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THE USE OF VOLUNTARY APPROACHES IN JAPAN - AN INITIAL SURVEY

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THE USE OF VOLUNTARY APPROACHES IN JAPAN AN INITIAL SURVEY

by
Hidefumi Imura¹

1. Introduction

Two different types of voluntary approaches for environmental measures are applied in Japan: the “classical approach” based on “pollution control agreements” (or “agreements for pollution prevention”) which have been extensively used since the first agreement was concluded in 1964 by the city of Yokohama and an electric power company, and the “voluntary action plans” approach which under the leadership of Keidanren (the Federation of Economic Organizations) Japanese industries newly adopted in the mid 1990s in order to meet with emerging environmental obligations such as the reduction of greenhouse gas emissions. The former was a unique Japanese approach adopted by the initiatives of local governments, while the latter adopted following the similar methods applied in some European countries such as the Netherlands and Germany although the Japanese approach has some specialties different from the others.

Voluntary approaches in Japan were developed in the special political situation of the country in the 1960s. The pollution control agreement approach was initiated by local environmental authorities led by reformist mayors or governors who were eager to implement autonomous policies as much as possible free from central government control. In the 1960s, local authorities faced with a number of emerging environmental problems resulting from economic development policies promoted by the central government. Nonetheless environmental regulatory system of the nation was not established at that time, and local authorities had to solve the problems in their capacity. They set their own air and water quality standards more stringent than the national ones. They also adopted the pollution control agreement approach in order to oblige enterprises to take countermeasures stricter than those required by laws or regulations, regardless of the cost. Public opinions requiring industries to take stronger actions backed up local governments to adopt this approach.

Voluntary agreements are concluded between local government and major industrial enterprises operating or proposing to operate or expand facilities in their area. The local government negotiates with individual plants to arrive at a detailed written agreement on pollution control measures. In these “pollution control agreements“, quantitative emission levels are determined, based on discussions and/or negotiations between local governments and enterprises. Local resident groups may be involved in the agreements. These emission levels are not regulatory but depend on voluntary compliance by the enterprises. In fact, almost all enterprises comply with the agreed emission levels. In addition, some agreements cover on-the-spot inspections and compensation payments in case of accidents. About 2,000-

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2,500 cases of agreement are concluded annually; the number of valid agreements in effect having increased from about 2,000 in 1971 to more than 30 thousands 25 years later.

In the late 1980s and 1990s, however, condition of environmental policy in the country became different from that in the 1960s. Extensive measures against traditional environmental problems such as air and water pollution had been taken, and these traditional problems were not any more the chief policy issues in the country. Instead, global environmental issues such as climatic change, ozone layer depletion and diminishing tropical rain forests attracted growing attention of the government, citizens and industries. At the same time, there was a growing criticism against Japan's system of government and its economic and social structures from both outside and inside of the country. It was government interventions and guidance in industrial activities that made Japan grow up to be an economic giant in the post World War II economic race. Today, however, there is a strong opinion that Japan has to minimize the government role and rely more on market mechanisms in a move away from interventionist industrial policy, while there still exist some sectors which favor regulation and government guidance to protect them. In this situation, Japanese industries represented by *Keidanren*, the Federation of Economic Organizations, adopted "voluntary action plans" approach while as much as possible avoiding government interventions.

This survey report gives priorities to the review of traditional pollution control agreements as they have proven record of implementation over more than thirty years. A review of the new approach based on voluntary action plans is made in a parallel report of the case study for Japan.

2. Background data

2.1 Types of VAs applied in Japan

i) Unilateral commitments

Voluntary action plan approach initiated by Keidanren falls in this category. In 1997, Keidanren published its Voluntary Action Plan, integrating industry-wise voluntary action plans which were prepared by 37 industrial federations and associations such as Japan Iron and Steel Federation, Japan Automobile Manufacturers Association, Federation of Electric Power Companies, etc. These plans are not commitments of individual member firms, but group decisions, or collective commitments of sector-wise industry groups. Objectives and targets are set by each industry group, and all member firms are presumed to take the same kind of measures to achieve the objectives and targets.

In the case of chemical industries, voluntary action plan is closely related to its responsible care activities. The Japan Chemical Industry Association (JCIA) established the Japan Responsible Care Council (JRCC) in 1995. JRCC is promoting the RC (responsible care) activities in chemical industry in Japan, covering a wide range of issues such as environmental preservation, human safety, and health. RC activities in Japan are in line with the similar programs implemented worldwide by chemical industries in the US and other countries.

ii) *Public voluntary schemes*

“Pollution control agreements” or “agreements for pollution prevention” which are concluded between environmental authorities of local governments and enterprises fall under this category. These agreements are designed to take measures against local environmental problems, and they were initiated and developed by local governments. Signing enterprises agree to special standards related to their performance, their technology and their management which have been developed by local environmental authorities. Central government bodies such as Environment Agency are not involved in the agreements.

Since mid 1990s, the environmental management systems in accordance with the standards of ISO14000 series have been widely adopted by Japanese enterprises. They have come to play an important role as a new code of conduct for enterprises. Many companies adopted and publicized various types of written documents such as environmental statements, environmental protection principles and environmental reports, in which they declare their willingness to work for environmental protection. They are a new type of public commitments or voluntary plans of enterprises. The number of ISO14000 accredited sites is very rapidly increasing: it reached almost 1000 as of August, 1998.

iii) *Negotiated agreements*

In many cases, pollution control agreements have a nature of this type of agreements, as local governments may use various regulatory tools if enterprises do not observe the requirements prescribed by the agreements.

2.2 *Number of VAs applied*

i) *Pollution control agreements*

The first agreement was concluded in 1964, and there exist about 31,000 agreements in effect all over the country according to the statistics as of September 1996. From September 1995 to October 1996, 1,913 new agreements were concluded while 630 expired.

ii) *Voluntary action plans*

In response to the Appeal by Keidanren in July of 1996, 37 trade associations already published industry-wise voluntary action plans, and all these plans are incorporated in a single plan of Keidanren.

2.3 *Sectors covered by VAs*

i) *Pollution control agreements*

In the 1960s and 1970s, most of the agreements were to control polluting activities of manufacturing factories and electric power plants. Then, the agreements were used to cover wider range of environmental issues which were not controlled by laws, such as greenery preservation and tree planting, prevention of underground water pollution by unregulated chemicals, control of pesticides pollution on golf links, etc. As a result, agreements are used in diverse sectors as indicated in **Table 1**. In

the 1990s, number of agreements in service sectors increased: they shared nearly 30 percent of the agreements newly concluded. The number of agreements for industrial waste disposal also increased in recent years.

**Table 1. Number of pollution control agreement by industry sector
(as of September 1996)**

Sectors	Number of agreements concluded from October 1994 to September 1995	Number of agreements concluded from October 1995 to September 1996	Number of agreements expired from October 1995 to September 1996	Total number of agreements in effect
Total		1,945	611	30,961
Agriculture	75	114	53	2,006
Mining	27	42	15	448
Construction	148	97	53	886
Foodstuff	125	133	41	2,185
Clothing and textile	37	31	22	726
Lumber, wooden products	47	81	21	891
Paper and pulp	31	25	5	734
Chemical	95	103	30	1,849
Petroleum and coal products	39	33	2	733
Rubber and leather	7	14	4	275
Cement and ceramics	101	96	23	1,361
Iron & steel	45	44	7	919
Non-ferrous metals	49	46	5	768
Metals	151	103	43	2,844
Machinery	156	152	26	3,423
Electricity and other utilities	17	32	7	430
Golf courses		100	15	1,238
Industrial waste disposal	840(*)	180	19	948
Others (services, etc.)		521	218	8,289

Source: Environment Agency.

(*) Total of "Golf courses," "Industrial waste disposal" and "Others (services, etc.)"

ii) *Voluntary action plans*

As of May 1998, 37 industry groups from manufacturing and energy to distribution, transportation, finance, construction, and foreign trade, each represented by a relevant trade association or federation, have voluntary action plans which were drafted in response to Keidanren's Appeal on the Environment. The participating industries are as follows:

1. Mining (Japan Mining Industry Association)
2. Limestone mining industry (Limestone Association of Japan)
3. Coal (Japan Coal Association)
4. Construction (Japan Federation of Construction Contractors, others)
5. Housing (Japan Federation of Housing Organizations)
6. Sugar Refining (Japan Sugar Refiners' Association)
7. Beer Brewing (Brewers Association of Japan)
8. Paper manufacturing (Federation of Paper Manufacturers in Japan)
9. Chemical (Japan Chemical Industry Association)
10. Pharmaceutical (Federation of Pharmaceutical Manufacturers' Associations of Japan, Japan Pharmaceutical Manufacturers Association)
11. Petroleum (Petroleum Association of Japan)
12. Rubber (The Japan Rubber Manufacturers Association)
13. Flat Glass (Flat Glass Association of Japan)
14. Cement (Cement Association of Japan)
15. Steel (Japan Iron and Steel Federation)
16. Aluminum (Japan Aluminum Federation)
17. Brass (Japan Brass Makers Association)
18. Electric Cable (Japan Electric Wire and Cable Makers' Association)
19. Industrial Machinery (The Japan Society of Industrial Machinery Manufacturers)
20. Electronics (Electronic Industries Association of Japan, others)
21. Electric Machinery (Japan Electrical Manufacturers' Association)
22. Automobile (Japan Automobile Manufacturers Association)
23. Automobile Parts (Japan Auto Parts Industries Association)
24. Rolling Stock (Japan Association of Rolling Stock Industries)
25. Shipbuilding (The Shipbuilders' Association of Japan)
26. Optical Instruments (Japan Optical Industry Association, others)
27. Foreign Trade (Japan Foreign Trade Council)
28. Department Store (Japan Department Stores Association)
29. Chain Stores (Japan Chain Stores Association)
30. Non-Life Insurance (The Marine and Fire Insurance Association of Japan)
31. Real Estate (The Real Estate Companies Association in Japan)
32. Railway (Japan Non-Government Railways Association)
33. Shipping (Japanese Shipowners' Association)
34. Transportation (Japan Trucking Association)
35. Electric Power (Federation of Electric Power Companies)
36. Gas (Japan Gas Association)
37. Aviation (Three-Airlines Liaison Committee on Environmental Problems)
38. Other (East Japan Railway Co.)

2.4 *Scope of by VAs*

i) Pollution control agreements

Pollution control agreements are used to settle diverse concerns of local people about their environment when some facilities are newly constructed or projects to be carried out. Many of the agreements prescribe general responsibilities of enterprises to take proper measures to prevent pollution or protect the environment. Many of them also prescribe measures for specific issues such as air and water

pollution, noise, vibration, greening, etc., taking into account the characteristics of the facilities or projects and natural environmental conditions of the areas. Some of them prescribe measures against new issues for which no adequate regulation by law exists. In the early 1980s, for example, underground water pollution by chemicals such as tri-chloro-ethylene, tetra-chloro-ethylene, etc from IC factories was reported, but there was no regulation to control these chemicals. Agreements were therefore concluded to prescribe special measures to protect underground water, then new national regulation for these chemicals was established. Thus pollution control agreements were used to ask enterprises to take actions for diverse issues for which any special measures were not required by laws and regulation.

Agreements define the obligations of enterprises giving due consideration to the peculiarities of each local situation. Contents of each agreement differ, but the most common obligations in these agreements are those relating to the prevention of air and water pollution. Agreements generally prescribe the obligations of enterprises as follows.

a) Obligations to prevent air pollution

- ***Emission standards:*** The emission standards of agreements are determined concerning the discharge of sulfur oxide, soot and dust, and nitrogen oxide, etc. Some agreements define the limit of the emission concentration of pollutants, and others define both the concentration and also the total amount of pollutants emitted. The types of concerned pollution problems differ with each agreement, but all agreements have more stringent emission standards than those determined by both national and local government. Moreover, many agreements oblige enterprises to collect and pollutant emission data and to report them to the local governments or the other public organizations, which are parties to the agreements. Usually, continuous, automatic measurement and the telemeter system are specified for these purposes.
- ***Obligations regarding emission sources:*** Many agreements provide for the installation of the latest pollution control facilities and technologies as a desirable target which enterprises should work for, although any agreements do not indicate the definition of the latest technologies. In recent years, however, more agreements oblige enterprises to install specified types of facilities and technology such as the flue gas desulfurization and denitrification facilities, the electric dust collector, the two-stage combustion method, etc.
- ***Obligations regarding fuel quality:*** Many agreements limit the sulfur content of the fuel, while some require enterprises to reserve low-sulfur fuel to prepare for emergency cases. There also are some agreements which control the annual total of fuel consumption.
- ***Obligations to collect data and to report on air pollution:*** Some agreements oblige enterprises to collect data on ambient air quality and report to the relevant authorities.
- ***Obligations regarding measures to be taken in an emergency:*** Numerous agreements oblige enterprises to switch to low-sulfur fuel in the event of heavy air. At the same time, they give local government the power to order the curtailment or suspension of pollution-causing operations. The threshold criteria for the curtailment and suspension of operations is always severer than those determined by laws or ordinances. In most cases, the usual emission levels of SO₂ and other pollutants prescribed by the agreements are sufficiently lower than the above thresholds.

b) Obligations to prevent water pollution

Regarding the quality of effluents, agreements usually determine the values of pH., COD, the amount of suspended solids, and normal hexane-extraction substances, which are severer than the standards determined by laws and ordinances. Furthermore, in order to prevent the influence of cooling water from condensers, differences between water temperature at the point of in-take and point of discharge are controlled by agreement. It is also determined that there shall be no residual chloride in the discharge. Since the mid 1980s, many agreements for IC factories defined the measures to prevent ground water pollution by unregulated chemicals such as tri-chloro-ethylene and tetra-chloro-ethylene.

As for the quality of drainage, many agreements oblige enterprises to take measurements and make reports to local government. Requirements concerning the frequency and methods of measurement related to drainage are usually severer than the ones determined by laws or ordinances. In most cases, reports are to be made in the form of documents once the measurements have been taken.

c) Obligations to prevent noise, vibration and offensive odor

Agreements often set severer standards than those control standards determined by the laws of national or local government. When standards are established, obligations concerning the measurement of the noise, vibration and offensive odor are also defined.

d) Obligations regarding industrial waste disposal

As for industrial wastes, many agreements include such clauses as “industrial wastes shall be treated properly so as not to cause environmental pollution.” which determines the target for enterprises’ efforts. In the 1990s, there are cases in which industrial waste disposal sites cause ground water pollution and illegal dumping of hazardous wastes, and local residents are very cautious about the establishment of industrial waste disposal facilities. Therefore, the number of agreements regarding industrial waste disposal is increasing.

e) Obligations to conserve the natural environment

A typical example of the obligations to conserve the natural environment is the planting of trees and shrubs on business sites. . Since the Factory Location Law already provides that plants must be planted on more than 20% of the area of such sites, there have not been many agreements which include this particular obligations. Since the mid 1970s, however, as public concerns has shifted from pollution prevention to conservation of the natural environment, the number of agreements which include this obligation has increased substantially. Business concerns appear willing to accept this duty, because planting is a visible action vis-à-vis environmental conservation. It conspicuously demonstrates the efforts made by enterprises towards the aim of environmental conservation.

f) Liability to compensate for damages

Many agreements include an absolute liability clause for damages caused by the emission of pollutants from the facilities concerned. In addition, there are some regulations, although very rare, by which the entrepreneur operating the pollution-causing facilities is obliged to act as a

mediator in the damage compensation negotiations between his affiliated businesses and their victims, if such affiliated businesses cause pollution damage.

ii) *Voluntary action plans*

The scope of voluntary action plans is specified by the four objectives of Keidanren Voluntary Action Plan: measures to combat global warming, waste disposal measures, environmental management system (e.g., good practices based on the purport of ISO14000 series) and environmental conservation in overseas business activities. Priority of measures differ between industries depending upon their business characteristics. Measures to combat global warming, however, are of special significance as they are considered to be the commitments of Japanese industries to achieve the reduction targets of greenhouse gases.

Table 2. Pollution control agreements by content

Category by content	Number of agreements concluded from October 1996 to September 1997	Number of agreements expired from October 1996 to September 1997
Total	1,913	630
Pollution control in general	1,347	224
Materials and fuels to be used	254	42
Air pollution	592	112
Water pollution	981	241
Noise	721	165
Vibration	527	80
Offensive odors	476	126
Industrial waste	708	88
Other pollution	276	58
Greening	698	373
Punishment for non-compliance	469	115
Punishment for violence	1,039	156
-Suspension of operation and damage compensation	779	135
-Applying responsibility for compensation under the non-fault pollution act	278	25
Special inspection / surveillance	1,047	133

Note: A given agreement can fall in several categories,
Source: Environment Agency.

Box 1. Pollution Control Agreement

In the early 1960s, existing laws and/or ordinances proved insufficient to protect the environment. As a result, the unique system of “pollution control agreements,” was initiated, and widely introduced in Japan. Under this system, a business enterprise planning to build or expand its facilities was asked to observe the standards which the competent local government authorities and the enterprise itself had agreed upon in advance. The first of such agreement in Japan was signed in 1964 between the city of Yokohama and an electric power company, when a new coal-fired thermal power-plant was planned for construction near a densely populated area. Because of its success in coping with local environmental problems, this system was adopted by a number of local governments. In many recent cases, the public have themselves participated in such agreements as an interested party together with the local government authorities, and sometimes citizens’ groups and business enterprises have concluded agreements without the participation of the local authorities. The agreements themselves enable the parties concerned to take flexible measures best suited to the geographical and other natural conditions of the region as well as to respect the social conditions of the local community such as the social habits and customs long upheld in the communities involved.

The agreements define the essential duties of enterprises in preventing pollution resulting from the establishment and operation of factories, workshops, etc. The first objective of the agreements was the prevention of environmental pollution such as air and water pollution, noise, vibration, offensive ordure, etc. Then, the scope of the agreements were expanded, and the agreements concluded in recent years include those clauses which define the duties of enterprises to protect the natural environment, such as the obligation to plant trees and shrubs, etc. on factory and workshop sites, as well as pollution control itself. For this reason, many pollution control agreements are termed “environment conservation agreements”. Furthermore, pollution control agreements usually include clauses which define the enterprises’ liabilities for damage caused by pollution as well as those clauses defining duties in relation to pollution prevention and environment conservation.

**Box 2. Keidanren Voluntary Action Plan on the Environment:
Steel Industry (Japan Iron and Steel Federation)**

Measures to cope with global warming

Target

- Promote energy-saving in production process (reduce energy consumption in 2010 by about 10% as compared with 1990)
- In coordination with regional community, make use of plastic waste and unused energy (down equivalent of about 3%)
- Supply of high-grade steel which will make it possible to save energy when using steel material. (Down similarly about 4% in society as a whole.)
- Contribute to energy conservation through international technological cooperation.

Measures

- Wider dissemination of existing energy-saving technology; promotion of practical application and popularization of revolutionary technology.
- Use of plastic waste at steel mills through cooperation of state and regional community and use of used and unused energy in regional community.
- Development and dissemination of high-function steel (high tension steel plate, electromagnetic steel plate, etc.)
- Cooperation in energy-conservation measures of joint implementation activity, etc.

Waste Disposal Measures

Target

- The volume of final disposal of byproducts (slug, dust, sludge) generated in the steel manufacturing process will be reduced in 2010 by 75% from 1990, and will aim for 99% recycling for use as resource. (Actual percentage in 1990 was 95%)
- Target of 75% will be set for steel can recycling in 2000 and an even higher rate will be aimed for.

Measures

- Promote in-factory recycling of by-products and, in coordination with users and the administrative authorities, expand the present ways of using by-products, and promote development of new uses. Conduct activities to educate consumers and continue economic support of municipalities, etc.

Environmental Management

- With a view to conforming to the ISO14000 series, the establishment of in-house setup and the acquisition of certification will be positively promoted.

Remarks

- Will push the grappling related to LCA.
- Environmental conservation will be pushed through physical flow measures.
- Forest resources will be protected by popularizing the steel house.
- Energy-saving and resources-conservation will be conducted in the office.
- Greenery will be planted in factory compounds and neighboring areas.

3. Parties involved

3.1 Private sector

i) Pollution control agreements

Out of 2,187 pollution control agreements concluded between October 1987 and September 1988, 1967 were made between local governments and private enterprises, while the remaining 222 were made between residents' groups and enterprises. The data are similar for other years.

ii) Voluntary action plans

It is member associations of Keidanren that prepared the industry-wise action plans. Plans were published by the names of 37 trade associations, and 137 related industry organizations associated themselves to the plans. Member corporations of trade associations have certain interests in common, i.e., participating in the same trade at the national level, and they take the collective responsibilities to achieve the objectives and targets of the plans. Most of the member corporations are large companies. Trade organizations include the Electric Power Industry Association which consists of the nine power companies which supply electric power throughout Japan, five of which account for 85% of all power supplied in the country. Others are the Japan Steel Association, in which five enterprises which produce two-thirds of all the crude steel take the lead; the Japan Automobile Industry Association which includes the five enterprises which manufacture most of the vehicles as well as many suppliers of parts; and the Petrochemical Industry Association, which includes a large number of enterprises, many of which are members of this association. Other organizations include the Japan Paper Manufacturing Industry Association and Cement Industry Association.

3.2 Public authorities

i) Pollution control agreements

In most cases, local government authorities (more specifically, governors of prefectures or mayors of municipalities) conclude pollution control agreements with enterprises, e.g., presidents of companies or managers of factories. Pollution control agreements have been developed by intrinsic initiatives of local governments, and the central government has no involvement in the agreements.

In most cases, one of the parties to sign agreements is local government at various levels, such as prefecture, city, town, or village, which represents the interests of people affected by pollution caused by the facilities concerned. In exceptional cases, however, local organizations (NGOs or citizens groups), which are not legal persons, can become parties to an agreement. These local government and local organizations may enter into agreements either individually or jointly.

The other party to agreements on pollution prevention is the enterprises who sets up and/or operates the facilities which cause pollution. In the case where the prefectural or other local government sets up and/or operates the facilities causing pollution (such as municipal waste disposal plants), the

government concerned is in the position of the enterprises and enters into agreements with local organizations.

In many recent cases, the local residents who might suffer from the environmental effect have participated in agreements as an interested party together with the local government authorities, and sometimes citizens' groups and business enterprises have concluded agreements without the participation of the local authorities.

ii) Voluntary action plans

Voluntary action plans are unilateral commitments of industries, and there is no involvement of public authorities such as central and local governments, although some government plans such as Long-term Energy Demand and Supply Plan take into account the goals and targets of the industry-wise action plans.

3.3 NGOs

i) Pollution control agreements

There are many cases in which local residents participate pollution control agreements: in some cases citizens participate as parties or as witnesses, while in other cases they independently conclude agreements with enterprises. The number of agreements to which residents are parties or witnesses is demonstrated in **Table 3**.

Table 3. Citizens' participation in pollution control agreements

Type of agreements	1982	1985	1988	1990
Number of agreements concluded between local governments and enterprises				
-With citizens participating as one of the parties concerned	13	43	51	80
-With citizens Participating as witnesses	47	40	87	110
Number of agreements citizens independently conclude with enterprises	222	205	214	339

Source: Environment Agency

ii) Voluntary action plans

Because of its nature as unilateral commitments, there is no participation of NGOs and other stakeholders in the Keidanren Voluntary Action Plan.

3.4 *Other stakeholders*

No relevant cases.

4. **Legal context**

4.1 *Legal framework*

i) *Pollution control agreements*

Japanese scholars are divided on the question of whether pollution control agreements represent a contract which is legally binding or they are simply a “gentlemen’s agreement” having no more implications than moral obligations. This question is still under discussion.

Pollution control agreements have no special legal ground: they are neither based upon any national environmental law nor ordinance of local government. They are simply voluntary, although they are often concluded under the guidance of local environmental authorities. Nevertheless, they have proved very effective, since, as a rule, business has adhered to their letter rather than forfeit good relations with local communities and thus encounter greater difficulties in carrying out their business activities. The effectiveness of pollution control agreements may be demonstrated by the number of agreements signed so far as shown in **Tables 1 and 2**.

Pollution control agreements are documents of accord reflecting the mutual agreement of both parties following discussions of pollution control measures such as regulatory standards for pollution and compulsory talks prior to the addition of new production facilities. Legal interpretation of pollution control agreements covers both agreement theory and contract theory, and although there is debate regarding interpretation of the agreement’s binding legal authority, the pollution control agreement has substantially arrived as a uniquely Japanese and effective means of supplementing existing regulations by laws and ordinances. Even recently, this method was used in response to environmental pollution by advanced industries such as the semiconductor industry and industrial waste disposal plants, to which prior legal ordinances are difficult to apply.

Pollution control agreements are made, as a rule, in the form of written documents. The appellations given to these documents vary widely and include agreements, memoranda, correspondence, written oaths, etc. The signatories who represent local government are usually prefectural governors, or mayors and village counselors at the lower levels of local government. Occasionally, however, the speakers, or moderators, of a local legislature may co-sign the documents. Agreements on pollution prevention can be entered into without the vote of legislative bodies at local government level, in contrast to the control based on local ordinances.

ii) *Voluntary action plans*

Voluntary action plans have no legal basis: they are pure voluntary actions of industries which they make without any compulsion by laws. Keidanren explains that its Voluntary Action Plan is a kind of “social contract”, or a contract with the society in which industrial activities take place.

No laws explicitly prescribe the roles of the plans. However, new laws such as Basic Environmental Law and Energy Conservation Law encourage industries to take voluntary actions for environmental protection or energy conservation based on industries' own initiatives. Voluntary action plans were the approach adopted by Japanese industries to take actions in conformity with the spirit of these new laws while demonstrating their environmental efforts and making their good image.

4.2 Sanctions

i) Pollution control agreements

A question may be raised as to what action is taken to enforce pollution control agreements, if enterprises violate the obligations defined in them. Many agreements authorize local governments to order the curtailment or suspension of operations, as well as to publicize the details of violations. As to the effectiveness and validity of such powers, there are conflicting arguments and the answers to the above question depend on which interpretation one may make concerning the two possibilities: one interpretation is that duties determined by the agreements have the same power as laws while the other interpretation is that they are simply moral obligations. If one accepts the interpretation that they are legally binding (this is the position that regards agreements as a kind of contract), then one will also accept that local government may bring an action against any neglect of such obligations. In contrast, if one takes the view that they are only moral obligations (this is the position that views such agreements as a form of gentleman's agreement) one will maintain that local government is not entitled to take any form of legal action. In practice, however, local government can and does put pressure on enterprises to fulfill their obligations. On such occasions, local governments can exert various administrative powers such as the power to issue licences and permits and administrative guidance as a means to guide the actions of enterprises. It goes without saying that government pressure is effective because of public support against pollution.

Agreements on pollution prevention only lay down the provisions concerning enterprises obligations and do not refer to their rights. However, one cannot deny the possibility of an interpretation whereby, once the agreements have been signed, local governments promise not to impose additional duties on enterprises to those defined in the agreements. Some enterprises who entered into agreements explicitly insist upon this interpretation. Whether this interpretation is legitimate or not is a question yet to be decided. This question is closely related to another question as to whether pollution control agreements are legally binding contracts or merely gentlemen's agreements which have moral persuasion at best. In practice, however, most agreements include such a clause as "if doubt should occur, the matter shall be discussed by the two parties," or "facilities shall be improved in accordance with the development of technology." There have been many cases in which local government has proposed the revision of agreements using these provisions as a leverage. Indeed, in such cases enterprises cannot but accept the new proposals. Therefore, the conclusion of an agreement does not mean that enterprises are necessarily exempt from obligations which are not already mentioned in existing agreements.

ii) Voluntary action plans

Because of their nature as unilateral commitments, there are no sanctions against non-attainment of the objectives and targets. However, they are considered to be a "social contract," and Keidanren and trade associations which made voluntary action plans declare that they will faithfully take measures to

achieve the objectives and targets of the plans. They are conscious about social sanctions such as boycotting of their products they may encounter.

4.3 Monitoring

i) Pollution control agreements

Many pollution control agreements prescribe the monitoring items and methods, asking enterprises to report the data to the local environmental authorities. Verification of the monitoring data can be made in connection with the monitoring and inspection conducted by local environmental authorities based on laws and local ordinances.

ii) Voluntary action plans

Monitoring of the voluntary action plans will be made by self-assessment and self-verification. Voluntary reporting to the relevant government authorities and publicizing environmental reports of corporations will be useful for increasing the transparency of the monitoring.

5. Policy context

5.1 Reasons why VAs are implemented

i) Pollution control agreements

a. The case in Yokohama

Review of the case in Yokohama will help us to understand the complex reasons why the pollution control agreement was initiated by local governments and spread over the country [Michio Hashimoto: "Administrative Guidance" in "Environmental Policy in Japan" (eds. H. Weidner and S. Tsuru, Sigma, 1988)]

In 1964, the Electric Source Development Corporation planned to build a new coal-fired power station at Isogo in the City of Yokohama. This decision was strongly opposed by local residents who took to organised action against it. The socialist mayor of Yokohama organised an independent interdisciplinary team of experts to prepare a pre-siting survey. A detailed prescription for pollution control measures was worked out by this team, which was then disclosed to the public. In this case, the mayor found himself in a delicate political situation. On the one hand, he had committed himself strongly to strict environmental pollution control during his election campaign, when competing with a conservative candidate. When the plan for the new power station was disclosed by the national government, a city-wide residents organisation protested against the proposals. On the other hand, the coal industry had been in serious decline for the past several years. This became a serious issue for coal miners and their labour union, which was a strong supporter of the socialist party. Leaders of the coal miners' union as well as socialist party headquarters had requested Yokohama's support in securing the new, coal-fired power station. The Mayor of Yokohama was thus in a dilemma. Also, just at the same time, the Mishima-

Numazu petrochemical complex development project was cancelled as a result of a local veto, in spite of the extensive scale of the pre-siting survey commissioned by the national government.

The 'Electric Source Acceleration Act' of 1952 contained legal provision for examination by the National Council in advance of approval by national government of a master plan for the development of electric power stations. It was also requested that the opinion of the governor on the location of the new power station should be put forward for clearance during the course of the council's examination. The law also provided for comprehensive consideration to be given to the utilisation and conservation of land during the course of examination. An official of the Ministry of Health and Welfare was a member of the working party of the examining council, because the Ministry of Health and Welfare also exercised jurisdiction with regard to the Natural Parks Law. In its working party's preliminary examination, the Ministry of Health and Welfare (MHW) expressed the opinion that the siting of a coal-fired power station in Yokohama was liable to make air pollution worse, in an area where "Yokohama Asthma" was notorious in post-war days. The MHW also stipulated two conditions: first, the agreement of local government for pollution control measures; and second, the implementation of maximum available control measures in accordance with the environmental pollution control of the MHW itself.

In fact, neither the MHW nor local governments had direct legal power regarding electric power stations. In spite of the 1962 Law controlling smoke, etc., electric power stations were exempted from the jurisdiction of both the MHW and local government. They in fact came under that of the Ministry of International Trade and Industry (MITI). The MITI had made up its mind to persuade the electric company to comply with the detailed conditions worked out by the expert committee of the City of Yokohama itself. The Mayor of Yokohama requested the electric company to sign the document of agreement for the control of pollution with the City of Yokohama. This was the first case of an environmental pollution agreement between Local government and an electric company. It was also the first occasion on which the MITI interceded with an electric company. The MITI had decided to play the role of mediator between both parties and thus persuaded the electric company to sign the agreement in question. The document of the agreement was also made public. Since then, pollution control procedures by means of pollution control agreements have been institutionalised as a matter of fact by local government and the industries concerned. The environmental pollution control agreement has come to be regarded as the third policy instrument for pollution control.

The first is that of national law, while the second is pollution control by means of local ordinance. This was also the first occasion of an environmental pollution control agreement based upon a pre-siting survey (in a sense, an environmental impact assessment) of a public works project.

In the meantime, environmental pollution control agreements have been expanded and developed as the most effective policy instrument for local governments, not only with regard to projects for power stations but also for road and highway development projects; railway construction; airport development; and so forth.

b. General motives of concluding the agreement

In the early 1960s, existing national laws and/or local ordinances were insufficient to protect the environment. As a result, the unique Japanese system of pollution control agreements was initiated, and widely introduced. Under this system, a business enterprise planning to build or expand its facilities was asked to observe the standards which the competent local government authorities and the enterprise itself had agreed upon in advance. The first of such agreement in Japan was signed in 1964 between the city of Yokohama and an electric power company, when a new coal-fired thermal power-plant was planned for construction near a densely populated area. Because of its success in coping with local environmental

problems, this system was adopted by a number of local governments. General motives of using pollution control agreements are as follows.

- ***Measures best suited to the area:*** The agreements themselves enable the parties concerned to take flexible measures best suited to the geographical and other natural conditions of the region as well as to respect the social conditions of the local community such as the social habits and customs long upheld in the communities involved.
- ***Good relation with local residents:*** Pollution control agreements are neither based upon any national environmental law nor ordinance of local government. Nevertheless, they have proved very effective, since, as a rule, businesses are aware that in locating a factory, it is essential to secure the consent of local residents for their smooth corporate activities and they have adhered to their letter rather than forfeit good relations with local communities and thus encounter greater difficulties in carrying out their business activities.

c. Greater effectiveness in comparison with legal measures

Ordinances are more effective than agreements where local governments impose obligations on enterprises regarding the prevention of pollution. This is so because ordinances include provision of sanctions, such as penalties for violating the prescribed obligations. In contrast, pollution control agreements do not have such force. Nevertheless, local governments have to date preferred pollution control agreements to legislative procedures, and have proposed the conclusion of pollution control agreements to enterprises. Several reasons for this may be given, as follows.

- ***The role of agreements as an substitute of ordinances***

The Japanese government has traditionally maintained the legal opinion that, once the national government has established governmental control over a matter, the law precludes local government from imposing additional governmental control over the same matter by legislating ordinances, except when such local governmental control is permitted by national law. This legal opinion is termed the theory of “preemption.” As long as the Japanese government adopts this theory, local governments remain unwilling to pass ordinances, even though such ordinances are badly needed, concerning any matter which is preempted by national law. Therefore, when local governments find national laws insufficient and feel the need to impose additional control over matters ‘preempted’ by national law, they must resort to such non-governmental measures of control as pollution control agreements in order to prevent environmental problems.

- ***Practical relevance of agreements***

While the contents of government control in the form of ordinances are standardized and executed uniformly, the contents of control by agreements on pollution prevention can be arranged to best meet the needs and conditions of each local area. For this reason, local governments rely on agreements, even over those matters not “preempted” by national laws. Against this view, there are people who argue that government control by ordinances can be adjusted to the peculiarities of different localities by skillfully arranging the structure of such ordinances.

- ***The convenience and ease of agreements***

While ordinances must be approved by a vote in the local legislature, agreements on pollution prevention do not require such votes and the head of local government holds the power to conclude such agreements. In this sense, agreements on pollution prevention can be said to be easy and convenient. Those heads of local government who dislike the involvement of legislative bodies tend more to resort to agreements on pollution prevention rather than to ordinances in order to control pollution. Reasons why Enterprises Accept the Conclusion of pollution control agreements. The reasons why enterprises accept the conclusion of agreements in spite of the fact that they are obliged to accept various controls relating to pollution prevention may be as follows:

Benefits conferred upon enterprises: Examples of benefits conferred upon enterprises are the sale of public land, or the licensing in respect of the reclamation of land from waters belonging to the government. Essentially, there is no legal connection between the conferring of these benefits and pollution control agreements. However, in practice, when local governments, or their heads, confer these benefits, they often make the signing of agreements the condition. For this reason, enterprises desirous of receiving such benefits agree to sign agreements on pollution prevention. This procedure is called the “Yokohama method” because it was first used by the city of Yokohama.

No further obligations: As mentioned above, it has still to be decided whether or not further obligations will be imposed on enterprises in addition to the ones already determined in agreements on pollution prevention, once they have signed such agreements. If the interpretation that no further obligations may be added is valid, this should induce enterprises to sign agreements on pollution prevention.

- ***Pressures applied on enterprises by means of administrative guidance:***

Local environmental authorities are legally endowed with various powers in respect of enterprises. Administrative organs can use these administrative powers to apply pressure on enterprises to accept agreements. To set up such facilities as factories or workshops, the law often requires that enterprises acquire a permit from the relevant administrative organ. Administrative organs can put pressure on enterprises to sign agreements on pollution prevention by withholding the permit until they accept such agreements. When Electric Power Development Coordination Council determines to adopt the construction plan proposed by an electric power company in the National Basic Plan for Power Development, it usually solicits the opinions of the governor under whose jurisdiction the planned power plant is to be constructed before the Council takes an action. The governor can express opinions against the construction if the enterprises does not accept agreements.

- ***Public opinion pressure***

In the 1960s and 1970s, citizens’ movements against pollution were vehemently active in Japan. During this period, unless the enterprises accept pollution control agreements, citizens might have blocked the construction of facilities causing pollution. In fact, it is indispensable for industrial enterprises to obtain approval and cooperation of local governments and the residents if their operations are to run smoothly. The pollution control agreement is generally recognized as a critical element in this process.

ii) ***Voluntary action plans***

In the 1960s and 1970s, the major objective of Japan’s environmental policy was to control industrial pollution which took place in the course of rapid economic development of the country. A

number of laws were enacted and regulatory systems established, and this “command and control” system was successfully and effectively implemented to reduce the emission of air and water pollutants from factories and plants. In the 1980s and onwards, however, there were changes in the form and characteristics of environmental problems. Global environmental problems such as climatic change and ozone layer depletion became central policy issues. Traditional approach based on standards and regulation proved ineffective to solve the new type problems. The Basic Environmental Law therefore conceived the major environmental policy reform relying upon a shift from “command and control” to “voluntary actions” of various actors based on the spirit of participation and partnership. Use of economic instruments is also discussed as a possible tool to achieve the reduction of CO₂ emissions, but national consensus has not been built about their introduction. Industries favored the voluntary approach based on unilateral commitments in order to avoid government regulation while preventing the introduction of an energy / CO₂ tax.

5.2 *How do VAs operate vis à vis other policy instruments*

i) *Pollution control agreements*

Pollution control agreements are widely used, playing essential roles in environmental measures at local levels. In combination with administrative guidance, local environmental authorities can use them as complementary tools or substitutes of legal measures, and there may be a criticism against this point.

Criticisms are directed against pollution control agreements in relation to the “Rule of Law.” Japan’s Local Autonomy Law states that, “As to the methods of administrative procedure, local governments shall as a rule fix them by ordinance unless the law specifically provides otherwise.” The gist of this paragraph is that when local governments exert administrative control by governmental measures, the basis for the act must be determined by ordinances enacted through the legislature. In other words, local governments cannot administer control by governmental measures unless ordinances provide the basis for that control. We can call this principle the “Rule of Law in Local Government.” Pollution control agreements are, in principle, non-governmental measures. As long as agreements on pollution prevention remain non-governmental measures as they should be, they do not contradict the “Rule of Law,” when used to fight pollution. However, essentially, they are substitutes for governmental measures. This has already been pointed out. If this essential quality is to be examined closely, it is possible to criticize the use of agreements on pollution prevention as being contrary to the “Rule of Law.”

In various cases, pollution control agreements served as precursors to future regulation. Some agreements set stringent targets which at that time seemed rather difficult to achieve. After verifying that the targets were successfully achieved, new regulation was introduced. For protecting underground water, some pollution control agreements required IC factories to control specific chemicals which were not regulated by law, then national regulations to control these chemicals were enforced.

ii) *Voluntary action plans*

Although government can not officially intervene in implementation affairs of the plans, it carefully watches how plans are implemented. Government is especially concerned about the achievement of the goals as it is closely related to the long-term energy plan of the government: it is no exaggeration to say that whether Japan can achieve the internationally committed reduction targets of

GHGs is to a large extent dependent upon the whether voluntary plans of industries will be faithfully implemented or not. Thus the government has a good ground to intervene in the plans.

5.3 *Diffusion of information*

i) Pollution control agreements

Reports and data are made public in accordance with the letters of agreement. However, there are so many agreements covering diverse issues that the details are not always published unless special request is made by interested citizens.

In recent years, many Japanese local governments made ordinances to ensure the public access to administrative information which they hold while the legislation on the disclosure of national governmental information has not been made. These local ordinances further facilitate the dissemination of information about environmental measures of enterprises which concluded agreements. This is an example which demonstrate that local governments are more flexible than national government to make new attempts.

ii) Voluntary action plans

By administrative guidance, implementation reports of the plans may be submitted to the review by relevant government bodies although the plans have no legal status. This review scheme simply follows the traditional administrative guidance system in Japan. To increase the transparency, trade organizations and their member corporations publish various reports on their environmental actions.

6. Implementation issues

6.1 *Pollution control agreements*

Pollution control agreements have been very extensively used in Japan. Without the agreements, new establishment of facilities or expansion of existing facilities will meet great difficulties to obtain the consent of local residents who are concerned about the possible environmental problems which might be caused by the facilities. Enterprises preferred to conclude stricter agreements rather than to receive resistance from residents. In this scene, local governments played a role of mediators between enterprises and citizens.

From the standpoint of local governments, pollution control agreements enabled them to take flexible measures. They were used to test new control measures, *e.g.*, by asking enterprises to use new, sometimes even unverified, technologies.

Pollution control agreements are entered into on this basis of a consensus between both the parties involved, so that enterprises do not put their signatures to such documents against their will. In reality, however, local governments can apply various types of pressure in order to induce enterprises to accept such agreements. In other words, in spite of the fact that agreements on pollution prevention were not originally intended to be acts of authority, they are, in part, authoritative in character. This method has

been the characteristic feature of Japanese administration, being criticised by other countries as notorious “administrative guidance” or *gyousei-shidou*”.

6.2 Voluntary action plans

As the voluntary action plans are industry-wise collective plans based on group decisions, trade associations makes and implements the plans and conduct monitoring with participation of experts from member firms. The plans do not go for the environmental performance of individual member firms. By request of government, implementation reports of the plans can be submitted for review by relevant government bodies although the plans have no legal status.

It is difficult whether the plan does simply ratify existing technologies or foreseeable achievements that would have occurred anyway in a “business as usual” scenario. Many plans list up the possible technologies to be adopted, but there may be a question whether they are the best available technology or not.

7. Assessing the effectiveness of VAs

7.1 Pollution control agreements

There are so many different types of pollution control agreements, and they have been widely used to reach agreements among enterprises, residents and administration. It is difficult to draw clear cut conclusions about their environmental effectiveness and economic efficiency. However, they are believed to have played a positive role for promoting industrial development while preventing pollution and conserving greenery and natural environment. This positive role can be verified by the large number of agreements concluded every year. They have been positively accepted by all parties concerned.

Pollution control agreements generally required enterprises to take more stringent measures than required by national laws and local ordinances. In many cases, enterprises were requested to adopt the latest technologies which were not yet popular, or even technologies in development stage. Enterprises accepted these requirements because they were not by a rigid legal regulation, and there was a room of flexibility about the measures they could choose. Pollution control agreements sometimes played a role of precursors of new regulations. Thus, they provided good incentives for enterprises to make a test of new control measures and technologies and prepare for the forthcoming new regulations. In general, there is a good reason to believe that the pollution control agreements stimulated the development and dissemination of control technologies.

Administration and compliance costs relating to the pollution control agreements are mostly those for clerical works and monitoring of pollutants. These cost are generally small compared with the investment cost of facilities and the cost of delay.

The transparency of the agreements is ensured by the participation of local environmental authorities. In many cases, local residents groups also participate in the agreements as a party to sign or as a witness.

7.2 *Voluntary action plans*

After COP3 in Kyoto, greater importance is attached to the voluntary action plans of industries. They are regarded as the public commitments of Japanese industries to take serious steps for energy conservation and emission reduction of CO₂. As most of the large companies are participating in the plans, achievement of the targets will be essential for Japan to achieve the reduction targets of greenhouse gases.

Voluntary action plans have flexibility allowing industries to choose most economical ways to achieve the targets. It is a unanimous opinion that industries welcome this approach as it allows freedom and discretion of determining their own measures by assessing technical and financial implications. However, there may be a question about the relevancy of the targets based on unilateral commitments. It was pointed out that the total energy consumption in 2010 obtained by the summing up of the industry-wise data will not meet the reduction target of the country.

8. **Conclusions and general assessment**

The first case of major pollution control agreement was between Yokohama City and the Isogo thermal power plant in 1964 as reviewed in the above. The agreement, which provided for a specific pollution control objective, was based upon sound scientific and technical data on air quality, and was extremely effective in practice. Yokohama city subsequently concluded agreements with other enterprises newly locating in the city as well as with existing large-scale businesses when they invested in new facilities.

Following the Yokohama precedent, pollution control agreements became wide-spread throughout the country. At that time it was common to conclude agreements with enterprises which had immediate plans to establish industrial facilities. However, as pollution issues became more tangible and resident movements intensified, cases of agreement with enterprises whose activities could potentially create pollution at some future date increased. The contents of the agreements also gradually became more detailed. As the agreements are decided on the basis of discussions with each enterprise according to the individual situation, local governments and community organizations tend to take a positive attitude toward the enterprises with the objective of determining a reasonable and effective regulation for each individual enterprise. This has been an important factor in determining the success of this mechanism. The agreements are not limited to secondary industries, the major origin of industrial pollution, but now also apply to service industries. Thus, recreation facilities, restaurants and the transport industry have increasingly concluded such agreements.

From the viewpoint of the local government or the population living in the vicinity of potential pollution activity, the system is useful in that the agreed standards are specifically based on local geographical, natural, social, and economic conditions. From the viewpoint of the business establishments, the agreements provide a good opportunity to obtain the official sanction and support of the neighboring population as well as of the local government with regard to its overall business or industrial activities.

In the mid 1990s, new method of voluntary approach was initiated in Japan. The objective of this new approach was to cope with new problems, *inter alia*, global warming. The plans are made and implemented by industries themselves. Trade organizations have special committees of experts from member corporations, and they discuss and examine the objectives, targets and technical measures to achieve them. This is the traditional group decision making method in Japan and member corporations

are assumed take similar, uniform actions. There may be a criticism against the uniformity of actions, as it may discourage the competition among firms. This is a new approach, and it takes time to make the evaluation of this new approach.

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