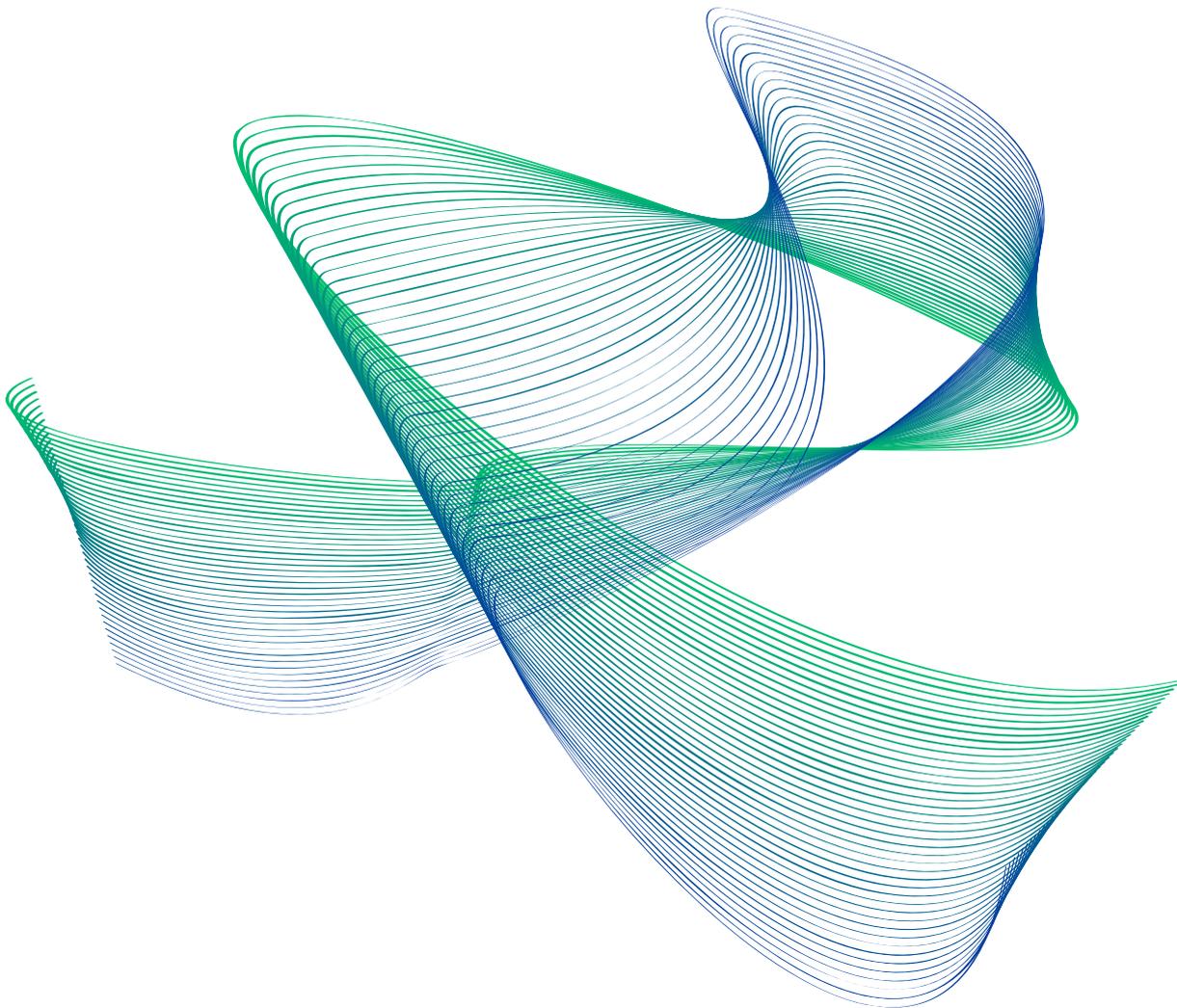




INTEGRATING THE ENVIRONMENT IN REGULATORY IMPACT ASSESSMENTS

By Klaus Jacob, Sabine Weiland, Johanna Ferretti,
Dirk Wascher, Daniela Chodorowska

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The OECD Regulatory Policy Committee

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GLOSSARY

CIA	Climate Impact Assessment, policy impact assessments which analyse the changes of GHG emissions caused by a policy proposal
EIA	Environmental Impact Assessment, impact assessments of projects (<i>e.g.</i> infrastructure, buildings, etc.) which analyse the possible impacts of a regulation on the environment
GHG	Greenhouse gases, mainly carbon dioxide, but also methane, nitrous oxide, CFCs, water vapor, and ozone that influence radiation and contributing to the greenhouse effect and hence climate change
MAC	Marginal Abatement Costs, the extra cost of reducing an extra unit of emissions
RIA	Regulatory Impact Assessment, a formalised, knowledge based and <i>ex ante</i> analysis of the positive and negative effects of proposed regulations
SCC	Social Cost of Carbon, monetary value for the economic costs (social costs) of climate change. The SCC can be applied to assess the benefits of reducing carbon emissions and is usually estimated as the present value of the stream of future economic damages of increased GHG emissions (by convention one tonne). It represents the global marginal damage costs of carbon emissions
SEA	Strategic Environmental Assessment, analysis of environmental impacts of plans and strategies
SIA	Sustainability Impact Assessment, systematic assessment of the possible positive and negative effect of a regulation or measure on sustainable development, <i>i.e.</i> on the economic, environmental and social dimension
Standard Cost Model	A methodology for measuring and monetising the administrative burden from regulation. The measurement focuses only on the requirements to provide information to comply with the regulation
Shadow Price	A price which is assumed as the true marginal value of a good or opportunity cost of a resource and which may differ from the market price

EXECUTIVE SUMMARY

1. The use of Regulatory Impact Assessment (RIA) is increasingly becoming a standard procedure in OECD member countries for the preparation of regulations. Many countries, however, are striving to improve the effectiveness of their RIA systems. At the same time, environmental concerns—and the need to cut emissions of Greenhouse Gases (GHG) in particular—are high on the political agenda. The framework conditions for preserving the environment are not only provided by environmental policies; all policy domains should allow for the integration of environmental protection and the transformation towards a low carbon society.

2. RIA is a potentially powerful tool in ensuring policy coherence and the integration of environmental concerns in different policy areas. Some countries have introduced requirements in their RIA systems for an assessment of environmental impacts or, in a broader perspective, of impacts on sustainability. This paper reviews the methods and the institutions that have been developed to ensure the consideration of environmental aspects in RIAs for a range of selected countries.

3. A number of countries have recently introduced methods for a focused assessment of the impacts of regulation on the emission of carbon. There are different approaches in assessing the impacts of carbon emissions. While some countries have procedures for monetising the changes in emissions, others appear to prefer a more qualitative approach. The different methods are analysed in this paper.

4. Special attention is paid to the focused assessment of carbon emissions and their monetisation. This approach has a number of advantages. By standardising the method including the data sources, emissions levels, efficiency rates or discount rates, potential disputes over the appropriateness of certain assumptions, are separated from the consideration of the merits of alternative regulatory approaches. The quality of the analysis can be scrutinised without debating the political considerations of how established policy objectives for the amelioration of carbon outputs relate to the specific proposal. By providing established values, a carbon impact assessment can be easily integrated in RIA systems. The issue of carbon reduction is high on the political agendas of governments; hence, the assessment of carbon impacts is likely to have broad policy merit and political support. Carbon assessments can also directly relate to the achievement of the general carbon reduction targets established by many governments.

5. The introduction of carbon impact assessments within RIA has the potential to increase the importance and effectiveness of RIA as a policy tool. Including environmental aspects in the evaluation of regulatory impacts increases the legitimacy and acceptability of RIA. Furthermore, linking regulatory policy to one of the most important priorities of government increases the likelihood that institutional innovations in methodology, transparency, and quality control of RIA receive the necessary support within the hierarchy of governments. Likewise, a narrow focus of RIA on monetary costs for business only, while separating the analysis of climate impacts, reduces the relevance and usefulness of RIA.

Introduction

6. The *ex ante* assessment of planned regulation has increasingly become a standard procedure within the OECD countries. New pieces of legislation are analysed regarding their costs and benefits (most often in a broad sense) before submitting them to cabinets and parliaments. This is meant to improve the evidence base of decision-making and to integrate horizontal policy objectives into the different policy domains. Although most governments share the view that there is a need for *ex ante* assessments, countries vary in regard to the specific goals and priorities that are pursued with this tool. Accordingly, the requirements for and the practices of Regulatory Impact Assessment (RIA), or more broadly impact assessment (IA), vary considerably. This variation notwithstanding, countries share the experience that the implementation of IA is a challenge.

7. Despite the growing number of excellent and influential IA studies on individual pieces of regulation that have been supportive of incorporating IA in the policy process and its potential for improving the quality of regulation, the practice of IA still proves difficult. Among the reported difficulties, the following are particularly notable:

- Technical and methodological difficulties: The *ex ante* assessment of policies is a challenge with regard to available data, suitable models or other methods. The reactions of target groups on a planned regulation are not easily predictable—in particular if the regulation leaves room for or even stimulates innovation. This limits the possibility of forecasting the effects and possible side-effects of planned policies. Some changes in behaviour may trigger other indirect impacts. It may, therefore, be difficult to determine which impact areas are likely to be affected and should be considered relevant in IA studies, and which areas can be omitted as no relevant impacts would be expected. Furthermore, aggregation of impacts is difficult as impacts are measured by different indicators and scales. While in some countries, a monetisation of different impact areas is preferred for aggregating impacts, in practice such monetisation is difficult in the case of assessing non tradable goods for which no market exists. In such cases, monetisation is often only possible with the investment of considerable resources for supporting studies. In particular, the non-economic benefits of legislation are difficult to assess. Cost saving innovation cannot be predicted and economic costs as well as benefits are frequently overestimated. As a result of these methodological limitations, assumptions and judgements are inevitably part of the assessment. Despite this, the nature of these assumptions, and other associated areas of uncertainty, can be made explicit in the assessment. The assessment can therefore still be of considerable assistance to decision makers by clarifying the known and likely consequences of regulatory proposals and making underlying assumptions transparent.
- Lack of resources: A holistic impact assessment requires time, trained staff and budgets for the collection of data, and the setup and running of models. All of these are scarce resources in the political process. In particular, the commissioning of studies can often be in conflict with the timing of particular policy processes that may depend on the utilisation of narrow windows of opportunities.
- Lack of institutional demand: Policy proposals are not only based on evidence; policy makers strive for majorities among conflicting interests, bargain for compromise and look for legitimacy and support for their proposal. Because RIA studies analyse the pros and cons of legislative proposals they may limit the room for manoeuvre for political actors to pursue their goals. Furthermore, using IA as a means of challenging the pre-commitment of a politician on a specific instrument or course of action is difficult. Hence, the results of IA studies are not taken into consideration in the political negotiations, which in turn does not provide incentives to invest in efforts to conduct the analysis.

8. As a result, IA studies may often be performed in a superficial and a non-transparent manner. Impact areas that are more difficult to assess (for example: those involving intangible values and long-term benefits) may not be taken into consideration. There is a tendency to use IAs only to legitimise a predetermined course of action rather than to provide balanced evidence, both in favour as well as against a planned policy.

9. Consequently, there are calls for mechanisms that address these impediments. Several trends can be observed:

- Proliferation of institutions for quality control: Several countries have introduced mechanisms and institutions to review IA reports. In some jurisdictions, the IA systems have been reviewed through evaluation studies, others have set up expert bodies and councils responsible for the review of individual IAs.
- Methodological rigidity: Considerable efforts have been undertaken to develop methods that are applicable to a wide range of policies and that facilitate the IA process. The most prominent examples are the Standard Cost Model for the assessment of information requirements or the use of Cost Benefit Analysis for the aggregation of different impacts. Beyond this, there is a range of checklists, toolboxes and models that have been developed and applied in IA studies.

10. A standardisation of methods has several advantages and has the potential to overcome several obstacles of IAs:

- Resource requirements: Ready-to-use tools reduce the resource requirements for IA studies. The practitioner can build on data and experience from previous applications. Support units or consultants can bring in specialised knowledge and experiences.
- Improved relevance: Tools that are developed for multiple purposes reflect broader political priorities beyond the policy relevance of the individual piece of regulation. This increases the relevance of the assessment making it more tailored to political demands.
- Quality control: The use or non-use of standardised analytical methods can be used as an easy-to-check indicator of the quality of an impact assessment. This is politically less sensitive than assessing the overall quality of the IA or scrutiny of the policy relevance of the proposed regulation.

11. There are, however, also limitations and shortcomings of a standardised methodological approach. The factors that can be meaningfully assessed by multi-purpose tools are necessarily narrow and focused. Therefore, there is a risk that standardised procedures will descend into just box checking while excluding other, more relevant aspects of the policy from the analysis.

12. In this paper, we aim to contribute to the discussion on how to improve the practice of impact assessment. We focus on innovation in the field of tools for the assessment of environmental impacts of planned policies. By broadening impact assessment beyond an analysis of economic costs and taking environmental concerns into account, the coherence of policies can be improved and policy conflicts can be avoided. IA is potentially a powerful tool to integrate environmental concerns across policy domains such as agriculture, energy, infrastructure, and transport among others. IA increases the coherence of policies with the overall goals of governments (OECD, 2009a). However, measures to include environmental or sustainability considerations in the RIA have raised some concerns around the choice of an integrated approach or the selection of different assessment tools. As is argued, there is a risk that more integrated approaches might lead to a weakening of environmental considerations by overloading the IA

procedure (see Kidd and Fischer, 2007; Morrison-Saunders and Fischer, 2006). Recent research has therefore recommended that governments define an overall broad scope for IA, but implement it through *targeted* analytical methods and tools so that IA operates as a procedure to connect and compare different impacts according to their policy weightings (Jacob *et al.*, 2008, p. 4). In this paper, we analyse how environmental concerns are taken into consideration in impact assessment in different jurisdictions, particularly through an examination of the framework for impact studies and the use of standardised methodologies.

13. Special attention is given to recent innovations in the field of climate impact assessment (CIA): Given the importance of climate policies in most OECD countries and the need to reduce CO₂ emissions, several countries have started to experiment with focused carbon assessments of new legislation. This raises policy questions for the application of IA: How does this contribute to the assessment of environmental impacts and the overall functioning of the IA? Do such climate assessments have the potential to turn out to be a new generation of multipurpose tools with sufficient political backing and applicability in different policy domains? How does this relate to the generic IA—is there a risk of narrowing down the attention to this particular indicator while sidelining other aspects, or does the focus and the political support create a favourable situation for the overall assessment?

14. The paper is based on a review of procedural requirements and—as far as available—the actual practices of assessing environmental impacts as part of IAs. Special attention is given to recent approaches for carbon assessment. The next section discusses in greater detail the requirements and challenges of a consideration of environmental impacts. For selected countries and the European Commission, the approach for the assessment of environmental impacts is described in the context of the overall procedure of impact assessment. The following section focuses on tools for the assessment of carbon impacts of planned legislation, subordinate legislation and also partly on governmental strategies. The concluding section summarises and discusses the potentials and possible risks of different approaches to improve the assessment of environmental impacts.

Regulatory Impact Assessment: The environmental scope

15. In principle, Regulatory Impact Assessment (RIA) has been conceived as a key instrument for improving regulatory quality and good governance by ensuring more coherent and transparent policies, and making regulation more effective and efficient. By analysing potential consequences of proposed regulations, and by comparing different options, RIA is a methodological framework and an administrative procedure for better-informed policy-making. If properly conducted, the impact assessment should systematically assess the impact likely to arise from government regulation and communicate this information to the decision-makers. RIA contributes not only to the regulatory output but also to the process of policy making. RIA facilitates the interdepartmental process and often involves public consultation. It thereby improves the transparency of governmental decision-making and increases the quality of political debate. Hence, RIA is not a tool that substitutes for decision-making, but an integral part of the policy-making process (Kirkpatrick and Parker, 2007b, p. 3). It can be conceived not only as an analytical tool, but it has the potential as a communicative tool as well (Jacob *et al.*, 2008).

16. Originally, RIA focused on identifying the direct economic costs and benefits of different regulatory alternatives on a wide range of actors (see Kirkpatrick and Parker, 2007a; Radaelli and De Francesco, 2010). But in recent years RIA has experienced a high degree of diversification of approaches regarding orientation, ambition, institutionalisation and transparency of the procedures. Nowadays, in several countries, RIA requires the assessment of all types of possible impacts. It varies among countries, however, to what extent these assessments comprise a consideration of environmental issues (Jacob *et al.*, 2008, p. 37).

17. Traditionally, and in many countries still prevailing, the assessment procedures are geared to direct economic costs and administrative burdens, with environmental aspects playing a marginal or no role at all (see Jacob *et al.*, 2008). Also, in many countries where the inclusion of environmental considerations is required, a weak integration of environmental aspects has been observed in practice (Ecologic, IEEP *et al.*, 2007). Environmental integration is difficult even in countries that geared their IA explicitly towards a consideration of the environment or sustainability. For example, in the Netherlands, the IA explicitly aims at achieving sustainable development (EC, 2008). The guidelines of Ireland and, since 2009, Germany, refer to the National Strategy of Sustainable Development. In Finland, France and Poland environmental aspects are mentioned as part of the overall IA procedure.

18. In general, there is a striking gap between IA requirements and the actual conduct of IA practice. A lack of political support and constraining organisational structures appear to lead to a limited consideration of environmental aspects. A detailed study on environmental aspects in policy appraisal in the UK—allegedly a vanguard in environmental policy integration—reveals diverse reasons for policy officials not integrating environmental aspects, including: lack of expertise, limited senior official support, environmental issues not being a department's core work, the number of appraisal requirements as well as the overall complexity of policy making (Russel and Jordan, 2006). The same reasons were confirmed by a survey among officials in the Netherlands, UK and Germany (Achtnicht *et al.*, 2009). To overcome such difficulties in the IA processes generally, and to positively affect the environmental scope in RIA it is indicated to simplify the tools and guidelines and, moreover, to provide for capacity building in departments (see OECD, 2010a).

Which factors account for environmental integration in impact assessments?

19. For environmental integration in RIA and the IA process, institutional as well as methodological aspects are of relevance. The process refers, among other things, to the timing of impact assessment in regard to the overall policy-making context, the transparency of the procedure, provisions for use of external expertise and specification of impact areas (Jacob and Hertin, 2007).

20. Typically, RIA includes a number of tasks to be carried out at each stage of the process. These include:

- selection of policy proposals to be subject to IA (if not all proposals are covered);
- description of the problem and the objective of the proposed regulation;
- description of the baseline scenario;
- identification of policy options to be assessed;
- assessment of options, including the anticipation of impacts in the different areas as well as the weighing and aggregation of different impacts;
- consultation of stakeholders and other interested parties on the results of the IA; and
- review of the quality of the IA (see Volkery and Jacob, 2005, pp. 17-18).

21. A consideration of the environmental impacts can be relevant at every stage of the IA process. For example, environmental aspects should be taken into account where relevant in the problem description. In the baseline scenario, policy options can be profiled against their expected environmental impacts, and environmental actors can be included in stakeholder consultation.

22. To safeguard the consideration of environmental aspects throughout the IA process, it is not sufficient to provide guidelines and to impose requirements regarding the analysis of specific impact areas. Institutional aspects also constrain or enable environmental considerations. This includes the provision of resources (time, money, and staff) available for the analysis of environmental aspects in an IA. To guarantee sufficient quality of the analysis, the necessary capacities have to be built up and provided (OECD, 2010a).

23. Furthermore, the integration process is also determined by organisational culture (*e.g.* attitude towards deliberation of the policy process) or organisational structure (Turnpenny *et al.*, 2008). The provisions for coordination among departments and the extent and duration of the involvement of the environment ministry particularly affect an IA. Another crucial aspect is the existence of vertical integration mechanisms, which play a role especially in federal systems in which federal regulations have to be implemented at the subnational level (see OECD, 2010a, p. 31). If the regulation and the implementation are strictly separated, and the discretion for the implementing levels is high, an analysis of any impact, including the environmental aspects, is difficult if not impossible.

Tools and methods for environmental integration

24. The availability and the use of methods and tools for the assessment have been frequently discussed as pivotal for the consideration of environmental aspects in RIA. Tools in the context of Impact Assessment can be conceived as methods to gather and process data with the purpose of improving the knowledge basis of decisions with regards to their likely outcomes and impacts. We can distinguish three types of tools through which environmental issues might get incorporated in RIA: *i*) tools to generate and analyse data on specific environmental impact areas, *ii*) tools to integrate and aggregate data, and *iii*) participatory tools to facilitate the interaction among different actors. In the first category, we find tools that generate and analyse data on specific impact areas. Normally, these are models, *i.e.* simplified representations of complex real-world phenomena, such as socio-economic models, bio-physical models, as well as integrated models (*e.g.* land-use models). Tools to integrate and aggregate data range from scenario tools to multi-criteria analysis and cost-benefit analysis. These tools might contain elements of quantitative or qualitative appraisal. Participatory tools comprise tools that can be deployed in decision-making processes with the aim of consulting or involving stakeholders and other interested parties in policy development processes (de Ridder, 2006). Which methods are best to apply depends on the purpose they should fulfil within the overall assessment procedure (*e.g.* depending on scope of the assessment or scope of policy options to be assessed). Moreover, the application of these tools requires data on which to base the analysis. In this regard, statistical offices, environmental agencies and scientific bodies have advanced considerably in monitoring environmental quality, emissions and other environmental data, partly due to international commitments (EEA, 2005, p. 8). A good example for guidance on data acquisition is the European Commission's IA tool's online platform, which provides information and best practices for assessment and also introduces databases for IA analysis (EC, 2010).

25. The spread and use of tools and methods vary in different countries. Thus far, for the policy proposals in EU Member States, the use of elaborated quantification tools for environmental aspects is the exception rather than the rule (Jacob, Hertin *et al.*, 2008). If quantification is performed, this takes place more often on direct economic and administrative costs than on environmental or social issues (Jacob and Hertin 2007; Achtnicht, Rennings *et al.*, 2009).

26. The lack of tool-use in assessing environmental impacts can be explained by a propensity for overly complex models and the lack of an adequate science-policy interface in the administrative structure (de Ridder, 2006). This could be overcome by training and helpdesks provided by a coordination unit or environment department, which would support the scrutiny of policies by helping to select appropriate assessment methods or by producing overall appraisal guidance on methods in the IA process (see Russel and Jordan, 2006).

27. In spite of procedural, institutional and methodological innovations, the assessment of environmental impacts as part of the RIA process remains a difficult task. Evaluation studies reveal that the potential of RIA to integrate environmental concerns in policy making are not exploited. The consideration of environmental aspects has to be ensured throughout the IA process, supported by an adequate institutional background and needs appropriate tools and methods. In the following section, we will analyse how these challenges are addressed in those countries that have geared their RIA systems towards incorporating environmental aspects.

The consideration of environmental aspects in Regulatory Impact Assessment of selected OECD Countries

28. In this section, the country approaches to the consideration of environmental aspects is described for a sample of seven jurisdictions: the Netherlands, Ireland, Switzerland, Germany, the European Union, Australia and Canada. We firstly describe the country (or the EU) approach and then discuss the following aspects for each jurisdiction:

- Impact areas: Which impact areas are specified? What are the priorities, how does this relate to environmental and other governmental policies?
- Tools/methods: Are there preferred tools for the assessment of environmental impacts? Are there tools for the assessment and aggregation of different environmental aspects?
- Role of environmental ministries: What is the role of environmental ministries or other governmental agencies for the environment in the design and the implementation of the system?
- Consultancy/transparency: How extensive is the involvement of environmental actors external to the government, in the implementation of the system or in the use of the results of RIA?
- Quality assessment: How far is the consideration of environmental aspects foreseen in the jurisdiction when reviewing individual RIAs or the overall performance of the RIA system?

29. The primary basis for the descriptions is the IA guidelines or equivalent policy documents. As much as possible, the countries' experiences in practice will be reported. The analysis includes a discussion of the strength and weaknesses of the approaches. However, we do not aim for a comparative analysis.

NETHERLANDS

30. Although Strategic Environmental Assessment (SEA) on plans and programmes was already introduced in 1987, the Dutch government launched RIA on legislation rather late in 1994. The main instruments have been two *ex ante* impact assessment tools: the Business Effect-Test (B-Test) and the Environmental Test (E-Test), both coordinated by a “Joint Support Centre for Draft Regulation”, or help desk. The approach was revised in 2001 after an evaluation found procedures too non-transparent and ineffective (Volkery and Ehrhard 2004, p. 3). This resulted in a simplification and decentralisation of tasks and responsibilities. The RIA now covers four distinct processes: a Business Impact Assessment, an Environmental Impact Assessment, a Practicability and Enforcement Assessment, and a Cost-Benefit Analysis (OECD 2009b). However, the Dutch approach still lacks a truly integrated assessment of possible impacts. A so-called “Proposed Legislation Desk” turned out to be more of a technical advice body than the expected coordination and quality control body (Volkery and Ehrhard, 2004). From an institutional perspective, the recently established Regulatory Reform Group, a unit of officials at the centre of government, and of ACTAL, an independent control agency, must be considered as a major development and something that promotes culture change (OECD 2009b). However, these new institutions do not have a mandate regarding the environmental aspects of the Dutch RIA but to oversee the separated admin burden test based on the standard cost model. Similarly, the Netherlands dispose of a well equipped Commission for Environmental Assessment which provides advice in SEA and EIA since 1987, but this agency does not have a mandate in advising or overseeing the environmental impact assessment of legislation.

Impact areas

31. RIA is mandatory for proposed legislation at the national level with regard to business, environment or administrative burden, such as new laws, orders in council and proposed amendments to them, with the exception of budgetary laws and private members’ bills. RIA comprises three different tools. The breakdown of impact areas per tool is as follows:

Business impact assessment

- Which categories of companies are facing a business impact?
- How many companies will actually be affected by proposed legislation?
- What is the nature and scale of the costs and benefits for companies concerned?
- How large is the impact of the related wider business community?
- What is the current situation regarding the most relevant competitor countries?
- How will the proposed legislation affect market mechanisms?
- What are the socio-economic effects (*e.g.* employment, wage costs)?

Environmental impact assessment

- What are the consequences for energy usage and mobility; for consumption/management of raw materials; waste and emissions into the air, soil and surface water; and for use of the available physical space?

Practicability and enforcement assessment

- Which target group(s) will be affected and how large are those groups?
- What effects will there be for staffing required for enforcement?
- Devote attention in the explanatory notes to: expected degree of spontaneous observance of the legislation; aspects related to the scale of and possibilities for controls; aspects related to the scale of and possibilities for penalties.
- Which organisations will implement and enforce the proposed legislation? What is their opinion of the practicability and enforceability and the associated costs?
- What will the consequences be of the burden on the judiciary (courts and the Public Prosecutor's Office)?

Tools/methods

32. The methodology is focused strongly, albeit not exclusively, on compliance cost assessment (IIDP, 2004). The Proposed Legislation Desk (PLD) has developed a fixed structure for assessment, which is divided into two parts: *i) Quick Scan*, which validates the choice of instruments, and *ii) performance and review of Impact Analysis*. Available tools are the Business Impact Assessment (BIA), the Environmental Assessment (EA) and the Practicability & Enforceability assessment (P&E). Recently added is the Cost-Benefit-Analysis that shall clarify financial consequences of new legislation. An instruction for legislation (Instruction No. 256) has been adopted to facilitate uniform performance of policy appraisal. The literature on the Dutch case does not provide insight on the share of RIAs containing an analysis of benefits. It is not known, in how many cases of total RIAs benefits are quantified or monetised (Volkery and Ehrhard, 2004).

Role of environmental ministry

33. The PLD, jointly operated by the Ministry of Economic Affairs, the Ministry of Housing, Spatial Planning and the Environment (VROM) and the Ministry of Justice, oversees and controls the process. It is the same institution as the former help desk. At that stage, consultation and coordination takes place between only two actors, the PLD and the responsible ministry (Klaasens, 2004). Another main duty of the PLD is to assess the Quick Scans of single ministries. Staff members are also involved in the BIA/EA result assessment (Dutch Government, 2003). In practice, it is up to the responsible ministry to indicate precisely which EA questions must be answered in the case of legislation with substantial effects or side-effects on the environment. The decision on the set of questions will arise during the Quick Scan. The ministry must put forward a proposal that is reviewed by the Proposed Legislation Desk and the final agreement on this proposal will be laid down in writing (Volkery and Ehrhard, 2004).

Consultancy/transparency

34. The initiating ministry has the main responsibility for the whole assessment process. This has to be contrasted against the old approach where the list of proposals was adopted in a more lengthy inter-service consulting procedure, with the help desk drafting a first list of proposals together with a ministerial steering group that then was formally adopted by the cabinet. The new structure is the attempt to cut back cumbersome inter-ministerial consultations, in which the choice of proposals followed mostly the logic of political bargaining. The final list was a compromise of different counteracting interests and not all environmentally relevant proposals were covered. The independent watchdog ACTAL (*Adviescollege Toetsing Administratieve Lasten*, Advisory Board on Administrative Burdens) is an important institutional asset helping to hold different parts of the agenda together. Since it was established in 2000, ACTAL has played an important role in helping to motivate and structure regulatory reform in the Netherlands (and provided inspiration for other countries to set up similar structures, most recently in Sweden). It is not only important for its challenge function to government. Alongside the Steering Group on Better Regulation, it also covers several elements of Better Regulation (the business and citizen burden reduction programmes, advice to the cabinet on the burdens of new regulations which gives it a role in *ex ante* impact assessment, and promotion of Better Regulation at EU level) (OECD 2009b). Yet, ACTAL's mission has no mandate regarding the consideration of environmental issues. But greater transparency and openness could—at least in principle—bring other actors and interests into play, and thus contribute indirectly to environmental goals.

Quality assessment

35. The major institution responsible for the quality of IA is the PLD. The Environmental Ministry (VROM) is one of the three constituting institutions of the PLD and hence significantly involved in overseeing and controlling the IA quality. The review undertaken by ACTAL is limited to the assessment of administrative burden and the application of the Standard Cost Model. In the Netherlands, only short summary reports of the assessments are published, and there is little transparency of the overall analysis. Stakeholder consultation is extensive in the Netherlands for the development of policy proposals, but this is not integrated in the RIA process and it does not function as a mechanism for quality control.¹

1. In 2011, the Dutch introduced a new programme for an “Integrated Assessment Framework for Policy and Regulations” (IAK). The IAK is an integrated working method to undertake an *ex ante* assessment of the impacts of policies and regulations. Previous assessment methods, including those relating to environmental impacts have been integrated in the overall IAK.

IRELAND

36. In Ireland, the integration of the environmental dimension into RIA processes appears to be more advanced compared to the majority of OECD countries (Goggin and Lauder, 2008, pp. 20, 52). In the decision-making process, policy integration is achieved by including environmental impact analysis into RIA with the aim to identify the best policy option. In addition, Environmental Impact Assessment (EIA), as part of the Irish development consent system, constitutes a sectoral assessment procedure. Finally, the 2004 Planning and Development Regulations incorporated the prescriptions of the European Directive on Strategic Environmental Assessment (SEA).

Impact areas

37. In the context of RIA, environmental impacts of proposed regulations are considered to stand equally next to the evaluation of economic and social impacts (*e.g.* national competitiveness, socially excluded and vulnerable groups etc.—seven impact types in total) (Department of the Taoiseach, 2009, pp. 26-30). As former Prime Minister Bertie Ahern puts it: “[RIA] aims to promote the quantification of impacts on society [...] and the environmental costs and not just the compliance cost to business” (Ahern, 2005).

38. According to the principle of proportionality laid down in the RIA Guidelines, the level of detail of the assessment and the analytical approach have to be adjusted to the proposal’s significance. The guidelines suggest several criteria in order to assess significant negative environmental impacts, including probability, duration, frequency and reversibility of the impacts, and magnitude and spatial extent of the impacts. In case of expected impacts in these areas, a detailed environmental impact analysis is needed (Department of the Taoiseach 2009: 30).

39. Referring to the national environmental policy programmes and the expertise of the Environmental Protection Agency (EPA, 2002, p. 6), the guidelines enlist a broad range of environmental issues to be examined.² Impacts on protected species and habitats are highlighted, presumably due to numerous pending EU infringement procedures and ensuing pressure on the part of the EU Commission. Yet, implementation still lags behind the envisioned broad assessment scope. There is great variation regarding quality and thoroughness of conducted RIAs, environmental impacts mostly being discussed only vaguely (Civil Service Training and Development Centre, 2009). Reference is also made in the Guidelines to the Irish Sustainable Development Strategy (Department of the Taoiseach, 2009, p. 29). Still, the integration level of sustainability issues remains low (Jacob *et al.*, 2008, p. 15; DEHLG, 2002, p. 61; Jacob *et al.* 2009, p. 41).³

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2. The specified environmental issues are: water quality and resources, soil quality, climate change (both mitigation and adaptation), environment and human health, natural heritage and biodiversity, waste, noise, landscape and land-use change, material assets (such as water supply and management, infrastructure, housing, transport, industry etc.) and cultural heritage, including architectural and archaeological aspects (Department of the Taoiseach, 2009, p. 30).
 3. The Irish Sustainable Development Strategy itself highlights the importance of regulatory quality to achieve public policy goal but lacks coherence with existing sectoral policy frameworks (DEHLG, 2002, p. 98; OECD 2010, pp. 15-16).

Tools/methods

40. The RIA guidelines recommend a quantification and monetisation in order to allow a comparison of different types of costs, benefits and impacts of policy options. However, the RIA guidelines allow a flexible approach. CBA or MCA can be used (Department of the Taoiseach 2009: 21). If a department prepares a MCA, the identified “impacts [...] should be used to inform both the criteria used and the scoring of options under these criteria.” (*ibid.*: 26). In practice, lack of data and skills as well as quantification anxiety is responsible for the rather qualitative character of the conducted RIAs (Goggin and Lauder, 2008, p. 58).⁴ According to Goggin and Lauder, problems of quantification also appear to be a consequence of the broad scope of considered impact areas (*ibid.*: 62).

Role of environmental ministry

41. The ministry that is responsible for the respective proposal conducts the RIA. Inter-departmental consultations should take place if impacts related to other jurisdictions are to be expected (EVIA, 2008, p. 72). As with all other departments, the Government Department of Environment, Heritage and Local Government (DEHLG) has RIA Network Officers at its disposal, which serve as a contact point and best practice advisers.

42. So far, DEHLG (1200 staff members) has conducted the greatest amount of RIAs and is cited as a best practitioner by the Guidelines (Department of the Taoiseach, 2009, p. 8, 34, 86). It has published numerous policy documents, to which the Guidelines make reference. DEHLG hence serves as a role model for other departments that can make use of DEHLG’s work and experiences in EIA (Department of the Taoiseach, 2009, p. 96; DEHLG, 2003).

43. The Environmental Protection Agency (EPA) (340 staff members) with competences in environmental licensing, monitoring and enforcement assesses Environmental Impact Statements (EIS) that are part of planning applications. EPA also functions as an EIS adviser if requested by the Planning Authority or Appeals Board.

Consultancy/transparency

44. Generally, the guidelines for RIA require a consideration of the results of consultation, to be conducted at a very early stage of the RIA process, to identify the likely significant impacts (Department of the Taoiseach 2009: 26). It is stated that there should be a balanced consideration of all relevant interest groups, but the involvement of the Social Partners and relevant industry groups is highlighted (*ibid.*: 32).⁵

Quality assessment

45. Goggin and Lauder praise the broad Irish impact approach and underline the intellectual proximity with the EU IA system (Goggin and Lauder, 2008, p. 52). Their review, commissioned by the Department of the Taoiseach, cites interviewees that consider EIA teamwork experience (“one designing the legislation and the other assessing impacts via an iterative process”) to be a useful model for a RIA that is able to influence the outcomes of the policy development process (*ibid.*: 37). Contributions from various sources, division of tasks and mutual control of the involved agencies are seen as important preconditions for a meaningful RIA.

46. Other sources, such as the OECD, find that the Irish RIA is well suited for advanced environmental policy integration. Improvement can and should however be achieved “through rigorous implementation of SEA and EIA procedures” (OECD, 2010b, pp. 24, 139).

4. Only half of the conducted RIAs contained quantifications, with a focus on CBA (Jacob *et al.*, 2009, p. 43; Goggin and Lauder, 2008, p. 62).

5. The Environmental Pillar of Irish Social Partnership has been established only recently (2009) and environmental NGO activities have no sustained tradition in Ireland (OECD, 2010, pp. 211-212).

SWITZERLAND

47. In Switzerland, RIA is characterised by the co-existence of two assessment schemes as well as several sectoral IA approaches. The main instrument RFA (*Regulierungsfolgenabschätzung*, regulatory impact assessment) aims to assess the impacts of laws and regulations with a focus on the overall national economy. The Sustainability Assessment (*Nachhaltigkeitsbeurteilung* NHB), focuses on major aspects of sustainable development, *i.e.* on economic, social and ecological aspects that are to be integrated in the assessment. Despite an overlap in content, RFA and Sustainability Assessment (SA) are hardly connected. Among the sectoral approaches, there is an economic assessment of environmental policy measures (VOBU, *Volkswirtschaftliche Beurteilung*) that aims to increase effectiveness and efficiency of environmental policy, as well as an energy impact assessment (EFS, *Energiefolgeschätzung*) which aims to improve the energy efficiency of planned regulation (Jacob, Veit *et al.*, 2009, p. 45; Bundesamt für Raumentwicklung, 2008, p. 7).

48. In the following, we will focus on SA as an integrated approach that is directed at policy coherence. The SA was introduced in 2004 in the context of the debate on implementation of the national sustainability strategy (Bundesamt für Raumentwicklung, 2004) and was then tested on several pilot projects. Within the strategy “Sustainable Development 2008-2011” (Schweizerischer Bundesrat, 2008) the Federal Council expresses the demand to conduct SA whenever there are new and important projects. Nevertheless, SA is not mandatory, except for the agricultural and transport sector, and there is no institutionalisation in the form of trans-sectoral judicial obligations (Jacob *et al.* 2009, pp. 48-49). Therefore, the practical relevance of SA is not very high, as compared to the RFA which is mandatory for all new legislation. However, the RFA focuses on economic impacts. It partially include environmental considerations, though only as one among a larger number of impacts to be considered.

Impact areas

49. The SA has a focus on evaluating and, hence, improving sustainability. It aims to foresee:
- The implications of planned regulation and measures in the economic, environmental and societal dimensions;
 - The distribution of positive and negative impacts in the three dimensions;
 - The goal conflicts and trade-offs between the dimensions and/or with the main objectives of the regulation;
 - How the sustainability of the planned regulation could be improved (Bundesamt für Raumentwicklung, 2008, p. 4).

50. Furthermore, it aims to foster cooperation and communication among different policy sectors as well as between civil society and the private sector. For the assessment, a questionnaire with 15 criteria has been developed.

Tools/methods

51. The SA procedure is laid down in a guideline document that sets out three phases, each comprising three steps (Bundesamt für Raumentwicklung, 2008, p. 10):

- A: Relevance analysis
 - A1: Describe planned regulation/measure

- A2: Assess relevance of planned regulation/measure
- A3: Define impact assessment design

- B: Impact assessment
 - B1: Set up an impact model
 - B2: Assess the impacts
 - B3: Balance the different impacts

- C: Implications
 - C1: Outline potentials for optimisation
 - C2: Outline areas for deepened analysis
 - C3: Propose how to implement the results

52. For each step, a detailed set of questions are provided. In addition, for steps A2 and B2, a set of criteria is defined with which the sustainability impacts of the regulation/measure are to be assessed. The criteria stem from the three sustainability dimensions, economy (*e.g.* increase of income and employment), ecology (*e.g.* reduction of pollution), and society (*e.g.* safeguard human development and education). Furthermore, eight additional criteria (*e.g.* general trend, irreversibility, impact on future generations) are to be included in the assessment (Bundesamt für Raumentwicklung, 2008, pp. 12-14). Most particularly, environmental impacts are assessed on par with other impacts.

53. The impact in the different dimensions is assessed on a points-based system (ranging from -3 to +3). The Federal Office for Spatial Development, which is leading the SA, has developed an Excel tool which can be used for the assessment (Bundesamt für Raumentwicklung, 2008, Appendix C). In addition, the guidance document of the Federal Office contains numerous tools (forum processes, empirical research, case studies, expert interviews, incidence analysis, utility analysis, cost-benefit-analysis, cost-effectiveness-analysis etc.) that can be used for the impact assessment. The selection of tools and methods however is flexible and depends on the case, the policy area, the kind of impacts and the depth of analysis (Jacob *et al.* 2009, pp. 50-52).

Role of environmental ministry

54. The sector agency in whose realm the planned regulation falls, is in charge of conducting the SA. The Federal Office for Spatial Development has to be included in the process to supervise methodological aspects of the assessment. Beyond that, it is possible, but not required to consult other agencies, including the Federal Office for the Environment, for example in a project group which is accompanying the process. In practice, however, this hardly happens, as an evaluation study of the SA revealed (Ecoplan, 2008, p. 52). The study criticises the lack of standards for including other agency's expertise. Indeed, the discursive process and consultation with other agencies is regarded as important for the quality of the sustainability assessment (*ibid.*). Accordingly, this would appear to be a significant flaw.

Consultancy/transparency

55. The evaluation study of the SA (Ecoplan, 2008) found that, in terms of substance, the overall concept for sustainability assessment provides guidance for the assessment exercise, but leaves open the procedural aspects. The latter has negative consequences for both quality and transparency of the assessment. The SA procedure is not standardised. There are, for example, no binding rules for identifying cases when a sustainability assessment has to be carried out and in which form the results have to be published. The responsible agencies decide on the cases in which a sustainability assessment is to be carried out. Also, as mentioned above, the inclusion of consultation with other actors is not common. The

evaluation study therefore recommends expanding the SA from a guideline to an accompanying quality tool. The idea is to put more emphasis on the organisation of the assessment process which would include greater transparency and inclusion of other actors, from both the political system and from society (Ecoplan, 2008, pp. 41, 56).

Quality assessment

56. The NHB is not obligatory so far, but is recommended in the National Strategy for Sustainable Development. There is no mandatory quality control, but support and recommendations are provided by the Federal Office for Spatial Development. About 3-5 in-depth sustainability assessments are made per year, particularly in policy fields with territorial impacts (transport, other infrastructure, spatial planning, agriculture). As part of an evaluation study, the performance of the system was reviewed. The results do not draw a clear conclusion in terms of integration of environmental consideration into political decisions. The study analysed four SA cases and did at least not report a lack of environmental issues in the assessment (Ecoplan, 2008).

GERMANY

57. The German RIA system has been reformed most recently. In 2009, a sustainability impact assessment was added under the umbrella of the generic regulatory impact assessment (GFA, *Gesetzesfolgenabschätzung*). Previously, the GFA, although supposed to cover all substantial effects of a proposed law, focused mainly on the assessment of legal, administrative and budgetary aspects of the proposed legislation. Another special focus within the GFA is the assessment of the administrative burden, which is done by applying the standard cost model to the planned legislation. With its focused approach, GFA does not function as an integrated *ex ante* policy appraisal instrument (EVIA, 2008).

58. The sustainability impact assessment (NHP, *Nachhaltigkeitsprüfung*) is geared to the 21 priority areas of the National Strategy for Sustainable Development. Primary legislation should be assessed by how much it contributes to one of these 21 areas, all of which represent a quantified priority target of German sustainability politics. The application of NHP is overseen by a parliamentary committee (*Parlamentarischer Beirat für Nachhaltige Entwicklung*, Parliamentary Advisory Board for Sustainable Development), composed of 22 members of Parliament. The Advisory Board reviews the sustainability impact assessments and provides recommendations to the responsible parliamentary committee.

Impact areas

59. The NHP is explicitly mentioned in the “Joint Rules of Procedure” (in § 44 I GGO) of the federal ministries, which is the most important piece of regulation concerning RIA. The rules determine that the impacts of a proposed regulation must be compatible with the aim of sustainable development. Since 2009, the long-term dimension, in particular, is required be considered in RIA (BMI 2009a: 31).

60. The sustainability assessment is carried out based on the key indicators of 21 priority areas of the German National Sustainability Strategy. The indicators are grouped in four themes, namely intergenerational equity (*e.g.* energy productivity, greenhouse gas emissions, national deficit), quality of life (*e.g.* transport intensity of goods and passengers, organic farming), social cohesion (*e.g.* employment rate, wage difference between women and men), and international responsibility (*e.g.* trade opportunities for developing countries). Furthermore, the national sustainability strategy defines ten management rules that must also be taken into account in the NHP. The rules include, for example, the principle that each generation must solve its own problems and not burden the next generations or that unacceptable risks should be avoided. The rules and indicators are to be used for the sustainability assessment of regulatory proposals. There is no further guidance however on how to weigh the different objectives and, in particular, no priority is given to environmental considerations.

Tools/methods

61. The Federal Ministry of the Interior published a (non binding) guideline document on conducting regulatory impact assessments, which also applies to the NHP. It outlines a five-step approach for the assessment (BMI, 2009b, p. 5):

1. Analysis of regulatory field;
2. Description of regulatory goal;
3. Development of regulatory alternatives;
4. Assessment of regulatory options;
5. Documentation of assessment results.

62. The core steps 3 and 4 are described in detail in the guideline. A focus is on alternative options for regulating the issue in question, which must be developed and assessed individually. For the sustainability assessment, no methods and tools are prescribed. Rather, the tools that are appropriate for the assessment must be decided on a case-by-case basis.

63. In practice, however, the assessment of alternatives options is frequently neglected, as practitioners in the field explained. In the NHPs that are part of the regulatory proposals it is normally the case that only summarising explanatory memoranda that justify the chosen regulation option are provided rather than discussing alternative options. The reason for this can possibly be seen in the German administrative tradition that is reluctant to lay open internal considerations that have led to certain decisions (see section on consultancy/transparency below).

Role of environmental ministry

64. In the “Joint Rules of Procedure” (in § 44 I, 45 GGO) of the federal ministries it is specified that the impacts of a proposed regulation must be assessed in consultation with the relevant federal ministries. There is however no entity, *e.g.* the Ministry of the Interior, responsible for supervising the consultation. Hence, the responsibility for this is with the ministries that are in charge of the regulatory proposal. This normally results in the interests of the different ministries influencing the consultation according to their ministerial power. Furthermore, if the heads of departments come from different political parties of the coalition government, cooperation between the ministries is more difficult. According to the Joint Rules, every ministry is entitled to ask for additional analysis if the RIA report is perceived as not sufficient. However, this hardly ever happens in practice. Rather than jointly working on the analysis, the regulatory proposal is negotiated between the departments.

Consultancy/transparency

65. The analysis for the GFA is summarised in a two-page cover note of the legislative proposal. The section on the sustainability impact assessment is typically only a few lines of text in an obligatory explanatory memorandum. In addition to this, the justification for the proposal often includes a more comprehensive analysis. However, this is not formalised.

66. An internal consultation on the NHP is not obligatory. It is the responsibility of the leading department to involve other ministries in the preparation. Usually, it is the policy proposal (including the cover note and the justification) that is subject to consultation rather than the impact assessment.

67. A public consultation on the proposal is mandated in the Joint Rules. However, the impact assessment does not play a role in this. According to the Joint Rules, the regulatory proposal is subject of the obligatory public consultation, but not the underlying analysis.

Quality assessment

68. The Federal Chancellery has the responsibility for the National Strategy for Sustainable Development and the related policies. It is at the same time responsible to decide on the completeness and the appropriateness of legislative proposals before they are tabled to the Cabinet. In principle, this gives a strong role to the Federal Chancellery in overseeing the implementation of the NHP. However, the scrutinising of proposals and their IA is not transparent for the public.

69. Furthermore, the Parliamentary Advisory Board for Sustainable Development reviews the sustainability assessments. For every proposed regulation, two politicians from the government and from the opposition prepare a joint opinion on the NHP (respectively if it was appropriate to omit a NHP for legislative proposals which have no relevant impacts on the sustainable development priority areas). Subject of the review are the formal explanatory memorandum and the justifications of the legislative proposals. There is no formalised document which summarises the methods and the results of the analysis. In case of more complex pieces of legislation, members from all parliamentary parties can be consulted. After the review, the members of the Parliamentary Advisory Board vote on the assessment and provide a recommendation to the lead parliamentary committee that is responsible for the piece of legislation. Individual board members who do not agree with the result are allowed to express their dissenting opinion. The opinion of the Board is tabled to the lead Parliamentary Committee of the Parliament. This committee decides on the conclusions: It may recommend to the Parliament to refuse the proposal, it may invite the government to provide additional analysis and justification.

70. In spring 2011, the Parliamentary Committee for Sustainable Development plans to report on the implementation of the NHP and its practice of review. The implementation of administrative burden testing is overseen and scrutinised by a separate independent expert body (*Normenkontrollrat*). However, the mandate is limited to the review of the appropriate application of the Standard Cost Model and so far, it has not been extended to other domains of impact assessment.

EUROPEAN UNION

71. Following the recommendations of the Mandelkern Report of 2001 on Better Regulation in the European Institutions, and the Gothenburg Council Conclusions for Sustainable Impact Assessment, the European Commission introduced in 2002 an integrated system of Impact Assessment of planned regulations, strategies and programmes. The approach integrated the preceding separated assessment tools, such as for the environment, small and medium enterprises, health, and other sectoral approaches. The new system aimed to increase the overall quality of regulation by avoiding unnecessary costs and maximising the benefits while at the same time implementing the European Strategy for Sustainable Development (Raggamby, Berglund *et al.* 2007; Meuwese, 2008). The requirements for the assessment applies to all major EU political initiatives (Raggamby *et al.*, 2007; Meuwese, 2008).

72. Since its reforms in 2005, the Commission's IA system consists of two stages, namely the roadmap and an impact assessment. The roadmap lays out the planning of the impact assessment. Roadmap statements include the identification of the problem, objectives and desired outcomes, the availability of data, the need for further data and how to gather it; the regulatory and non-regulatory social, economic, and environmental impact; a time schedule and consultation plan; finally, it concludes with a statement for or against the formation of an Inter-Service Steering Group, and further analysis (CEC, 2005).

73. The EU approach has evolved as a role model of an integrated approach, with a high implementation rate and high level of transparency. Through the establishment of different initiatives and institutions—especially the launching of the Impact Assessment Board—the quality of the assessments and their political relevance in the decision-making has improved over time.

Impact areas

74. According to the EU Impact Assessment Guidelines (CEC, 2005; 2009), all legislative proposals included in the Commission's Legislative and Work Programme (CLWP) should be subject to RIA. In addition, all legislative proposals which are not in the CLWP, but are expected to have significant economic, social, and environmental impacts should also be assessed. The European Commission has the right to ask for additional IAs on an ad hoc basis for items falling outside the CLWP, *e.g.* political initiatives in an early phase such as white papers, action plans, expenditure programmes, and negotiating guidelines for international agreements. In practice, the Secretariat General, the Impact Assessment Board and individual Commission DGs decide each year which initiatives should undergo an impact assessment (Raggamby *et al.*, 2007). Around six hundred impact assessments have been prepared and published. Existing initiatives are categorised to provide additional guidance on the level of proportionate analysis that is required: *i*) non-legislative initiatives/Communications/ Recommendations/White papers, setting out commitment for future legislative actions; *ii*) cross-cutting legislative actions, such as regulations and directives that are likely to have significant impacts in at least two of the three dimensions of RIA (economic, environmental and social) and on a wide range of stakeholders in different sectors; *iii*) “narrow” legislative action in a particular field or sector with limited impact beyond the immediate policy area; *iv*) expenditure programmes; *v*) comitology decisions (Radaelli *et al.* 2010, p. 90).

75. The EU manages its requirement for a far-reaching assessment by applying the standard of proportionate analysis, where the depth of the analysis is proportional to the likely impact of the initiative (CEC, 2004). EU impact assessments are also required to address the issue of subsidiarity, *i.e.* whether the initiative would be best carried out by the Commission or at the member state level (Cecot *et al.*, 2008).

Tools/methods

76. The EU guidelines (CEC, 2009) suggest a broad set of methods and tools for analysis, and divide them into quantitative and qualitative approaches. The proposed quantitative techniques range from simple extrapolation to full-fledged quantitative modelling and multi-criteria analysis. It also recommends to quantify and monetise costs and benefits as much as possible. The European Commission has undertaken considerable investments in its research programmes to develop tools and indicators in support of IA. Furthermore, it has set up supporting units for economic analysis and evaluation in every Directorate General. For the support of individual IAs, framework contracts have been established with consultants.

Role of DG Environment

77. DG ENV is actively promoting the use of IA within the Commission. It is one out of five DG from which a member is represented in the Impact Assessment Board which reviews the IAs of all DGs. Furthermore, DG ENV takes part in inter-service steering groups that are set up to oversee specific IAs.

Consultancy/transparency

78. Stakeholder consultation has become an important and obligatory part of the EU decision-making process. This is to be integrated in the IA process. The guidelines for IA suggest having multiple consultations throughout the IA process. However, this rarely takes place and usually stakeholders are consulted on the proposal only rather than on the underlying analysis. The consultation is formalised in a Communication on the general principles and minimum standards for consultation issued in 2002.

79. There is a high level of transparency on the analysis. The IA reports are published on a webpage together with a short summary and the opinion of the Impact Assessment Board.

Quality assessment

80. The Impact Assessment Board (IAB), which has been put in place in 2007, reviews the quality of individual IAs and the overall soundness of the IAs produced by the European Commission. The IAB can ask for additional analysis, and provides a learning forum for senior officials and the Secretariat General regarding the purpose of IA and its future development (Radaelli and Meuwese, 2009). While the opinions of the IAB are not binding, they accompany the draft IA and the proposal throughout the decision-making process within the Commission and are also published on the website with the final IA and the proposal adopted by the Commission. The IAB includes four directors from the following DGs: Economic and Financial Affairs, Enterprise and Industry, Employment and Social Affairs, and Environment.

81. In addition to this procedure, the IA practices was subject of two evaluations: In 2007, the European Commission commissioned an evaluation (TEP, 2007) and in 2009, the European Court of Auditors reviewed the performance of the IA process (ECA, 2010). Recently, several committees of the European Parliament have called for tenders for framework contracts to asks consultants to review commissions IAs.

AUSTRALIA

82. Australia adopted RIA at the federal level⁶ as early as 1985 and has since revised its approach continuously. The expertise and experience arising from that make the country one of the OECD front-runners (OECD 2010c) with an RIA procedure that comprises the prerequisites for producing high quality IAs. The overall goal of Regulatory Impact Analysis (RIA) is to deliver effective and efficient regulation (OBPR 2010a). The RIA coordinating unit is the Office of Best Practice Regulation (OBPR). The central tool in the RIA process is the Regulatory Impact Statement (RIS). According to the new provisions, which were amended this year (2010), in order to ensure better practicability of the instrument and to encourage greater compliance (DFD, 2010) RIS have to be prepared for all regulatory proposals of the Australian Government having an impact on business or the not-for-profit sector that result in substantial changes of legislative arrangements for these groups (*ibid*).

Impact areas

83. The economically focused RIA was extended to social as well as environmental impacts when in 1992 the Council of Australian Governments agreed on a National Strategy for Ecologically Sustainable Development (Jacob *et al.*, 2004: 10). In the first years after adopting a broader assessment framework the willingness of officials to consider these in RIA was very weak (*ibid. cit.* Productivity Commission, 1999). A policy proposal which triggers an RIS has to take account of impacts on all kinds of groups, like consumers or the broader community (Australian Government 2010: 25), which in turn include environmental issues (*ibid*, 37). As potential costs in regard to environmental concerns, the guidelines list environmental degradation or pollution (*e.g.* noise nuisances) (*ibid.*: 38). Benefits which could be assigned to the environment comprise environmental amenity (*ibid.*: 39). A number of RIS have for instance used the value of carbon modelled by the Department of the Treasury (see The Treasury, 2008) but no standard value is required by the OBPR.

84. The guidelines also recommend exercising an impact forecasting for no longer than 20 years (otherwise policy officers should be critical in regard to their RIS results). At the same time, it is indicated that environmental impacts sometimes require an even longer time horizon to be adequately taken into account (Australian Government, 2010, p. 63).

Tools/methods

85. As described above, the method applied for appraisal is CBA for which the Office of Best Practice Regulation (OBPR) provides comprehensive information including a list of CBA consultants, literature on CBA, as well as best practice examples (OBPR, 2010b). The government's handbook on RIA sets out the difficulties that occur during a valuation, for instance in regard to environmental goods (*e.g.* pollution levels and access to scenic views) since these are not traded in markets (Australian Government, 2010, p. 65). Although it is acknowledged that the quantification of costs and benefits might be challenging it is nonetheless required to be done as far as possible. According to the handbook, if valuation of impacts is not feasible, quantification of relevant values should still be attempted in non-monetary terms: "For example, a regulation to reduce pollution could quantify the expected reduction in emissions" (*ibid.*: 70). Other eligible methods that could be used for the estimation of values of costs comprise, for example, stated preference techniques.

6. The RIA requirements applied for CoAG (Council of Australian Governments) legislation are similar to those at federal level with some procedural differences, though (Deighton-Smith, 2007, p. 146). This chapter will only refer to the federal provisions.

86. In cooperation with the Australian Conservation Foundation the OBPR has planned to publish supporting information setting out valuation methods for an improved consideration of environmental issues in RISs, including indicative plug-in values as well as case studies. This guidance shall be made available to government agencies and support efforts to complement qualitative analyses with monetisation (McNamara, 2010, note).

Role of environmental ministry

87. The Department of the Environment, Water, Heritage and the Arts has no special position within the RIA process, but is consulted as one stakeholder equally along with other Commonwealth departments and agencies.

Consultancy/transparency

88. Consultation is conceived as one element for well-designed regulations (Australian Government, 2010) and must be integrated into the RIS as a “consultation statement”. The consultation process should be set out clearly (objective, how consultation was done including methods and time spans, views of the consulted parties, including areas of agreement and difference, and views which were used to modify the RIA). In principle, consultation must follow the government’s consultation provisions (which are set out in an appendix in the guidelines). A broad range of stakeholders should participate, such as associations, NGOs and the public, intergovernmental consultation also has to be conducted.

89. Consultation can also be sought in the form of external expertise, which is done especially for RISs on complex regulatory issues. The guidelines point out that, on the one hand, consultancy can improve the overall quality of RISs, but on the other hand, describe the risk of agencies not being able to develop a good understanding of the policy problem at hand (Australian Government, 2010, p. 27). Further transparency is ensured by the publication of RIS documents on the public online register⁷ after a decision has been made.

Quality assessment

90. A number of quality assurance mechanisms exist as part of the scope of the functions of the OBPR. The OBPR is an independent division with the Department of Finance and Deregulation with the general objective to promote the development of better regulations (OBPR, 2010c). Staff of the OBPR are not only responsible for assessing whether a proposal needs an RIS (updated requirements), but also for appraising if the *formal* quality of a RIS is adequate. Even if an RIS is evaluated as not adequate it is published in the online registry. Before a RIS is forwarded to the OBPR for final scrutiny the relevant department head has to certify that the RIS meets the best practice regulation requirements (updated requirement). To simplify this step, a template has been provided for download.⁸ The RIS has to pass the OBPR assessment before it can proceed to Cabinet decision-makers. Moreover, yearly compliance reports of the performance by departments with the requirement to produce an adequate RIS, are published by the Government. For the year 2004 to 2005 the compliance rate amounted to 80%. Other observers, however, have cast doubts that the compliance results are even that high (Deighton-Smith, 2007). Another mechanism for improving the overall RIS quality is the OBPR helpdesk, which offers training on preparing RIA and direct support for policy officials when drafting an RIA, and also makes available web-based information packages for free (OBPR, 2010d).

7. See <http://ris.finance.gov.au/>.

8. See www.finance.gov.au/obpr/proposal/ris_certification.html.

CANADA

91. The Government of Canada's regulatory policy, *The Cabinet Directive on Streamlining Regulation* (CDSR) requires regulatory organizations to conduct detailed analyses (depending on the level of impact determined by the triage process) and undertake thorough consultations when developing a regulatory proposal. The results of these processes are summarized and presented to decision makers and the public in the Regulatory Impact Analysis Statement (RIAS), which is published in the *Canada Gazette*.

92. In 1986, Canada introduced for the first time a Regulatory Impact Analysis Statement (RIAS), a key part of the regulatory process in that it describes what regulatory actions the government is taking and how Canadians are affected.

93. In November 1999, Canada instituted the policy that a cost-benefit analysis (CBA) must be carried out for all significant regulatory proposals to assess their potential impacts on the environment, workers, businesses, consumers, and other sectors of society. A CBA section is incorporated in the RIAS for "Medium-High" impact regulatory proposals.

94. The new RIAS, that came into effect on April 1, 2008, reflects the requirements of the CDSR and further improves the regulatory system by demonstrating clearly the impacts of regulation on the environment, and the health, safety, security, and social and economic well-being of Canadians.

Impact Areas

95. The CDSR requires that all regulatory proposals be assessed at an early stage to determine where processes can be streamlined and where resources should be focused. In particular, proposals are assessed based on their potential impacts on health and safety, security, the environment, and the social and economic well-being of Canadians. The sponsoring department or agency conducts the Triage assessment in consultation with Regulatory Affairs Sector of the Treasury Board of Canada Secretariat (TBS-RAS). If the Triage process results in a "High" impact designation in the area of environment for a regulatory proposal, the need to conduct a cost-benefit analysis (CBA) and performance measurement and evaluation (PME) is triggered.

96. *The Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals* is the current policy that sets out obligations for federal departments and agencies regarding Strategic Environmental Assessments (SEAs). The Directive requires SEAs to consider the environmental impact of proposals, whether positive or negative and to take the necessary steps to reduce adverse effects on the environment. The Directive also mandates that SEA should contribute to the development of policies, plans and programs on an equal basis with economic or social analysis; the level of effort in conducting the analysis of potential environmental effects should be commensurate with the level of anticipated environmental effects.

Tools/Methods

97. TBS-RAS publishes a range of guidance documents for the RIA process, including the Triage Statement, Canadian Cost-Benefit Analysis Guide: Regulatory Proposals and the RIAS Writer's Guide 2009.⁹

9. These guidance documents and tools can be accessed online at www.tbs-sct.gc.ca/ri-qr/documents/list-list-eng.asp.

98. As per the RIAS Guide, the CBA section within a RIAS section should report on the impacts of the proposed regulation on the economy, administrative burden, businesses, consumers, competition, and on domestic and international trade (exports and imports). This section should also describe how the recommended option has been developed to minimize negative impacts on health and safety, the environment, society and culture, public security, and the economy. The depth of analysis presented in this section of the RIAS should correspond with the results of the triage process. For “High” impact regulatory proposals, the RIAS should make every effort to provide both quantitative and qualitative costs and benefits.

Role of Department of Environment

99. Environment Canada has no particular position or role within the RIA process but is consulted on regulatory proposals affecting its mandate. The CDSR requires federal departments and agencies to identify and consult with other federal departments that have a specific interest in the proposed regulation. Departments are to coordinate the implementation and management of regulations to minimize complexity and duplication.

Consultancy/Transparency

100. The CDSR requires that interested and affected parties be consulted on the development or amendments to regulations, the implementation of regulatory programs, and the evaluation of regulatory activity against stated objectives. Government departments and agencies therefore must make systematic efforts to ensure that interested and affected parties have the opportunity to take part in open, meaningful, and balanced consultations at all stages of the regulatory process.

101. The status of regulations may be tracked by accessing the *Canada Gazette* website¹⁰. Part 1 of The *Canada Gazette* (the Government of Canada’s official publication), publishes all proposed regulations and their accompanying Regulatory Impact Analysis Statements (RIAS) for 30 days, or 75 days for regulations affecting international trade obligations. The *Canada Gazette*, Part 1, is published every Saturday and once a proposed regulation is published therein, Canadians may submit their comments within the standard 30 day comment period or within 75 days if the proposed regulation affects international trade. Once a regulation comes in force, it is published in the *Canada Gazette*, Part II.

Quality Assessment

102. The Cabinet Committee Operations Division of TBS-RAS is particularly involved in the process related to the development and approval of the RIAS (i.e., the challenge function). TBS-RAS reviews regulatory proposals, challenges departments and agencies on the quality of regulatory analyses, and advises them on how to meet the requirements of the CDSR including the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*.

103. Canada reports that the challenge function is undertaken in a spirit of collaboration to improve the quality of a regulatory proposal and to help ensure compliance with the analytical requirements of the CDSR. The challenge function is intended to ensure that the regulatory proposal is well aligned with government priorities and that necessary policy, legislative, and funding decisions have been received or are being sought.

104. The CDSR introduces a life-cycle approach to regulation, with specific requirements for all stages of the life cycle. This approach requires that regulations continually meet their policy objectives and

10. The *Canada Gazette* website can be accessed at www.gazette.gc.ca/

be evaluated and renewed on an ongoing basis, thus ensuring a more effective, efficient, and accountable regulatory system. The success of the regulatory product depends on each stage not being seen as a separate activity, but as part of a continuous feedback loop.

105. Performance measurement and evaluation of regulation activities may occur under a number of circumstances. In the case of high-impact regulations projects, regulatory organizations are required to complete a Performance Measurement and Evaluation Plan (PMEP) and summarize the main PMEP elements in the RIAS. *The Handbook for Regulatory Proposals: Performance Measurement and Evaluation Plan* is made available to departments on the TBS-RAS website.

SUMMARY OF ENVIRONMENTAL INTEGRATION IN THE SEVEN JURISDICTIONS

106. The systems of RIA in the reviewed countries are very diverse, and environmental aspects are considered and integrated in IA in different ways. Some main features of the different systems are summarised in Table 1. The criteria cover the various issues of procedural requirements, institutionalisation or the provision of criteria or methods for the assessment in order to ensure the consideration of environmental impacts.

Table 1. Summary of characteristics of the reviewed IA systems

	NL	IE	SWI	GER	EU	AUS	CAN
Tool for environmental integration	E-Test	RIA	SIA (SA, NHB)	SIA (NHP)	IA	RIA	RIAS
Integrated in RIA	Module	Yes	Separate test	Module	Yes	Yes	Yes
Impact areas	Generic question	Reference to NSSD	Fixed set of indicators in 3 dimensions (economic, environmental, social)	21 indicators and 10 management rules from NSSD	35 impact areas (non binding), 3 dimensions (economic, environmental, social)	Reference to NSSD, three dimensions (economic, environmental, social)	Health and safety, the environment, society and culture, public security, and the economy.
Applied tools/methods	Flexible, preference for CBA	Flexible, preference for MCA, incorporating elements of CBA	Flexible, based on indicators	Flexible, based on indicators	Flexible, quantification as much as possible	CBA	CBA
Role of Environmental Ministry	Helpdesk	Consulted	Helpdesk	Consulted	Quality Control	Consulted	Consulted
Consultancy	External	Internal and external	Not obligatory	External	Internal and external	Internal and external	Internal and external
Transparency	Explanatory memorandum	Publication of analysis		Explanatory memorandum	Publication of analysis	Publication of Analysis	Publication of Analysis
Environmental aspects in quality control	Help desk		Evaluation	Parliamentary Council for SD	IA Board, evaluation		

107. The table reveals considerable differences in the institutionalisation, procedures and the substantive requirements for the consideration of environmental aspects in the analysis of planned regulation. As there is too little data on the actual implementation, the quality of analysis and the impacts on the decision making, it is not possible to draw conclusions on the best possible design of the IA. However, the analysis reveals the possible design features. The following options appear to be the most relevant for consideration when integrating environmental aspects:

- Integration in the generic RIA: Some countries prefer to have a separate module or testing requirements that is applied only if the planned regulation is expected to have relevant impacts. In other jurisdictions, environmental aspects are fully integrated in the (R)IA requirements. The Netherlands are the only jurisdiction in which a dedicated environmental test is required. In other countries, the analysis is integrated in an evaluation of economic, social and environmental impacts, hence covering the different pillars of sustainable development.
- Impact Areas: Possible environmental impacts range from pollution to air, water, the generation of waste, land-use, and others. There is no uniform approach in providing guidance on possible priorities of these different impact areas. For example, in the Netherlands the E-Test is based on a single generic question which covers all possible impact areas. In Ireland, Australia and the European Commission, more specific questions and indicators are provided to support the analysis. Germany and Switzerland provide a set of indicators which provide a strong guidance for the analysis. Some countries refer to their strategies and the priorities of their strategies for sustainable development in defining the impact areas (*e.g.* Germany, Ireland, Australia). Potentially this provides additional backing and political support.
- Tools/Methods: There is no system which has developed or prescribes a dedicated tool for the specific analysis of environmental impacts (with the exception of carbon impact assessment, as described in the following sections). Some countries have a strong preference or even have it mandatory to use Cost Benefit Analysis (CBA) for the aggregation of different impacts and the comparison of options. This implies that environmental impacts must be given a monetary value. In Switzerland there is an excel tool for identifying qualitative economic, environmental and social impacts.
- The role of environmental departments is rather weak: Only in the Netherlands, there is a mandate for the ministry for the environment to oversee the process (together with two other departments). The European Commission has set up an impact assessment board of five high level officers, one of them from DG Environment. However, the Commission emphasises that the board members are appointed because of their personal capacities. In the other countries, environmental ministries are consulted as part of the preparation of the legislation, but with no special role.
- Consultation: Consultation is firstly understood as requirements to involve other departments in the IA process and secondly in the involvement of external stakeholders. An external consultation is standard in all constituencies, however, in varying intensity and level of formalisation. The internal consultation is rather weak or non-existent in Switzerland, Germany or the Netherlands—*i.e.* countries in which a high level of independence of the departments prevails. In Switzerland, consultation takes place when the results of the sustainability assessment are published in explanatory memorandum accompanying legislative proposals.
- Transparency: The analysis is accessible to the public in the European Commission, Ireland and Australia. In Germany and the Netherlands, only explanatory memorandums are published. In Germany, the analysis can be part of the justification of legislation, but this is not formalised. In Switzerland, some examples of analyses have been published while their results are presented in explanatory memorandums accompanying legislative proposals.

- **Quality Control:** Several Jurisdictions have introduced institutions to support or to scrutinise the quality of impact assessment. Very few countries have specifically geared their quality support towards the inclusion of environmental aspects. For example, in Netherlands there is a help desk established with the department for the environment being represented. In the European Commission, there is the Impact Assessment Board, and in Germany the Parliamentary Council for Sustainable Development reviews the SIA reports.

108. The comparison and the discussion of the different characteristics of IA systems reveals that there is so far no uniform approach in ensuring the consideration of environmental aspects in the Impact Assessment of regulation. In the following, we will review recent approaches for the assessment of impacts on GHG emissions as a potential approach in further advancing the analysis of environmental impacts.

Tools and processes for assessing carbon impact of regulatory policies

109. Over the past years different OECD member states have increasingly started to consider the impact of policy options on the climate as part of RIA. Carbon evaluation thus represents a special case of integrating environmental values into regulatory impact assessment. In principle, these tools examine whether policies increase or reduce greenhouse gas (GHG) emissions, and constitute a relatively new instrument in regulatory impact assessment or sustainability appraisal.

110. The “climate impact assessment” (CIA)—this term will be used for the variety of approaches used in the OECD countries—is implemented differently among the practising countries, for example as one element of the obligatory cost-benefit analysis or as an additional test accompanying the RIA. In all jurisdictions examined in this paper, with Belgium as an exception, it is the lead department in charge of the proposed draft policy that also has to conduct a carbon evaluation.

111. In this section four jurisdictions will be analysed that have implemented a carbon impact appraisal: the UK, the US, Austria and Belgium. Methods and tools, procedures and guidelines as well as the role of the environment ministries are described. Experiences with CIA in practice cannot yet be presented since evaluations have not been published so far. The following analysis is based on the analysis of policy-documents and scientific literature. The chapter concludes by discussing the strengths and weaknesses of the different CIA approaches.

112. France and Switzerland also conduct climate impact assessments, with the former having decided on a CO₂ target-consistent approach. Guidance on policy evaluation sets out that direct and indirect impacts of policy measures on the environment have to be described and taken into account, including effects on energy consumption and emissions of GHG (Gouvernement Français, 2009, p. 11). The assessments particularly target policies and strategies in the transport, electricity, and building sectors, and analyse them in terms of their impacts on the emission of GHG (CAS, 2009, p. 20). For legislative activities of the Swiss government, a so-called energy impact assessment has to be produced within the framework of RIA. The energy IA is required to *roughly* assess the energy relevance of new legislation and was introduced as one measure within the Swiss action plan for energy efficiency (BFE, 2008, p. 8).

UK – CARBON VALUATION IN UK POLICY APPRAISAL

113. The UK is the country with the longest experience of climate impact assessment and has the most elaborated CIA design and method. In 2002, the UK Ministry of Economics and Finance (HM Treasury), together with the Department of Environment, Food and Rural Affairs (DEFRA), published a report on how to integrate the social costs of emitting carbon dioxide into policy decisions. Since 2003 the Greenhouse Gas Impact Assessment—as one “Special Impact Test” taking account of environmental issues besides the “Broader Environmental Test”—is an obligatory part of the broader policy appraisal process (BIS, 2010, p. 73). It uses cost-benefit analysis and requires an IA for all policy initiatives.

114. The rationale for estimating GHG emissions that arise from potential government policies is “to inform key climate change policy decisions”. Policies shall be developed to meet UK short and long-term CO₂ reduction targets and which establish real choices between competing objectives (BIS, 2010, p. 73). GHG tests are applied within the overall cost-benefit analysis in policy appraisal and serve to appraise whether a policy is cost effective in comparison with further alternatives (*ibid.*: 91).

115. The approach of estimating the social cost of carbon (SCC), applied since 2003, was reviewed in 2007 and replaced by the shadow price of carbon (SPC) to allow for consideration of more recent evidence drawn from the Stern Review, and was again revised and replaced by a target-consistent approach as set out by the Department of Energy and Climate Change (DECC) in 2009 (see DECC, 2009, p. 5). Hence, the UK has the most experience with a streamlined approach to CIA, which becomes apparent in the differentiated method for valuing CO₂ emissions.

Shadow price carbon vs. target-consistent approach

116. The new approach for valuing carbon in RIA is set out as target-consistent. Three carbon values are applied: the first one is set for policies that reduce or increase carbon emissions as part of the European Emission Trading System; the second one is defined for policies targeted at sectors which are non-traded. Thirdly, in the long term view (2030 onwards), both prices will be joined to a single traded price of carbon (DECC, 2009, p. 6). The values used in RIA are as follows: for traded sectors GBP 25 in 2020, with a range of GBP 14 – GBP 31 as a short-term carbon price; for non-traded price of carbon £60 per ton CO₂ in 2020, with a range of +/- 50%.

117. The Shadow Price of Carbon, which is based on the Social Cost of Carbon (SCC)¹¹ sets out the cost of emissions against the expected damages from CO₂ that diffuse into the atmosphere (damage cost-based). It was replaced by the British Government because “adopting a damage cost-based approach would not necessarily lead to a carbon price in appraisal which is consistent with reaching a given emissions reductions target” (DECC, 2009, p. 23) regarding the difficulties of accurately calculating the social costs of carbon emissions in the long term and in view of a probably non-linear development of climate change

11. The higher the social cost, the more stringent the resulting regulatory standards. For instance, if the SCC is defined as EUR 5 only regulations that cost less than five Euros were to be implemented (Ackerman and Stanton, 2010, p. 2). The SCC is calculated by estimating the residence of CO₂ in the atmosphere and its impacts on climate change. The impact of one ton of CO₂ must then be transferred to equivalent impacts when the ton is emitted. To assess the CO₂ impacts over time discount rates are applied, weighing the impact occurring at different times.

impacts which the SCC approach does not reflect (*ibid.*: 24). According to the UK Government the target-consistent approach has furthermore the advantage of minimising the risks of potential infraction processes of the EU for not fulfilling its emission reduction commitments under the Kyoto Protocol and resulting Community requirements and, in addition, contributes to avoiding free-riding (if used internationally) (*ibid.*: 25).

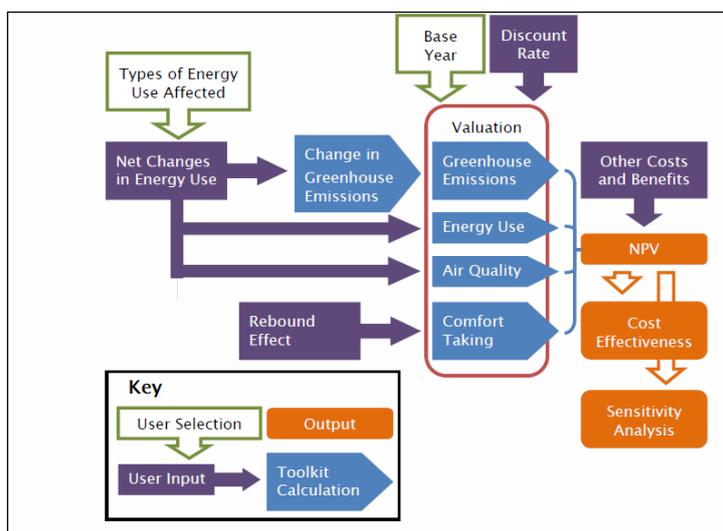
118. Carbon prices for policies in sectors under the European Emission Trading System (EU ETS) are determined using a ‘traded price of carbon’ in referring to future estimates of emission allowances in the EU ETS. The marginal abatement cost approach (MAC) now applied, is the cost of eliminating an additional unit of CO₂ emissions (mitigation cost based) and is used for policies in sectors that are not covered by the European Emission Trading System. The underlying MAC takes account of feasible technical abatement solutions, but not of policy options, meaning that it relates to technology measures possibly implemented by individuals and firms (*e.g.* insulation) whereas with a “by policy” MAC abatement opportunities of different policies (actual and potential) could be identified. The UK government opted for the technical MAC reasoning with its greater independence and comprehensiveness in analysis to the disadvantage of the more accurate policy MAC (DECC, 2009).

119. The carbon prices were economically calculated by means of integrated assessment models and will be subject to constant review. In 2011, the values for traded and non-traded carbon will be revised for the first time (DECC, 2009).

Guidelines

120. Comprehensive guidelines on how to apply the carbon valuation in cost-benefit analysis are provided by DECC and DEFRA. A toolkit in the form of an Excel workbook guides the calculation of impacts on changes in GHG emissions due to changes in energy use or energy generation up to the year 2050 (see DECC, 2010). Fig. 1 shows the toolkit process to be followed when producing a GHG impact test (see HM Treasury and DECC, 2010, p. 30).

Figure 1. Toolkit processes



Source: HM Treasury and DECC, 2010, p. 30.

121. The toolkit supports the policy analyst in quantifying impacts on GHGs and automatically calculates changes in energy use and air quality. For energy efficiency policies, rebound effects in form of resulting comfort taking are valued. The toolkit will standardise the carbon valuation, resulting in a sensitivity and cost-effectiveness analysis.

US – SOCIAL COST OF CARBON IN REGULATORY IMPACT ANALYSIS

122. The US government only started in 2010 to base climate estimates on a standard value to be used by all federal agencies. The aim was to increase accuracy and consistency in the assessment of climate impacts of policies (Griffiths *et al.*, 2010). Whereas prior to 2008 carbon emissions were not considered within federal cost-benefit analyses (CBA), RIAs from 2008 and 2009 used a broad range of carbon values to estimate climate impacts (US Government, 2010, p. 5). Appendix 15A of Executive Order 12866 (see OMB, 2007, introducing RIA) sets the framework for estimating the costs of carbon emissions in CBA. Similar to the prior approach used by the UK, the US carbon value to be used in RIA's cost-benefit analysis is based on the Social Cost of Carbon (SCC). The report also summarises the interagency process which developed SCC estimates. This interagency approach is of special importance implying that social costs represent agreed values, so that they do not have to be debated anew for each RIA that has to be produced.

123. To monetise CO₂ emissions, a SCC was chosen that estimates damages “associated with an incremental increase in carbon emissions in a given year” compared with a baseline scenario in which emissions do not increase. It is intended to include (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services (US Government, 2010, p. 3). The SCC applied is a domestic one: it presents damaging costs emerging within the United States while a global value would identify damages worldwide (*ibid*: 4).

124. The SCC is also referred to as the marginal damage cost of carbon in contrast to the total damage cost. The former considers the costs of producing one extra ton of carbon dioxide whereas the latter would consider damage and abatement costs. The U.S. approach of considering the marginal damage cost of carbon emissions differs also from the latest valuation approach in the UK (see above) which monetises the mitigation costs. Conventionally the SCC is measured in one metric tonne of CO₂ which corresponds to the electricity consumption of an U.S. household within six weeks (see Ackerman and Stanton, 2010). It has to be noted that the social costs of carbon emissions are increasing over time because GHG will cumulate in the atmosphere and produce larger incremental damages to physical and economic systems (Interagency Working Group, 2010).

125. Considering climate issues in CBA implies that incremental (‘marginal’) reduction costs of CO₂ emissions should equal the marginal damage costs (Pearce, 2003; Tol and Lyons, 2008). To assess the effects of legislation on the climate for any given year, the benefits or costs (policy is attended by a decrease or increase in carbon emissions) of the change of emissions has to be multiplied by the SCC value for that year by applying the net present value including discounting (see Interagency Working Group, 2010).

126. Under the new approach agencies are required to assess climate impacts of regulatory actions that have small or ‘marginal’ effects on global emissions (US Government, 2010, p. 4). Impacts on climate change that are not marginal but large will not be assessed in the context of the SCC since the appropriateness of this value for large projects remains in dispute. Large-scale effects that would substantially affect assumptions on the carbon values could include the release of big amounts of methane from melting permafrost areas or warming oceans (see Interagency Working Group, 2010). However, according to Griffiths *et al.* (2010) many US regulations will only result in relatively small reductions in cumulative global emissions, so that the SCC is an appropriate value for calculating the benefits of carbon emission reductions.

127. The U.S. value for estimating the SCC is the result of a one year interagency working group at government level which involved all major federal agencies as well as White House offices as listed below (US Government, 2010):

- Council of Economic Advisers;
- Council on Environmental Quality;
- Department of Agriculture;
- Department of Commerce;
- Department of Energy;
- Department of Transportation;
- Environmental Protection Agency;
- National Economic Council;
- Office of Energy and Climate Change;
- Office of Management and Budget;
- Office of Science and Technology;
- Policy Department of the Treasury.

128. The group selected four SCC values to be used in RIA. Those will be revised within a period of two years when more substantive models become available (OMB, 2007, p. 4). The SCC values also take account of public comments, as well as technical literature on climate economics (Interagency Working Group, 2010, p. 2).

129. SCC valuation works as follows: “For 2010, SCC values are defined for USD 5, USD 21, USD 35, and USD 65 (in 2007 dollars). The first three estimates are based on the average SCC across models and socio-economic and emissions scenarios at the 5, 3, and 2.5% discount rates, respectively. The fourth value is included to represent the higher than-expected impacts from temperature change further out in the tails of the SCC distribution” (Interagency Working Group, 2010, p. 35). Ackerman and Stanton (2010, p. 2) criticise the US SCC as being set too low by relying on “deeply flawed economic models that lead to gross miscalculations”. They recommend considering prices that are at least in the range of the UK’s carbon values, ranging from USD 41 to USD 124 per tonne of CO₂, with a central case of USD 83 (*ibid.*: 18).

130. Estimates developed by the Interagency Working Group were accomplished on the basis of three integrated assessment models (integrating climate and economic models): FUND (Climate Framework for Uncertainty, Negotiation, and Distribution), DICE (Dynamic Integrated Climate and Economy model) and PAGE (Policy Analysis of the Greenhouse Effect model). From these models a great part of SCC estimates used in climate scenarios are derived, they are also frequently used in IPCC assessments (US Government 2010, p. 16). It is noted that there are models better reflecting the complexity of scientific results, though they do not link systemic to economic damages (*ibid.*)

131. Based on an extensive literature review the interagency group determined three sets of input parameter to be fed into the integrated assessment models comprising climate sensitivity, socio-economic and emissions trajectories as well as different discount rates (US Government, 2010, p. 16). The estimates on the SCC are attended by uncertainties regarding the amount of future carbon emissions, the impacts of these and the time they will occur (Pearce, 2003; US Government, 2010). In the FUND model for instance

the main benefit category is reduced electricity costs from less use of air conditioning (Interagency Working Group, 2010 cit. NRC, 2009), other critical aspects address the incomplete treatment of potential catastrophic impacts in the scenarios like the collapse of the West Antarctic Ice Sheet (*ibid.*). Although these uncertainties and shortcomings exist, the SCC is used due to no better method available.

132. So far, the SCC values have been applied in CBAs on several final rules, “including multiple U.S. Department of Energy (DOE) energy efficiency standards and the joint EPA-DOT fuel economy and CO₂ tailpipe emission final rule” (Griffiths *et al.*, 2010). Guidelines on how to apply the carbon value have not been provided, though these values have to be included into the regulatory impact analysis routinely.

AUSTRIA – CLIMATE IMPACT ASSESSMENT IN RIA

133. Since 2008 Austria has had a procedure for the assessment of the likely impacts of policies on climate according to the ruling of the Council of Ministers 61/34 (Bundeskanzleramt, 2008a). The decision to assess climate impacts of policies was one outcome of the Austrian government's climate summit in 2008 (Lebensministerium, 2008).

134. The climate impact assessment (*Klimaverträglichkeitsprüfung*) is an integral part of the broader RIA process: impacts of state policies on environmental issues, especially those on climate, have to be considered (see Bundeskanzleramt 2008b) and are included in the index pages (*Vorblatt*) to the regulation. It is still an issue of debate whether the climate appraisal should also be obligatory for state (*Länder*) policies. The rationale for the implementation of a CIA is to document the anticipated effects of legislation on the Austrian climate strategy.

135. The approach addresses impacts on climate protection (GHG emissions) as well as consequences for the capability to adapt to climate change effects (see Bundeskanzleramt, 2008a, p. 2). In order to support the implementation phase of the climate assessment in the different ministries, the Federal Ministry of Agriculture, Forestry, Environment and Water Management hosted informative meetings, including the presentation of best practices. For a period of twelve months, starting from the introduction of the climate assessment, the Ministry also bore the costs for this training. But also in the subsequent implementation of the CIA, the Ministry continues to offer assistance to other departments with assessing climate impacts of policies and remains involved in the process.

Climate Impact Assessment procedure

136. The appraisal procedure (see Table 2) consists of five steps as set out in the guidelines on climate impact assessment (Bundeskanzleramt, 2008b).

137. The first step is the screening: Are impacts on GHG emissions or the capability of adaptation likely?¹² If not, no climate assessment has to be completed. If climate objectives will be affected, the likely impacts then have to be concretised (which sector is affected, and are impacts positive or negative?). Step 3 asks for the relevance or scope of the policy in regard to its climate relevance. In case it is not relevant to climate objectives, the CIA can be finalised at this point. If it is relevant, alternatives have to be assessed and, as a last step, one option has to be recommended to decision-makers.

12. Impacts regarding emissions are assessed in the following sectors: economics, energy use and efficiency, consumers behaviour, mobility, traffic, agricultural practices, waste arising and treatment. Effects on the adaptation potential consider the following areas: human health, infrastructures and land use, landscape, eco systems, biodiversity, water resources.

Table 2. Climate Impact Assessment procedure (modified)

Assessment Steps	Content/Questions	Comments
1. Identification of climate relevance of the policy initiative (rough overview)	Can impacts on emissions of GHG or the adaptation capability to climate change be expected?	If NOT: Termination of the CIA
2. Substantiation of climate relevant impacts (describing the likely impacts in more detail)	Which aspect is actually affected (emissions or adaptation)? In which sectors can climate relevant impacts be expected? Are the likely impacts positive or negative in regard to climate policy objectives?	
3. Clarification of the significance of the climate relevance	Can the policy initiative be assessed as potentially significant in regard to climate policy objectives?	If NOT: Termination of the CIA
4. Assessment of alternatives	Which alternatives exist to achieve the regulation objective? (Assessment and weighting of climate policy advantages and disadvantages with help of assessment Steps 1 to 3)	
5. Selection of an alternative	Was the most "climate friendly" alternative for achieving the regulation selected?	If NOT: Justification

138. The scope of a regulation and its effects on GHG emissions (Step 3) should include quantification; however, if uncertainty in assessment is too high, a qualitative appraisal is sufficient. Planned legislation is climate relevant if the threshold of 20 000 t of CO₂-equivalents per year is exceeded. This value was derived from the Austrian emission inventory, and refers to the idea of the "key source category".¹³ The federal environment agency assists desk officers in selection and application of quantification methods. If a department conducts the climate impact quantification independently, it is required to document this in the assessment report. For support on quantification of emissions a table exists listing the assumed emission factors from the transport of passengers and goods.

139. Impacts on adaptation capability or vulnerability of certain areas or systems (of human health, infrastructure, water resources, land use) towards impacts of climate change can in principle be assessed qualitatively (Bundeskanzleramt, 2008b, p. 15; UBA, 2010). In the guidelines it is suggested to gear this analysis towards methods used in environmental assessment procedures. Seven key categories which should be considered to assess relevance include: magnitude of impacts, probability of occurrence, point of time of occurrence of impacts, duration and irreversibility of impacts, adaptation potential for mitigation of probability of occurrence, distribution and interaction of climate impacts and relevance of vulnerable systems (Bundeskanzleramt, 2008b, p. 15).

13. A key source category features significant influence on a country's total inventory of direct greenhouse gases in terms of the absolute level of emissions, the trend in emissions, or both (IPCC, 2000, p. 4). In Austria, the smallest contribution of a key source category in the base year of 1990 amounted to 20 000 t/CO₂-equivalent, which was referred to as "marginal value".

BELGIUM – IMPACT OF ADMINISTRATIVE BURDEN ON CO₂ EMISSIONS

140. In the Belgian RIA system climate issues play a rather minor role. There is no explicit procedure for considering them in the *ex ante* assessment of policies. They are accounted for as part of the *ex post* evaluation carried out by the Measuring Office of administrative burdens.

141. In order to carry out the measurement of administrative burdens, the federal government established the Measuring Office within the Administrative Simplification Agency (ASA) in 2007, which uses the standard-cost model methodology. The ASA supports other government units in their simplification actions. The ASA also proposes and coordinates simplification and e-government activities as well as elaborating and applying measurement methods (ASA, 2008a, p. 5). For the year 2008 it published a report evaluating and quantifying administrative burden reductions of about 200 regulative projects which were either simplified or abolished (EVIA, 2008) and which depicts the related carbon benefits of simplification.

142. In doing so CIA is not actually incorporated into RIA but considered as one effect of paperwork burden reduction and calculated subsequent to simplification measures. The ASA has calculated the reduction of CO₂ emissions due to the number of decreased or abolished actions for the year 2008. The underlying assumption is that simplifying compliance with regulations leads to reduced activities of citizens, businesses and associations, which in turn reduce carbon emissions.

143. The ASA presents the example that “the elimination of a movement to the town hall for the collection of evidence results on average in a saving of around 7 kilometres, which corresponds to a decrease of the emission by 1.142 grams CO₂” (ASA, 2008a, p. 15). The reduced number of movements as a consequence of simplification activities in 2008 came up to 13 129 925 kilometres which corresponds to 2 100 tons of CO₂ emissions (= number of kilometres * 160 grams per kilometre) and a value of EUR 42 016 when applying an average cost of EUR 20 per emission right in ton.

STRENGTHS AND WEAKNESSES OF CIA APPROACHES

144. With the increasing societal relevance of climate change, a few OECD countries have started incorporating climate considerations into their regulatory impact assessments with the aim of improving the alignment of regulatory action with climate targets at.

145. In two countries (UK and US) the climate impact assessment was designed to be embedded as an element of the cost-benefit analysis in the RIA method. In Austria climate consideration is also part of the general RIA process which mainly uses CBA (BRG, 2004, p. 22); however, monetisation of CO₂ emissions is not foreseen in the procedure. The Belgian carbon evaluation cannot be described as a typical IA procedure since it does not assess policy options in regard to their impacts on emissions; rather it is argued that the overall reduction of administrative burdens leads to a decrease in carbon emissions.

146. The CIA models used in the UK and the US are based on precise established valuation methodologies using comprehensive economic climate models to assign a value to the SCC. The resulting value of changes in GHG emissions can easily be integrated into the overall RIA cost-benefit analysis and allows for a good comparison of carbon emissions between different policies and a good traceability of IA results. This method might however have the effect of confining climate change issues to a single number with a solely economic focus. The merit of the SCC resides in the opportunity to incorporate the monetary costs of carbon emissions into policy appraisals in the absence of there being a market price for carbon. Moreover, if adopted, the SCC represents a fixed value which establishes climate issues as an important impact area in the appraisal. In this form, it simplifies the analysis as it is not open to be contested each time an assessment has to be produced. On the other hand, the SCC estimates include varied value judgments and predictions about uncertain future events (see Ackerman and Stanton, 2010, p. 3), so the results of comparing policy options still present embedded approximations on the likely increase or decrease in carbon emissions for future regulations. In the UK approach for instance, a traded price for carbon has to be adopted for policies reducing or increasing emissions in sectors covered by the EU. For policies concerning non trading sectors, the appraisal in RIA has to be based on estimates of the MAC. These advanced methods also require specifications on the changes in energy use (in the UK in GWh) expected, which means time and effort for desk officers dealing with the complex process. Both approaches will be subject to constant review so that estimation results might become sounder over time, though this is dependent on the fulfilment of this commitment by the responsible departments.

147. Austria's CIA procedure is similar to environmental assessment procedures with a screening, scoping and assessment step, and in contrast to the first two CIA approaches is mainly based on qualitative assessments; quantification is only required for the assessment of a policy's climate relevance in terms of the key source category (a threshold is fixed at 20 000 tonne CO₂ equivalents). What is remarkable about the Austrian approach is that in addition to the consideration of carbon emissions, it explicitly considers impacts on the climate adaptation potential, thus taking a broader view on climate change aspects than the two prior approaches. Since the results and the recommended policy option of the CIA are presented in the index pages of the regulation (*Vorblatt*), decision-makers can follow them more easily and no exact calculation has to be traced back. In the last step of the Austrian CIA procedure, the analyst of the regulation in question is required to identify the most "climate friendly" policy option. For the overall RIA document this means that a recommendation is given separately in regard to climate aspects highlighted by this issue.

148. The Belgian methodology is the simplest one in comparison with the other approaches since calculations are completed by means of the standard cost model, making it easy to apply. CO₂ benefits can be achieved by reduction of the paperwork burden, for example reducing the number of movements made to the town hall to collect forms due to abolished regulation or increased opportunities for e-government. However, this method is not used for every red tape reduction action to evaluate which alternative is the best in terms of climate, but considers measures under the Kafka-test for a period of one year. So climate is not an explicit assessment category in RIA but rather a positive side effect of administrative burden reduction. This means that the applied CIA method does not inform policy-makers, but can rather be understood as a monitoring tool. Furthermore, it is generally assumed that a decrease in administrative burden has at the same time positive effects on carbon emissions, which does not allow for the investigation of any potential negative impacts on carbon production. Future developments on IA in Belgium might lead to the fusion of the Kafka-test with the sustainability appraisal for policies already in place (see EVIA, 2008) which could extend the current CIA method. In the scoping phase of the sustainability appraisal an assessment of possible changes on the climate as well as renewable resources is listed as one environmental assessment category (“Does the planned option influence emissions impairing the ozone layer or GHG? Does the planned policy option reduce usage of non-renewable sources?”) (see SPFB, 2007).

149. In the United Kingdom, the United States and Austria the environment or climate and energy ministries play an important role in the implementation and the further institutionalisation of the CIA. They have informed the implementation phase and have provided training for the different departments on CIA. They will also play a role in revisions to the process. Moreover, they provide expertise and methodological support for the concrete application of carbon assessment of other ministries. In the US and the UK the valuation process has additionally been deliberated by scientific expertise, including review processes and model applications. The exception is Belgium, where the environment ministry has not been involved in the carbon assessment.

150. Guidelines for analysts are available in the UK and Austria. The most comprehensive guidance is provided by the UK with a detailed description of the pricing process and a toolkit including spread sheets differentiating the various possible carbon sources. Austria also has published guidelines in which the impact areas are specified for desk officers and which also provide carbon emission tables for climate protection issues. In the US the interagency process for agreeing on a price attributed to the SCC is extensively set out, though no further information on carbon valuation in RIA exists. In Belgium carbon assessment is not in the scope of the initiating department but of the simplification agency.

151. For the jurisdictions discussed above, an assessment of carbon emissions is an “additional” topic among the environmental issues that have to be taken into account. It can be assumed that the significance of the heightened attention given to climate change issues will depend on the overall attention a RIA receives from policy makers. At the same time, the question arises whether a focused approach leads to a decreased consideration of the other environmental concerns in RIAs that are meant to be covered through a broad assessment; or if the regard for the environmental dimension remains the same independent of the weight assigned to climate aspects. For RIAs, which are characterised by a rather narrow orientation, CIA could be a practical starting point for extending the consideration of impact areas. What the concrete outcome will be in this regard and how much special “attention” the climate issue ought to receive should be subject to evaluation once the first experiences with CIA in regulatory impact assessment are known.

152. For the countries analysed above, the assessment of GHG emissions brings the issue of climate change at the top of the political agenda. The climate plays a central role in the assessment of legislative proposals. Whether this has impacts on the design of policies and the choice of policy options depends on the overall importance of the RIA in the respective jurisdiction. In countries with marginalised IA, the analysis of changes in GHG emissions is unlikely to raise attention. However, if climate issues are high on

the political agenda of these countries, the consideration of climate issues is likely to have positive impacts on the relevance of the RIA. In countries with a prevailing focus on the analysis of costs and benefits to business and society, the prominent consideration of climate issues provides for additional legitimacy and hence relevancy of the RIA.

153. Overall, it can be expected that the consideration of climate issues has a positive effect on the implementation of RIA. At the same time, it has to be questioned if other (environmental) aspects are at risk of being marginalised if they are not taken into consideration with similar priority. It could be argued that the uptake of climate issues could serve as an “entry point” for other environmental aspects. In case there are other trade-offs of legislation at the expense of the environment, which are not related to climate but to other environmental media and resources (*e.g.* water, biodiversity or health issues), they may be more likely to be addressed with a climate impact assessment in place. This would require, however, a sufficiently open system of assessment which allow also the consideration of qualitative data.

154. For the jurisdictions discussed above, an assessment of carbon emissions is an “additional” topic among the environmental issues that have to be taken into account. It can be assumed that the significance of the heightened attention given to climate change issues will depend on the overall attention a RIA receives from policy makers. At the same time, the question arises whether a focused approach leads to a decreased consideration of the other environmental concerns in RIAs that are meant to be covered through a broad assessment; or if the regard for the environmental dimension remains the same independent of the weight assigned to climate aspects. For RIAs, which are characterised by a rather narrow orientation, CIA could be a practical starting point for extending the consideration of impact areas. What the concrete outcome will be in this regard and how much special “attention” the climate issue ought to receive should be subject to evaluation once the first experiences with CIA in regulatory impact assessment are known.

Table 3. Overview of CIA design

	UK	US	AT	BE
RIA	CBA	CBA	Similar to environmental assessments	SCM
Method	Target-consistent (SCC)	SCC	Qualitative and quantitative assessment	
Monetisation	Yes	Yes	No	Yes
Environment/Climate-Energy Ministries involved	Yes	Yes	Yes	No
Guidelines	Yes	No (only SCC calculation)	Yes (questions and impact areas)	No
Characteristics	Third, revised approach of CIA in RIA		Considers climate protection and adaptation aspects	CIA as part of the RIA evaluation process

Opportunities for the consideration of environmental aspects in RIA

155. The analysis reveals that considerable efforts have been made to integrate the assessment of environmental impacts of planned legislation into the generic RIA processes. The countries show considerable differences in their approaches. Overall, the IA guidelines allow for considerable discretion in the setup of IA studies. There is rather little guidance and few specific obligations in regard to the impact areas to be analysed, the methods to be used or the requirements for the processes. The guidelines leave a great degree of ambiguity. On the one hand, this allows the IA studies to be tailored to the policy at stake. On the other hand, this ambiguity allows analysts to marginalise environmental issues. In the following section, the paper considers how more specific guidance for the assessment of environmental aspects can be applied.

Indicators/impact areas

156. Most countries provide little guidance in regard to the impact areas to be assessed in RIA. For example, in the Netherlands, the requirement is for all environmental aspects to be analysed without specifying priorities. A different approach is the provision of a list of indicative indicators or impact areas as in the case of the European Commission guidelines. The list of questions is meant to support the IA process, but the relevant impact areas should be flexibly determined on a case-by-case basis. In Ireland and Germany, there is a dedicated link to the National Strategies for Sustainable Development and the priority areas that are determined in these documents. These aspects are obligatory for the assessment. Obviously, the carbon impact assessments provide an indicator as well. In this context the example of Austria is worth highlighting as not only are the GHG emissions the subject of the assessment, but also opportunities for adaptation.

157. By providing guidance regarding the impact areas for the assessment, ambiguity is reduced, and potentially the relevance of Impact Assessment increases as the selected indicators reflect agreed political priorities. Using indicators to guide the setup of RIA studies (or asking for justification if they are not being assessed) has the advantage that the scoping of the analysis is linked to the political debate, but does not reopen this debate again. The focus on priority areas can blank out other aspects that might be relevant impacts of the policy. The example of biofuels policies in several European countries demonstrates the risks of narrowing the focus on GHG emissions in the impact assessments, while not sufficiently considering impacts on land use or biodiversity risks. These aspects have been neglected in IA studies that focused only on the potential to reduce GHG.

Methods/tools

158. In general, there is little guidance regarding the use of specific methods and tools for the assessment of environmental impacts. No tools are mentioned at all in the Netherlands or in Germany. Other countries place considerable emphasis on tools to aggregate different impacts in a single Cost Benefit Analysis. Some countries express a preference for monetisation, but allow other qualitative tools as well. Switzerland and the European Commission mention a wide range of different tools in their guidelines but leave it to the analyst to apply the most appropriate methodology for the specific policy. Despite efforts to develop models of ecosystems and a wide range of environmental indicators and environmental-economic models, there is no standard approach to assess individual impact areas. Similarly, there is no single tool to facilitate the participation of stakeholders and to gather their views and expectations on the planned policies. The Carbon Impact Assessment allows quantification and it is rather easy to attribute monetary values to GHG emissions. However, so far there is little guidance on the analysis of the drivers of GHG emissions. The development of assumptions on behavioural change, changes in energy use and mobility, or in efficiency is left to the policy officer.

159. The standardisation of tools and the prescription of methods have the advantage of making different policies and assessments comparable with regard to the respective indicator. So far, there is no methodology apart from the CBA that is able to integrate a broad range of indicators and that can be applied to different policies. However, from the point of view of the environmental dimension, efforts to monetise indicators have serious shortcomings: it is often difficult, if sometimes impossible, to monetise environmental benefits, in particular in the long run. Thereby, there is the risk of underestimating the potential benefits of a regulation against its costs which are easier to calculate. This contributes to scepticism among some environmental advocates against the rigid use of CBA. Despite considerable efforts to develop tools for specific impact areas, so far there is no standardisation or toolboxes which are recommended or obligatory. The same holds for participatory methods and tools. There is no generally adopted tool for the incorporation of environmental concerns in RIA as there has been for example with the SCM for administrative burden.

160. The standard cost model for assessing the administrative burden of legislation is an example of a simple tool that can be applied to a wide range of policies, the application of which can be easily reviewed in that both the review and the indicator are not likely to be subject to political conflict. The Carbon Impact Assessment has a similar potential to become subject of an external review of its appropriate application. Bodies like the Dutch ACTAL or the German *Normenkontrollrat* are overseeing the application of the method of the Standard Cost Model rather than scrutinising individual pieces of legislation. Hence, the review is less politically sensitive. A similar view could be conceived for the conduct of the CIA, and possibly even the extension of the mandate of the review bodies that are currently responsible for administrative burden only.

Procedural requirements

161. Ensuring the quality of impact assessments is a difficult challenge. Guidelines for IA must necessarily allow flexibility and adaptation of the analysis to specific policies. It is difficult to determine in advance if it is justified to rule out certain policy options from the analysis, to neglect certain impact areas, to choose specific models, or know if the baseline scenario is correct, etc. All this requires specialised knowledge and expertise which is most often embedded in the unit responsible for the rule-making. Without this expertise it is difficult to assess if the scope of an individual RIA is considering all relevant aspects and available data, or if it is only an effort to legitimise the planned policy.

162. The establishment of procedural requirements is an option to safeguard the appropriate conduct of RIA throughout the process by ensuring the oversight function has access to the appropriate expertise to assess the quality of the analysis. This could involve, for example, the mandating of the department for the environment in overseeing the assessment process. This is the case in the Netherlands for the generic environmental aspects. In the case of the European Commission, a senior officer from DG Environment is represented on the Impact Assessment Board. In other jurisdictions, the departments for the environment may ask for additional analysis as part of the interdepartmental consultation. For Carbon Assessments, the role of the departments for the environment appears to be more prominent.

163. Another procedural requirement to strengthen the environmental dimension of impact assessment could be through formalised public consultation arrangements. In most countries reviewed here, consultation is a part of the preparation of the policy proposal. Consultation is not, however, directly linked with the impact assessment process. For example, the impact assessment reports could also be subject to public consultation together with the policy proposal. Minimum requirements for advance consultation are required only in the case of the European Commission.

164. Requirements for transparency and the publication of the assessment reports vary considerably among the countries. The publication of the analysis potentially increases the quality of the assessment and prevents the sidelining of impacts for which unwanted effects may be expected. Some countries have very limited requirements for the publication of the impact assessment. For example in Germany, Netherlands or Austria, only short explanatory memoranda are published, while the publication of the underlying analysis is not obligatory. In these countries, RIA is usually practised as an internal process. In the European Commission, however, detailed reports are published.

165. Procedural requirements for internal and external consultation and for the publication of the results of IA do have considerable potential to increase the quality of the analysis. The compliance with specific procedural steps, for example, through the set up of interdepartmental working groups, setting requirements for the appropriate duration of the consultation process, or transparent publication of IA, increase the potential relevance of IA in the policy process and can then be subject to review to assess their contribution to improved policy processes.

Conclusion

166. The *ex ante* assessment¹⁴ of policies is a difficult task. It is not possible to predict the future and fully anticipate the reactions of the targeted parts of society. The economic, social and natural systems that are addressed and regulated by policies are complex with many interdependencies. Furthermore, the *ex ante* analysis of policies is at often at odds with the institutional interests of different departments, stakeholders and politicians. Decisions on policies often involve compromises that do not follow the virtue of analytical arguments but, instead, are driven by political opportunities. In addition, impact assessment requires considerable resources in terms of budget, staff and time—all of which are scarce in policy-making.

167. Given the technical difficulties, resource constraints and the frequent lack of institutional demand for impact assessment, there is a widely acknowledged gap between the requirements and ambitions as formulated in the guidelines for IA and its implementation in practice. While there are a growing number of excellent impact assessments, there are many cases of poor and superficial analysis that legitimate decisions that are already taken. What can be undertaken to improve the consideration of environmental aspects in RIA? The following conclusions for better exploiting the opportunities to assess environmental impacts can be drawn from the analysis of institutional, procedural and methodological innovation:

- The regulatory framework for a greening of the economy requires the integration of environmental concerns in all domains of policy making, in particular policies for infrastructure, innovation, energy, industry, and other domains. A transformation towards a low carbon economy requires innovations and investments that would not be undertaken if costs of productions and products are externalised to the environment and to future generations. The costs of environmental degradation or—vice versa—the benefits of environmental protection should be taken into account when regulating economic activities.
- Regulatory Impact Assessment is a potentially powerful tool to ensure the integration of environmental concerns in the preparation of legislation. The *ex ante* impact assessment of planned legislation allows for consideration of environmental impacts at an early stage. The overall positive and negative impacts of policies in different areas are made transparent and it allows for legitimisation of policies that have a positive long-term benefit, even if they impose costs in the short term. An early assessment can minimise conflicts between departments and with stakeholders and increase the social robustness of proposals.
- However, in spite of these potential advantages, there are limits and difficulties with environmental assessments: Impacts on the environment are difficult to predict; it is difficult, if not impossible, to aggregate the effects on different impact areas in a single dimension; a comprehensive analysis tends to be in conflict with the political logic of finding compromise, legitimacy and majorities for political decisions. As a result, the analysis is oftentimes undertaken in a superficial manner and the results are not sufficiently influential. Many studies indicate the prevalence of immediate costs for business in RIA studies, while costs and benefits for the environment are not equally addressed and accounted for.
- To address the difficulties of considering environmental aspects in RIA, a number of innovations have been developed to further strengthen the environmental dimension. The innovations can be categorised as follows:

¹⁴ This paper has not dealt with procedures for the *ex post* assessment of policies, which in many OECD countries also incorporate the formal application of regulatory impact analysis.

- Development of tools and their use: Several countries have developed checklists, indicators, models and other types of methodologies. However, there is no single standard methodology that is widely applicable and accepted for different environmental aspects, or for different institutional settings. This is justified by the complexity of natural systems and its interaction with human activities. However, for single issues, such as climate change, emission of harmful substances, land use, etc. well established models are available and could be used in RIA.
- Institutional requirements for IA: In several jurisdictions, mechanisms for quality control have been established, requirements for transparency and consultation have been introduced, and in a few cases, the Departments for the Environment have received a special role in the RIA process.
- Capacity development: In many countries, coordinating units have been set up to oversee and to support the RIA process. Several countries have developed training programmes. Only a few countries have invested in setting up units or hiring staff in the different departments to perform or to support RIA. Environmental departments and agencies are so far rarely involved in the development of capacities for the assessment of environmental impacts.
- Despite these efforts to reform the RIA systems and to integrate the assessment of environmental aspects, the outcomes have been mixed. Evidence from evaluation studies and from case studies indicates room for improvement in the quality of analysis and its consideration in decision making. A gap remains between the ambitions as expressed in the guidelines of many jurisdictions and the actual implementation.
- The most recent innovation to strengthen the environmental aspects in RIA is Climate Impact Assessment (CIA). CIAs are applied to analyse planned legislation against its impact (decreases or increases) on GHG emissions. Such a focused approach has several advantages:
 - The methodological foundations of CIA (*e.g.* emission factors, efficiency rates, etc.) can be agreed upon separately from specific policy proposals. A climate impact assessment can be standardised to a similar extent as, for example, the standard cost methods for the assessment of administrative burden, and it can be easily applied to different types of regulations.
 - By standardising the assessment and the underlying causal model of emissions and its related assumptions, conflicts about the appropriateness of the analytical approach can be avoided, or the assumptions on the causes of emissions and their valuation are at least made transparent.
 - The development of ready-to-use tools reduces the resource requirements for IA studies. The user can build on data and experience from previous applications. Support units or consultants can bring in specialised knowledge and experiences.
 - Tools that are developed for multiple purposes reflect the political priorities beyond the individual piece of legislation. Thereby, the relevance of the assessment increases and the demand for analysis is met.

- Its implementation can be scrutinised by a quality control of the analysis, without mixing quality control with political decisions.
- The focused approach is more likely to reflect the political priorities of political leaders. A climate impact assessment is more likely to be demanded and considered by the heads of governments and departments as compared to a generic environmental impact assessment. The results of a CIA are also more likely to be used in political negotiations as compared to a generic environmental impact assessment.
- The costs of emissions (or the benefits of reduced emissions) can be easily translated into monetary values and integrated in the overall cost benefit assessment of the planned legislation. Furthermore, the focus on GHG allows an easy cost-effectiveness and cost-efficiency analysis of efforts to reduce carbon emissions.
- The focused approach on IA has some drawbacks as well:
 - There is the risk of neglecting the impacts on other environmental aspects, *e.g.* on biodiversity, other emissions, or the use of different types of resources. And thus, assessing only the impacts on GHGs may not be adequate for appraisal of all regulations. The assessment of a single indicator is necessarily narrow and entails the risk that other relevant aspects are excluded from the analysis.
 - The development of different, potentially competing assessment procedures entails the risk of sidelining single testing requirements. A single integrated system for Impact Assessment appears preferable compared to a system with many different independent testing requirements. A diversity of testing tools could result in their arbitrary use—or in overburdening of the policy appraisal.
- Given the importance of GHG emission reductions for greening of the economy, the prioritisation of Climate Impact Assessments seems adequate. Potential drawbacks can be overcome by integrating the Climate Impact Assessments in the generic RIA systems rather than setting up CIA as a separate testing requirement. In this case it is recommended:
 - To make the methodological assumptions for addressing the costs of carbon transparent and broadly applicable to different policy domains.
 - To make the analysis of the assessment of the expected impacts on emissions of the planned legislation transparent through public appraisal.
 - To plan for a quality control of the analysis, either by interdepartmental review or by an independent body.
 - To integrate the results of the Climate Impact Assessment in the generic Impact Assessment, thereby allowing for the analysis of other aspects if they appear to be relevant.
- Applied in this way, the implementation of an integrated Climate Impact Assessment has the potential to increase the overall relevance of evidence-based policy making and the role of IA in the process of policy preparation with potential long-term benefits for a reduction in carbon emissions.

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