares to a non-controlling minority interest. The shares will be sold to Finnish and European entities independent of Neste-IVO, with a possibility for the State to acquire a maximum of 24 percent. Through these undertakings, Neste-IVO's position in Gasum will change from one of sole control over the company to one of minority owner.

BP Amoco/ARCO (case M.1532)

The take-over by BP Amoco of Atlantic Richfield would have created dominant positions on the market for the transport of unprocessed natural gas to the UK mainland through off-shore pipelines from fields in the Southern North Sea ('SNS') sector of the UK Continental Shelf and also on the market for processing natural gas in processing facilities on the UK mainland servicing the SNS area. In order to eliminate the competitive concerns, BP Amoco undertook to divest certain pipeline and processing interests which had the effect that the merged entity's position remains similar to that of BP Amoco's beforehand.

SLOVAK REPUBLIC

Countries in Europe are introducing reforms to boost efficiency and attract new private investment in their natural gas industries. The trend has been to unbundle along vertical lines and to open wholesale gas markets to new entrants. These new entrants stimulate competition and the development of new markets - in gas supply, in financial gas contracts, and in pipeline capacity.

The transformation of the Slovak economy from a centrally planned to a market economy is associated with the need for a newly defined role for the state natural gas industry. The reason for that results from some significant specific features of this sector constraining or eliminating some of the positive features of the market economy.

The Slovak Government's traditional control of the gas company and intervention in its operations and investment decisions often led to distorted prices, inefficient operation and deteriorating infrastructure. Reforms aim at limiting the government's role in the gas industry's day-to-day operations and establishing an effective regulatory framework under which market forces would balance demand and supply in segments of industry where competition is feasible, with only those segments where competition is not feasible remaining subject to economic regulation.

1. Structure of gas industry

The Slovak gas market is dominated by the Slovak Gas Industry ("SPP") which had until 1998 a statutory monopoly on transportation and distribution of gas. SPP is a state-owned holding company, responsible for the purchase and sale of natural gas, transit through Slovak territory, and wholesale and retail distribution of gas. The company owns the high-pressure pipeline system as well as local distribution networks.

Natural gas supply is more than 95 percent dependent on imports from Russia. Domestic production covers approximately five percent of consumption. Natural gas reserves and production in the territory of the former Soviet Union are important to Slovakia for several reasons (geographic, existing pipelines, transit to Western Europe, commercial viewpoint, etc.). Because of its reserves, Russia in the future will remain the most important partner for Slovakia.

The Slovak transit pipeline is a part of the international gas pipeline network. The main route of the transit pipeline has four lines, including branch-offs to the Czech Republic and Austria, with a total length of 1983 km. The fifth line is under construction of which 235 km are completed, therefore the length of the transit network is 2218 km.

The Slovak transmission system for international gas transit is linked to main European transmission system and provides reliable services to major European gas companies such as Gazeexport, Verbundnetz Gas, Wintershall, Transgas and via Gazeexport also Ruhrgas, OMV, Gaz de France and SNAM. Up to the year 2000, the capacity of the gas transit pipeline is expected to gradually reach

90 billion m³. Of course, there are plans to not only expand capacity of the main transmit pipeline but also to diversify suppliers.

2. Underground gas storing

The main responsibility for gas storage for SPP is held by the company called NAFTA GBELY, a.s.

The principal directions of NAFTA current business activities are:

- - hydrocarbon production and trading;
- - underground gas storing.

These activities are related to the further activities such as geological survey and exploration, drilling, mechanical engineering and manufacturing, construction activities etc.

In 1998 there was stored gas for business partner in volume of 1 701.2 million m³ in the storing complex called “LAB”. Storing and withdrawing of gas has been operated with respect to partners’ requirements.

The success in underground gas storing in the Slovak Republic is based on a favourable locality close to the transit pipeline crossroads in the east-north-south direction. The main transit pipeline is used to transport gas from the Russian producer to the customers in Western and Southern Europe. Moreover, an annual transport amounts to 85 million m³ and distance between producer and supplier is increasing thanks to new deposits in Siberia and Far North.

Such a volume of transported gas brings a great potential for a significant increase in storing capacity in this locality. NAFTA has already elaborated the program for strategic development of the storage capacity, which should raise from 2.8 billion m³ per year to 4.8 billion m³. Inevitable conditions for an increase in gas storing business activity are high flexibility and high quality of daily peak rates. So when all development projects for underground gas storage are completed, storing capacity will exceed 4.8 billion m³. All storage facilities are located from 2-15 km from the main European pipeline.

3. Regulation and competition

3.1 Price regulation

In the Slovak Republic, the Ministry of Finance has been authorized to regulate the pricing policy, tariffs and related conditions for the individual energy forms, to evaluate and provide Government guarantees for investment and reconstruction of key energy sources. This Ministry rules on what constitutes economically justifiable costs and determines what are reasonable profits.

Currently the most serious problem faced by the Slovak gas sector is distorted prices due to non-transparent and “social” regulation adopted by the previous Government.

In the recent time SPP was using its substantial transit fee revenues to subsidize selling gas at less than its import price. Residential users were and still are enjoying the greatest degree of subsidization and are paying gas prices below those charged to industrial consumers. So, in the case of natural gas SPP cross-

subsidized tariffs for large consumers and tariffs for households although the Antimonopoly Office since 1993 has called for greater unity, clarity and transparency in the regulatory process, as well as for an independent regulator.

3.2 *Technical regulation*

There is much more acceptable situation in this part of regulation. The substantive regulation of the natural gas sector is undertaken by the Ministry of Economy. Ministry, under the Energy law, will:

- issue licenses;
- propose prices, tariff, cost, trading terms and conditions modifications according to regulation rules;
- guiding the activities of licensees to keep the energy network functional and safe;
- approving the construction of the plant in compliance with state energy policy.

On the basis of Energy act, which entered into force on July 1998, the gas market is gradually being liberalized. It introduces authorization for new energy sources on a non-discriminatory basis. The act authorizes the Ministry of Economy to issue a decision, which will concern market opening. The market will start to be opened after gas prices have adjusted.

It is necessary to stress that present Government has already approved the program for gradual increase in gas so that prices for different groups of consumers gradually reach a level that covers the basic costs of obtaining and conveying energy plus a reasonable profit.

4. *Future task*

- Achieving realistic prices for all groups of consumers.
- The key task in the entire energy sector is the establishment of a new independent regulatory authority for energy. The independent regulatory authority will assume the Ministry of Economy's competence to award licenses and the Ministry of Finance's competence in regulating prices.

The Government of the Slovak Republic has already declared the intention to speed up this process in order to promote competition in energy sector.

ENRON EUROPE LIMITED

1. Introduction

1.1 Enron Europe Limited

Enron Europe Limited is a subsidiary of Houston, Texas-based Enron Corp. Enron Corp. is one of the world's largest integrated energy companies, with approximately US \$34 billion in assets. Enron is the largest operator of gas transmission systems in the Western Hemisphere and is the second largest operator in the world, with transmission facilities totalling over 60 000 km. Enron operates gas transmission systems and/or power generation facilities in North America, Europe, Asia and South America. In North America, Enron is the leading provider of energy price risk management services, and is the largest seller of gas and power in the wholesale market.

Our London office is headquarters for Enron Europe limited, and the base for our growing participation in liberalising European energy markets. In the UK, we operate a 24-hour trading floor, buying and selling gas and electricity in the over-the-counter market. We are the second largest trader in the UK spot gas market, and we are the largest trader in the International Petroleum Exchange's UK gas futures contract. In the Nordic power market, we are the sole market maker for all products offered in the NordPool. We were the first foreign company to be awarded a power marketing license to participate in Spain's Power Pool, and have already completed physical and financial transactions in that market. Through this trading activity we are able to provide integrated energy solutions based on physical expertise, risk management and financial services. In this capacity, we have developed, part own and operate the 1 875 MW Teesside Power Station, the world's largest CCGT CHP power plant. We also own a 790 MW power station at Sutton Bridge in Lincolnshire, England. We maintain offices in Brussels, Bucharest, Frankfurt, Helsinki, Madrid, Milan, Moscow, Oslo and Stockholm in addition to our European headquarters base in London. Since entering the European market, we have built a business employing approximately 1 600 people Europe-wide, and we expect to increase that number significantly given the our view of the prospects for continued liberalisation of the European gas and electricity markets.

We operate in a number of energy markets throughout Europe that demonstrate varying degrees of liberalisation. As such, we have seen first-hand some of the benefits that are typically realised by consumers in the wake of liberalisation, namely increasingly competitive gas and electricity prices, improved energy price risk management and improved customer service offerings.

Enron is also a leading participant in the Australian energy market and looks forward to participating in the emerging and newly liberalised energy markets in Asia.

1.2 *Overview of submission*

First, we wish to thank the Committee on Competition Law and Policy for providing Enron with an opportunity to comment formally on natural gas deregulation. Given our presence throughout Europe as the leading new entrant in the newly liberalised energy markets, it gives us great pleasure to provide the staff of the Committee on Competition Law and Policy at the OECD with our views.

Our submission will cover the three elements necessary to introduce effective competition identified in the Background Note – Promoting Competition in the Natural Gas Industry: (1) mandated, non-discriminatory third party access versus negotiated third party access, (2) the provision and pricing of access to gas services beyond transmission, and (3) separation, or unbundling. In addition, we emphasise the following: (1) the role of wholesalers, (2) the need for the establishment of a separate regulatory body, (3) the need for OECD member countries to open their markets completely, and quickly, rather than partially, and slowly, and (4) the role of non-commercial, or public service obligations.

1.2.1 *Comments on the background note*

Enron welcomes the publication of the Background Note. We are generally supportive of the themes and ideas covered by the Background Note. Specifically, we are delighted that the Background Note identifies the importance of mandating non-discriminatory third-party access. Regarding customer eligibility, we support making all customers eligible, particularly for the purpose of preventing or reducing the risk of discrimination and cross-subsidy. We agree that non-commercial, or public service obligations (PSOs) should not be seen as incompatible with a non-discriminatory access regime. For example, we note that the European Commission has already said that the use of PSOs to prevent access would only be acceptable in defined, limited circumstances.

Mandatory, non-discriminatory Access, or Regulated Third Party Access

The Background Note endorses the need for mandated, non-discriminatory access. In the EC Gas Directive, two forms of access to the gas pipeline system – regulated and negotiated – are allowed. In Enron's view, the only appropriate model is that of a system of regulated third party access (RTPA) to the transmission and distribution lines. The experience in liberalised gas markets is that RTPA promotes greater competition and efficiencies than negotiated third party access (NTPA). Also, such markets demonstrate that even where a choice is made for NTPA, the regulatory burden that this implies inevitably results in moves to an RTPA system. For a more in-depth commentary on the liberalisation of other gas markets, and the inevitable move from NTPA to RTPA, please see Appendices I and II.

Further to the experience in other gas markets, one can look also to the German electricity market's experience with NTPA for confirmation that such an access regime which is not mandated and non-discriminatory does not lead to the requisite level of transparency and non-discrimination necessary to facilitate competition. The lack of transparency of access terms and conditions within the German electricity market has resulted in the execution of contracts by third party suppliers taking several months to negotiate with transmission network operators. As a result, the development of competition in the German transmission and distribution regime has been hindered. Since the implementation of a negotiated access regime for electricity, the German government has been faced with a number of complaints concerning problems associated with securing access to transmission and distribution lines. These complaints, of which Enron was involved in one (see Appendix III), were referred to the Federal Cartel Authority for resolution. The need for regulatory intervention has since resulted in the re-evaluation of the original third party access framework and work towards a new framework, which provides for greater

transparency in access terms. The recently announced revision of the *verbände-vereinbarung* ("Associations Agreement") is a clear move towards RTPA.

In addition to the experience to date with NTPA in the German electricity market, the current state of play within the Dutch gas market demonstrates that restricting RTPA under certain circumstances can also inhibit the development of a liquid, and therefore, competitive market. Under the present liberalisation regime for natural gas in the Netherlands, third-party access to transmission lines is restricted to supply contracts with a minimum term of five years. Transmission contracts with a term less than five years in duration are penalised, thus inhibiting the development of a short-term supply market, i.e., a spot commodity market. It is Enron's view that anything other than mandated, non-discriminatory third party access will be detrimental to the establishment of a competitive and efficient gas market. Freedom to execute short-term supply contracts is an essential feature of a liberalised gas market.

The Provision and Pricing of Access to Gas Services Beyond Transmission

The Background Note discusses the role that storage should play in a liberalised market and suggests that storage facilities and services can be made available on a competitive basis. The evidence and experience to date support this view. Experience in other liberalised markets also demonstrates that once third party suppliers are allowed, then they must be able to balance their own portfolio (and indeed they are often required to do so by the network operator). If suppliers must balance their portfolio, the efficient way of operating the system is to provide independent access to storage. If this is not the case, as happened in the UK, the incumbent supplier will pick up the costs of balancing the whole system. In addition, it is important to ensure that if suppliers are meant to balance their own portfolio, that access to "swing" is available on reasonable terms.

It is often argued that access to storage facilities should be restricted to protect against the interruption of supply. While this is a legitimate concern, this does not support the removal of independent access to storage. Rather, mechanisms should be put in place that would allow a party (presumably the network operator) to put gas into storage if it felt that third parties were not booking sufficient storage.

Interestingly, with competitive access to networks and price transparency, "synthetic" storage services, such as Enron's *EnBank* in the UK, can provide alternative solutions to traditional physical storage. Through *EnBank* Enron utilises the flex in its gas portfolio to provide customers with swing capacity. This is a clear example of how access to gas services, not just gas transmission services, are necessary if gas markets are to evolve into competitive markets.

1.3 Separation or unbundling

The Background Note correctly emphasises a third feature of any liberalised market - the effective separation of monopoly services from potentially competitive services (also known as unbundling). The EC Gas Directive only requires accounting unbundling, as opposed to the additional managerial unbundling required by the EC Electricity Directive. In Enron's view, accounting unbundling alone will not give confidence to third parties that access will be offered in a non-discriminatory way. An additional point made by the Background Note is the call for separation of ownership. While Enron respects this view, we must acknowledge that we are, in fact, an owner of both supply and gas network businesses. What is important is that the appropriate controls and penalties are put in place to regulate such activities. Both US gas regulation and the EC Directive on Gas require that information passed to a network operator by a third party must not be passed to any marketing affiliate. However, what is not addressed by the EC Directive, but is covered through US gas regulation, are provisions for stringent

penalties to ensure that network operators do not share information with their marketing affiliates and vice-versa.

The question of what is considered to be appropriate unbundling raises its head in any review of liberalised gas markets. The message from such analysis is clear. The more unbundled a company (with accounting unbundling being the weakest form of unbundling), the better the prospects for competition. In addition, if a transmission company is properly unbundled, experience suggests that it will have a direct incentive to develop the kind of access regime necessary for competition. That is, transporters with no marketing interests tend to develop simple, transparent, non-discriminatory tariffs since this reduces the regulatory burden on all parties.

Role of Wholesalers

Enron welcomes the consideration given to the role of licensed independent suppliers in the context of a deregulated or liberalised gas market. The establishment of a specific role for new gas suppliers is very important, as greater participation in the market will contribute to the diversification of gas supplies in addition to creating more liquidity in the marketplace. Enron's experience to date in liberalising electricity markets is that the introduction of multiple suppliers to electricity markets benefits consumers in the long run. Numerous participants in a market equals greater choice in supply and can also result in more competitive prices. Only one year after the implementation of the Electricity Directive, industrial consumers in Germany and the Netherlands are realising competitive electricity prices that reflect in some cases, price decreases of around 30 – 40 percent.

1.4 Development of an appropriate regulatory framework

The Background Note discusses the possibility of having a sector specific regulator. Enron welcomes the thrust of this discussion. Experience to date has shown us that many countries opt for sector-specific regulators in the case of gas and electricity regulation. In most instances it is probably right to consider a gas regulator, who would work closely with government, competition authorities and, where existing, electricity regulators. However, we would note that, at such time as there is full competition in the gas and electricity sectors, we are of the view that it becomes necessary to merge the two energy regulators into a single body given the inherent similarities and interaction between the two sectors.

1.5 Providing benefits for non-eligible customers

The Background Note correctly points out that all customers, captive and free, should feel the undoubted benefits of a liberalised market. Of course, Enron believes that competition is the best way to deliver benefits to most customers. We note that gas prices to residential customers in the UK have fallen by 50 percent since the start of competition in the gas market. It seems to us that more competitive, market-oriented prices are the best way to benefit all customers. Thus, we would encourage OECD member countries to open their markets completely, and quickly, rather than partially, and slowly. Competition will always deliver more market-driven prices than regulation.

The Role of Non-Commercial, or Public Service, Obligations

The liberalisation of gas markets does not jeopardise the preservation of non-commercial, or public service obligations. In the EU Gas Directive for example, these are security of supply, supply regularity, quality and price of supplies and the protection of the environment. Such PSOs, assuming the

Commission finds them to be reasonable, can either be funded via transportation charges, or by obligations on all providers of gas supplies.

Further, experience tells us that liberalised markets create efficiencies that are driven by greater liquidity of the market and by transparent prices and more effective price signals. Thus, by creating an environment that permits the entry of new suppliers to the gas market and by ensuring that all market players meet certain minimum standards, then non-commercial or public service obligations should be capable of being carried out across the customer base.

1.5.1 Conclusion

In closing, we would like to express our appreciation for having had the opportunity to comment on the Background Note. As noted previously, Enron is on the whole supportive of the themes and ideas that are discussed within the Background Note. Consequently, we look forward to reviewing the final version of the Background Note that will be published as a result of this consultation period in the coming weeks. For additional details on any of the points made in this submission, please contact, Fiona Grant, Director, Government and Regulatory Affairs, on (+44) 207-783-5308.

APPENDIX 1

FROM BUNDLED TO UNBUNDLED, FROM NTPA TO RTPA – THE UK EXPERIENCE

Introduction

In 1986, the UK Government privatised the monopoly gas company, British Gas. At that time, British Gas was the sole supplier of gas in the UK as well as owning all the gas pipes and storage facilities. It also had a purchase monopoly on all gas produced from the North Sea. In principle, access to the gas transmission and distribution system had been allowed since 1982. This right of access was strengthened in the 1986 Gas Act, which also created a sector-specific regulator (Ofgas) to regulate the market alongside the already-existing Monopolies and Mergers Commission (MMC) and Office of Fair Trading (OFT). At that stage, no details existed on transmission terms or prices.

The 1998 MMC Report

In 1988, the monopoly of British Gas was investigated by the MMC. The MMC found evidence of extensive discrimination in the pricing of gas, attributable to the existence of a monopoly situation; lack of transparency in pricing; failure to provide adequate information on the costs of common carriage and the ability to use information obtained when negotiating common carriage terms to identify potential customers of competing suppliers.

The MMC recommended that British Gas should publish a schedule of prices, and not discriminate in pricing, and it should publish further information on common carriage terms. However, no agreements for third party access were completed.

The 1991 OFT Review

The OFT, in reviewing the outcome of the 1988 MMC report, found that British Gas could cross-subsidise and act in a predatory manner, due in part to its ownership of the storage and transportation system. The review concluded that British Gas should establish a separate subsidiary to operate the gas transmission and storage system "on a non-discriminatory basis at arm's length from the rest of British Gas". In particular, British Gas agreed to establish a separate gas transportation and storage unit that would have separate accounts; develop a transparent pricing system for transportation to apply "equally and even-handedly" that would be subject to regulation by Ofgas; treat information received from the rest of British Gas on the same basis as information from other companies, and to provide transportation quotes, on a non-discriminatory basis in five to ten working days. In 1991, the non-British Gas supply deal was completed.

The 1993 MMC Report

In this report, the MMC concluded that, despite the undertakings given above, British Gas' operation of its trading and its transportation and storage business as an integrated business inhibited choice, restricted innovation and lead to higher level of gas prices than necessary.

The MMC recommended that British Gas should establish its transportation and storage business, and its trading business, as separate units, with separate accounts. This separation was to include separate management structures and terms of employment, physical separation, internal contracts, prohibition on the use of information supplied to the transportation business being used to the advantage of the trading business.

The details of the separation were ratified by Ofgas in 1995. Further criteria were added such as a code of conduct for staff and a ban on staff moving between the transportation and supply business without a break between the two. Competitive supply grew slowly but steadily.

The MMC also made recommendations on transportation access. It recommended separate regulation of transportation charges, subject to approval by Ofgas; a general non-discrimination condition upon the transportation and storage business; the creation of a network code that all shippers (including British Gas) would have to sign, and prevent a ban on the transportation and storage business from buying or selling gas (except for system balancing and own use purposes).

Demerger of British Gas

In 1996, British Gas announced that it was separating into two publicly quoted companies - BG, containing the transportation and storage functions and Centrica, containing British Gas. Separation was therefore complete. From 1986, when British Gas was privatised, it had taken ten years to achieve full unbundling. Competition was completely introduced by the end of 1998.

Summary

The UK experience shows how a regime that was originally set up with a bundled supply, transportation and storage company, with negotiated TPA moved, over time, to a fully unbundled, regulated TPA regime.

APPENDIX II

INTRODUCING OPEN ACCESS – THE US EXPERIENCE ORDERS 436 & 636

Introduction

The natural gas market in the US today enjoys most, if not all, of the attributes of a commodity market. This was not always the case; in fact the process leading to this result was long, costly, arduous and contentious. It required numerous acts of Congress, the adoption of thousands of pages of new rules and regulations by federal agencies, years of administrative adjudication, court review and extensive multi-party negotiation and private litigation, not to mention a re-education of the marketplace. A player in the natural gas or other energy markets today is well advised to study the history of the natural gas market. Not only does this history provide a template for the evolution of related fields, such as electricity and local distribution of gas, but it also establishes the bases for some of the rules and practices that still exist in the natural gas industry, which otherwise might be misunderstood or overlooked, to the economic detriment of market participants.

Until the mid-1980's, interstate pipelines throughout the US moved natural gas through their systems on a "bundled" basis. On those pipelines, which moved gas across state borders, transportation was not readily available as a separate, stand-alone service to most parties. In a bundled sale, interstate transportation of gas was tied to sales of the gas, as the pipeline typically purchased the gas from the producer at some point in the production area (the wellhead, plant outlet or receipt point on a gathering system), moved the gas to market, and resold the gas to the local distribution company or industrial end user at the city gate or plant. All this was done under the auspices of the Natural Gas Act ("NGA").

Order 436, introducing open access

By the early 1980's, due to a series of regulatory initiatives dealing with take-or-pay and other supply-related issues, special marketing programs evolved that enabled certain gas consumers, typically those with fuel-switching ability, to purchase gas outside the traditional pipeline-merchant relationship. The price of pipeline-supplied gas had become so high by the early 1980's that these customers had to find cheaper supplies or switch to lower-cost fuels in order to remain competitive. A federal appellate court threw out these special marketing programs on the grounds that they were unduly discriminatory in nature. This action led to the Federal Energy Regulatory Commission's ("FERC") adoption of its first "open access" rulemaking, Order No. 436. Under this order, interstate pipelines were encouraged, but not required, to obtain blanket transportation certificates, which would authorise transportation for third parties without the need for individual certificate filings, provided the pipeline would agree to offer transportation

services on a non-discriminatory basis.² Local distribution companies and end-users could now purchase their own gas supplies in the producing basins and use this new transportation service to ship their gas to their markets and facilities. As more and more gas was sold and transported as third-party gas on the interstate pipelines, the pipelines found that their take-or-pay obligations under their contracts with the producers were mounting, and they sought ways to mitigate these rising liabilities. The pipelines formed affiliated marketing companies, which took assignment of portions of the pipelines' gas supplies and resold it to the pipelines' former markets. Pipelines could obtain some credit against take-or-pay provisions if their affiliates could move the gas. Unfortunately, the pipelines had left some captive customers who now were being served with the pipelines' system supply, which was largely comprised of packages of very high-priced gas.

After some experience under Order No. 436, it became obvious that the order did not reach far enough. Transportation services offered by the pipelines were limited to interruptible, rather than firm, service. This was due largely to the fact that the capacity of each interstate pipeline was already dedicated to meeting the needs of the pipelines' firm sales customers, the local distribution companies, who were quite frequently the very same customers who were now purchasing their own self-help supplies. The pipelines argued that they could not offer the would-be shippers firm capacity because the pipelines still had a legal obligation to stand ready to provide firm sales service to their historic sales customers and had to retain that firm capacity in order to satisfy that obligation. The market could make only so much progress using interruptible capacity. Other sellers could compete in markets, which did not need firm capacity, such as fuel-switchable loads, but they were unable to compete with the pipeline merchants for the loads that required firm capacity, such as peak winter residential usage. Litigation at the FERC ensued over the need for pipelines to provide access to third party shippers that was comparable to the access the pipeline merchant itself had.

Order 636, developing open access

In 1992, the FERC issued Order No. 636. This order went beyond all precedent, and required pipelines to "unbundle" their sales from their transportation services, thus offering third parties equal access to the transportation grid. Pipelines could no longer sell gas to their customers at the citygate. To the extent the pipeline remained a merchant, it would have to sell the gas in the production area, although it could make those sales at market rather than regulated rates. The firm sales capacity that had been reserved for the pipelines' firm sales customers was converted contractually to firm transportation rights and given back to each of those historic sales customers, in a form that would allow those customers to "re-bundle" their purchases and transport so as to achieve the same level of flexibility and reliability the pipelines had as gas suppliers in the past. This gave each of those customers the ability to shop for supplies anywhere on the pipeline system and to ship that gas to their market on a firm basis under a new firm transportation contract. The FERC mandated that the pipelines offer flexible receipt and delivery points under these transportation contracts, allowing the shippers the ability to find the supplies they need from month to month at different points on the pipeline system and to aggregate supplies, much as the interstate pipelines had done in the past to service their markets.

Order No. 636 also created a capacity release program and with it a new secondary market in pipeline capacity. Shippers holding firm capacity may release, or resell, that capacity to the highest bidder, on terms set by the firm shipper. The capacity may be released for any length of time up to the remainder of the term of the underlying firm transportation agreement, and it can be released on a firm basis, on a

2. Under Order No. 436, intrastate pipelines were also subject to the "open-access" requirement that they provide service on a non-discriminatory manner, provided they offered transportation service under section 311 of the Natural Gas Policy Act only.

totally recallable (interruptible) basis, or on any other basis in between. This capacity competes directly with the pipeline's own sale of interruptible capacity and thus has introduced an element of competition into the transportation sector, which had hitherto operated as a monopoly under the pipeline's total control.

Order No. 636 required pipelines to install and offer electronic bulletin board systems (EBBs), through which postings offering released capacity are made and bids for such capacity are presented. This system allows the capacity to be traded by the market at large and prevents, in large measure, preferential sales of released capacity. The EBBs were designed to serve another function as well. As far back as the mid 1980's, independent marketers complained to the FERC that marketing companies affiliated with the interstate pipelines shared personnel and competitively sensitive information with the pipeline, thus maintaining an unfair advantage in the marketplace. In order to ensure that a pipeline marketing company, whether affiliated with the pipeline or part of the pipeline itself, did not use information gained through its operations as a pipeline monopoly to bolster its ability to sell gas as a marketer, FERC required that the pipelines post certain information on the EBBs. General transportation information communicated by the pipeline to its marketing affiliate must be simultaneously posted on the EBB to be accessible by all interested parties. General information regarding transportation and capacity on the system and point-specific information on capacity availability is also posted.

Order No. 636 specifically sanctioned the development of market centres and trading hubs. Market centres are points where several pipelines meet. They allow the creation of a market where purchasers from different market areas served by different pipelines can compete for supplies and suppliers from different production areas can compete for markets. A regulation was adopted which precluded pipeline tariffs from containing any sort of provision that would inhibit the development of market centres. The Commission also encouraged the development of pooling areas to enable merchants to aggregate supplies at a single point to redelivery into the marketplace. This can simplify the effort needed to have gas transported to a single end-user or even multiple end users by eliminating the need to nominate gas from multiple receipt points to a single delivery point.

APPENDIX III

“PROBLEMS WITH THE GERMAN GRID CODE”

EXTRACT FROM THE BRATTLE GROUP STUDY: TRANSMISSION ACCESS IN GERMANY COMPARED TO OTHER TRANSMISSION MARKETS (DECEMBER 1998)

When considered in conjunction with the VV and the recently passed Energy Act (“EnWG”), the draft German Grid Code or Verbundregeln (“VR”) fails to ensure non-discriminatory access to transmission. The problems include inadequate separation of vertically integrated businesses, the absence of measures that would ensure transparency, and the ability of network operators to share commercially sensitive information. The VR also fails to outline any rules for assigning priority of service among transactions in the event of transmission constraints. The VR’s rules for scheduling short-term transactions are unduly burdensome, and the VR leaves incumbents scope to discriminate against entrants in the supply of ancillary services, in the treatment of energy imbalances, and in the scheduling of imports. Finally, the VR’s reference to the compensation of network operators based on actual power flows appears in tension with the VV’s charging methodology, which ignores actual flows.

Unbundling

Unbundling of generation, transmission, distribution and marketing is indispensable for ensuring non-discriminatory access. However, sections 4 (4) and 9 (2) of the recently passed Energy Act (“EnWG”) only require that the transmission network be operated as a separate department and that each department maintain separate accounts. Nor are supplementary provisions for vertical separation provided in the VV or the draft VR. The degree of separation among departments remains unclear. Questions remain as to whether separate departments can share management staff, facilities, or information.

As long as independent network operation cannot be ensured, there remains a real danger that incumbent utilities will manipulate the capacity of the transmission network to favour their integrated generating activities. The possibility of such manipulation is not even addressed in the VR (Part I, 2.2.3).

Lack of Transparency

The VR does not require the publication of information on transmission charges, transactions, or network conditions that would be necessary to ensure transparency. The mandatory use of a publicly accessible electronic bulletin board should be considered, where available transmission capacity and related transmission charges would be posted on a real-time basis. The open access same time information system” in the United States is an example of such a bulletin board.□Timely disclosure is required to assure all potential network users equal access to information.

The VR also fails to require incumbent utilities to maintain information in their files, so that potential complaints by third parties can receive objective and effective responses.

Excessive Sharing of Information among Network Operators

The VR requires network users to disclose detailed transactional data and, at the same time, allows an almost unrestricted exchange of information among network operators (Part I, 2.2.2, No. 5 and Part II, 5.2 VR.). Much of the relevant data, including the name and location of customers, of electricity producers, and of any intermediaries, is unnecessary for scheduling transactions or transmitting electricity. While the VR prohibits the misuse of such data (Part I, 7.4 and Part II, 5.4), it does not stipulate any specific measures such as “Chinese Walls” that would ensure adequate security. The same holds true for the EnWG (with some exception to municipal utilities granted single buyer status) and the VV.

Inadequate Rules for Establishing the Priority of Access

Network capacity limits the number of transmission transactions that can be handled at any moment. Some requests for transmission must be denied if demand exceeds the projected capacity of the network. Transactions must also be curtailed if network congestion develops unexpectedly after schedules have been established. Rules are required to determine whether and how the network operator may refuse to schedule or curtail competing transactions, and what charges may be imposed to recover congestion costs.

Surprisingly, the VR does not allow the parties to an energy supply contract to determine the priority of their transaction in the event of congestion. In the US, for example, parties can contract for firm or non-firm/interruptible services, thereby establishing curtailment priorities. Interruptible service at reduced prices, based on the low marginal costs for such service, would promote the efficient use of the network. However, the VR does not contemplate a discounted interruptible transmission service.

Furthermore, the inevitable discretion of a network operator in declaring and handling network congestion allows it to discriminate in favour of its own or affiliated transactions. Network operators may reserve certain amounts of capacity to safeguard against shortages, denying the capacity to third parties. The reservation of capacity should only be permissible if the network operator itself agrees to incur appropriate charges for the transaction. Even when capacity is reserved in advance, it could be made available to third parties on an interruptible basis. However, the VR does not specifically address this issue. According to the VR, the priority of transmission requests, for scheduling purposes, will depend on the chronological order of filing (Part I, 2.2.2, No. 5 VR). However, it is not clear whether this scheduling procedure applies to the network operator’s own transactions, or whether the network operator has implicit priority over third-party requests.

The VR calls for network operators to first curtail those transactions that contribute to congestion and that deviate the most from their approved schedule (Part I, 2.2.3, No. 2 VR). However, the VR does not define curtailment rules for cases where congestion arises even though all transactions comply with their schedules. In such cases, it would be more sensible to curtail proportionally all transactions that contribute to the congestion problem. If both firm and non-firm services are allowed in the future, all non-firm services should be interrupted, before firm services are curtailed on a pro rata basis.

Discrimination against Short-Term Transactions

Non-discriminatory treatment of short-term transmission service is necessary for the development of a liquid spot market and effective competition. Operating rules should accommodate transactions as short as one hour. Under the VR, a request to schedule transmission service for up to one week does not have to be confirmed by the network operator until 16:00 on the day that service commences (Part I, 2.2.2, No. 10 VR). If the network operator does not schedule the service, it will be very difficult, if not

impossible, to schedule a replacement transaction in the remaining time. It would be more appropriate (as well as more consistent with the treatment of long-term transactions) if the scheduling of short-term transactions had to be confirmed no later than 16:00 on the day the service request is submitted. Timely disclosure of network information on an “electronic bulletin board,” discussed above, is also important for facilitating short-term transactions. Without these provisions, short-term transactions among parties other than the vertically integrated network operators would be difficult to schedule and complete.

The VR also states that a transmission request will only be approved if it can be satisfied during each quarter of each hour of the day in question (Part I, 2.2.2, No. 13 VR.). If a transmission request cannot be satisfied during even a single 15-minute interval of a particular day, the request will be denied for the entire day. This provision could be a significant barrier to any spot transactions planned for less than a full day.

Potential Discrimination Involving Ancillary Services

The VR does not address self-dealing with respect to the supply of generation-related system support services (see Part I, Section 3 VR). Absent rules to the contrary, network operators could cross-subsidise their generation affiliates by imposing inflated charges for ancillary services. To promote transparency, the network operator’s ancillary service contracts should be made public.

Under the VR, all power plants with a capacity over 100 MW must be able to provide a full range of system support services (Part I, 3.2.2, *Primärregelung* No. 2 and 3.2.3, No. 3 VR). It is unclear whether a network operator could force customers to purchase system support services from its affiliated companies. If so, the network operator would have the ability to impose unreasonable charges.

Potential Discrimination Involving Ancillary Services

To facilitate effective competition and the entry of new market participants, energy imbalances should be handled liberally. Tolerances should be generous, with imbalance limits based solely on the need to maintain system reliability. Otherwise incumbents could discriminate against new entrants by imposing excessively strict tolerances leading practically every energy imbalance to incur significant penalties. Unfortunately, the VR provides no guidance on tolerances or pricing of energy imbalances. The VR simply states that compliance with transaction schedules is “determined by the network operator on a case-by-case basis” (Part I, 2.2.4, No. 4 VR). Predetermined and objective criteria are required to prevent the discriminatory application of this provision by network operators.

Potential Discrimination against Imports

The VR stipulates different time periods for scheduling cross-border transmissions (1 h) and domestic transmissions (0:15 h) (Part II, 2.3.1 VR). The difference may place imported electricity at greater risk of energy imbalances, which can result in discrimination if energy imbalance tolerances are strict.

Tension with the VV

The VR refers to load flow calculations in determining which network operators are entitled to recover transmission charges (Part I, 2.2.2, No. 3). In contrast, the VV methodology does not depend on actual load flows. Consistency requires that the VR be interpreted to govern solely the allocation of the VV’s transmission charges among network operators affected by the power flows of a transaction. Indeed, the VR vaguely refers to network operators’ obligation to pass on a portion of transmission revenues to

interconnected network operators (Part I, 2.2.1, No. 9). However, the VR should be clarified to ensure that it does not suggest charges in addition to, or inconsistent with, the VV.

AIDE MEMOIRE OF THE DISCUSSION

Introduction

The Chairman introduced the discussion by noting the similarities between the electricity and gas industries. In both the electricity and gas industries production/generation can be organized in a competitive way; transmission is competitive in some countries; and distribution is generally a monopoly. The striking difference between these industries is that in the gas industry, the physical location of production is not determined by humans. The Chairman asked whether the fact that gas fields cannot be moved is a factor, which is important for introducing competition in the sector.

The first part of the roundtable was organised according to the different approaches to introducing competition. The roundtable examined first those countries, which have both competition in production and in gas pipelines. It then moved to those countries, which only have competition in production, and finally those countries, which have just recently introduced reform, including most of the European countries. The second part of the roundtable dealt with regulatory institutions, looking at some interesting examples of different regulatory structures. The final part of the roundtable discussed the competition cases, which have arisen in the gas industry.

1. Introducing competition in the natural gas industry

1.1 Competition in gas production and gas pipelines: the US and Austria

Initiating the discussion of those countries, which have competition in both gas pipelines and gas production, the Chairman introduced the case of the US. From the US submission it was clear that there is a significant amount of competition between gas pipelines in the US. Most of the large cities in the US are served by three or more competing pipelines. This is, in part, a result of the fact that the US has a huge number of domestic gas fields and a relatively dense network of pipelines. On the other hand, in the US the regulation of local gas distribution networks is a responsibility of the states and, so far, only a relatively small number of states have liberalised gas distribution. The Chairman invited the US to assess the level of competition in the different parts of the gas market and to discuss the bidding system for allocating pipeline capacity.

The US delegate, from the Federal Energy Regulatory Commission ("FERC") noted that in the United States there are approximately 90 significant open access interstate pipeline companies. Many of these pipelines compete against each other to serve a significant portion of their load in large cities. However, each one of these pipelines also serves markets, which have no direct physical alternative to receive service. Under the US regime, each "firm capacity holder" has a contract for service with a pipeline and has the right under FERC regulation to release that capacity in competition with the pipeline. In essence, the US program has created competitors throughout the pipeline system from each one of the pipelines' existing firm customers. On many pipelines this represents 10, 20, even 50 significant competitors. On some pipelines, however, they may be only one, two or three large firm capacity holders. Markets and trading in those markets has proven to be largely competitive, but not without flaws. In January 2000, FERC issued an order which, by March 2000, will result in removing the price-cap which previously controlled the upper bound of the price of released capacity. In doing so, the Commission

recognized that, in the commodity marketplace, gas is trading at competitive prices under competitive conditions throughout the US. So far FERC has observed few, if any, impediments to trading in key market areas. What is observed is active trading and re-trading of the commodity delivered in the market, especially at so-called market hubs.

Regarding the bidding process. When trading in released capacity was first allowed in 1993, a set of conditions were imposed that required that capacity releases of one month or longer in duration were to be subject to an Internet bidding process. A price cap was also imposed, which was removed in February 2000. The bidding process is essentially a mechanism for determining the price of gas during non-constrained periods. In practice, this bidding process only applies to less than one quarter of the transactions that take place. Most of the transactions in the capacity release market take place unilaterally between a releasing capacity holder and a replacement shipper (who is often a gas marketer who is selling gas at some point on the pipeline system). There is one more significant condition, which should be noted. In setting the contractual right of a firm shipper, the US regulatory regime allows what is called a “flexible secondary release and delivery point”. That allows the definition of the service one firm shipper receives to be redesigned to reflect the demands in the marketplace and to allow competition between firm shippers at every point on the pipeline systems. This is a key conditions for allowing competition in areas where the pipeline is the only service provider. However, it does raise a significant potential for hampering competition, whenever any party in the marketplace exercises market power to block the use of those delivery points.

Regarding the potential for inter-pipeline competition, several cities are supplied by several pipelines. In particular, the cities in and around the Chicago area enjoy many alternative pipelines. The cities in the New York City area, also, have as many as six pipelines bringing in production from Canada, the Gulf Coast and the mid-continent of United States. Many of the cities between the key production areas and those two large metropolitan areas have the potential for competition even, when they don't receive service from more than one pipeline, because of the relative collocation of the long line pipeline systems. There are many smaller cities that are served by municipal distribution organizations. Most of these cities are connected to only one pipeline and typically only receive service from one supplier.

Regarding how the structure of the industry developed, each segment of the industry in the United States has a different history. The production segment started out as essentially an afterthought. Natural gas production was not the original intention of the producers of the gas. They were seeking oil. In the earlier years of the industry, the early 1900s, natural gas was flared as waste product, as an impediment to the production of oil. At the same time the distribution of gas was a franchise monopoly in several of the large metropolitan cities in United States. Baltimore was the first city to have manufactured natural gas. New York, Boston and Chicago also had some manufactured gas distributors. The economics of long line high-pressure steel developed in the late 1920s and created in opportunity for manufactured gas distributors to seek cheaper fuel to put into their systems. That lead to the creation of separate corporate entities that were affiliated to or owned by for-profit monopoly distribution companies. They were created in the 1920s. This process eventually lead to the creation of the federal regulatory agency that was the precursor to the FERC.

The Chairman noted that the other country which indicated it had competition between pipelines was Austria. The Austrian submission states there are two competing gas transmission companies and there is competition between these two companies is such that the Austrian authorities do not need to regulate the prices of gas. Gas prices are not to determined by the Austrian authorities, except in exceptional cases in which market forces are not sufficient.

The Austrian delegate, from the Energy Department of the Austrian Ministry of Economic Affairs, acknowledged there are two Austrian companies involved in the exploitation of the Austrian gas

reserves: OMV, with a market share of 60 percent and RAG, with 40 percent. Nearly 20 percent of Austrian gas consumption is produced domestically. The rest is imported, mainly from Russia. In Austria, licenses are required for the construction, operation and dismantling of gas facilities, but anyone who fulfills the license conditions (based on technical, and environmental and rights-of-way obligations) can build a pipeline in Austria. The main Austrian pipelines are built and run by OMV, but other companies can also build pipelines in Austria where they have met the conditions. Prices are determined by competition in the marketplace. If competition is not sufficient the Austrian authorities can determine the prices temporarily. Such controls have been used, but only for short time.

1.2 Competition in gas production: Australia and the UK

The Chairman introduced Australia noting that the regulatory regime in Australia is very impressive. Australia's regime includes all the elements that have been found in other roundtables to be important: structural separation, access regulation and competition. In Australia gas pipelines are not allowed to be involved in gas production and gas retailing, and there is an elaborate regulatory regime for governing the price of access. However, despite the fact that there are a large number of domestic gas fields in Australia, a network of joint ventures between gas producers reduces the final degree of competition. The Chairman asked Australia to address how vertical separation was introduced. Was there any opposition to adopting a separated structure?

Regarding the industry structure in Australia, the history of the gas industry has been a story of a single gas producer (either alone or in a joint venture) supplying gas down a single pipeline to a single market. Historically, there was no vertical integration across the different levels, but monopolies at each level. When the Australian competition reforms were launched (not only in gas, but also in other network industries) the perspective was adopted that there was a need to actively create competition in markets and not just set up a regulatory framework to allow competition. So vertical separation has been an important element of the competition reforms. In the privatization of formerly government-owned gas pipelines, for example, limits were placed on the ability of incumbents to vertically-integrate into that segment. Australia has also undertaken horizontal separation, especially in the electricity industry, although this has proved difficult in gas, particularly due to considerable private involvement in gas production. That has led to some problems in the upstream production markets where there has not been adequate competition. The expected next stage in the development of competition is facilities-based competition with new pipelines built to interconnect the existing network and allow competition among pipelines in serving regional markets.

The regulatory framework was developed to act as a backstop so that a competition develops in the markets, the regulatory functions steps back. It was, in part for this reason that Australia made the choice to establish the competition authority as the regulator. This avoids establishing a separate regulatory institution, which may have an interest in continuing a function which, it is hoped, will diminish over time.

The structure of the industry is, in part, a product of history. Before Australia's competition law was adopted, the producers in the gas field were allowed to establish long-term production and marketing joint ventures. The ACCC has challenged these arrangements in court. The tribunal took the view that although these joint ventures should not be renewed when their initial long-term arrangements run out, they should not be overturned at the present time because they formed part of the framework of contracts that was essential in the establishment of the gas industry in Australia. These decisions maintain the existing joint venture marketing arrangements even though they are clearly anti-competitive.

The Chairman turned to the UK, noting that the UK has a large domestic supply of gas and has chosen to separate the industry vertically.

The UK delegate identified himself as from the Office Of Gas And Electricity Markets (“Ofgem”), responsible for regulating both the gas and the electricity markets in Great Britain. These two regulatory roles were brought together in 1999 and reflects the growing convergence of those two markets. Ofgem and its Director General are independent of the UK government (although the Director General is appointed by the UK government). Ofgem’s principal duty under the UK legislation (the Gas Act 1996) is to introduce and secure effective competition in gas markets. Ofgem is only responsible for regulating the “downstream” gas market in Great Britain – i.e. from the point where the gas enters the on-shore transportation systems. Ofgem is not responsible for the offshore production. This is a responsibility off the UK government through the Department of Trade and Industry.

There are a large number of offshore producers in the UK. That has historically always been the case. The UK government licenses companies to explore and produce gas principally out of the North Sea and the Irish Sea. There has never been a monopoly in that activity since gas was first discovered offshore. On-shore there are three main types of companies involved in the gas market. Transporters, who maintain pipeline networks; shippers, who contract with the transporters to ship gas over pipelines, and who contract with producers to obtain gas from offshore; and finally suppliers, who contract with shippers to obtain gas and have contracts direct with end-customers to supply gas.

Since 1997, British Gas, which was the monopoly operator in the transportation, shipping and supply markets, has been separated into two independently owned companies. One company owns the transportation and storage assets, BG Transco and the other company, BG trading is responsible for shipping and trading activities. The gas production assets of the company, which were not that large in proportion to the total UK gas production industry, were divided between the two companies at the time of separation. Separation came about because British Gas, as it was then known, was behaving badly in its pricing to large industrial and commercial gas users. There was an investigation by the UK competition authorities, principally the Monopolies and Mergers Commission, which has the power to recommend structural remedies. The MMC recommended the separation of shipping and supply from transportation and storage. The separation was given legal effect by the Gas Act 1995.

Currently, the UK has a system of non-discriminatory regulated access to transportation systems. Ofgem sets a price control, which allows Transco to recover the costs of allowing shippers to use its system to ship gas. This is an RPI-X price control for which X is reset every five years. There is also some competition in meter reading, connections and storage in the UK. There are over 100 gas shippers operating in Great Britain. There are about 60 gas suppliers in the commercial gas supply market and about 27 in the domestic gas supply market. (Domestic consumers are those which consume less than 60 000 kWh per year). In the industrial and commercial gas supply market no company now supplies more than 20 percent of customers, not even British Gas, which started with the monopoly. Competition is developing very well in that market. In the domestic gas supply market all customers have been able to choose their gas supplier since 1998. So far about five million of 20 million customers have chosen to move away from British Gas. That switching is continuing at the rate of about 30 000 customers per week. Customers are able to obtain a reduction in price of about 20 percent compared to British Gas’s prices. That is partly as a result of some of the high-cost gas supply contracts that British Gas has with producers. The National Audit office, which assesses the effectiveness of public spending in the UK, has calculated that so far domestic gas supply competition has saved the UK economy over one billion pounds.

The Chairman noted that two other countries have introduced competition between gas producers without introducing separation - Canada and New Zealand. New Zealand has a very liberal regime in gas, with no, or very minimal, legislation which relates to the gas industry. There are no restrictions on entry, nor any price regulation. New Zealand has chosen, as in other public utility industries, to rely on competition law to ensure access. However, there has been no attempt at structural separation and the

industry remains vertically integrated. There are also no independent sources of gas. As a result, the New Zealand gas industry is not very competitive. The industry continues to be highly integrated and continues to be highly dominated by one company. The example of New Zealand shows that promoting competition is something different from liberalisation. The industry is highly open, there is no distorting regulation, but at the same time there is little competition.

1.3 General discussion

Opening the general discussion, Mexico asked if there have been any cases of refusal to deal or abuse of dominance in access. An unidentified country asked whether competition in storage was possible. The Chairman also asked countries to address the question whether universal service posed particular problems for liberalisation.

The UK noted that, regarding denial of access, because of the vertical separation in the UK there is no financial incentive for the pipeline operator to refuse access. The only grounds upon which they could deny access is if they had concerns about the credit-worthiness of the shipper. There is no financial incentive to deny access and as a result they have been no cases of denial of access. On the universal service point, there are, in the licenses of the gas suppliers, the duty to supply any customer that asks to be supplied. Therefore, although there is no "universal service obligation", there is a safeguard in place such that any customer who wishes to be supplied can be supplied. In addition, at the moment the price for domestic customers of British Gas is regulated, so there is a maximum price at which these customers must pay to receive gas. From April 2001 it is expected that British Gas's prices for domestic customers will not need to be regulated because competition will be sufficiently well developed.

Regarding storage, at the time of vertical separation, most of the storage facilities were owned by BG Transco. These were the only source of storage facilities in the UK and were regulated by Ofgem under a price control. A number of concerns arose regarding the way BG Storage was attempting to price services for different customers within that price control. After a lengthy investigation into the level of competition in storage and some related products like "swing" at the beach and interruptible gas, we decided that the best way forward was to introduce auctions for BG Storage's services. BG Storage now offers contract customers by selected by auction storage facilities one or five years. There is also new entry into storage facilities. Companies like Enron have entered the market for storage and some plans are in place for companies to build new underground storage facilities to compete in the market.

In response to a question from Spain, the delegate noted that the transportation prices charged by BG Transco are controlled by an RPI minus X price control. Within that price control limit the company has some ability to set different prices for different types of customers and different pipelines. Any changes they make to the prices must be approved by Ofgem. Last year auctions for capacity were introduced for three high-pressure pipelines of Transco because Ofgem was concerned that Transco did not have sufficient incentive to make sufficient capacity of available and capacity shortages were leading to very high prices in wholesale gas markets. The regulated prices are a combination of capacity and commodity prices. BG Transco owns all the pipelines in the UK both high-pressure and low pressure. They have almost a 100 percent market share in the market for transmission and distribution. BG Supply, which is the part, which serves end-customers, has a market share of about 73 percent in the domestic market and a market share of less than 20 percent in the industrial and commercial market.

The US, addressing abuse of access, noted that they have a long history of abuse of access. The open access program, which began in 1985, was itself a response to abuse of access complaints that were the result of high gas prices and the beginning of a private marketplace for wellhead gas. The open access program, in turn, placed pressures on the vertical segment of monopoly transportation that lead to

tremendous creativity in the abuse of access rights. That led to a refined program in which a form of vertical separation was introduced to separate the product market from the transportation service to deliver that product. The FERC still faces regular complaints of abuse of access, abuse of service quality, and favoritism of marketing affiliates. An improved complaint process was recently set up to deal with individual episodes of alleged abuse, including a hotline which allows complainants to make informal inquiries to knowledgeable commission staff. The FERC expects to continue addressing abuse of access complaints into the indefinite future.

Regarding abuse of service quality, the 1985 open access program allowed interstate pipeline companies to continue selling gas in the end-use markets. At the same time these pipelines were required to provide transportation service of an equal quality so that a competitor could buy gas from a producer in the wellhead region, transport the gas to the marketplace and resell it at wholesale to local distribution companies in competition with gas purchased at the same end-use market point from the pipeline itself. In implementing that program, pipelines introduced, restrictive, burdensome, or extensive terms and conditions of service which acted as impediments to entry in the delivered market. For several years the Commission addressed issues as they arose on a case-by-case basis, until the burden became so great they introduced another level of reforms.

Regarding universal service obligations, in the US model local distribution is regulated by the individual states. The federal authorities do not regulate local distribution. Most state authorities have imposed some form of universal service obligations. In the few state programs with retail customer open access, what are called "customer-choice" programs, the universal service obligation continues as a burden on the historic monopoly provider. In some states the universal service requirement has been subject to tendering, with the low-priced bidder receiving the obligation. A financial payment is distributed through the distribution transmission charge to all of the other customers on the system.

Regarding storage, in the United States new entrants in the storage market are largely unregulated. However, a significant amount of storage continues to be owned and operated by the interstate pipeline companies. They are required to sell service separately for storage, but they are still dominant players in many markets, and so their storage services are still regulated.

In response to a question from Korea regarding the political economy of the reforms, Australia noted that there have been very substantial pressures to oppose the gas reforms. Some of the fiercest sources of resistance have come from state governments. Where the state governments have had ownership interests in the gas industry, for example, they have pushed extremely hard for the pricing rules to be specified in advance so that potential buyers have greater certainty. In addition they have wanted high prices to be built into the regulatory rules for the first five or ten years after privatization. The ACCC has found there to be a serious clash between the interests of governments in promoting competition and the interests of governments, especially state governments, in maximizing the revenue, either from their ownership of public entities or from the sale in the privatization process. One of the lessons to emerge from the Australian competition reforms is that the battle to introduce competition is an ongoing battle and you have to keep up pressure and keep the politicians supportive of competition reforms. However, once some reforms are introduced they bring in some improvements and it is easier to sell the idea to the public that there are more benefits to come with more reforms.

1.4 Countries in the process of reform: the European countries

The Chairman introduced the next session by asking the EC to describe the important Gas Directive, which is having an important effect on EU countries.

The EC delegates observed that the objective of the Commission's energy policy is to ensure that consumers throughout Europe have access to clean and secure energy supplies. This objective applies to all forms of energy including gas. The EU is convinced that despite the different starting situations in the different member states, the objective of clean and secure supply is primarily achieved by giving customers a free choice of supplier- i.e., by introducing competition into markets which were previously characterized by regional or national monopolies particularly in transmission and supply.

The primary means for introducing competition was the introduction of the Gas Directive of 22 June 1998. The directive is based on four main principles:

- first, the directive introduces a third party access regime, allowing the eligible customers to use the facilities owned by other customers. The third party access regime applies to downstream and upstream pipelines and also, to the extent necessary, to other facilities such as storage. Access to the facilities can only be denied for three reasons: capacity restraints, difficulties to fulfill public service obligations and severe economic and financial difficulties for the company that would have to grant access due to take-or-pay obligations. The member states can choose between "regulated" or "negotiated" access regimes;
- the second principle of the gas directive is the obligation of accounting unbundling. Vertically integrated companies active in transmission, storage and supply have to separate their accounts for the various activities. The purpose of the unbundling is threefold: To prevent discrimination (in particular, by granting favorable terms and conditions to marketing affiliates); to prevent cross-subsidies between the various activities; and to ensure cost-effective transmission tariffs;
- the third principle of the directive is that markets are opened in a gradual way. Three steps are foreseen. Before August 2000, 20 percent of the market must be open. By 2003, market opening must reach 28 percent and by 2008, 53 percent. These figures represent the minimum levels of market opening. Member states can, and are invited to, open their markets more rapidly. The Commission has observed with great satisfaction that by August 2000, more than 70 percent of the markets will be open. The means to ensure gradual market opening is the "eligible customer" principle. Only eligible customers will have free choice of suppliers. In the beginning, eligible customers will be the electricity producers which use gas as a fuel, and customers using more than 25 million cubic meters of gas per year at a given location;
- the fourth principle of the gas directive is that any restriction on the construction of pipelines and other facilities as well as import restrictions (in particular import monopolies) have to be abolished.

The gas directive has to be implemented by member states before 10 August 2000. The Commission is in constant contact with member states to assist them in the implementation process and to ensure that misunderstandings are avoided. A number of member states are already well advanced in the process or have implemented the directive already, while others are currently making significant steps.

The Chairman turned to the Netherlands noting that the Netherlands is one of the few European countries that has significant domestic gas production. An interesting feature of the proposed new regime is that it will rely primarily on the competition law and the competition authority to enforce access to the pipeline networks. Another difference with other countries is that there will not be an independent regulator – instead, the Minister of Energy will continue to have strong powers of regulation. The Chairman also asked whether structural separation of Gasunie was envisaged.

The Netherlands delegate, from the Ministry of Economic Affairs, noted that the new approach in the Netherlands will be quite similar approach to that in Australia and in New Zealand- i.e., to rely as much as possible on the general competition law and on the general competition authority. This was done to limit the extent of sector-specific rules and the number of sector-specific regulators. The Netherlands has chosen to rely upon negotiated third party access instead of regulated third party access, as it is in line with existing and developing practices in the Netherlands and it is considered that the competition law will be able to solve competition problems that arise in the natural gas sector. There are, however, some extra provisions to comply with the gas directive, such as obligations on companies regarding unbundling of internal accounts, and publishing indicative tariffs. In addition, although reliance is placed on the general competition authority and the general competition law, it was considered necessary to give special powers to the competition authority to allow him to settle disputes. The competition authority has the power to set to date on which negotiations should be finished and the authority will also be able to set a provisional tariff. Regarding the break-up of Gasunie, right now, the discussion is focused on limiting the scope of operations of Gasunie.

The Chairman observed that France has a statutory monopoly in gas – in the form of Gaz de France, which is highly integrated, in transmission, production and distribution. The Chairman invited France to discuss, in particular, access to storage and the role of take-or-pay contracts.

France began by distinguishing its situation from that of the Netherlands because, unlike the Netherlands, which has substantial natural gas resources, France is dependent on foreign gas sources for 95 percent of its gas consumption. Gas increased as a share of the total consumption of energy in France by around 3.5 percent per year in the 1990s, but the market share of gas overall remains rather limited, around 14 percent of energy consumption, and below that in other countries. This gas is used primarily for residential and "service" heating (around half of the total usage) and around 40 percent in industry. Imports and exports are a monopoly according to a law of 1986. There are three transmission operators, but competition in transmission is limited for the following reasons: First, these transporters must be either "établissement publiques" or "entreprises publiques" since the transportation and distribution function is held to be a public service. Second, the three transmission operators (GdF, CFM and GSO) operate in geographically distinct markets. GSO covers the southwest, CFM the centre-west and GdF the rest of France. In addition, GdF is itself a shareholder in GSO and CFM. The other shareholders are oil companies and, in particular, Elf. 80 percent of national consumption is distributed by GdF, although there are around 17 independent distributors, supplying 170 communes.

As of February 2000, there is a bill in preparation in France, which will reform the gas industry. This bill sets out the following broad principles. As has been said, France is very dependent on the exterior for gas supplies - so an important theme of the law is that energy policy in France will continue to be decided by public authorities. The opening to competition will occur in the context of a market structure, which is relatively integrated. Storage is a key element to ensuring guarantee of supply. Access to storage will be limited to the priority accorded to security, but will nevertheless exist. Captive clients which don't have the choice of suppliers will have a guarantee of supply, the obligation to be treated in a non-discriminatory fashion and there will be a social policy for the poorest. The French territory does not benefit from universal coverage of gas, since certain areas are not served by the current transmission network. Therefore the new law does not envisage creating an obligation for universal service throughout the territory, but there will be a certain number of obligations regarding service within the area served by transmission pipelines. The new law will put in place a system of accounting separation to prevent, in particular, cross subsidies and constraints on the use of commercially sensitive information that the monopoly firm might gather regarding its competitors. A specialised organisation will be set up which will intervene in specific issues relating to access to the network.

In regard to storage, as mentioned above all the facilities are in the hands of GdF. Its rivals, Elf

and Shell, say that these are essential facilities to which GdF must yield access. GdF responds that there is not a strong need for smoothing in the supply of gas, in general, because the profile of consumption is relatively flat. In addition, GdF would like to trade access to storage for access to gas deposits. Regarding take-or-pay contracts. GdF has entered into long-term contracts with a number of suppliers with the intention of guaranteeing long-term supplies. The question arises whether this type of contract is consistent with the emergence of competition, or is this merely an argument used by GdF to limit the opening to competition?

Turning to Ireland, the Chairman observed that Ireland has some domestic supply, but also relies heavily on imports from the UK. The major gas company in Ireland is vertically integrated, in transmission, production and distribution, but there are some prospects for vertical separation. Ireland also has a peculiar system of pricing access under which the transmission charge is irrespective of the distance that the gas has traveled.

In Ireland, Bord Gais was established in the 1976 Gas Act as a statutory body with the object of purchasing, transmission and selling gas in Ireland. While production and retailing of gas are potentially competitive, transmission and distribution of gas are natural monopolies, especially given the small-scale of the Irish market. It is unlikely that competition in pipelines will emerge in the future. To some extent the opening to competition of the gas market in Ireland has preceded EU measures. The Energy (Miscellaneous Provisions) Act of 1995 reflected a growing realization by the Irish government that competition in the natural gas sector will be beneficial to the country as a whole. This Act opened the possibility of third party access to the transmission network for customers using more than nine million therms per year. While this represents more than 75 percent of the volume of the market, it only represents ten of the largest consumers in the country. Nevertheless this will be sufficient to meet the requirements of the EU directive. Nevertheless, there will still be around 10 000 industrial customers, as well as domestic consumers, for which Bord Gais will still have a monopoly. Therefore, the Irish competition authority has serious concerns about the extent of the introduction of competition in the sector and has raised these concerns in a submission to the government. It believes that competition should be introduced on much wider scale and it has recommended to government that the threshold be reduced from nine million therms to 25 000 therms in two years time and should be further reduced to 2500 therms after four years. It believes that full-scale competition should be introduced to consumers after six years.

Although access pricing is usually handled by a sector specific regulator, no such regulator has yet been established in the gas market in Ireland. The 1995 Act allows the Minister to issue directives regarding transmission pricing for third party access. One such directive has been issued regarding transmission pricing. It proposes a postalised system of pricing - the same transmission charges apply irrespective of the point of delivery. This is a contentious issue in Ireland. There are complaining that indigenous gas will be burdened with the costs associated with bringing in imported gas. This is currently under review. Regarding vertical separation, it is intended that Bord Gais will remain vertically integrated. The authority believes that there are real some real competition concerns and has called for the transmission and distribution business to be established as a wholly independent company. At the moment the government only has plans for separation of accounting. Bord Gais is planning to enter the electricity market. However, since there is scarce capacity on the major pipelines, it may be denied entry to the electricity market.

The Chairman noted that Italy, like Ireland, has some domestic production (around one-third of domestic consumption) and Italy also has a vertically integrated monopolist, active in production, transmission and, partly, distribution, although there is some diversity of players. Late 1999 the Italian competition authority advocated, in reports to the government and Parliament, structural separation of the different parts of the industry. In February 2000, the Italian government announced its decision regarding the restructuring of the gas industry.

The Italian delegate, from the Italian competition authority began with a brief description of the natural gas sector in Italy. Natural gas is one of the main sources of energy requirements in Italy. In 1998, 55 percent of energy demand of the household sector was satisfied by gas, 42 percent of the demand of industry and some 25 percent of the electricity producer demand. This last figure is likely to increase in the next ten years, due to the transformation of coal-fired plants into gas-fired plants. Total consumption in 1999 was 62 million cubic meters. Total demand is expected to increase 40 percent in the next ten years. Regarding the industry structure, there is a vertically integrated firm, ENI, which has been partly privatized but which is still controlled by the state. ENI has a division active in national production and a wholly owned subsidiary called SNAM, which controls the imports of gas in Italy. Snam has signed contracts primarily with Russia, Algeria and the Netherlands. Two other contracts, with Libya and Norway, are currently in process of being signed. Snam controls 97 percent of the high-pressure network in Italy. Another company, Edison, operate a pipeline network, in the central part of the country. In the last few years, Snam has carried gas for third parties, accounting for nine percent of the total demand for gas on its network. This is mainly gas carried for Enel, the former monopolist in electricity sector. There are more than 800 local distributors in Italy. 500 are firms owned or related to local municipalities. Another 300 are private firms. There are some small local authorities, which provide their own local distribution service. The prices for gas sold by Snam to industry, electricity generators and local distributors are set by negotiations with the association of these buyers. ENI has also a direct interest in these local distributors because it owns Italgas, which is a firm, which has 30 percent of the total gas distribution to local communities.

A draft legislative decree adopting the European gas directive was issued for comments on 16 February 2000 by the Italian government. The approval of the draft regulatory decree is expected by 18 May 2000. The legislative decree reflects contrasting views within the government, which is both the shareholder and regulator. The legislative decree provides the framework for liberalization of the gas sector to 2010. The legislative decree imposes a number of ceilings or limits. No subject is allowed to import or produce more than 70 percent of the total demand. This limit applies to ENI. In addition, no subject is allowed to provide more than 50 percent of gas sales. Both limits should be enacted by the year 2003. The legislative decree foresees vertical unbundling - a separate company for gas transportation and storage, and separate companies for distribution above a certain threshold. Regarding the universal service obligation, there are provisions for security requirements and for the development of gas and the extension of gas into the south and to the islands. Imports require an authorization, issued by the Minister of Energy, and there is a role for the antitrust authority to intervene. Access regulation is also determined by the Minister. In the case of anti-competitive behaviour, the antitrust authority may intervene. All customers will be eligible by the year 2003. The decree seeks to implement all three elements essential for a liberalized gas system - liberalized gas primary supply, transportation through the infrastructure, and customers who can choose their suppliers.

Turning to Spain, the Chairman noted that Spain has introduced a form of vertical separation because firms which are active in providing regulated activities are not allowed to provide non-regulated activities. Also, Spain, like Italy, France and Ireland, relies heavily on imports.

A new law governing the gas sector in Spain was passed in 1998. In Spain, 96 percent of supplies are imported. There are two importing pipelines - one from the Maghreb, and one through France. 52 percent of imports come from Algeria. The second biggest supplier is Norway with 50.5 percent. The sector is totally privatized. The state has no participation in any part of the industry. Spain has mild weather and a very low density of population, which makes the consumption of gas relatively low in relation to the rest of Europe. The share of natural gas in the primary energy consumption is 10.7 percent. The natural gas share in the generation of electricity is only a eight percent, but there is our big potential for combined cycle power generation facilities.

The new law distinguishes between regulated and non-regulated activities. Regulated activities are re-gassification, storage transmission and distribution. Non-regulated activities are limited to retailing. Companies which are active in regulated activities cannot be active in non-regulated activities. Starting in the year 2000, consumers, which consume more than five million cubic meters (i.e., 56 percent of the total market) will be eligible. The network has been split into three components, depending on that pressure - basic, secondary and distribution networks. Retailers can import, for the first time, and also sell directly to eligible consumers. Eligible consumers can also imports or buy through retailers. Transmission and distribution undertakings have third party access obligations, while retailers have a third party access right. So far, the companies that have obtained permission to be retailers are mostly connected with electricity and petroleum industries. The dominant company Gaz Naturel has 80 percent of the transmission and 90 percent of the distribution market.

Poland is also in the process of preparing for the development of competition. There are three separate groups of conditions for the development of competition in the Polish gas sector. The first group is the practical realization of the principle of TPA. Second, mechanisms for regulating the prices. Third, the demonopolisation of the enterprises which currently enjoy a monopoly.

In regard to third party access. Under customers with demand in excess of 25 million cubic meters are accorded the right to transmit gas from 1 July 2000, in excess of 15 million cubic metros from 1 January 2004 and less than 15 million from 15 December 2005. Regarding price control, in Poland, the first time since WWII, there are no prices directly controlled by the Minister of Finance. From now on, conforming to the new energy law, the tariffs will be established the enterprises themselves and presented for confirmation to the President of the Authority for Regulation of Energy. Regarding de-monopolization, there is plan being considered for the restructuring and privatization of the Polish gas sector. The prepared program considers and regards the needs of the state treasury, gas consumers and the Polish Oil and Gas company itself. The proposed structure of the gas sector in Poland suggested by the Minister of the State Treasury is based on the functional division and does not foresee the creation of one holding company or one central organizational company. The proposed model involves the creation of one production and exploration company based on the assets of two geophysics companies, drilling companies and the POGC production divisions. Gas storage and transport is going to be performed by one company, which will also be the legal successor of the current POGC. Distribution companies will be created which directly serve final consumers. These companies will later be privatized.

1.5 Countries which rely heavily on LNG: Japan and Korea

The Chairman observed that Japan and Korea are both dependent on imports for the gas consumption, but unlike the rest of the OECD, they import liquefied gas. This is important because gas in liquid form does not need a pipeline to be shipped. This may allow much greater competition in production than in other countries, which rely on pipelines. Japan states that there are more than 250 vertically integrated gas companies in Japan and certain large gas customers seem to enjoy a degree of competition in that they can choose the company from where by the gas.

In Japan general gas suppliers can supply gas in "large lots" outside their service area using the transmission system. Designated general gas suppliers are required to submit and publicize the prices and other terms of gas for connection to the pipeline. Designated gas suppliers must not refuse requests for connection without proper reason. Recently the JFTC assisted the Ministry for Trade and Industry (which is responsible for enforcing the gas utility industry law) to compile and publish draft guidelines on appropriate trade in gas. These guidelines are expected to promote competition in the gas market in Japan. The development of competition will have a significant impact on the price of gas in Japan.

The Chairman noted that Korea has plans to substantially reform this sector. At the moment, Korea has a monopoly over imports of liquefied natural gas and for transmission of natural gas. However, in two years time the market will be opened up to competition and a new regulatory agency and third party access will be introduced.

Last year, the Korea government decided to introduce competition into the gas market, which is presently a monopoly in import, transmission, wholesale and retail. Since the recent financial crisis, the Korean government has tried every effort to introduce market mechanisms in every possible way. Korea has no indigenous production of natural gas, and thus depends entirely on imports. All gas imports are in the form of LNG from Indonesia and Arab countries. The major firms in the Korean natural gas industry include Korea Gas Corporation and the city gas companies. Kogas is a state-owned corporation and is the monopoly importer and wholesaler of the entire natural gas demand. Kogas also owns and operates LNG receiving terminals and the main transmission network. The city gas companies are retail companies, which purchase gas at wholesale and supply gas to end-users. There's no competition between pipelines since each city gas company is granted a territorial monopoly and owns its own separate pipelines. No competition is allowed in any area of the industry. However, following the restructuring plan agreed in December 1999, competition will be introduced starting from 2001.

Under the restructuring plan Kogas will spin off the wholesale and importing division into three subsidiary companies. Two of these will be sold to private investors by the end of 2002. Competition for the supply of large customers will be introduced first and the scope of competition will be gradually expanded to include small customers. For the retail market, competition for the construction of retailing facilities will be permitted from 2000 as soon as the legislation is passed. Any company which has a license from the government will be able to create a distribution facility in any area where distribution services are currently unavailable. Regarding storage facilities, the storage facilities and main transmission network will be separated and owned by one firm even after the restructuring. Competition in the main transmission line is not expected. However, a regime introducing third party access to facilities including receiving terminals and the pipeline network will be adopted to foster competition in gas sales. Importers and marketers of gas will be guaranteed equal access. In the retail sector the same open access system will be adopted. By 2002, the Korean government will set up a new regulatory authority concerning the electricity and natural gas industries. Competition law enforcement will continue to belong to the KFTC.

One of the obstacles to introducing competition to the Korean market is the existence of long-term take-or-pay contracts. When Kogas is split into three subsidiaries and these contracts will be allocated to the new companies. The purchasers will assume any liabilities including those arising from the take-or-pay provisions. The Korean government is also going to devise appropriate measures to provide the necessary support.

1.6 General discussion

The BIAC representative, from Enron Europe limited, noted that the background paper was very useful in emphasizing the importance of mandated third party access in promoting competition. The BIAC representative emphasised that negotiated access does not provide competition but delays the introduction of competition through higher transactions costs, delays to negotiation, and ultimately in many cases, through the discrimination that occurs through different contract structures. Mandated access is an essential element to promoting competition, including access to the re-gassification facilities for liquefied natural gas.

The representative also emphasised that access should also be provided to users, even if they do

not have facilities. Such independent traders or markets have an important role in the creation of innovative new products. As an example, although the United Kingdom stated that Enron is providing a storage facility in United Kingdom, it was not mentioned that Enron does not have any storage facilities, but is providing the service through a combination of portfolio assets and contracts apart from storage, to compete with what was formerly the monopoly provider. There are not other competitors in the United Kingdom which provide this virtual storage service.

The European Commission emphasised that the gas directive does cover access to storage. However the gas directive does not provide for access to storage independent of the use of the system, the gas directive does allow for access to storage when this is technically necessary for efficient operation of the system. Non-discriminatory access to flexibility is considered to be a crucial element in creating a level playing field in the gas market. If eligible customers with a need for flexibility and load balancing do not have access to such facilities, there is significant scope for discrimination between companies, which control such facilities and those in the market which do not. The French delegation mentioned the question of security of supply. It is clear that storage is being used for a number of purposes, including security of supply and strategic storage (which may be particularly important in countries relying on imports), but it is also used for other purposes such as load balancing and system optimization. While access to storage may be given a priority to cover strategic needs, access to storage may only be refused if it can be justified that a public service obligation to secure supplies is the least restrictive measure in relation to competition.

The delegate also commented on take-or-pay obligations. Take-or-pay obligations have received special treatment in the gas directive. Companies which have this obligation to pay for gas even if not taken can be allowed a certain derogation from the third party access regime foreseen in the gas directive. However, at this moment in time, the EC does not expect to approve many such applications because there are a number of very strict conditions to be fulfilled: First, a company must be in serious economic and financial difficulties. That is quite a difficult condition to meet given that take-or-pay obligations never oblige a company to take 100 percent of the gas, but normally a much lower percentage. In addition, there are provisions in many contracts for make-up gas or carry-forward gas which allow companies to play on gas supplies in future or previous years. Second, before obtaining a derogation companies have to search for alternative marketing outlets, including potential customers in other countries. Third, one has to consider when the take-or-pay obligation was entered into. If, at the time, it was already clear that take-or-pay obligations would run into difficulties because of gas liberalization, then of course a gas transmission company cannot rely on such a take-or-pay obligation. Finally, gas markets are growing markets, so it is unlikely too many difficulties will arise from the take-or-pay obligations in the future.

The UK raised the issue of wholesale spot markets for gas. Around 90 percent of gas production in the UK is sold through contracts between shippers and gas producers. The remaining amount is through wholesale markets. There are spot markets and gas sales for relatively short-dated future markets. Ofgem, in conjunction with the competition authority, oversee those markets. There are also markets for shippers trading gas up to real-time deliverability to facilitate system balancing and to facilitate an appropriate location of system balancing costs. Previously the system operator Transco was responsible for balancing in real-time. There was no incentive on shippers to keep themselves in balance because the costs that Transco encouraged to get the system in balance would be spread across all shippers.

Australia pointed out that there is a wholesale market in one state in Australia (Victoria). This market accounts for up to eight percent of load. It is limited to market participants who already have bilateral contracts. A market of this sort, sitting on the side of bilateral arrangements, allows for greater flexibility in the type of bilateral contracts that one could take. One could imagine negotiating a take-or-pay contract with a 100 percent take-or-pay obligation while being able to sell any surplus gas in the wholesale market. There are also some competitive spin-offs in that it creates and orbit of potential small supplies in the market as a whole. There are some controversial aspects relating to the transactions costs

associated, and it has been quite complicated to set up.

In response to a question from Italy and Spain, regarding transit of gas across other countries, the European Commission acknowledged that there are Italian operators who have had difficulty getting access to pipelines in Europe. The reason given by the market players concerned was – at least in some of these cases lack of capacity. There is a burden of proof under the gas directive on the party denying access to prove the absence of capacity. This will be more rigorously policed by the member states in the future.

2. Regulatory institutions in the gas industry

The Chairman observed that most countries already have, or are creating, a sector-specific regulator, often combined with the electricity regulator. There are some interesting exceptions such as Australia and the Netherlands. In both of these countries the competition authority has responsibility as a regulator. Another important exception is New Zealand where there is no sectoral regulation. In Mexico, the gas legislation gives the competition authority a role in determining when a gas company has a dominant position and assisting the regulator in designing price control.

Mexico began with an overview of the Mexican scheme and the role of the competition authority. Historically the gas sector was owned and operated by a state-owned company. Divestiture and privatization was authorized by Congress in 1995. Since that year private investment has been introduced in distribution and transportation. Production is still a legal monopoly, although imports may be carried out by a third party. Since the legal reform in 1995 we have had 12 auctions of permits to carry out distribution functions. We also have several private transmission companies, which operate their own pipelines. Distribution companies are given five-years of exclusivity. The Competition Commission works together with the regulator to define whether there is competition after the end of the exclusivity. Competition is expected to develop as there is mandatory non-discriminatory access regulation. As competition develops the Competition Commission can determine when price regulation can be omitted. This Commission also has a veto over the participants who wish to participate in the auctions. Discrimination, abuse of dominance and denial of access are sanctioned both by the regulator and by the Competition Commission.

The Chairman turned to Canada, which has substantial competition in gas production and the lowest price gas among all OECD countries. On the other hand, although it has quite substantial competition in gas production, it does not have the density of transmission lines of the US. Canada has not required vertical separation between transmission, distribution and production. According to the submission, the regulator is involved in many activities which, in other countries, are dealt with directly by the industry. For example, the regulator monitors the equilibrium between demand and supply and enlargement of capacity.

Canada explained that before 1985, exports were strictly controlled under quite severe rules. The regulator played a much larger role in the industry in general. The change in policy in 1985 was based on the principle that the inter-play of market forces will both supply the domestic market and offer export opportunities. There are currently no controls on exports. Until 1985 exports had to be backed up by 25 years of reserves. This made producers build up an enormous inventory. Its economic value was that it allowed you to export natural gas. In 1985 a market based export policy was introduced. The National Energy Board continues to look at supply and demand, simply as result of that earlier policy. The supply and demand study was historically done every two years. The latest study was done in 1999 but there was a gap of five years between that one and the previous one. Regarding local markets, Canada is a Federation and local distribution is a responsibility of the provinces. In the Ontario market, for example, as in the other provincial markets in Canada, residential consumers can purchase directly from producers through agents, brokers and marketers.

Regarding the difference in prices between the US and Canada. The price which is typically used as a reference in Canada is an Alberta-based price, Alberta being the largest producing province in the country. This is a “producing basin” price that will always be lower than the price in Chicago. However, depending on the amount of export pipeline capacity, the two prices should be in line with one another. Once the pipeline capacity is exhausted there is a phenomenon where gas is said to be “trapped in the producing basin”. The delivery charge to get gas from Alberta to Chicago is about 55 cents per btu. In September 1998 the average difference between the price in Alberto and in Chicago was about 80 US cents. In 1999 the difference was 50 cents. In the intervening interval there was a 30 percent increase in pipeline capacity. One of the great advantages of the deregulation that has taken place in Canada is that there are clear price signals. The system of price differentials of this kind is a signal that capacity is required and a signal to producers that there is an attractive market available.

The Chairman asked the US to describe the regulatory institutions and cases of regulatory failure in the US.

The regulatory failures in the US date back to 1954 when the US. Supreme Court said the regulatory authority must begin regulating wellhead prices as an extension upstream of the adequate cost regulation of interstate pipeline sales prices. Within twenty years the jurisdictional divide between the federal domain and the state domain, coupled with this regulation of prices lead to the creation of an unregulated intra-state market natural gas. The imbalance between intra-state prices, which were approaching parity with world oil prices and the cost-regulated prices in the inter-state domain lead to a significant crisis in supply. That lead to the next market failure, which was the regulatory attempt to allocate scarce supply across what was then perceived to be unlimited demand. Unlimited demand was perceived because the cost of gas delivered to the marketplace was so low relative to the true market value of the energy that price signals were masking the true elasticities of demand for the consumption of gas.

Within another ten years regulators were struggling on two fronts to remedy that market failure. One front was to try and find ways to more rapidly change wellhead prices. FERC went from regulating wellhead prices on a well by well bases, to regulating on a basin by basin basis, to finally an adopting broad regional price-setting mechanisms. At the same time the Commission was exercising tremendous regulatory power in attempting to create allocation mechanisms through regulatory fiat. Those regulatory mechanisms generally divided the market into sectors -- residential, small commercial, industrial, agricultural and, what was then said to be the lowest priority form of consumption, for fuel, which included electric generation. That is the history of regulation run amok in this industry.

The US Congress adopted laws in 1978 and 1979 which lead to the de-control of wellhead prices. Regulators, jumping off from that starting point, started to create regulatory mechanisms to bring the interstate and intrastate markets together. In the process there was a number of dislocations - there was a tremendous run-up in take-or-pay liability between pipelines and producers. There was an economic recession, which dramatically reduced demand for final gas at the same time as supply was increasing dramatically as a result of partial price wellhead decontrol. This lead indirectly to open access regulation, allowing price discrimination, and requiring pipelines to transport gas in competition with its own sales service. The rest of the story builds on that theme - implementing open access, the competitive marketplace taking hold, exposing weaknesses in the regulatory scheme and then a regulatory response.

3. Competition concerns in the natural gas industry

The Chairman introduced the last part of this roundtable - on competition concerns in the natural gas industry, raising the question of market definition. Should gas should be treated as part of a wider

energy market or not?

Australia noted it is particularly conscious of mergers, alliances and joint ventures in the energy sector. Typically, when there is deregulation, it is associated with some restructuring of markets, such as vertical or horizontal separation. This leads to pressure by the separated parties to get back together. In other markets, as geographic boundaries between markets are lowered to and that's tends to make people who are in previous separate markets, get very interested in combining, often for an anti-competitive purpose, sometimes for an efficiency purpose. The relevant gas markets are undergoing continuous change - moving from being state or regional to more national and character and some of the markets are starting to move from being product specific, such as gas, to broader gas and electricity.

The ACCC has not yet accepted that there is a single energy market. There are industrial users for whom gas and electricity are substitutes, but there are also a significant number for whom they are not close substitutes. There are two categories of such firms -- the category which absolutely depends on gas, such as when gas is some kind of feedstock or an input to some kind of production process, such as certain parts of the chemical industry. There is a second category for whom their whole infrastructure is locked into the use of gas or electricity and even if there was a huge price change between gas and electricity they would not contemplate making changes over the next few years. In a case in Queensland there were two gas distributors on the opposite sides of the Brisbane river who wanted to merge. The ACCC had evidence that although they each had the monopoly franchise for the side of the river for retail consumers, there was evidence from industrial users that the two competed for industrial customers and that this competition was heating up. It was assumed that when competition in the consumer market was freed up they would also compete their. When the ACCC looked at gas sources it turned out that gas supplies were locked up for some years ahead by these two distributors and so access would not be easy. The ACCC subsequently allowed to the electricity utility in the area to then take over the gas utility. It thought that there would still be substantial competition in the market and there were that the electricity distributor was not going to enter the gas market and that there were other firms looking to enter the electricity market.

The EC noted that it would share the views expressed by the Australian delegation as far as the energy market is concerned. The EC does not see one energy market but separate markets for the various types of energy. The Neste/Ivo case was a merger between a Finnish electricity utility and the main Finnish gas company and is a good example for this practice. The case also shows the particular concern of Commission, when a gas and electricity company merge since gas is seen as the state-of-the-art fuel for electricity producers. The Commission therefore decided that significant remedies would be necessary in order to clear the merger because otherwise the merged entity could exert significant influence over the electricity prices if it controlled the price of inputs for independent electricity producers because it controlled the gas. The solution that was found was that the merged entity had to reduce its share in the gas company to a minority holding, which was accepted by the merging parties.

The US summarised cases in the gas sector brought by the Federal Trade Commission and the US Department of Justice. Merger review in this sector is an application of the general principles set out in the merger guidelines. One case arose in the transmission sector - an area often characterized by high concentration in the market as well as high entry barriers. In 1995 the Federal Trade Commission looked at the acquisition by Questar Corp. of a 50 percent interest in a pipeline owned by Kern River Gas Transmission. Questar is an integrated energy company involved in production, transmission and gas distribution which owns the only pipeline serving industrial users in the Salt Lake City Utah area. These users bypass the local utility and get gas directly from other sources. Kern operated a pipeline, which went to California and bypassed Salt Lake City and never made a single sale in this area, so why was the FTC interested in challenging this transaction? This case relies on the doctrine of "actual potential competition". Notwithstanding that there had been no major sale in the area, Kern was active in soliciting customers and we had evidence that these solicitations induced the monopoly provider to charge prices which would have

been lower than the monopoly price and had a disciplining effect on the market. Therefore when Questar sought a 50 percent interest in the pipeline, the FTC was concerned that this would diminish the incentives to compete and therefore challenged the acquisition. The parties eventually abandoned the transaction.

In the gas gathering sector the main concerns of the FTC were that gathering facilities can create a bottleneck and producers would be forced to pay monopoly prices to have gas moved from the wellhead. We took a case in 1998 involving the acquisition by a subsidiary of Shell of gas gathering assets in Oklahoma, Texas and Kansas owned by the Coastal Corporation. Shell was the largest gatherer and Coastal a substantial competitor. In many geographic areas they were the only two out of two or three providers. The Commission entered into a consent agreement that was resolved by the divestiture of 171 miles of pipeline and agreements not to buy more than a certain amount of pipe over the next 18 months.

Moving to the processing sector, the FTC looked at a case in 1996 involving the proposed acquisition by NGC of assets of Chevron including a fractionation plant in Texas. The parties were direct competitors in fractionation in an area of Texas called Mount Bellevue. The Commission charged that users there had no practical alternatives to this facility and therefore required, as a condition of approving the merger, that the parties would divest ownership in one facility and would give up the management role in another facility in that area.

The DOJ described the first gas/electricity convergence merger that has been challenged. This was a six billion-dollar combination between Nova Corp. and Pacific Enterprises in California. Pacific Enterprises was, as a result of a legal monopoly over the gas pipeline, virtually the sole provider of natural gas in Southern California and at the same time was the monopoly provider of storage facilities for gas. The relevant markets that we found in this case were the market for high demand periods of electricity in California. Consumers did not switch from electricity to other products and there were very limited possibilities for transmission of electricity from other states. The backdrop was a regulatory reform movement in California which as of March 1998 required all electricity purchased in the state to be purchased through a central computerized pool that was effectively a bidding system, matching supply and demand throughout the state in 30 minutes increments. Under this system, the market-clearing price was the price of the highest last unit sold. This price was received by producers regardless of the cost of production. When the merger took place, the problem came about because Nova was an electricity producer, which had nuclear plants, coal plants and natural gas plants. It was the low-cost natural gas plants which were going to provide incentive for the combined entity to restrict sales of natural gas at times of high demand because even though they might lose some income from lost gas sales, they would more than make up for that through the extra profits they would make from their low-cost natural gas electricity production facilities. The solution in that case was to require divestiture of low-cost production facilities, which they agreed to, and a consent decree was filed.

3.1 *General discussion*

France discussed a type of abuse of a dominant position, which was observed in a French case in the distribution of gas. In this case GdF tried to use its power to prevent competition in heating networks in certain Paris regions - in particular in the region of Bercy, the home of the Ministry of Finance and Economy. The practice was the following. When building promoters were in the process of making decisions over the nature of the heating network to be adopted GdF made extremely attractive offers, including very sizeable subsidies and proposed a contract of ten years with a guarantee that the price of gas will always be less than the price of steam (the primary alternative) over that ten year period, on the condition that the promoter commits himself that, in all the buildings of which he has responsibility, gas will be used. If in even one building another source of energy is used, the promoter has to reimburse the subsidy of 3800 million francs and all the other price advantages he has received during this period. EDF

had put in place the same genre of practice to limit competition in energy against rival heating networks. It seems that this form of activity, with subsidies and retroactive penalties are rather frequently used by the energy monopolists EDF and GDF.

In response to a question from Italy, Australia noted that regarding distribution-level mergers of gas and electricity companies, there are obvious retail distribution efficiencies - one company can deliver you a bill for both gas and electricity. The basic arguments relate to consumer convenience and cost savings. On the other hand there is some direct competition between gas and electricity utilities for consumers. Also, there is some possibility that without the merger they might enter one another's market in some fashion. The ACCC does not have an established doctrine but is expecting more of these mergers as time passes.

Brazil noted that gas distribution systems in Brazil are a responsibility of state regulation. Usually there is a state-owned company and many are now going through a privatization process. There have been some problems because some states have imposed with exclusivity periods. The delegate asked the US how this is addressed in the US, another country with a federal system. The Brazilian competition authority has addressed one case of abuse of dominance against one of these privatized companies. This case is still being investigated. There was a preliminary in which the companies contested the authority of the competition authorities to rule on regulated markets. CADE decided that the competition authorities have powers to rules on regulated markets, and especially on the natural gas industry. Brazil is expecting a very large growth in the gas market since a pipeline has just been finished from Bolivia to Brazil.

The US, responding to Brazil's question, noted that in some areas there is federal preemption of state rule making. That does not apply to solely local distribution - that is totally outside the federal regulatory domain. It also does not apply to production - i.e., the gathering and processing of natural gas, except in special circumstances. We do have federal regulation specifically for controlled offshore waters - from three miles out to 200 miles out. Where a state has policies that might conflict with federal open access regulations there is the possibility that the FERC may take some action, but only to the extent that it relates to a contract or service that FERC regulates. FERC cannot invalidate or challenges a state law.

The European Commission, responding to a question from Korea, noted its view that, at least in the long run, energy markets will not be special markets. They will be treated like all other markets and therefore the market definitions that were set out in the notice on market definitions will be applied - particularly as far as the product market is concerned (as concerns interchangeability and cross-price elasticities). In terms of geographic markets, there is also the question whether the conditions in a certain region are sufficiently homogeneous. As far as the cases are concerned, there are a great number of cases decided already where we have defined energy markets including the gas markets. For example, the most recent and prominent ones are certainly Exxon/Mobil of last year, BP Amoco/Arco or BP/Amoco before, the Neste/Ivo case already mentioned, and the Belgian case Tractebel/Distrigas. There are also a number of cases under articles 81 and 82, particularly as regards pipelines, such as the Britannia case or a more recent one case involving the Irish-UK interconnector. What are the main future developments? One example is quite clear. When liberalization starts, one could foresee that there will be a different market for eligible customers and for the captive markets -- because the eligible customers can choose their supplier while the captive market has to stick to the supplier foreseen by the government.

4. Conclusion

The Chairman brought an end to the discussion noting that those countries which have extensive domestic production and have separated vertically and horizontally their industry are the countries where competition was best able to flourish to the benefit of consumers and also to the benefit of the country

itself -- to lower prices, increase technical progress, innovation and so on. However, there were virtually no examples of a country that despite not having a domestic source of gas, was able to introduce competition in the gas industry. The Chairman expressed the wish that if we come back to this industry in the future we will hear a different story.

The Chairman noted that the move towards competition is clear and that the opening up of access to pipelines is an essential ingredient. In addition, structural separation certainly helps in this endeavor. Separation of the pipelines eliminates the incentive to restrict access to the downstream market. Regulators and antitrust authorities are not always able effectively to impede restrictive behaviour on the part of companies, which are actively trying to impede, or make more difficult or more expensive, or of lower quality, access to competitors. The Chairman concluded that we have so far relatively little experience on this point and that we will observe in the future whether we were right or wrong and whether the institutional or structural changes that we're introducing today will indeed lead to a more competitive market.

AIDE MÉMOIRE DE LA DISCUSSION

Introduction

Le Président ouvre le débat en faisant remarquer les similitudes que présentent les secteurs de l'électricité et du gaz. Dans l'un comme dans l'autre, la production peut s'organiser de manière concurrentielle, le transport est concurrentiel dans certains pays et la distribution est généralement un monopole. La différence frappante entre ces secteurs tient au fait que, dans celui du gaz, le lieu physique où intervient la production n'est pas déterminé par l'homme. Le Président demande aux participants si le fait qu'il soit impossible de déplacer les gisements gaziers revêt de l'importance pour l'ouverture de ce secteur à la concurrence.

La première partie de la table ronde est articulée autour des différentes approches d'introduction de la concurrence. Pour commencer, les participants à la table ronde se penchent sur les pays où la concurrence s'exerce aux niveaux de la production et du transport du gaz, puis sur ceux où seul le stade de la production est en situation de concurrence, pour enfin s'attacher aux pays qui viennent de lancer des réformes dans ce domaine, notamment la plupart des pays européens. La deuxième partie de la table ronde porte sur les institutions chargées de la réglementation, en analysant certains exemples intéressants de structures réglementaires différentes. La dernière partie de la table ronde traite des affaires intentées concernant la concurrence dans le secteur gazier.

1. L'ouverture du secteur du gaz naturel à la concurrence

1.1 Concurrence aux niveaux de la production et du transport du gaz : États-Unis et Autriche

Pour lancer le débat sur les pays où la concurrence règne aussi bien au niveau du transport du gaz qu'au stade de la production, le Président présente le cas des États-Unis. D'après la communication soumise par ce pays, il est évident que le degré de concurrence est assez important entre les entreprises qui exploitent les gazoducs aux États-Unis. La plupart des grandes villes américaines sont desservies par trois entreprises de transport de gaz concurrentes ou plus. Cette situation découle, en partie, de l'existence d'un nombre considérable de gisements gaziers dans le pays et d'un réseau relativement dense de gazoducs. Par ailleurs, aux États-Unis, la réglementation des réseaux locaux de distribution de gaz est du ressort des États, qui sont relativement peu nombreux à avoir libéralisé ce maillon de la chaîne gazière jusqu'à ce jour. Le Président invite la délégation des États-Unis à préciser le degré de concurrence dans les différents segments du marché du gaz et à débattre du mécanisme d'enchères pour l'affectation de la capacité de transport.

Le délégué des États-Unis, émanant de la Federal Energy Regulatory Commission (FERC), fait observer qu'il existe dans son pays environ 90 entreprises de transport de gaz inter-États de quelque envergure pratiquant le libre accès. Nombre d'entre elles se font concurrence pour répondre à une part importante de la demande dans les grandes agglomérations. Cependant, chacune de ces entreprises de transport alimente aussi des marchés qui n'ont pas d'autre possibilité physique de desserte directe. Sous le régime en vigueur aux États-Unis, chaque « détenteur d'une capacité ferme » a passé un contrat de service

avec une entreprise de transport de gaz et a le droit, en vertu de la réglementation de la FERC, de mettre sur le marché la capacité qui lui est affectée en concurrence avec l'exploitant du gazoduc. En substance, le programme américain a fait de chacun des clients fermes des entreprises de transport de gaz des concurrents à tous les points du réseau de gazoducs. Si, pour plusieurs de ces entreprises de transport, on dénombre de ce fait 10, 20, voire 50 rivaux non négligeables, pour certaines il peut n'y avoir qu'un, deux ou trois détenteurs d'une capacité ferme importante. Les marchés, et le négoce qui s'y déroule, se sont révélés très concurrentiels, mais ils ne sont pas exempts d'imperfections. En janvier 2000, la FERC a édicté une ordonnance entraînant la suppression, en mars 2000, du plafonnement des prix de la capacité mise sur le marché qui était en vigueur jusqu'à cette date. Ce faisant, la Commission admettait que, sur le marché du produit, les transactions concernant le gaz s'effectuaient à des prix compétitifs et dans des conditions concurrentielles dans tout le pays. Jusqu'à présent, la FERC n'a guère constaté d'entraves au négoce dans des segments clés du marché ; au contraire, le produit se négocie et se renégocie activement, en particulier dans ce que l'on appelle les plaques tournantes du marché.

S'agissant du mécanisme d'enchères, lorsque le négoce de la capacité mise sur le marché a été autorisé pour la première fois en 1993, une série de conditions avait été imposée, dont l'obligation de diffuser sur Internet la mise aux enchères des cessions de capacité d'une durée d'un mois ou plus. Il avait été instauré en outre un plafonnement des prix, qui a été supprimé en février 2000. Le système d'enchères constitue, pour l'essentiel, un mécanisme de fixation du prix du gaz pendant les périodes sans contraintes de réseau. En pratique, ces enchères concernent seulement moins d'un quart des transactions effectivement réalisées. La plupart des transactions sur le marché des cessions de capacité s'effectuent unilatéralement entre un détenteur de capacité qui la cède et un expéditeur de remplacement (il s'agit souvent d'un négociant en gaz qui le vend à un point ou un autre du réseau de gazoducs). Une condition encore plus importante mérite d'être signalée. En établissant le droit contractuel d'un expéditeur ferme, le régime de réglementation américain autorise ce que l'on appelle la « mobilité du point de cession secondaire et de livraison », qui permet de redéfinir le service rendu à un expéditeur ferme en fonction des demandes sur le marché et d'introduire la concurrence entre expéditeurs fermes à tous les points du réseau de gazoducs. C'est là l'une des conditions essentielles pour que la concurrence puisse s'exercer dans les zones où l'entreprise de transport de gaz est le seul prestataire de ce service. Cependant, il peut en découler d'importantes entraves à la concurrence, chaque fois qu'une partie exerce un pouvoir de marché pour bloquer le service en ces points de livraison.

En ce qui concerne les possibilités de concurrence entre entreprises de transport de gaz, il est à noter que plusieurs villes sont desservies par plusieurs gazoducs, en particulier Chicago et les agglomérations qui l'entourent. Dans la région de New York également, non moins de six entreprises de transport amènent le gaz extrait au Canada, sur le littoral du Golfe du Mexique et au centre du continent américain. La concurrence est possible aussi dans de nombreuses villes situées entre les principales régions productrices et ces deux grandes zones métropolitaines, même lorsqu'elles ne sont desservies que par un gazoduc, en raison de la proximité relative des artères gazières à grande distance. De multiples villes plus petites sont desservies par des entreprises de distribution municipales : la plupart d'entre elles sont raccordées à un seul gazoduc et, en général, ne sont desservies que par un fournisseur.

Pour ce qui est de l'organisation du secteur, chaque maillon de la filière du gaz a une histoire différente aux États-Unis. L'apparition du segment de la production gazière est, pour l'essentiel, une retombée de l'exploitation pétrolière : à l'origine, l'intention des producteurs n'était pas de produire du gaz naturel, ils cherchaient du pétrole. Dans les premières années d'existence du secteur, au tout début du 20ème siècle, le gaz naturel, considéré comme un produit résiduel de la production de pétrole qui en empêchait l'extraction, était brûlé à la torche. A la même époque, la distribution de gaz dans plusieurs grandes villes métropolitaines des États-Unis était assurée sous couvert de concessions monopolistiques. Baltimore a été la première ville à disposer de gaz manufacturé. A New York, Boston et Chicago, il existait également quelques distributeurs de gaz manufacturé. A la fin des années 20, le bilan économique du

transport à haute pression par conduites à grande distance a permis aux distributeurs de gaz manufacturé de s'approvisionner en combustible moins cher pour alimenter leurs réseaux. Il est alors apparu des sociétés distinctes, qui étaient affiliées ou appartenaient à des entreprises de distribution monopolistiques à but lucratif, créées dans les années 20. Cette évolution a conduit à créer un organisme réglementaire au niveau fédéral, prédécesseur de la FERC.

Le Président signale que l'Autriche est l'autre pays où des entreprises de transport de gaz sont en concurrence. La communication autrichienne précise qu'il existe deux entreprises de transport de gaz rivales entre lesquelles la concurrence est telle que les autorités n'ont pas besoin de réglementer les prix du gaz. En conséquence, elles ne les fixent que dans des cas exceptionnels, lorsque le jeu des mécanismes du marché se révèle insuffisant.

Le délégué autrichien, émanant du Département de l'énergie du ministère autrichien des Affaires économiques, confirme que deux entreprises autrichiennes interviennent dans l'exploitation des réserves gazières du pays : OMV, qui détient une part de marché de 60 pour cent, et RAG, dont la part est de 40 pour cent. Près de 20 pour cent du gaz consommé en Autriche est extrait dans le pays. Le reste est importé, surtout en provenance de Russie. En Autriche, des autorisations sont nécessaires pour la construction, l'exploitation et le démantèlement des installations gazières, mais quiconque remplit les conditions requises (compte tenu des obligations d'ordre technique, de protection de l'environnement et de droit de passage) peut y construire un gazoduc. Les principaux gazoducs autrichiens sont construits et exploités par OMV, mais d'autres sociétés peuvent en construire également si elles respectent les spécifications stipulées. Les prix sont déterminés par le jeu de la concurrence sur le marché. Si celle-ci est insuffisante, les autorités autrichiennes peuvent provisoirement les fixer, ce qu'elles ont fait parfois, mais seulement pendant de brefs laps de temps.

1.2 Concurrence au niveau de la production de gaz : Australie et Royaume-Uni

Le Président expose la situation de l'Australie, en faisant observer que son régime de réglementation est remarquable. On y retrouve tous les aspects qui ont été jugés importants à l'occasion d'autres tables rondes : la séparation structurelle, la réglementation de l'accès et la concurrence. En Australie, une entreprise de transport de gaz n'est pas autorisée à mener des activités de production et de commercialisation de gaz ; en outre, la réglementation des prix d'accès aux réseaux est très soigneusement élaborée. Néanmoins, malgré les très nombreux gisements gaziers existant en Australie, l'organisation des producteurs de gaz en un réseau d'entreprises conjointes réduit la concurrence au bout du compte. Le Président demande au délégué australien comment s'est opérée la séparation verticale dans son pays et si cette démarche a suscité une opposition.

En ce qui concerne l'organisation du secteur gazier en Australie, il existait à l'origine un producteur gazier unique (seul ou faisant partie d'une entreprise conjointe) qui fournissait en aval, sur un marché unique, du gaz acheminé par une seule entreprise de transport. Par le passé, les différents niveaux n'étaient pas verticalement intégrés, mais il existait des monopoles à chaque maillon de la filière. Lorsque les réformes visant à instaurer la concurrence ont été lancées (non seulement dans le secteur gazier, mais aussi dans les autres industries de réseau), elles l'ont été dans l'optique de tout mettre en œuvre pour ouvrir les marchés à la concurrence, et non de se cantonner à concevoir un cadre réglementaire qui l'autoriserait. C'est pourquoi la séparation verticale a représenté une mesure fondamentale parmi les réformes mises en œuvre pour promouvoir la concurrence. Par exemple, lors de la privatisation des anciennes entreprises d'État qui exploitaient les gazoducs, certaines dispositions limitaient la latitude qu'auraient les opérateurs historiques de procéder à une intégration verticale dans ce segment du marché. L'Australie a également entrepris la séparation horizontale, en particulier dans le secteur électrique ; dans le secteur du gaz, il s'est avéré difficile de la mettre en œuvre, surtout en raison de la participation considérable du secteur privé

dans la production gazière. Cela a posé des problèmes sur les marchés de la production en amont, où la concurrence n'a pas été suffisante. La prochaine phase prévue de développement de la concurrence s'attaquera au segment tributaire des installations : de nouveaux gazoducs seront construits pour interconnecter le réseau existant et permettre la concurrence entre les entreprises de transport pour desservir les marchés régionaux.

Le cadre réglementaire a été conçu pour tenir lieu de « filet de sécurité », les fonctions de régulation étant appelées à diminuer au fur et à mesure que la concurrence s'instaurera sur les marchés. C'est en partie pour cette raison que l'Australie a décidé de conférer le rôle de régulateur aux autorités de la concurrence, en évitant ainsi de créer une institution réglementaire distincte, qui aurait pu avoir intérêt à perpétuer une fonction dont on espère qu'elle deviendra de moins en moins nécessaire au fil du temps.

L'organisation du secteur est, en partie, le fruit de son histoire. Avant l'adoption du droit de la concurrence en Australie, les producteurs étaient autorisés à créer des entreprises conjointes de production et de commercialisation à long terme. L'ACCC (Australian Competition and Consumer Commission) a engagé une action en justice à l'encontre de ces accords de coentreprise. Les tribunaux se sont rangés de l'avis selon lequel, même s'il ne convenait pas de reconduire ces accords d'entreprises conjointes à l'expiration de leur durée initialement prévue, il ne fallait pas les supprimer dans l'immédiat car ils faisaient partie du cadre contractuel à la base de l'industrie australienne du gaz. En vertu de ces décisions, les accords de coentreprise au niveau de la commercialisation sont maintenus, bien qu'ils soient incontestablement anticoncurrentiels.

Le Président aborde ensuite le Royaume-Uni, en faisant observer que ce pays dispose d'abondants approvisionnements gaziers d'origine nationale et qu'il a opté pour la séparation verticale des activités du secteur.

Le délégué du Royaume-Uni se présente en précisant qu'il fait partie de l'Office of Gas and Electricity Markets (Ofgem), chargé de la régulation des marchés du gaz et de l'électricité en Grande-Bretagne. Les deux missions régulatrices ont été regroupées en 1999, ce qui témoigne de la convergence grandissante des deux marchés. L'Ofgem et son Directeur général sont indépendants du gouvernement du Royaume-Uni (qui désigne cependant le Directeur général). La principale mission de l'Ofgem, définie par la législation britannique (le Gas Act de 1996), est d'ouvrir les marchés du gaz à la concurrence et de veiller à ce que celle-ci se développe efficacement. L'Ofgem n'est responsable que de la régulation du marché du gaz « en aval » en Grande-Bretagne -- autrement dit, à partir du point où le gaz est injecté dans le réseau de gazoducs terrestres. La production en mer ne relève pas de sa compétence mais de celle du gouvernement ; elle est placée sous la tutelle du ministère du Commerce et de l'Industrie.

Les producteurs qui exploitent des champs au large des côtes sont nombreux au Royaume-Uni, et il en a été ainsi de tout temps. Le gouvernement du Royaume-Uni octroie des licences d'exploration et de production de gaz, surtout en mer du Nord et en mer d'Irlande. Cette activité n'a jamais connu de situation de monopole depuis les premières découvertes de champs marins de gaz. A terre, il existe trois grandes catégories d'entreprises qui opèrent sur le marché gazier : les entreprises de transport, qui gèrent les réseaux de gazoducs ; les expéditeurs, qui passent des contrats avec les entreprises de transport pour expédier le gaz par les gazoducs et avec les producteurs pour se procurer le gaz extrait en mer ; et enfin, les fournisseurs, qui ont des contrats avec les expéditeurs pour obtenir le gaz, d'une part, et directement avec les clients finals pour la fourniture, d'autre part.

En 1997, British Gas, qui exerçait un monopole sur les marchés du transport, de l'expédition et de la fourniture, a été scindée en deux entreprises indépendantes. L'une, BG Transco, possède les actifs de transport et de stockage et l'autre, BG Trading, est chargée des activités d'expédition et de négoce. Les actifs de production de gaz de l'entreprise, qui n'étaient pas très importants en regard de l'ensemble de

l'industrie de la production gazière du Royaume-Uni, ont été répartis entre les deux entreprises au moment de la séparation. Celle-ci a été décidée parce qu'il était devenu notoire, à l'époque, que les pratiques de British Gas en matière de fixation des prix du gaz vendu aux gros consommateurs industriels et commerciaux laissaient à désirer. Les autorités de la concurrence du Royaume-Uni ont procédé à une enquête, menée principalement par la Monopolies and Mergers Commission, qui est compétente pour préconiser des remèdes structurels. La MMC a recommandé de séparer les activités d'expédition et de fourniture de celles de transport et de stockage. La séparation a juridiquement pris effet lors de la promulgation du Gas Act de 1995.

A l'heure actuelle, le Royaume-Uni applique un régime d'accès réglementé non discriminatoire aux réseaux de transport. L'Ofgem réglemente les prix de façon que Transco puisse recouvrer les coûts liés à l'utilisation de son réseau par des expéditeurs de gaz. La formule d'encadrement des prix stipule que ceux-ci ne peuvent pas augmenter d'un taux supérieur à l'indice des prix à la consommation minoré de X pour cent (IPC-X), X étant redéfini tous les cinq ans. On constate aussi, au Royaume-Uni, un certain degré de concurrence dans les activités de relevé des compteurs, de raccordement et de stockage. On dénombre plus d'une centaine d'expéditeurs de gaz en Grande-Bretagne, ainsi qu'une soixantaine de fournisseurs sur le marché de la vente de gaz au secteur commercial et 27 environ sur le marché de la fourniture aux ménages. (Les consommateurs résidentiels sont ceux qui consomment moins de 60 000 kWh par an). Sur le marché de la fourniture de gaz aux clients industriels et commerciaux, aucune entreprise n'approvisionne actuellement plus de 20 pour cent des clients, pas même British Gas, qui disposait du monopole au départ. La concurrence se développe très bien sur ce marché. Sur celui de la vente aux ménages, tous les clients peuvent choisir leur fournisseur de gaz depuis 1998. Jusqu'ici, sur 20 millions de clients, cinq millions ont préféré d'autres entreprises à British Gas, et cette perte de clientèle se poursuit au rythme de quelque 30 000 consommateurs par semaine. Cela s'explique parce qu'ils peuvent acheter du gaz à un prix inférieur de 20 pour cent environ à ceux que pratique British Gas. Cet écart est dû, en partie, à certains des contrats d'approvisionnement gazier très coûteux conclus par British Gas avec les producteurs. Le National Audit Office, qui contrôle les dépenses publiques au Royaume-Uni, a calculé que la concurrence au niveau de la fourniture de gaz aux clients résidentiels a permis à l'économie britannique d'économiser plus d'un milliard de livres sterling jusqu'ici.

Le Président note que deux autres pays ont instauré la concurrence entre producteurs sans recourir à la séparation -- le Canada et la Nouvelle-Zélande. En Nouvelle-Zélande, le régime qui s'applique au secteur gazier est très libéral : aucun texte législatif ne concerne l'industrie du gaz, sauf certaines dispositions très minimales ; il n'y a pas non plus de restrictions à l'entrée du marché, ni de réglementation des prix. La Nouvelle-Zélande a choisi de s'en remettre au droit de la concurrence pour garantir l'accès, comme dans d'autres secteurs de service public, mais aucune initiative de séparation structurelle n'a été prise et le secteur demeure verticalement intégré. Il n'existe pas non plus de sources d'approvisionnement gazier indépendantes. Pour toutes ces raisons, le secteur gazier néo-zélandais, n'est pas très concurrentiel ; il reste très intégré et une seule entreprise y conserve une position dominante. L'exemple de la Nouvelle-Zélande montre que la promotion de la concurrence n'est pas la même chose que la libéralisation. Le secteur est très ouvert, il n'est pas soumis à une réglementation qui entraîne des distorsions, mais dans le même temps la concurrence est limitée.

1.3 *Débat général*

Le délégué du Mexique, qui ouvre le débat général, demande s'il s'est produit des cas de refus de transaction ou d'abus de position dominante en matière d'accès. Le représentant d'un pays non identifié demande si la concurrence est possible au niveau du stockage. Le Président invite les participants des différents pays à aborder la question de savoir si le service universel pose des problèmes particuliers du point de vue de la libéralisation.

Le délégué du Royaume-Uni fait observer, à propos du refus d'accès, que l'entreprise de transport de gaz n'a nullement d'incitation financière dans ce sens en raison de la séparation verticale appliquée dans le pays. Le seul motif qu'elle pourrait invoquer pour refuser l'accès à ses installations serait lié à des problèmes de solvabilité de l'expéditeur. Comme le refus d'accès ne présente aucun intérêt sur le plan financier, aucun cas ne s'est encore produit. Au sujet du service universel, les licences accordées aux fournisseurs de gaz stipulent qu'ils ont le devoir de desservir tout consommateur qui demande à l'être, ce qui constitue une sauvegarde, bien qu'il n'existe pas d'« obligation de service universel » à proprement parler. En outre, dans la mesure où le prix du gaz destiné aux clients résidentiels de British Gas est réglementé, il existe un prix maximum à payer sur ce marché pour recevoir du gaz. À partir d'avril 2001, on pense que la concurrence sera assez bien établie et que cette réglementation des prix appliqués par British Gas aux ménages n'aura plus lieu d'être.

En ce qui concerne le stockage, au moment de la séparation verticale, la plupart des installations de stockage, qui étaient détenues par BG Transco, étaient pratiquement les seules qui existaient au Royaume-Uni et elles étaient contrôlées par l'Ofgem par le biais d'un encadrement des prix. La façon dont BG Storage cherchait à fixer les prix des services rendus aux différents clients sous ce régime de contrôle des prix a posé un certain nombre de problèmes. Après une longue enquête sur le degré de concurrence au niveau du stockage et pour certains produits connexes, tels que le stockage intermédiaire modulable dans les terminaux côtiers et les approvisionnements interruptibles, il a été décidé que le meilleur moyen de progresser vers la solution de ces problèmes serait de mettre aux enchères les services fournis par BG Storage. Cette entreprise conclut maintenant des contrats de stockage, d'une durée de un ou de cinq ans, avec des clients sélectionnés par un mécanisme d'enchères. On observe également qu'il y a de nouveaux entrants sur le marché du stockage, notamment Enron et certaines entreprises qui envisagent de construire de nouvelles installations de stockage souterrain.

En réponse à une question du délégué espagnol, le délégué du Royaume-Uni fait remarquer que les prix du transport facturés par BG Transco sont réglementés par la formule d'encadrement des prix fondée sur l'IPC-X, qui réduit la latitude laissée à l'entreprise de différencier les prix selon le type de client et entre les différentes entreprises de transport de gaz. Toutes les variations des prix doivent être approuvées par l'Ofgem. L'an dernier, un système d'enchères pour l'attribution de capacité a été adopté pour trois des gazoducs à haute pression de Transco, l'Ofgem craignant que Transco ne soit pas assez incitée à offrir une capacité suffisante, alors que les pénuries de capacité entraînaient de fortes hausses des prix sur les marchés de gros du gaz. Les prix réglementés comportent un élément lié à la capacité et une autre au produit. BG Transco est propriétaire de toutes les conduites du Royaume-Uni -- tant les gazoducs à haute pression que les canalisations à basse pression -- et sa part sur le marché du transport et de la distribution atteint presque 100 pour cent. BG Supply, qui dessert les clients finals, détient une part de marché de 73 pour cent environ sur le marché résidentiel et de moins de 20 pour cent sur celui des clients industriels et commerciaux.

Le délégué des États-Unis, abordant la question des comportements abusifs en matière d'accès, signale qu'ils sont nombreux, depuis longtemps, dans son pays. Le programme instaurant le libre accès a été lancé en 1985 pour répondre aux plaintes déposées concernant des comportements abusifs en matière d'accès, découlant des prix élevés du gaz et de l'apparition d'un marché privé au niveau des têtes de puits. Ce programme a par la suite exercé des contraintes sur le monopole vertical du transport, qui ont conduit les acteurs du marché à déployer des prodiges d'imagination pour contourner les droits d'accès. Cette évolution a amené à affiner le programme en instaurant une forme de séparation verticale pour dissocier le marché du produit du service de transport nécessaire pour le livrer. La FERC est régulièrement saisie, encore maintenant, de plaintes pour comportements abusifs concernant l'accès ou la qualité du service, ainsi que pour favoritisme à l'égard des entreprises affiliées assurant la commercialisation. Une procédure améliorée a été récemment mise en place pour traiter les plaintes relatives à diverses affaires d'abus allégués, qui comprend notamment un service d'informations téléphoniques permettant aux plaignants de

se renseigner de façon informelle auprès de spécialistes de la Commission. La FERC s'attend à devoir continuer à traiter pendant un temps indéterminé encore des plaintes pour comportement abusif en matière d'accès.

S'agissant des comportements abusifs en matière de qualité du service, le programme de 1985 instaurant le libre accès autorise les entreprises de transport de gaz inter-Etats à continuer à en vendre sur les marchés de consommation finale. Dans le même temps, ces entreprises sont tenues d'assurer un service de transport de qualité égale pour tous, afin qu'un concurrent puisse acheter du gaz à un producteur dans la région où il est extrait, l'acheminer jusqu'au marché et le revendre en gros aux entreprises de distribution locales, où il est alors en concurrence avec le gaz acheté directement à l'entreprise de transport (pour consommation finale) au même point du réseau. Lors de la mise en œuvre du programme, les entreprises de transport ont introduit des clauses et des conditions de service imposant des restrictions et des difficultés lourdes à gérer, ou bien excessivement détaillées, qui ont en fait dressé des obstacles à l'entrée du marché desservi. Pendant plusieurs années, la Commission s'est attaquée aux problèmes au cas par cas, jusqu'au jour où la tâche est devenue si écrasante qu'elle a entamé une nouvelle phase de réformes.

En ce qui concerne les obligations de service universel, dans le modèle des États-Unis, la distribution au niveau local est réglementée par les différents États, les autorités fédérales n'intervenant pas dans ce domaine. Les autorités de la plupart des États ont imposé des obligations de service universel, sous une forme ou une autre. Dans quelques États, peu nombreux, où des programmes dits de « libre choix du consommateur » accordent le libre accès aux clients finals, l'obligation de service universel est toujours à la charge du monopoleur historique. Dans certains États, le service universel a fait l'objet d'une mise en adjudication et le soumissionnaire le moins disant est tenu de l'assurer. Une rémunération est répartie entre tous les autres clients du réseau, par le biais de la redevance de transport qu'acquitte le secteur de la distribution.

Sur le marché du stockage, aux États-Unis, les nouveaux entrants ne sont guère soumis à réglementation. Néanmoins, une bonne part des stockages sont toujours détenus et exploités par les entreprises de transport de gaz inter-États. Même si celles-ci sont obligées de vendre leurs services en les dissociant du stockage, elles restent des acteurs dominants sur de nombreux marchés, dans lesquels est donc maintenue une réglementation des services de stockage.

En réponse à une question posée par un délégué coréen touchant à l'économie politique des réformes, le délégué australien fait observer que des pressions très puissantes se sont opposées aux réformes du secteur gazier. Certaines des manifestations de résistance les plus acharnées étaient le fait des gouvernements des États qui, par exemple lorsqu'ils possédaient des participations dans l'industrie du gaz, ont pesé de tout leur poids pour obtenir que les règles de formation des prix soient précisées à l'avance afin de donner plus de certitude aux acheteurs potentiels. En outre, ces États voulaient que des prix élevés soient stipulés dans la réglementation pendant les cinq ou dix premières années consécutives à la privatisation. L'ACCC a estimé qu'il y avait là un grave conflit d'intérêts entre ceux des pouvoirs publics partisans de la concurrence et ceux des autorités, des États notamment, qui souhaitaient maximiser les recettes provenant des entités publiques qui leur appartenaient ou des cessions effectuées dans le cadre de la privatisation. L'un des enseignements à tirer des réformes australiennes est que pour instaurer la concurrence il faut mener un combat sans relâche, en faisant sans cesse pression pour entretenir, chez les hommes politiques, un courant favorable aux réformes visant à promouvoir la concurrence. Cependant, après l'adoption de certaines mesures, des améliorations se font jour et il devient plus aisé de vanter aux yeux du public l'idée que de nouvelles réformes s'accompagneront d'autres avantages encore.

1.4 *Pays où la réforme est en cours : les pays européens*

Le Président ouvre la séance suivante en invitant la délégation de la CE à décrire l'importante directive concernant le gaz naturel, qui a des conséquences considérables pour les pays de l'UE.

Les délégués de la CE font remarquer que la politique énergétique de la Commission vise à faire en sorte que les consommateurs de toute l'Europe aient accès à des approvisionnements énergétiques sûrs et peu polluants. Cet objectif vaut pour toutes les formes d'énergie, y compris le gaz. L'UE est convaincue que, pour atteindre cet objectif malgré les situations différentes au départ d'un État membre à l'autre, il faut avant tout accorder aux consommateurs la liberté de choisir leur fournisseur -- autrement dit, introduire la concurrence sur des marchés précédemment soumis à des monopoles régionaux ou nationaux, en particulier aux niveaux du transport et de la fourniture.

Le principal moyen d'instaurer la concurrence a été l'adoption de la directive du 22 juin 1998 concernant des règles communes pour le marché intérieur du gaz naturel, qui repose sur quatre principes fondamentaux :

- en premier lieu, la directive met en place un régime d'accès de tiers aux réseaux, permettant aux clients éligibles de faire usage d'installations appartenant à d'autres acteurs du marché. Le régime d'accès de tiers aux réseaux s'applique aux gazoducs en aval ainsi que, si la nécessité s'en présente, à d'autres installations, par exemple les stockages. L'accès aux installations ne peut être refusé que pour trois motifs : des contraintes de capacité, des difficultés à remplir les obligations de service public et de graves problèmes économiques et financiers de l'entreprise qui devrait accorder l'accès en raison des obligations liées à des engagements « take-or-pay ». Les États membres peuvent choisir entre un régime d'accès « réglementé » ou « négocié » ;
- le deuxième principe auquel obéit la directive concernant le gaz est la séparation comptable obligatoire. Les entreprises verticalement intégrées opérant dans les segments de l'achat de la production, du transport, du stockage et de la fourniture doivent tenir une comptabilité séparée pour chacune des activités. La séparation vise trois objectifs : empêcher la discrimination (qui découlerait notamment de clauses et de conditions de faveur pour les entreprises affiliées de commercialisation), empêcher les subventions croisées entre les diverses activités et veiller à ce que les tarifs de transport soient économiquement efficaces ;
- le troisième principe sur lequel fait fond la directive est celui d'une ouverture progressive des marchés. A cet effet, trois étapes sont prévues : ouverture de 20 pour cent des marchés à compter d'août 2000, de 28 pour cent en 2003 et de 53 pour cent en 2008. Ces chiffres indiquent les degrés d'ouverture minimums : les États membres peuvent ouvrir les marchés plus rapidement, et sont invités à le faire. La Commission se félicite de constater que l'ouverture des marchés atteindra 70 pour cent en août 2000. Ce sont les « clients éligibles » qui permettent d'ouvrir progressivement les marchés. Ils seront les seuls à pouvoir choisir librement leur fournisseur. Au début, cette catégorie comprendra les producteurs d'électricité utilisant du gaz comme combustible et les clients consommant plus de 25 millions de mètres cubes de gaz par an pour un site ;
- selon le quatrième principe de la directive, toutes les restrictions imposées à la construction de gazoducs et d'autres installations, ainsi que les restrictions à l'importation (en particulier, les monopoles d'importation), devront être abolies.

La directive concernant le gaz doit être mise en œuvre par les États membres avant août 2000. La Commission reste en contact permanent avec eux afin de les aider à la transposer dans les législations

nationales et d'éviter les malentendus. Un certain nombre d'États membres ont bien progressé sur cette voie, ou ont déjà transposé la directive, tandis que d'autres prennent actuellement des mesures importantes dans ce sens.

Le Président se penche sur la situation des Pays-Bas et note que c'est l'un des rares pays européens dont la production intérieure de gaz est considérable. Le régime qu'il est proposé d'y adopter présente une caractéristique intéressante : il reposera essentiellement sur le droit de la concurrence et il incombera aux autorités de la concurrence de veiller au respect des dispositions relatives à l'accès aux réseaux de gazoducs. Une autre différence qui le distingue des régimes appliqués dans d'autres pays tient au fait que les Pays-Bas, au lieu de mettre en place un régulateur indépendant, maintiendront la compétence étendue du ministre de l'Énergie en matière de réglementation. Le Président demande également s'il est envisagé de procéder à la séparation structurelle de Gasunie.

Le délégué des Pays-Bas, émanant du ministère des Affaires économiques, fait observer que la nouvelle approche retenue aux Pays-Bas s'apparente beaucoup à celles de l'Australie et de la Nouvelle-Zélande -- en ce qu'elle fait fond, dans toute la mesure du possible, sur le droit commun de la concurrence et les autorités chargées de son application d'une manière générale. C'est un choix dicté par la volonté de limiter la portée des règlements spécifiques à chaque secteur et le nombre de régulateurs sectoriels. Les Pays-Bas ont opté pour le régime d'accès négocié, et non pour le régime réglementé, parce qu'il est compatible avec les pratiques déjà appliquées dans le pays ou en passe de l'être, mais aussi parce qu'ils pensent que le droit de la concurrence permettra de résoudre les problèmes de concurrence dans le secteur du gaz naturel. Il existe toutefois certaines dispositions supplémentaires visant la mise en conformité avec la directive, notamment des obligations imposées aux entreprises en ce qui concerne la séparation comptable interne et la publication de tarifs indicatifs. Par ailleurs, bien que les Pays-Bas s'en remettent aux autorités de la concurrence et au droit commun de la concurrence, ils ont jugé nécessaire de conférer des pouvoirs spéciaux pour le règlement des différends aux autorités de la concurrence, qui sont habilitées à fixer la date à laquelle les négociations devraient arriver à leur terme et des tarifs provisoires. S'agissant de l'éclatement de Gasunie, pour l'heure, les discussions sont axées sur la limitation du champ de ses activités.

Le Président fait remarquer qu'il existe en France un monopole légal dans le secteur gazier -- il est exercé par Gaz de France, entreprise fortement intégrée opérant aux niveaux du transport, de la production et de la distribution. Le Président invite la France à débattre, en particulier, les questions relatives à l'accès aux installations de stockage et le rôle des contrats « take-or-pay ».

Le délégué français commence par souligner la différence entre la situation de son pays et celle des Pays-Bas, due à la dépendance de la France à l'égard de sources extérieures d'approvisionnement gazier à hauteur de 95 pour cent de sa consommation de gaz, alors que les Pays-Bas possèdent d'abondantes ressources de gaz naturel. La part du gaz dans la consommation totale d'énergie s'est accrue de quelque 3.5 pour cent par an dans les années 90 en France, mais la part de marché de ce combustible -- environ 14 pour cent de la consommation d'énergie -- reste relativement limitée, dans l'ensemble, et inférieure à celle que l'on observe dans d'autres pays. Le gaz est principalement utilisé pour le chauffage dans le secteur résidentiel et celui des services (qui absorbent la moitié du total environ) ainsi que dans l'industrie (40 pour cent). Une loi de 1986 a institué un monopole sur les importations et les exportations. Il existe trois gestionnaires de réseaux de transport, mais la concurrence à ce niveau est limitée pour les raisons suivantes : en premier lieu, ces transporteurs doivent être des « établissements publics » ou des entreprises publiques, étant donné que la fonction de transport et de distribution est censée être un service public. Deuxièmement, les trois gestionnaires de réseaux de transport (GdF, CFM et GSO) opèrent sur des marchés géographiques différents : GSO couvre la région du sud-ouest, CFM le centre-ouest et GdF le reste de la France. En outre, GdF est actionnaire de GSO et de CFM, dont les autres actionnaires sont des compagnies pétrolières et, en particulier, Elf. GdF assure la distribution de 80 pour cent de la

consommation nationale, bien qu'il existe quelque 17 distributeurs indépendants qui desservent 170 communes.

Un projet de loi visant la réforme du secteur gazier français, qui était en préparation en février 2000, énonce les principes généraux décrits ci-après. Comme on l'a déjà dit, la France est très tributaire des approvisionnements gaziers provenant de l'étranger, c'est pourquoi la loi confère une grande importance au fait que la politique énergétique française continue d'être décidée par les pouvoirs publics. L'ouverture à la concurrence interviendra dans le contexte d'une structure de marché relativement intégrée. Le stockage étant un maillon essentiel de la filière pour garantir les approvisionnements, l'accès aux installations sera limité en raison de la priorité accordée à la sécurité, mais il sera néanmoins possible. Les clients captifs qui ne peuvent pas choisir leur fournisseur seront protégés par une garantie d'approvisionnement, par l'obligation d'être traités de façon non discriminatoire et par une politique sociale en faveur des plus démunis. Le territoire français ne bénéficie pas d'une desserte universelle en gaz, certaines régions n'étant pas desservies par le réseau de transport actuel. Par conséquent, la nouvelle loi n'en prévoit pas d'obligation de service universel applicable dans tout le pays, quoique certaines conditions de service devront être impérativement remplies à l'intérieur de la zone desservie par les gazoducs de transport. La nouvelle loi instaurera la séparation comptable pour empêcher, en particulier, les subventions croisées et limiter l'utilisation d'informations commerciales sensibles que l'entreprise monopolistique pourrait rassembler sur ses concurrents. Un organisme spécialisé sera mis en place pour intervenir dans le règlement de problèmes d'accès au réseau.

Eu égard au stockage, ainsi qu'il a été signalé plus haut, toutes les installations sont détenues par GdF. Ses concurrents, Elf et Shell, font valoir que ce sont des installations essentielles auxquelles GdF doit donner accès. GdF répond que, d'une manière générale, il n'est pas indispensable de lisser la courbe de l'approvisionnement gazier car le profil de la consommation est relativement régulier. En outre, GdF souhaiterait échanger l'accès aux stockages contre l'accès aux gisements de gaz. En ce qui concerne les contrats « take-or-pay », GdF a conclu des contrats à long terme avec un certain nombre de fournisseurs afin de disposer d'approvisionnements garantis sur une longue période. On peut se demander si ce type de contrat est compatible avec l'apparition de la concurrence, ou si ce n'est qu'un argument invoqué par GdF pour limiter l'ouverture du marché.

S'agissant de l'Irlande, le Président fait observer que ce pays dispose d'un certain volume d'approvisionnements d'origine nationale, mais accuse également une forte dépendance à l'égard des importations en provenance du Royaume-Uni. La principale entreprise gazière de ce pays est verticalement intégrée et regroupe les activités de transport, de production et de distribution, mais il y a des chances de voir y instituer une séparation verticale. Par ailleurs, l'Irlande applique un régime particulier de tarification de l'accès, dans lequel la redevance de transport n'est pas liée à la distance sur laquelle le gaz est acheminé.

En Irlande, le Gas Act de 1976 a porté création du Bord Gais, établissement public qui a pour mission d'acheter, de transporter et de vendre le gaz en Irlande. Alors que les segments de la production et de la vente de gaz aux clients finals pourraient devenir concurrentiels, le transport et la distribution sont des monopoles naturels, notamment en raison de la petite taille du marché irlandais. Il est peu probable que la concurrence s'instaure entre gazoducs à l'avenir. L'ouverture à la concurrence du marché gazier a précédé quelque peu, en Irlande, les mesures décidées au niveau de l'UE. L'Energy (Miscellaneous Provisions) Act de 1995 montre que les autorités irlandaises ont pris conscience des avantages de l'ouverture du secteur du gaz naturel à la concurrence pour le pays tout entier. Cette loi autorise l'accès de tiers aux réseaux de transport pour les clients consommant plus de neuf millions de thermies par an. Bien que cette clientèle représente plus de 75 pour cent du volume du marché, seuls sont concernés les dix plus gros consommateurs du pays. Ce sera suffisant pour réunir les conditions requises par la directive de l'UE, mais quelque 10 000 clients industriels, ainsi que les consommateurs résidentiels, resteront sous le

monopole de Bord Gais. En conséquence, les autorités irlandaises de la concurrence s'inquiètent beaucoup du degré de concurrence dans ce secteur et elles ont fait part de leurs craintes dans une communication destinée au gouvernement. Elles estiment qu'il conviendrait d'introduire la concurrence à une échelle beaucoup plus grande et ont recommandé au gouvernement de ramener le seuil de 9 millions de thermies à 25 000 thermies dans un délai de deux ans, puis à 2 500 thermies au bout de quatre ans. Elles sont d'avis qu'il faudrait parvenir à une totale liberté de concurrence, qui profitera à tous les consommateurs, d'ici six ans.

Bien que la tarification de l'accès soit généralement du ressort d'un régulateur sectoriel, il n'en a pas été créé pour le marché gazier en Irlande. La loi de 1995 prévoit que le ministre publie des directives concernant la tarification de l'accès de tiers aux réseaux de transport, ce qu'il a déjà fait une fois. Cette directive propose un système de tarification de type timbre poste -- les mêmes redevances de transport s'appliquent, indépendamment du point de livraison. C'est un point litigieux en Irlande : selon certains, le gaz d'origine nationale sera pénalisé par les coûts du transport du gaz importé et la question est à l'étude. Quant à la séparation verticale, Bord Gais restera verticalement intégré. Les autorités estiment que l'ouverture à la concurrence pose certains problèmes bien réels et préconisent de constituer une entreprise totalement indépendante chargée des activités de transport et de distribution. Pour l'heure, le gouvernement n'envisage que la séparation comptable. Par ailleurs, Bord Gais prévoit de s'introduire sur le marché de l'électricité, mais il risque de se voir opposer un refus parce que la capacité des principaux gazoducs est insuffisante.

Le Président constate que l'Italie dispose, comme l'Irlande, d'une production intérieure de quelque envergure (elle couvre un tiers environ de la consommation nationale) et qu'il y existe un monopoleur verticalement intégré opérant aux niveaux de la production, du transport et, en partie, de la distribution ; on observe toutefois une certaine diversité des acteurs. A la fin de 1999, les autorités italiennes de la concurrence ont plaidé, dans des rapports destinés au gouvernement et au Parlement, pour la séparation structurelle des différents maillons de la filière. En février 2000, le gouvernement italien a annoncé sa décision relative à la restructuration du secteur gazier.

Le délégué italien, qui fait partie des autorités de la concurrence de son pays, commence par décrire succinctement le secteur du gaz naturel en Italie. Le gaz naturel est l'une des principales sources d'énergie : en 1998, 55 pour cent de la demande du secteur des ménages étaient satisfaits au moyen de gaz, ainsi que 42 pour cent de la demande de l'industrie et quelque 25 pour cent de la demande des producteurs d'électricité. Ce dernier chiffre s'accroîtra vraisemblablement dans les dix prochaines années, en raison de la conversion au gaz des centrales à charbon. En 1999, la consommation totale s'établissait à 62 millions de mètres cubes et, selon les prévisions, la demande totale augmentera de 40 pour cent au cours de la prochaine décennie. Quant à l'organisation du secteur, il existe une entreprise verticalement intégrée, ENI, qui a été partiellement privatisée mais demeure sous le contrôle de l'État. L'ENI compte notamment un département opérant dans le secteur de la production nationale et une filiale appelée SNAM, dont elle est actionnaire à 100 pour cent et qui contrôle les importations de gaz en Italie. La SNAM a conclu des contrats principalement avec la Russie, l'Algérie et les Pays-Bas. La signature de deux autres contrats, avec la Libye et la Norvège, doit intervenir sous peu. La SNAM contrôle 97 pour cent du réseau à haute pression en Italie. Une autre entreprise, Edison, exploite un réseau de gazoducs dans le centre du pays. Ces dernières années, la SNAM a transporté du gaz pour le compte de tiers, les volumes concernés ayant atteint 9 pour cent de la demande totale de gaz sur son réseau. Il s'agit surtout de gaz acheminé pour ENEL, l'ancien monopoleur du secteur de l'électricité. Il y a plus de 800 distributeurs locaux en Italie, dont 500 sont des entreprises qui appartiennent à des municipalités ou sont en relation avec elles, et 300 sont des entreprises privées. Quelques petites collectivités locales assurent elles-mêmes le service de distribution au niveau local. Les prix du gaz vendu par la SNAM à l'industrie, aux producteurs d'électricité et aux distributeurs locaux sont déterminés par négociation avec l'association qui représente ces acheteurs. L'ENI possède également une participation directe dans ces entreprises locales de distribution car elle est

propriétaire d'Italgas, qui contrôle 30 pour cent de l'ensemble de la distribution de gaz aux collectivités locales.

Un projet de décret-loi visant la transposition de la directive européenne sur le gaz a été publié par le gouvernement italien le 16 février 2000 pour commentaire et devrait être approuvé le 18 mai 2000. Ce texte reflète les points de vue différents qui coexistent au sein même de l'État, celui-ci étant à la fois l'actionnaire et le régulateur. Il définit la cadre dans lequel s'inscrira la libéralisation du secteur gazier d'ici à 2010. Il impose notamment un certain nombre de plafonds ou de limites : aucune entité n'est autorisée à importer ou à produire plus de 70 pour cent de la demande totale -- cette limitation s'applique à l'ENI --, ni à fournir plus de 50 pour cent des ventes de gaz. Ces deux plafonds devraient devenir exécutoires en l'an 2003. Le décret-loi prévoit aussi une séparation verticale, qui donnera naissance à une entreprise de transport et de stockage de gaz, ainsi qu'à des entreprises distinctes de distribution au-delà d'un seuil donné. Eu égard à l'obligation de service universel, des dispositions portent sur les conditions requises en matière de sécurité, ainsi que sur le développement et l'extension de la desserte en gaz dans le sud du pays et sur les îles. Pour effectuer des importations, il faut une autorisation délivrée par le ministre de l'Énergie ; les autorités antitrust ont également un rôle à jouer à cet égard. La réglementation régissant l'accès aux réseaux est également définie par le ministre. En cas de comportement anticoncurrentiel, l'autorité antitrust peut intervenir. Tous les clients seront éligibles en l'an 2003. Le décret transpose les trois éléments qui sont au cœur de la libéralisation de la filière gazière -- la libéralisation des approvisionnements primaires en gaz, le transport et ses infrastructures, ainsi que le libre choix du fournisseur pour le consommateur.

A propos de l'Espagne, le Président note que ce pays a adopté une forme de séparation verticale dans la mesure où les entreprises dont les activités sont réglementées ne sont pas autorisées à mener des activités non réglementées. L'Espagne aussi, à l'instar de l'Italie, de la France et de l'Irlande, accuse une forte dépendance à l'égard des importations.

Une nouvelle loi couvrant le secteur gazier en Espagne a été promulguée en 1998. Dans ce pays, 96 pour cent des approvisionnements sont importés par deux gazoducs -- l'un provenant du Maghreb, l'autre traversant la France. Cinquante deux pour cent des importations viennent d'Algérie, le deuxième fournisseur étant la Norvège, avec 50.5 pour cent. Le secteur est totalement privatisé, l'État ne détenant aucune participation dans aucun des segments de l'industrie. En raison de son climat clément et de sa très faible densité de population, l'Espagne consomme relativement peu de gaz en comparaison du reste de l'Europe : la part du gaz naturel dans la consommation d'énergie primaire est de 10.7 pour cent. Dans la production d'électricité, la part du gaz ne représente que huit pour cent, mais la production d'électricité en cycle combiné laisse présager des débouchés potentiels considérables.

La nouvelle loi établit une distinction entre activités réglementées et non réglementées. Les activités qui restent réglementées sont la regazéification, le stockage, le transport et la distribution, tandis que celles qui ne le sont pas se bornent à la vente aux clients finals. Les entreprises opérant dans les maillons réglementés de la filière ne peuvent pas mener d'activités soumises à la concurrence. A partir de l'an 2000, les clients consommant plus de cinq millions de mètres cubes par an (c'est-à-dire 56 pour cent de l'ensemble du marché) seront éligibles. Le réseau a été subdivisé en trois catégories, en fonction de la pression -- le réseau de base, le réseau secondaire et le réseau de distribution. Pour la première fois, les entreprises de commercialisation ont le droit d'importer du gaz et de le vendre directement aux clients éligibles. Ces derniers peuvent aussi importer ou acheter du gaz par l'entremise des entreprises de commercialisation. Les entreprises de transport et de distribution sont tenues de respecter des obligations en matière d'accès de tiers aux réseaux, tandis que les entreprises de commercialisation ont un droit d'accès aux réseaux. Jusqu'à présent, les entreprises qui ont obtenu l'autorisation de mener des activités de commercialisation sont, pour la plupart, liées aux industries du pétrole et de l'électricité. L'entreprise dominante, Gas Natural, détient une part de 80 pour cent sur le marché du transport, et de 90 pour cent sur celui de la distribution.

La Pologne est aussi en train de préparer l'ouverture du marché à la concurrence. Trois séries de conditions distinctes doivent être réunies pour introduire la concurrence dans le secteur gazier polonais : la première concerne l'application pratique du principe de l'ATR, la deuxième porte sur les mécanismes de réglementation des prix et la troisième vise la démonopolisation des entreprises qui jouissent actuellement d'un monopole.

En ce qui concerne l'accès de tiers aux réseaux, il sera accordé aux clients dont la demande sera supérieure à 25 millions de mètres cubes à partir du 1er juillet 2000, à ceux qui consommeront plus de 15 millions de mètres cubes par an à partir du 1er janvier 2004 et aux clients absorbant moins de 15 millions de mètres cubes par an à partir du 15 décembre 2005. Quant au contrôle des prix, pour la première fois depuis la Seconde Guerre mondiale, aucun prix n'est plus contrôlé directement en Pologne par le ministère des Finances. Désormais, conformément à la nouvelle loi sur l'énergie, les tarifs seront fixés par les entreprises elles-mêmes et déposés auprès de l'Agence de réglementation de l'énergie pour approbation par son Président. S'agissant de la démonopolisation, un programme est actuellement à l'étude pour la restructuration et la privatisation du secteur gazier polonais. Dans le cadre de ce programme, sont examinés et pris en compte les besoins du ministère du Trésor, des consommateurs de gaz et de la société pétrolière et gazière nationale (Polskie Gornictwo Naftowe i Gazownictwo, Polish Oil and Gas Company, POGC). La structure proposée pour le secteur gazier par le ministre du Trésor est fondée sur la séparation fonctionnelle et ne prévoit pas la création d'un holding ou d'une entreprise centralisée chargée de l'organisation. Selon le modèle proposé, il sera créé une entreprise chargée de l'exploration et de la production regroupant les actifs de deux sociétés de prospection géophysique, des entreprises de forage et des départements de production de POGC. Le stockage et le transport du gaz seront assurés par une seule entreprise, qui sera également le successeur légal de l'actuelle POGC. Il sera créé en outre des entreprises de distribution qui desserviront directement les consommateurs finals et qui seront privatisées ultérieurement.

1.5 Pays à forte dépendance à l'égard du GNL : Japon et Corée

Le Président fait observer que le Japon et la Corée sont tous deux tributaires des importations gazières mais que, contrairement aux autres pays de l'OCDE, ils importent du gaz naturel liquéfié. Ce facteur a son importance car il ne faut pas de gazoduc pour expédier le gaz sous forme liquide, d'où la possibilité d'une concurrence au niveau de la production beaucoup plus vive que dans d'autres pays, qui doivent transporter le gaz par conduites. Le délégué japonais indique qu'il existe plus de 250 entreprises gazières verticalement intégrées dans son pays et que certains gros consommateurs de gaz semblent tirer profit d'un certain degré de concurrence parce qu'ils peuvent choisir l'entreprise à laquelle ils achètent le gaz.

Au Japon, les fournisseurs généraux de gaz peuvent en fournir de grandes quantités en dehors de leur zone de desserte en utilisant le réseau de transport. Certains fournisseurs généraux de gaz expressément désignés sont tenus de soumettre et de publier les prix et d'autres clauses de raccordement aux gazoducs. Ils n'ont pas le droit d'opposer un refus aux demandes de raccordement sans motif valable. Récemment, la FTC du Japon a aidé le ministère du Commerce et de l'Industrie (qui est compétent pour veiller à l'application de la loi sur l'industrie du gaz) à compiler et à publier un projet de lignes directrices sur le commerce du gaz, lesquelles devraient encourager la concurrence sur le marché gazier japonais. L'ouverture de ce secteur à la concurrence devrait avoir une influence notable sur le prix du gaz au Japon.

Le Président signale que la Corée prévoit une réforme en profondeur de ce secteur. Pour l'heure, dans ce pays, les importations de gaz naturel liquéfié et le transport du gaz naturel sont soumis à un monopole. Cependant, d'ici deux ans, le marché sera ouvert à la concurrence, une nouvelle agence réglementaire sera créée et l'accès de tiers aux réseaux sera adopté.

L'an dernier, le gouvernement de la Corée a décidé de faire régner la concurrence sur le marché gazier, qui est actuellement monopolistique à tous les niveaux -- importation, transport, gros et vente aux clients finals. Depuis la crise financière intervenue récemment, le gouvernement coréen n'a épargné aucun effort pour introduire les mécanismes du marché par tous les moyens possibles. La Corée n'a pas de production intérieure de gaz naturel et dépend donc des importations pour couvrir l'intégralité de ses besoins. Toutes les importations de gaz s'effectuent sous forme de GNL en provenance de l'Indonésie et des pays arabes. Les principales entreprises de l'industrie coréenne du gaz naturel sont Korea Gas Corporation et les compagnies de gaz de ville. Kogas est une entreprise d'État qui dispose du monopole à l'importation et sur le marché de gros pour répondre à toute la demande de gaz naturel. De surcroît, elle possède et exploite les terminaux de GNL et le réseau principal de transport. Les compagnies de gaz de ville sont des entreprises de commercialisation qui achètent le gaz en gros et le fournissent aux consommateurs finals. Il n'y a pas de concurrence entre gazoducs car chaque compagnie de gaz de ville bénéficie d'un monopole territorial et possède ses propres conduites. A aucun maillon de la filière du gaz la concurrence n'est autorisée. Néanmoins, conformément au programme de restructuration approuvé en décembre 1999, la concurrence sera instaurée à partir de 2001.

En application du programme de restructuration, Kogas scindera ses activités de vente en gros et d'importation pour constituer trois filiales, dont deux seront cédées à des investisseurs privés d'ici la fin de l'an 2002. La concurrence sera d'abord introduite au niveau de la fourniture aux gros clients, puis progressivement étendue aux petits consommateurs. Sur le marché dit de détail, la concurrence sera autorisée pour construire des installations de fourniture aux clients finals à partir de l'an 2000, dès que la législation correspondante aura été promulguée. Toute entreprise à laquelle le gouvernement aura accordé une autorisation pourra créer des ouvrages de distribution dans n'importe quelle zone non encore desservie en gaz à l'heure actuelle. Quant au stockage, il sera procédé à la séparation des installations de stockage et du réseau principal de transport, qui seront détenus par une seule entreprise, même après la restructuration. Il n'est pas prévu d'ouvrir à la concurrence le transport par la conduite principale, mais un régime instaurant l'accès de tiers aux installations, notamment les terminaux de GNL et le réseau de gazoducs, sera mis en place en vue de favoriser la concurrence au niveau des ventes de gaz. L'égalité de traitement en matière d'accès sera garantie aux importateurs et aux négociants en gaz. Dans le secteur de la commercialisation, le même mécanisme de libre accès sera adopté. En 2002, le gouvernement coréen mettra sur pied une nouvelle agence de régulation des secteurs de l'électricité et du gaz naturel. Il incombera toujours à la FTC coréenne de faire respecter le droit de la concurrence.

L'un des obstacles à l'ouverture du marché coréen à la concurrence est dû à l'existence de contrats « take-or-pay » à long terme. Lorsque Kogas sera séparée en trois filiales, ces contrats leur seront transférés. Les acheteurs devront assumer toutes les responsabilités, notamment celles qui découlent des engagements « take-or-pay », mais le gouvernement va concevoir des mesures de soutien appropriées.

1.6 *Débat général*

Le représentant du BIAC, émanant d'Enron Europe Limited, fait observer que la note de référence est très utile en ce qu'elle souligne l'importance que revêt l'accès de tiers obligatoire pour favoriser la concurrence. Il insiste sur le fait que le régime d'accès négocié ne permet pas que la concurrence s'instaure ; au contraire, il retarde son apparition en raison des coûts de transaction plus élevés, des retards imputables à la négociation et, très souvent en fin de compte, de la discrimination exercée en recourant à des contrats différemment structurés. L'obligation d'accorder l'accès est essentielle pour promouvoir la concurrence, notamment lorsqu'il s'agit de l'accès aux installations de regazéification du gaz naturel liquéfié.

Le représentant met aussi en relief le bien-fondé de l'élargissement du droit d'accès à des utilisateurs qui ne disposent pas eux-mêmes d'installations. De tels négociants indépendants, ou les marchés qu'ils constituent, jouent un rôle important dans la création de produits novateurs. Par exemple, bien que le délégué du Royaume-Uni ait indiqué qu'Enron offre des possibilités de stockage sur son territoire, il n'a pas précisé que cette entreprise ne possède aucune installation de stockage : elle assure ce service en associant des actifs de portefeuille et des contrats indépendants du stockage pour concurrencer l'ancien monopoleur de ce maillon de la filière. Aucun concurrent ne propose au Royaume-Uni ce type de service de stockage virtuel.

Le délégué de la Commission européenne met l'accent sur le fait qu'elle aborde dans la directive sur le gaz la question de l'accès au stockage. Si la directive concernant le gaz naturel ne prévoit pas de dispositions pour l'accès au stockage indépendamment de l'utilisation du réseau, elle stipule toutefois des conditions en la matière lorsque cela s'avère nécessaire au plan technique pour assurer un fonctionnement efficient du système. Il est crucial, pour égaliser les conditions de concurrence sur le marché gazier, de ménager une certaine flexibilité dans des conditions non discriminatoires. Dans le cas de figure où un client éligible a besoin d'une certaine souplesse et d'un équilibre de la charge sans avoir accès aux installations qui les lui procureraient, il existe de fortes possibilités de discrimination entre les entreprises du marché qui contrôlent ce type d'installations et celles qui ne peuvent pas le faire. La délégation française a évoqué la question de la sécurité des approvisionnements. Il est évident que le stockage est utilisé à diverses fins, y compris pour garantir la sécurité des approvisionnements et un stockage stratégique (qui peut se révéler particulièrement important dans les pays tributaires des importations), mais il a aussi d'autres raisons d'être -- il peut servir, par exemple, à équilibrer la charge et à optimiser le fonctionnement des réseaux. Il peut arriver que l'on accorde en priorité l'accès au stockage pour faire face à des impératifs stratégiques, mais on ne pourra refuser l'accès à ces installations que s'il est possible de prouver qu'une obligation de service public est la mesure la moins restrictive du point de vue de la concurrence.

Le délégué commente également les obligations contractées en vertu de contrats « take-or-pay », qui font l'objet d'un traitement spécial dans la directive concernant le gaz. Les entreprises qui sont tenues de payer le gaz même si elles ne l'enlèvent pas peuvent bénéficier de dérogations pour certaines dispositions du régime d'accès de tiers aux réseaux prévu par la directive. Cependant, à l'heure actuelle, la CE prévoit qu'elle n'approuvera pas de nombreuses demandes de dérogation présentées à ce titre car un certain nombre de conditions très strictes doivent être réunies. En premier lieu, l'entreprise doit se trouver face à de graves difficultés économiques et financières : cette condition se présente très rarement, étant donné que les engagements « take-or-pay » n'obligent jamais une entreprise à enlever 100 pour cent du volume de gaz concerné, mais généralement un pourcentage bien moindre. En outre, dans de nombreux contrats, certaines clauses ménagent la possibilité de compléter ou de reporter des approvisionnements gaziers, ce qui permet aux entreprises de jouer sur la répartition des approvisionnements entre différentes années, antérieures ou postérieures. Deuxièmement, avant d'obtenir une dérogation, l'entreprise doit chercher d'autres débouchés y compris les consommateurs potentiels, par exemple dans d'autres pays. Troisièmement, la date à laquelle l'obligation d'enlèvement a été contractée importe également : si, à l'époque, il était déjà manifeste que ce type d'obligation entraînerait des difficultés dans le cadre de la libéralisation du marché gazier, il n'est pas possible, bien entendu, de faire prévaloir cet argument auprès d'une entreprise chargée du transport. Enfin, les marchés du gaz étant en expansion, il est peu vraisemblable que les obligations dont sont assortis les contrats « take-or-pay » posent des difficultés insurmontables à l'avenir.

Le délégué du Royaume-Uni soulève la question des marchés « spot » de gros concernant le gaz. Environ 90 pour cent de la production gazière du Royaume-Uni sont vendus aux termes de contrats conclus entre des expéditeurs et des producteurs de gaz, le reste étant écoulé sur le marché de gros. Il existe des marchés spot et des ventes de gaz sur les marchés à terme à des échéances relativement rapprochées.

L'Ofgem, en liaison avec les autorités de la concurrence, supervise ces marchés. Il existe également des marchés sur lesquels les expéditeurs peuvent négocier des approvisionnements gaziers en fonction des possibilités de livraison en temps réel pour faciliter l'équilibrage de l'offre et de la demande et une imputation appropriée des coûts correspondants. Précédemment, c'était le gestionnaire du réseau Transco qui assurait l'équilibrage en temps réel et les expéditeurs n'étaient pas encouragés à y veiller eux-mêmes car les coûts correspondants étaient répartis entre tous, et non répercutés sur ceux qui en étaient responsables.

Le délégué australien signale qu'il existe, dans un État de son pays (Victoria), un marché de gros qui répond à une part de la demande pouvant aller jusqu'à huit pour cent du total. Y interviennent seulement les acteurs du marché qui ont d'ores et déjà conclu des contrats bilatéraux. Un marché de cette nature, qui repose sur un fonctionnement bilatéral, autorise une plus grande souplesse en ce qui concerne le type de contrats bilatéraux que l'on peut signer. On pourrait imaginer la possibilité de négocier un contrat « take-or-pay » assorti d'une obligation d'enlèvement de 100 pour cent autorisant la vente d'éventuels excédents sur le marché de gros. Ce type de marché a également certaines répercussions sur la concurrence dès lors qu'il favorise l'apparition sur le marché de petits fournisseurs potentiels. L'un des aspects controversés est lié aux coûts de transaction qui y sont associés, et il est très complexe à régler.

En réponse à une question des délégués de l'Italie et de l'Espagne concernant le transit international de gaz, la délégation de la Commission européenne reconnaît que des opérateurs italiens ont eu du mal à obtenir l'accès aux réseaux de gazoducs en Europe. Au moins dans certains cas, le motif invoqué par les acteurs sur le marché concernés pour refuser l'accès était une capacité insuffisante. Dans la directive concernant le gaz, une disposition relative à la charge de la preuve stipule que la partie qui refuse l'accès doit apporter la preuve d'un tel manque de capacité. À l'avenir, les États membres exerceront un contrôle plus rigoureux dans ce domaine.

2. Institutions de réglementation dans le secteur gazier

Le Président fait observer qu'un régulateur sectoriel, souvent associé à celui de l'électricité, est déjà en place, ou en passe d'être créé, dans la plupart des pays. Il est à noter quelques exceptions intéressantes, notamment en Australie et aux Pays-Bas -- dans ces deux pays, ce sont les autorités de la concurrence qui sont chargées de la régulation. La Nouvelle-Zélande, où il n'existe aucune réglementation sectorielle, est une autre exception notable à cet égard. Au Mexique, la législation relative au gaz confère un rôle aux autorités de la concurrence ; ce sont elles, en effet, qui décident dans quels cas une entreprise gazière occupe une position dominante et qui aident le régulateur à aménager le contrôle sur les prix.

Le délégué mexicain commence par brosser un panorama général du système mexicain et du rôle des autorités de la concurrence. Par le passé, le secteur gazier était contrôlé et exploité par une entreprise d'État. Le Congrès a approuvé la cession d'actifs et la privatisation en 1995. Depuis cette date, des investisseurs privés se sont introduits dans les secteurs de la distribution et du transport. La production est encore soumise à un monopole légal, mais les importations peuvent être effectuées par des tiers. Depuis la réforme de la législation en 1995, 12 mises aux enchères ont été lancées pour l'octroi d'autorisations de mener des activités de distribution. Il y a également plusieurs entreprises de transport privées qui exploitent leurs propres conduites. Les entreprises de distribution se voient accorder l'exclusivité pendant cinq ans. La Commission de la concurrence collabore avec le régulateur pour analyser la situation et voir si la concurrence s'exerce ou non après la période d'exclusivité. On prévoit que la concurrence se développera, compte tenu de la réglementation en vigueur qui impose l'obligation d'accorder l'accès dans des conditions non discriminatoires. La Commission de la concurrence est habilitée à décider, au fur et à mesure que la concurrence s'instaure, à quel moment supprimer la réglementation des prix. Elle a également un droit de veto sur la candidature des acteurs souhaitant participer aux enchères. La

discrimination, l'abus de position dominante et le refus d'accès sont sanctionnés à la fois par le régulateur et par la Commission de la concurrence.

Le Président fait référence au Canada, où la concurrence est assez vive au niveau de la production gazière et où les prix du gaz sont les plus bas de tous les pays de l'OCDE. En revanche, bien que la concurrence soit relativement importante à la production, la densité du réseau de gazoducs n'y est pas aussi forte qu'aux États-Unis. Le Canada n'a pas imposé la séparation verticale entre le transport, la distribution et la production. Selon la communication de ce pays, le régulateur intervient dans de nombreux domaines qui, dans d'autres pays, sont traités directement par l'industrie. Par exemple, il veille à l'équilibre entre l'offre et la demande et à l'accroissement de la capacité.

Le délégué canadien explique que les exportations étaient strictement contrôlées en vertu de règlements très contraignants avant 1985. Le régulateur a joué un rôle beaucoup plus important dans le secteur en général. Le changement de politique opéré en 1985 portait du principe selon lequel les effets synergiques des forces du marché permettraient, à la fois, d'approvisionner le marché intérieur et d'ouvrir des débouchés à l'exportation. A l'heure actuelle, les exportations ne sont plus contrôlées. Jusqu'en 1985, elles devaient être étayées par des réserves exploitables pendant 25 ans. De ce fait, les producteurs avaient constitué des stocks très considérables, dont la valeur économique était telle qu'elle permettait d'envisager l'exportation du gaz naturel. En 1985, le Canada a donc adopté une politique exportatrice obéissant aux lois du marché. L'Office national de l'énergie continue d'assurer un suivi de l'offre et de la demande, mais ce n'est qu'un prolongement de la politique antérieure. Par le passé, une analyse de l'offre et de la demande était effectuée tous les deux ans, mais il s'est écoulé cinq ans entre la dernière, qui date de 1999, et la précédente. S'agissant des marchés locaux, le Canada a un régime fédéral et la distribution à l'échelon local relève de la compétence des provinces. Sur le marché de l'Ontario, par exemple, ainsi que sur d'autres marchés provinciaux du Canada, les consommateurs résidentiels peuvent acheter directement le gaz aux producteurs par l'entremise d'agents, de courtiers et de négociants.

En ce qui concerne l'écart de prix entre les États-Unis et le Canada, il est à noter que le prix de référence habituel au Canada est celui du gaz de l'Alberta, province qui affiche la plus forte production du pays. C'est donc un prix au niveau du « bassin de production », qui sera toujours inférieur au prix pratiqué à Chicago. Cependant, ces deux prix devraient évoluer parallèlement, quoique cela dépende aussi de la capacité du gazoduc d'exportation : si elle est saturée, il se produit un phénomène que l'on décrit en disant que le gaz est « bloqué dans le bassin de production ». Le tarif de transport du gaz de l'Alberta à Chicago avoisine 55 cents par Btu. En septembre 1998, l'écart moyen de prix entre l'Alberta et Chicago était de quelque 80 cents d'USD. En 1999, cette différence était de 50 cents. Dans l'intervalle, la capacité du gazoduc a été accrue de 30 pour cent. L'un des grands avantages de la déréglementation mise en œuvre au Canada est la clarté de signaux des prix qui en résulte. Ce différentiel de prix est le signe d'un besoin de capacité, qui donne simultanément aux producteurs un signal indiquant l'existence d'un marché attractif.

Le Président demande au délégué des États-Unis de décrire les institutions chargées de la réglementation et des exemples de défaillance réglementaire aux États-Unis.

Les premières défaillances de la réglementation constatées aux États-Unis remontent à 1954, année où la Cour Suprême des États-Unis a ordonné que l'instance réglementaire commence à réglementer les prix en tête de puits pour appliquer également en amont la réglementation appropriée fondée sur les coûts qui régissait les prix de vente du gaz acheminé par les gazoducs inter-États. En vingt ans, le clivage juridictionnel entre les compétences fédérales et celles des États, conjugué à cette réglementation des prix, a créé un marché du gaz naturel non réglementé à l'intérieur de chaque État. Le déséquilibre entre les prix pratiqués à l'intérieur des différents États, qui approchaient de la parité avec les cours mondiaux du pétrole, et les prix réglementés en fonction des coûts du gaz transporté par le réseau inter-États a entraîné une grave crise d'approvisionnement. Il s'en est suivi une nouvelle défaillance du marché, lorsque l'on a

cherché à affecter par voie réglementaire des approvisionnements insuffisants pour couvrir ce qui était perçu, à l'époque, comme étant une demande illimitée. On ne voyait pas de limites à cette demande car le coût du gaz rendu sur le marché était si faible en regard de la véritable valeur marchande de l'énergie que les signaux des prix ne traduisaient nullement les élasticités réelles de la demande.

Dans la décennie suivante, les instances de réglementation ont lutté sur deux fronts pour remédier aux défaillances du marché. D'une part, elles se sont efforcées de trouver les moyens de faire varier plus rapidement les prix en tête de puits. La FERC a d'abord appliqué une réglementation au cas par cas au niveau des têtes de puits, puis au niveau des bassins de production, pour adopter finalement des mécanismes plus généraux de fixation des prix à l'échelon régional. Dans le même temps, elle exerçait un pouvoir réglementaire draconien pour créer des mécanismes d'affectation. En général, ces mécanismes réglementaires divisaient le marché en secteurs -- résidentiel, commercial, industriel, agricole et, enfin, celui où l'on jugeait à l'époque que la consommation de combustible revêtait la plus faible priorité, dont faisait partie la production d'électricité. On voit là la confusion qui régnait dans la réglementation du secteur gazier.

En 1978 et 1979, le Congrès des États-Unis a adopté des lois qui ont abouti à la levée des contrôles des prix en tête de puits. Les instances de réglementation, reprenant les choses à zéro, ont commencé à créer des mécanismes de réglementation visant à unifier les marchés des États et le marché inter-États. Il en a résulté, au fur et à mesure, un certain nombre de dérèglements -- notamment, une accumulation impressionnante d'engagements du type « take-or-pay » entre les entreprises de transport de gaz et les producteurs. Une récession économique a provoqué une chute spectaculaire de la demande de gaz des consommateurs finals alors que, simultanément, l'offre montait en flèche par suite de la déréglementation partielle des prix en tête de puits. Cette évolution a indirectement conduit à la réglementation du libre accès, permettant d'exercer une discrimination par les prix, qui a obligé les exploitants de gazoducs à transporter du gaz dans des conditions de concurrence avec leurs propres services de ventes. La suite des événements en découle -- le régime de libre accès est mis en œuvre, le marché concurrentiel s'impose, les faiblesses du dispositif réglementaire se font jour et provoquent la réaction des instances de réglementation.

3. Problèmes de concurrence dans le secteur du gaz naturel

Le Président présente le thème de la dernière partie de cette table ronde -- les problèmes de concurrence dans le secteur du gaz naturel et la question de la définition du marché. Le marché du gaz devrait-il ou non être considéré comme un segment d'un marché énergétique plus vaste ?

Le délégué australien indique que, dans son pays, les autorités sont très conscientes des répercussions des fusions, des alliances et des entreprises conjointes dans le secteur de l'énergie. En général, la déréglementation s'accompagne d'une restructuration des marchés, sous une forme ou une autre, s'opérant notamment par une séparation verticale ou horizontale. De ce fait, les parties issues de la séparation exercent des pressions pour revenir à la situation antérieure. Sur d'autres marchés, les limites géographiques s'estompent entre les différents marchés et cela incite fortement les acteurs des anciens marchés scindés à s'associer, souvent pour adopter un comportement anticoncurrentiel, ou parfois pour améliorer l'efficacité. Les marchés gaziers qui nous intéressent sont en évolution constante -- après avoir été des marchés circonscrits aux États ou de portée régionale, leur couverture géographique s'étend pour devenir plus nationale ; en outre, certains marchés s'élargissent pour englober le gaz et l'électricité, au lieu de rester cantonnés à un seul produit.

L'ACCC n'a pas encore admis qu'il existe un marché unique de l'énergie. Pour certains consommateurs industriels, le gaz et l'électricité peuvent se substituer l'un à l'autre, mais il en existe aussi

un grand nombre pour lesquels cette substitution n'est pas évidente. Ces entreprises entrent dans deux catégories : la première est celle des entreprises qui ne peuvent absolument pas se passer du gaz, par exemple lorsque ce combustible est un produit d'alimentation ou une matière première utilisée dans un procédé de production ou un autre, comme c'est le cas dans certains segments de l'industrie chimique ; la seconde catégorie se compose des entreprises pour lesquelles le gaz ou l'électricité sont incontournables parce que toute leur infrastructure y est liée et qu'elles n'envisagent pas de la modifier dans les quelques années à venir, même s'il se produit un écart considérable de prix entre le gaz et l'électricité. On peut en citer un exemple dans le Queensland, où deux distributeurs de gaz desservant les deux rives du fleuve Brisbane voulaient fusionner. L'ACCC disposait d'informations communiquées par les consommateurs industriels selon lesquelles, malgré le monopole exercé par chacun d'eux sur chaque rive en vertu de leurs concessions de fourniture aux petits consommateurs, ils se faisaient une concurrence de plus en plus âpre pour desservir les consommateurs industriels. On en a supposé qu'ils rivaliseraient aussi au niveau de la vente aux petits consommateurs si la libre concurrence était instaurée. Lorsque l'ACCC a analysé les sources d'approvisionnement gazier, elle s'est aperçue que l'approvisionnement en gaz était verrouillé par ces deux distributeurs, et ce pour quelques années encore, d'où des difficultés en matière d'accès. Elle a ensuite autorisé le rachat de l'entreprise gazière par l'entreprise électrique de la région, estimant que la concurrence demeurerait tout de même assez vive sur le marché et que le distributeur d'électricité ne s'introduirait pas sur le marché gazier, alors que d'autres entreprises cherchaient à entrer sur le marché de l'électricité.

La délégation de la CE indique qu'elle partage le point de vue exprimé par la délégation australienne en ce qui concerne le marché de l'énergie. Aux yeux de la CE, il n'y a pas un seul marché mais des marchés distincts pour les différents types d'énergie. L'affaire Neste/Ivo qui est un exemple de fusion entre une entreprise électrique finlandaise et la principale entreprise gazière du pays illustre bien le point. En l'occurrence, la Commission a décidé qu'il fallait assortir l'autorisation de la fusion de sauvegardes rigoureuses, faute de quoi l'entité issue de la fusion pourrait exercer une influence considérable sur les prix de l'électricité ; en effet, en contrôlant le gaz, elle maîtriserait les prix des combustibles utilisés par les producteurs indépendants d'électricité. La solution qui s'est dégagée, et qui a été acceptée par les parties souhaitant la fusion, a été l'obligation faite à l'entité fusionnée de réduire sa participation dans l'entreprise gazière pour en devenir un actionnaire minoritaire.

Le délégué des États-Unis résume les procédures engagées par la Federal Trade Commission et le ministère de la Justice des États-Unis dans le secteur gazier. L'examen des fusions dans ce secteur fait fond sur l'application des principes généraux énoncés dans les lignes directrices relatives aux fusions. Une affaire a concerné le secteur du transport -- souvent caractérisé par une forte concentration du marché ainsi que par d'importantes barrières à l'entrée. En 1995, la Federal Trade Commission s'est penchée sur l'acquisition par Questar Corp. d'une participation de 50 pour cent dans un gazoduc appartenant à Kern River Gas Transmission. Questar est une entreprise énergétique intégrée qui opère aux niveaux de la production, du transport et de la distribution de gaz et qui possède le seul gazoduc desservant les consommateurs industriels de la région de Salt Lake City dans l'Utah. Ces consommateurs évitent l'entreprise de service public locale pour s'approvisionner en gaz directement auprès d'autres sources. Or, Kern exploitait un gazoduc allant jusqu'en Californie, qui contournait Salt Lake City, et n'avait jamais effectué une seule vente dans cette zone. Dès lors, pour quelle raison la FTC avait-elle intérêt à contester cette transaction ? C'est une affaire qui renvoie à la doctrine de la « concurrence potentielle effective ». Bien qu'aucune vente de quelque envergure n'ait été réalisée dans cette zone, Kern faisait tout son possible pour se constituer une clientèle et, selon des informations recueillies, ses initiatives incitaient le fournisseur monopolistique à baisser ses prix, ce qui avait pour effet de discipliner le marché. Par conséquent, lorsque Questar a cherché à acquérir une participation de 50 pour cent dans le gazoduc, la FTC a craint que cela ne réduise les incitations à la concurrence et elle s'y est opposée. Finalement, les parties ont renoncé à la transaction.

Dans le secteur de la collecte du gaz, les principales préoccupations de la FTC tenaient à la possibilité qu'il se forme des goulots d'étranglement au niveau des installations de collecte et que les producteurs se voient contraints de payer des prix de monopole pour le transport du gaz de la tête du puits aux réseaux. On peut citer, à cet égard, une affaire intervenue en 1998 touchant à l'acquisition par une filiale de Shell des actifs de collecte de gaz situés dans l'Oklahoma, au Texas et dans le Kansas, qui appartenaient à la Coastal Corporation. Shell était le principal opérateur de collecte et Coastal un concurrent non négligeable. Dans de nombreuses zones géographiques, ils étaient les deux seuls prestataires de ce service, sur deux ou trois au total. La Commission a procédé à un règlement à l'amiable qui s'est soldé par la cession de 171 miles de gazoduc et par l'engagement de ne pas acquérir de canalisations dépassant une longueur donnée dans les 18 mois suivants.

Dans le secteur du traitement du gaz, la FTC a examiné, en 1996, une affaire relative à l'acquisition proposée par NGC des actifs de Chevron, dont une usine de fractionnement au Texas. Les parties concernées étaient en concurrence directe pour le fractionnement dans une région du Texas appelée Mount Bellevue. La Commission a fait valoir que les utilisateurs ne pouvaient recourir à aucune autre installation de ce type et elle a imposé comme condition préalable à l'approbation de la fusion que les parties cèdent des actifs dans l'une des installations et abandonnent la direction d'une autre usine dans la même région.

Le représentant du ministère de la Justice des États-Unis décrit la première fusion rejetée qui impliquait une convergence des marchés du gaz et de l'électricité. Il s'agissait d'un montage de six milliards de dollars, entre Nova Corp. et Pacific Enterprises en Californie. Pacific Enterprises, qui disposait du monopole légal sur le gazoduc, était pratiquement le seul fournisseur de gaz naturel dans le sud de la Californie et, dans le même temps, c'était le monopoleur qui contrôlait les installations de stockage. Les marchés concernés étaient ceux des périodes de forte demande d'électricité en Californie. Les consommateurs n'ont pas remplacé l'électricité par d'autres produits énergétiques et les possibilités de transport de l'électricité provenant d'autres États étaient très limitées. En arrière-plan, une vague de réformes de la réglementation lancée en Californie obligeait à acheter toute l'électricité dans cet État par l'entremise d'un pool central informatisé à partir de mars 1998 ; ce pool fonctionnait, en fait, selon le principe des enchères en faisant correspondre l'offre et la demande dans tout l'État par périodes de 30 minutes. Dans ce cadre, le prix d'équilibre du marché était le plus élevé parmi ceux des dernières unités vendues. Ce prix était payé aux producteurs indépendamment du coût de production. Au moment où la fusion s'est concrétisée, des difficultés ont surgi du fait que Nova était un producteur d'électricité détenant des centrales nucléaires, au charbon et au gaz naturel. Les centrales au gaz naturel à faible coût de production allaient inciter l'entité fusionnée à limiter les ventes de gaz naturel dans les périodes de forte demande car le manque à gagner éventuel sur les ventes de gaz serait plus que compensé par les bénéfices supplémentaires qu'elle tirerait de ses installations de production d'électricité à bas coût alimentées au gaz naturel. La solution, dans cette affaire, a consisté à exiger la cession des installations de production à faible coût, ce que l'entreprise a accepté et une transaction judiciaire a été conclue.

3.1 *Débat général*

La délégation française aborde un type d'abus de position dominante observé dans le secteur de la distribution de gaz en France. Dans l'exemple évoqué, GdF a essayé d'user de son pouvoir pour empêcher la concurrence entre réseaux de chauffage urbain dans certains quartiers parisiens -- en particulier celui de Bercy, où se trouve le ministère de l'Économie et des Finances. Elle a procédé de la façon suivante : lorsque des promoteurs immobiliers s'apprêtaient à choisir le type de réseau de chaleur à adopter, GdF a fait des offres extrêmement alléchantes, assorties de subventions très considérables, sous la forme d'un contrat de dix ans garantissant que le prix du gaz serait toujours inférieur à celui de la vapeur (la principale solution de rechange) pendant la décennie en question, sous réserve que les promoteurs

s'engagent à chauffer au gaz tous les immeubles dont ils avaient la charge. En cas de recours à une autre forme d'énergie, même dans un seul immeuble, le promoteur était tenu de rembourser la subvention de 3 800 millions de francs et tous les autres avantages de prix dont il avait bénéficié au cours de cette période. EdF avait agi de façon analogue pour limiter la concurrence exercée par des réseaux de distribution de chaleur concurrents. Il semble que les monopoleurs EdF et GdF du secteur de l'énergie recourent assez souvent à ce mode d'action, mettant en jeu des subventions et des pénalités rétroactives.

En réponse à une question posée par le délégué italien, le délégué australien fait remarquer que les fusions entre entreprises électriques et gazières au niveau de la distribution sont, à l'évidence, source d'efficience dans la distribution aux clients finals -- étant donné la possibilité d'établir une seule facture pour le gaz et l'électricité simultanément. Cela se justifie essentiellement en raison de la commodité pour le client et des économies de coût. Mais les consommateurs sont l'enjeu, dans une certaine mesure, d'une concurrence directe entre entreprises électriques et gazières. Il est possible en outre, si la fusion n'a pas lieu, que l'une ou l'autre de ces entreprises s'introduise sur le marché de l'autre. L'ACCC n'a pas de doctrine bien établie eu égard à des fusions de cette nature, mais elle en attend des résultats plus prometteurs avec le temps.

Le représentant du Brésil indique que les réseaux de distribution de gaz dans son pays sont réglementés par les États. Il existe généralement une entreprise d'État dans chacun d'eux et plusieurs d'entre elles sont en cours de privatisation. Des difficultés sont apparues parce que certains États ont imposé des périodes d'exclusivité. Le représentant brésilien demande à la délégation des États-Unis comment cet aspect a été traité aux États-Unis, vu que c'est aussi un pays à régime fédéral. Les autorités brésiliennes de la concurrence ont engagé une procédure pour abus de position dominante à l'encontre de l'une de ces entreprises privatisées, mais l'enquête n'est pas encore terminée. Il y a eu un précédent de contestation, par des entreprises, de la compétence des autorités de la concurrence pour statuer sur des marchés réglementés, mais le CADE a décidé qu'elles étaient habilitées à le faire, en particulier dans le secteur du gaz naturel. Le Brésil prévoit une forte expansion du marché gazier car la pose d'un gazoduc reliant la Bolivie au Brésil vient d'être achevée.

Le délégué des États-Unis, pour répondre à la question posée par le représentant du Brésil, fait savoir que, dans certaines régions, il existe un droit de préemption au niveau fédéral sur les règles établies au niveau des États. Cependant, il ne s'applique pas à la distribution exclusivement locale -- celle-ci ne relève pas du tout de la réglementation fédérale --, ni au niveau de la production, c'est-à-dire au stade de la collecte et du traitement du gaz naturel, sauf dans des circonstances particulières. Il existe, aux États-Unis, une réglementation fédérale visant expressément une zone réglementée au large des côtes -- comprise entre 3 et 200 miles du littoral. En cas de conflit potentiel entre la stratégie d'un État et le régime de réglementation fédéral de libre accès, la FERC peut intervenir, mais seulement dans la mesure où son intervention concerne un contrat ou un service qu'elle réglemente ; elle ne peut pas invalider la législation d'un État, ni la remettre en question.

Le délégué de la Commission européenne, en réponse à une question du délégué coréen, explicite son point de vue selon lequel les marchés de l'énergie ne seront pas des marchés spéciaux, du moins à long terme. Ils recevront le même traitement que les autres et, par conséquent, les définitions énoncées dans l'acte correspondant seront applicables -- surtout en ce qui concerne le marché du produit (s'agissant de l'interchangeabilité des élasticités-prix croisées). Quant aux marchés géographiques, on peut se demander si les conditions dans une région donnée sont suffisamment homogènes. Pour ce qui est des affaires traitées jusqu'ici, dans de très nombreux cas, il a d'ores et déjà été décidé de définir les marchés de l'énergie en y incluant les marchés gaziers. Citons-en les exemples les plus récents et remarquables : Exxon/Mobil l'an dernier, BP Amoco/Arco ou BP/Amoco auparavant, ainsi que l'affaire Neste/Ivo susmentionnée, et enfin, le cas belge Tractebel/Distrigas. De même, un certain nombre d'affaires tombent sous le coup des articles 81 et 82, en particulier eu égard aux gazoducs, par exemple celle du gaz provenant du gisement dit

Britannia et, plus récemment, celle de l'Interconnector qui relie l'Irlande et le Royaume-Uni. Quelles sont les grandes évolutions prévisibles ? On peut donner un exemple très clair à cet égard : lorsque la libéralisation s'amorce, on peut s'attendre à voir s'établir deux marchés distincts, celui des clients éligibles et celui des clients captifs -- étant donné que les clients éligibles peuvent choisir leur fournisseur tandis que les clients captifs doivent s'en tenir au fournisseur prévu par leur gouvernement.

4. Conclusion

Le Président clôt le débat en faisant remarquer que les pays qui disposent d'une production intérieure considérable et qui ont procédé à la séparation verticale et horizontale du secteur sont ceux où les conditions sont le plus propices à la concurrence, au bénéfice des consommateurs et du pays tout entier -- à la faveur de la baisse des prix, de l'accélération du progrès technique et de l'innovation, entre autres facteurs. On ne connaît toutefois pratiquement pas d'exemples de pays ayant pu ouvrir le secteur du gaz à la concurrence sans avoir de source d'approvisionnement gazier d'origine nationale. Le Président exprime le vœu que les choses aient changé si l'on revient sur le sujet du secteur gazier à l'avenir.

Le Président note que l'on s'oriente incontestablement vers l'instauration de la concurrence et que la liberté d'accès aux gazoducs en constitue un aspect essentiel. En outre, il est certain que la séparation structurelle facilite cette évolution. La séparation des activités de transport du gaz élimine l'incitation à restreindre l'accès au marché en aval. Les régulateurs et les autorités antitrust ne sont pas toujours à même d'empêcher efficacement les entreprises d'adopter des comportements restrictifs en s'efforçant à tout prix d'entraver l'accès des concurrents, ou de le rendre plus difficile et plus coûteux, ou de moindre qualité. Le Président conclut que nous avons relativement peu d'expérience en la matière à ce jour ; l'avenir dira si nous avons vu juste ou non et si les changements institutionnels ou structurels que nous commençons à mettre en œuvre aujourd'hui déboucheront effectivement sur un marché plus concurrentiel.