OECD Sustainable Development Studies

Conducting Sustainability Assessments

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Foreword

This report contains the proceedings of an OECD workshop on *Sustainability Assessment Methodologies* held in Amsterdam, the Netherlands on 14-15 January 2008. The workshop was organised under the auspices of the OECD Horizontal Programme on Sustainable Development in co-operation with the European Commission (EC).

The Amsterdam workshop reviewed the state-of-the-art in conducting integrated sustainability assessments and their policy application as a key tool for advancing sustainable development. These assessments identify longer-term synergies and trade-offs across the economic, environmental and social impacts of policies and programmes. The aim is to develop OECD guidelines for conducting sustainability assessments which can be applied to a variety of instruments, sectors and levels (regional, national, international).

The workshop considered the contributions of different assessment approaches, including regulatory impact assessments and strategic environmental assessments. It reviewed the available tools for conducting assessments, including models, cost-benefit studies, and multi-criteria analyses. The different steps in sustainability assessments were identified ranging from relevancy analysis to presentation of results. A particular focus was approaches for assessing and comparing economic, environmental and social impacts. Procedures for conducting the assessments in a transparent and inclusive mode involving all stakeholders were emphasised.

It should be noted that the papers in this volume reflect the views of the authors and not necessarily those of the OECD or its Member countries.

Table of Contents

Workshop Overview 7
Candice Stevens, OECD Sustainable Development Advisor

Part I. Defining Sustainability Assessments…… 13

Chapter 1. Sustainability Impact Assessment: European Approaches
Gerald Berger, ESDN Office at the Research Institute for Managing Sustainability…… 15

Chapter 2. Sustainability Impact Assessment and Strategic Environmental Assessment
Kerstin Arbter, Strategic Environmental Assessment, Austria……..... 35

Chapter 3. Sustainability Impact Assessment and Regulatory Impact Assessment
Ingeborg Niestroy, European Environment Sustainable Development Advisory Councils… 41

Part II. Identifying Tools for Sustainability Assessments…….. 61

Chapter 4. The Sustainability A-Test
Marjan van Herwijnen, Institute for Environmental Studies, VU University Amsterdam…..... 63

Chapter 5. The Role of Tools in Impact Assessments
Anneke von Raggamby, Ecologic, Germany…… 75

Chapter 6. Using Assessment Tools in the Policy Context
Donald Macrae, Better Regulation Commission, United Kingdom…… 83

Part III. Conducting Sustainability Assessments……. 95

Chapter 7. Balancing Interests in Sustainability Assessments
Daniel Wachter, Federal Office for Spatial Development (ARE), Switzerland…… 97

Chapter 8. Assessing the Energy Contributions to Sustainability
Helene Connor, Helio International Sustainable Energy Watch…… 109

Chapter 9. Assessing the Sustainability of Trade Policies and Agreements
Colin Kirkpatrick and Clive George,University of Manchester, United Kingdom……. 119

Workshop Overview

Candice Stevens, OECD Sustainable Development Advisor

Introduction

The OECD workshop on *Sustainability Assessment Methodologies* was held in Amsterdam, the Netherlands, on 14-15 January 2008. The workshop was organised by the OECD Horizontal Programme for Sustainable Development in co-operation with the European Commission (EC) and with participation by the OECD Public Governance Directorate (on regulatory impact assessments) and the OECD Development Co-operation Directorate (on poverty impact assessments).

This workshop reviewed the state-of-the-art in conducting integrated sustainability assessments, which examine the long-term economic, environmental and social impacts of policies and programmes. It sought to identify best practices for sustainability assessments in terms of general approaches, processes and tools. A particular focus was means for identifying synergies and trade-offs across economic, environmental and social domains when conducting assessments.

Opening remarks

Ton Boon von Ochssee, Netherlands Ambassador for Sustainable Development and Chair of the OECD Annual Meeting of Sustainable Development Experts (AMSDE), acted as Chair of the Workshop. He explained that sustainable development was about understanding the short-term and long-term economic, environmental and social consequences of our actions and policies, but as yet there is no agreed way on how to accomplish this difficult task.

There exist several evaluation approaches – *e.g.* regulatory impact assessments, strategic environmental assessments, poverty impact assessments – but these tend to focus on a particular pillar of sustainability. However, progress is being made on impact assessment methodologies, *e.g.* the European Commission (EC) project on Evaluating Integrated Impact Assessments (EVIA), and sustainability assessments are now being carried out by the EC and countries such as Switzerland and Belgium.

A number of tools have been developed to conduct assessments, including indicators, models, surveys, cost-benefit analyses and cost-effectiveness studies, but it is difficult to know how and when to combine these in carrying out sustainability assessments. Assessment approaches also differ in their application – whether to policies, programmes

or agreements; to the national, regional or international levels; or to particular sectors of the economy.

In addition to the methodology itself, the procedures for conducting the assessments are important to sustainable development – particularly transparency and the involvement of all stakeholders. Another aspect to consider is the presentation of the assessment results to policy-makers and communication to stakeholders in clear and understandable terms. Reporting formats such as those of the Global Reporting Initiative (GRI) are one approach.

Session 1: Defining Sustainability Assessments

Session 1 defined the main characteristics of sustainability assessments (*e.g.* transparency, integration) and how they build on and differ from other types of assessments (*e.g.* regulatory impact assessments, strategic environmental assessments). The following are the main points of the presentations in this session:

- *Gerald Berger,* Senior Researcher at the Research Institute for Managing Sustainability in Austria presented the review of sustainability impact assessment approaches in Europe prepared for the European Sustainable Development Network (ESDN). Sustainability Impact Assessments (SIA) should integrate all three dimensions of sustainable development into one assessment procedure and be more than the sum of sectoral assessments. The main objectives are good governance, policy integration, transparency, participation and cost-efficiency. SIA are particularly important for assessing the implementation of national sustainable development strategies. However, there remain significant methodological and institutional challenges.
- *Kerstin Arbter*, head of the consulting firm Strategic Environmental Assessment, described the relationship between strategic environmental assessments (SEA) and sustainability impact assessments (SIA). SIA treat economic, environmental and social impacts equally, while SEAs have a greater focus on environmental aspects. SEAs are well-developed and accepted instruments which can provide a foundation for SIA. Countries such as Austria are now conducting SEA which also review economic and social impacts based on a 12-step process. SIA is widely regarded as the next generation of SEA.
- *Arjan Geveke*, an expert with the Better Regulation Executive in the UK Department of Business, Enterprise and Regulatory Reform, presented their approach to using impact assessments (IA) as a tool to deliver better regulations and policies. Since 2007, IAs are compulsory for proposals raising costs in the public sector and redistributing costs in the private sector. "Sustainable development" is one of the specific areas examined together with competition, small firms, carbon impacts, health, human rights, gender, etc. The sustainable development test examines how the proposal contributes to five sustainability principles – economic, environment, social, governance, and technology.
- *Ingeborg Niestroy*, Secretary General of the European Environment and Sustainable Development Councils (EEAC), was sceptical about the ability to reconcile traditional impact assessment (IA) approaches with sustainability impact assessments (SIA). IAs are based on regulatory and cost-benefit analyses where

economic impacts tend to dominate, while SIA seek more balance and transparency. Impact assessments should be conducted separately, but an integrated sustainability process should be used to bring the results together, compare and weigh impacts, and make decisions in the political domain.

Session 2: Identifying Tools for Sustainability Assessments

Session 2 reviewed the advantages and disadvantages of the main quantitative and qualitative tools for conducting sustainability assessments. The following are the main points of the presentations in this session:

- *Marjan van Herwijnen*, Senior Researcher with the Amsterdam Institute for Environmental Studies and EU Project Leader for the Sustainability A-Test, presented a comprehensive web guide to the methods and techniques that can be used in sustainability-related impact assessments (www.SustainabilityA-Test.net). There are 44 different types of tools classified into participatory processes, scenarios, multi-criteria analysis, cost-benefit analysis, accounting tools, and models. Different tools can be used in the four phases of impact assessments: 1) problem analysis, 2) identifying options; 3) analysing impacts; and 4) monitoring and evaluation. The Sustainability A-Test Web Book explains the best use of each tool and its role in the assessment and policy process.
- *Anneke von Raggamby*, Senior Fellow with Ecologic, the Institute for International and European Environmental Policy, emphasized the need for better consolidation of existing tools rather than the development of new tools for impact assessments. The most popular tools for assessments are now cost-benefit analysis, cost-effectiveness analysis, and modelling. While there are a sufficient number of tools, the main difficulties in assessments are the lack of data and methodological gaps in quantifying environmental and social impacts.
- *Frits Hinterberger*, an analyst with the Sustainable Europe Research Institute (SERI), presented the outcomes of the MATISSE project (www.matisse-project.net) which examined Methods and Tools for Integrated Sustainability Assessments (ISA). Different modelling tools are linked in different ISA stages: 1) scoping, 2) envisioning, 3) experimental, and 4) learning. This approach – which is based on complex systems theory and novel modelling techniques – allows various pathways to be explored, trade-offs to become transparent, and reframing of issues and social learning in the interest of advancing sustainability.
- *Donald Macrae*, member of the UK Better Regulation Commission, stressed that more attention should be paid to the political factors which impede the use of impact assessments and related tools. Most approaches are too complex and too long for policy-makers. In many policy areas, there are few internal quality controls or resource planning. The existing bureaucratic infrastructure prefers traditional approaches rather than new assessment techniques. Tools should be tailored as much as possible to the topic and the size of the project with different tools used for different types of assessments. Spider diagrams could be used to present trade-offs across the economic, environmental and social dimensions of proposals to policy-makers.

Session 3: Conducting Sustainability Assessments

Session 3 reviewed how to operationalise sustainability assessment methodologies, particularly with regard to identifying and comparing effects across the economic, environmental and social dimensions and in specific policy fields. The following are the main points of the presentations in this session:

- *Johannes Wolff,* an expert with The Evaluation Partnership in the United Kingdom, presented the results of the evaluation of the integrated impact assessment system of the European Commission (EC). This system is aimed at ensuring EC proposals are consistent with the objectives of sustainable development and also the Lisbon strategy goal of enhanced competitiveness. Putting a balanced IA approach into practice is difficult due to imbalances in methodologies, particularly in addressing social impacts; difficulties in quantification of impacts; and lack of data. In addition, due to the blanket coverage of the legislation, EC impact assessments are often not proportionate to the issues being addressed.
- *Daniel Wachter,* Head of the Sustainable Development Section of the Swiss Federal Office for Spatial Development (ARE), presented the Swiss Sustainability Assessment Procedure. This has three broad stages: 1) relevance analysis (depending on whether there are conflicts of interest across the three pillars), 2) impact analysis, and 3) assessment and optimisation. The economic, environmental and social impacts of proposals are analysed and rated on a plus/minus scale, which are presented in a matrix. He discussed the application of the methodology to transport policy legislation, where 80 elements were assessed, including street and railway networks and regional investments. Longer-term impacts in terms of irreversibility and transfer of costs to future generations were also evaluated.
- *Helene Connor*, Director of Helio International Sustainable Energy Watch, advocated that assessment indicators be selected according to sector and locale. In the case of ongoing energy assessments, environmental sustainability is measured by local pollutants and climate impacts; social sustainability by employment provided by energy investments; economic viability by energy prices and security of supply; technological viability by the share of energy from conservation, efficiency and renewables; and civic viability by information dissemination and stakeholder participation. Overall assessments of sustainability and trade-offs are presented in spider diagrams.
- *Colin Kirkpatrick* of the Impact Assessment Research Centre at the University of Manchester, United Kingdom, has worked with both the EC and the OECD in developing methods for conducting sustainability impact assessments of trade agreements – bilateral, regional and multilateral. The methodology involves a baseline study, scenario analysis, screening and scoping, impact assessment by sector, and recommendations for flanking or mitigating measures. The main challenges include adapting assessment approaches to institutional and political contexts.

Session 4: Developing Guidelines for Sustainability Assessments

Session 4 discussed good practices in sustainability assessments in terms of institutions, procedures, tools, etc., to provide a basis for integrating, analysing and presenting economic, environmental and social information to decision-makers. The following are the main points of the presentations in this session:

- *Kristiaan Henrix*, Expert with the Sustainable Development Unit of the Belgian Federal Public Planning Service, presented the methodology developed for Sustainability Impact Assessments in Belgium, which were mandated for major policy decisions by a Royal Decree on 22 September 2004. A quick scan is prepared based on 33 core economic, environmental and social indicators to determine if a proposed policy is exempted or must undergo a full SIA. Thus far, SIA is considered as a learning process for government and has not been open to the public.
- *Teresa Fogelberg*, Deputy Chief Executive of the Global Reporting Initiative (GRI), presented their system by which firms evaluate and report their sustainability impacts. This is based on a defined set of indicators: economic impacts (9 indicators), environment (30), social (8), human rights (9), worker relations (14), and corporate governance (9). Protocols for each indicator provide a compilation methodology and advice on metrics. GRI has now developed a small firm reporting protocol, sector supplements, and a system by which governmental organisations can assess their sustainability impacts.
- *Fulai Sheng*, an economist with the Technology, Industry and Economics Division of the United Nations Environment Program (UNEP), presented the project on Integrated Policymaking for Sustainable Development for which they are developing an operational manual. In most cases, sustainability assessments are seen as an add-on rather than as an integral part of policy-making. As a result, assessments may come too late with limited consideration of alternative policy options. Recommendations are being made for including assessments of sustainability pathways earlier in decision-making.
- *Robin Miege*, Head of the Sustainable Development Unit in DG Environment of the European Commission (EC), described the functioning of the EC Impact Assessment Board which reviewed more than 300 impact assessments conducted in the past four years. The procedure involves a series of logical steps: roadmaps, consultations, studies, reports, IAB reviews, inter-service consultation, acceptance or rejection, and possible adoption by the EC. Problems relate to the depth of the analysis, lack of proportionality, failure to cover all options, and insufficient attention to environmental and social dimensions. To be successful, impact assessments should: 1) be required, 2) be closely monitored, 3) have high-level backing, 4) have adequate resources and guidelines, 5) be based on a culture of analysis, and 6) integrate different types of assessments.

Conclusions

Candice Stevens, OECD Sustainable Development Advisor, summarised the workshop findings regarding different types of assessments, levels, targets,

timeframes and tools. She reiterated that Sustainability Impact Assessments have certain common characteristics in that they:

a) examine economic, environmental and social impacts in equal measure;

b) look at long-term flows and impacts;

c) identify synergies and trade-offs across these dimensions; and

d) respect open and transparent processes.

The OECD aims to develop draft guidelines for conducting sustainability assessments, to be considered by the OECD Annual Meeting of Sustainable Development Experts (AMSDE). Tools would be enumerated for examining economic, environmental and social impacts; identifying trade-offs and synergies; and projecting the long-term implications of policies and programmes. These guidelines would be based on main steps for conducting sustainability assessments, including:

1) *relevance analysis* – identifying the level and target of the assessment (*e.g.* national policy, local project) and whether there may be contradictions across economic, environmental and social dimensions;

2) *scoping* – determining the appropriate extent and depth of the assessment (*e.g.* quick scan vs. more detailed evaluation) and identifying the relevant tools (qualitative, quantitative);

3) *impact analysis* – assessing the short- and long-term economic, environmental and social impacts;

4) *comparative analysis* – identifying the major synergies, conflicts or trade-offs across economic, environmental and social impacts;

5) *associative analysis* – enumerating measures which can be put in place to mitigate harmful economic, environmental and social impacts; and

6) *political analysis* – presenting decision-makers with least-cost policy options in economic, environmental and social terms.

Part I. Defining Sustainability Assessments

Chapter 1. Sustainability Impact Assessment: European Approaches

Gerald Berger, ESDN Office at the Research Institute for Managing Sustainability
Vienna University of Economics and Business Administration

Introduction

Generally, impact assessments must be seen as a tool that addresses important governance challenges, like informed (or knowledge-based) decision-making, policy integration, strategic management, transparency and stakeholder participation. The growing acceptance of sustainable development as overarching policy goal has recently stimulated much interest in methods and tools that assess the impacts of sustainable development policies. This paper will provide a definition and overview of different impact assessment approaches; describe the integrated impact assessment system developed and applied by the European Commission; and present two case studies of Switzerland and Belgium to show the application to national policy-making.

Impact assessment approaches

Overview and definition

Over the last few years, one can witness an ever-increasing interest in impact assessments (IAs). On the one hand, this development is driven, for instance, by concerns for better and informed policy-making, like the "better regulation" agenda of the European Union, involving issues like increased effectiveness and efficiency in legislation, more transparency and better policy delivery (European Commission, 2005a; European Commission, 2001). On the other hand, the growing acceptance of sustainable development as an overarching guiding principle for policy-making stimulated the use of IAs in order to evaluate the impacts of (cross-)sectoral policies regarding sustainable development (Bond *et al*, 2001).

Although many different forms of IAs have been developed and applied in recent years, the following definition is general enough to cover most of them: *an IA is an ex-ante evaluation of the potential impacts of projects, plans, programmes or policies.* It mostly involves several systematic steps, including an identification and description of the problem, the definition of policy options and measures, an evaluation/assessment of potential effects and impacts, and the description of options available to mitigate these effects and impacts. Therefore, an IA is a tool for informed decision-making that should

help policy-makers to assess potential effects of decisions before they are taken (Ecologic *et al*, 2007; Renda, 2006; Wilkinson, 2004).

Historical development of impact assessments

There are many forms of IAs and no single, widely accepted approach can be detected. Starting in the 1970s, IAs were mostly used as regulatory policy appraisals in order to understand the nature of regulations and their usefulness as policy instrument as well as their impacts on businesses. These early forms developed into what is now referred to as Regulatory Impact Assessments (RIA). They are the most common form of IA in the OECD countries.

RIAs often involve environmental and social issues but their main objective is the evaluation of the costs and benefits for businesses and citizens in complying with proposed regulations. Recent examples of RIAs can be found in Ireland (DOT, 2005) and in the United Kingdom, where in 2007 a new format for IA (previously RIA) was introduced.

Over the years, different forms of sectoral IAs have been developed, like Business Impact Assessment, Social Impact Assessment or Health Impact Assessment (Paredis *et al*, 2006). Methodologically, a variety of methods is used, ranging from cost-benefit analysis, multi-criteria analysis, different forms of macro- and micro-economic models, etc. Usually, quantitative assessment methods are supported by qualitative methods.

In the field of environmental policy, two forms of IA have developed during the 1980s and 1990s which are seen by many as first steps towards a Sustainability Impact Assessment (SIA): Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA).

Environmental Impact Assessments and Strategic Environmental Assessments

Environmental Impact Assessments (EIAs) largely developed in the 1980s, although their origin can be traced back to the late 1960s. In the United States, the National Environmental Policy Act of 1969 established an EIA process in order to analyse the environmental impacts of proposed projects. In the European Union, EIA was introduced with a directive in 1985 which was amended in 1997. The EU Member States had to translate this directive into national legislation until 1999. The EIA Directive outlines which projects shall be made subject to an EIA, which procedure shall be followed and the content of the assessment. The EIA procedure makes sure that environmental effects of projects are identified and assessed before a decision is taken. The public can voice opinions during the assessment procedure.

During the 1990s, there was much discussion within the EU to apply EIA not only to projects, but also to plans and programmes. In 2001, the Strategic Environmental Assessment (SEA) Directive was adopted for this purpose. It includes procedures that identify and assess environmental consequences of certain plans and programmes during their preparation and before a decision is taken. Again, public participation is foreseen in the SEA process. Over the years, SEAs have sometimes been used for assessing also the environmental impacts of policies and, in some cases, socio-economic aspects have been included (Dalal-Clayton & Sadler, 2004).

Sustainability Impact Assessment

Apart from recent developments in SEAs, all major IAs were focussed on specific policy sectors. The integration of their individual results had to be made in the final decision-making stage. Since the late 1990s, the call for an integrated IA became prevalent, especially in the context of increasing efforts for policy integration.

Within the EU, the Cardiff Process in 1998 established the requirement for a better integration of environmental considerations in all policy sectors. The process towards the EU Sustainable Development Strategy (EU SDS), starting in Gothenburg in 2001, and the Lisbon Agenda both reiterated the objective to integrate economic, social and environmental policies. For instance, the renewed EU SDS suggests that all EU institutions (and EU Member States) "should ensure that major policy decisions are based on proposals that have undergone high quality IA" (European Council, 2006).

In most European countries, strategic policy management in the form of National Sustainable Development Strategies (NSDSs) became increasingly important over the last years. By definition, NSDSs seek to integrate the three pillars of SD and also foresee measures to evaluate the implementation of the strategy objectives. These developments have paved the way for the development of Sustainability Impact Assessment (SIA) as an integrated assessment tool. Compared to sectoral IAs, all three dimensions of SD are integrated into one assessment procedure and the interdependency of the three policy fields is analysed before decisions are taken.

Therefore, an SIA can be defined as a "*systematic and iterative process for the ex-ante assessment of the likely economic, social and environmental impacts of policies, plans, programmes and strategic projects, which is undertaken during the preparation of them and where the stakeholders concerned participate pro-actively. The main aim is to improve the performance of the strategies by enhancing positive effects, mitigating negative ones and avoiding that negative impacts are transferred to future generations*" (Arbter, 2003). The definition deliberately refers to plans and strategies because SIAs are particularly relevant for assessing the implementation of NSDSs. Some European countries explicitly refer to the development and/or application of SIA in their NSDSs (*e.g*. Belgium, Finland, Switzerland, etc).

SIA as an integrated assessment tool serves the following objectives (Ecologic *et al*, 2007; Pope *et al*, 2004; Arbter, 2003):

- *Good governance*: recognition of the inter-dependency of policy fields (based on government strategies and strategic management) and informed decision-making by addressing potential implications of planned actions at an early stage;
- *Policy integration:* focussing on the integration of different policies, identifying synergies but also potential conflicts or trade-offs between policies and ways to overcome them;
- *Transparency*: making the decision-making process more open and transparent, identifying underlying assumption, motivations, interests, etc.
- *Participation*: inclusion of stakeholders in assessment process, room for political discussion of different points of view, policy learning and building capacities;

- *Efficiency:* ensuring that objectives of policies, plans, programmes and projects are met at the least costs, avoiding unnecessary bureaucracy, etc.

The subjects of assessment or levels of application are different in EIA, SEA and SIA (Table 1.1). SIAs are the most comprehensive and include strategies, policies, plans, programmes and projects. The frame of reference is also different: EIAs and SEAs have a sectoral focus on environmental policy, however, SIAs are related to strategic policy planning in the form of NSDS or similar SD policy frameworks. Accordingly, the scope of assessment of EIAs and SEAs is narrowed to one policy field, whereas SIAs are focused on SD policy integration. Finally, there is extensive experience with the practical application of EIAs and SEAs, but less experience with integrated IAs on the EU level and SIAs in a few European countries.

Table 1.1. Characteristics of Impact Assessment Approaches

	EIA	SEA	SIA
Subject of assessment	Projects with potentially significant environmental impacts	Plans and programmes (sometimes policies) with potentially significant environmental impacts	Strategies, policies, plans, programmes and projects with potentially significant SD impacts
Frame of reference	Environmental policy	Environmental policy	NSDSs and/or SD policy frameworks
Scope of assessment	Environmental aspects	Environmental aspects, sometimes referring to socio-economic aspects	SD issues (economic, social and environmental), policy integration as focus
Implementation by governments	Established in a majority of national and regional governments	Established in an increasing number of national and regional governments	Introduced on the EU level and in few European countries, mostly on an experimental basis

Source: adapted from Dalal-Clayton & Sadler, 2004.

Generally, as Pope (2003) points out, integrated SIAs should be more than the sum of sectoral economic, social and environmental issues. This creates a number of questions regarding institutional and methodological issues. In terms of institutional issues, Dalal-Clayton & Sadler (2004) argue that this refers to the establishment of appropriate provisions and arrangements for SIAs within policy-making and planning processes. Therefore, SIAs should be made a "fundamental component of the decision-making process" (Pope, 2003). Buselich (2002) points out that, in practice, the most critical issue of SIA is "*how* environmental, social and economic information is analyzed, integrated and presented to decision-makers".

Methodologically, SIAs also present new challenges. If SIAs are to integrate different policy issues into one assessment process, procedural and organisational provisions (which ministry is responsible, which other ministries and stakeholders will be included) as well as interdisciplinary approaches (acknowledging that single disciplinary approaches will not suffice) will need to be developed (Bond *et al*, 2001).

The European Commission has funded various research projects in order to gain insights into different methodologies for SIA (Tamborra, 2005). A current example is the MATISSE project, funded by the 6th Framework Programme for Research of the EU,

which aims to advance scientific knowledge and improve tools for integrated sustainability assessment (ISA). It is oriented towards supporting the development of cross-sectoral policies that address SD and at exploring enabling policy regimes and institutional arrangements (Weaver & Rotmans, 2006).

Impact Assessment in the European Union

Overview and context

When searching on the Internet about SIAs in the EU, the first information provided is about Trade Sustainability Impact Assessment, mostly referred to as SIA within the EU. The Trade SIA was launched in 1999 in anticipation of the new World Trade Organisation (WTO) round of negotiations. Since then, they are carried out for all EU major trade negotiations. A Trade SIA seeks to identify the potential economic, social and environmental impacts of a trade agreement and has two main purposes: (1) to integrate sustainability into trade policy by informing negotiators of the possible social, environmental and economic consequences of a trade agreement; and (2) to make information on the potential impacts available to all actors (NGOs, aid donors, parliaments, business etc.). During a recent Trade SIA stock-tacking conference in March 2006, a new handbook by DG Trade was presented (EC, 2006).

The general framework for integrated IA in the EU is the European Commission's IA system which was launched in 2002 (EC, 2002a). The basis for developing an IA has to be seen in the context of the "better regulation" objective which has been strategically included in the White Paper on Governance (EC, 2001). A follow-up to the White Paper, the Commission's "Better Regulation Action Plan" (EC, 2002b), based on the 2001 Laeken Council Conclusions (EC, 2001a) formulated objectives for all EU institutions in order to improve the quality of policy proposals, simplifying legislation, providing more transparency, etc. In this context, it also stressed the need for "a consolidated and proportionate instrument for assessing the impact of […] legislative and policy initiatives" (EC, 2002b). Furthermore, "better regulation" became one of the milestones for achieving the Lisbon Strategy goals (EC, 2005).

The other driver for the IA was the development of the EU SDS (IEEP, 2004). The 2001 Gothenburg European Council Conclusions called in the section on the EU SDS for the introduction of "mechanisms to ensure that all major policy proposals include a sustainability impact assessment covering their potential economic, social and environmental consequences" (European Council, 2001b). The Council thus acknowledged the need for integrated IA in order to assess the SD impacts of policy proposals. The renewed EU SDS which was adopted by the European Council in June 2006 reiterates the need for an integrated IA (European Council, 2006).

Key features and objectives

In June 2002, a European Commission communication launched the new integrated IA in order to improve the quality and coherence of the policy development process. It argued that the IA should contribute to "an effective and efficient regulatory environment and further, to a more coherent implementation of the European Strategy for SD" (EC,

2002). This confirms that the "better regulation" agenda and the EU SDS were the main political drivers for the Commission's IA.

The IA aims to:

- identify the likely positive and negative economic, social and environmental impacts of proposed policy actions;
- enable informed political judgement to be made about policy proposals; and
- identify trade-offs in achieving competing objectives.

Since the update of the IA in 2005 (EC, 2005c) a formal IA is required for items on the Commission's Work Programme. This means that all regulatory proposals, White Papers, expenditure programmes and negotiating guidelines for international agreements are subject to an IA. Exempted are only Green Papers and proposals for consultation with social partners.

The major change with the 2002 communication was that the IA would ultimately "integrate, reinforce, streamline and replace all the existing separate impact assessment mechanisms for Commission proposals" (EC, 2002). Therefore, an integrated IA approach was chosen which builds on the experience of, but finally replaces, sectoral IAs (*e.g.* EIA, business IA, health IA, gender mainstreaming, etc.).

The guiding principles of IA are outlined in the Commission Staff Working Paper, "Impact Assessment: Next Steps" (EC, 2004):

- *Integration and balance*: IA should consider the economic, social and environmental dimensions of Commission policy proposals. In contrast to (budgetary) ex-ante evaluation which are primarily focused on cost-effectiveness, IA is policy driven, examining whether the impacts of policy proposals are sustainable and conform to the principles of "better regulation".
- *Transparency*: It should be made clear to all stakeholders and the general public how the Commission assesses the expected impacts of its legislation, including the data and methodology used. A special website of the European Commission provides information on all IAs carried out. Furthermore, stakeholders and experts should be consulted throughout the IA process.
- *Proportionate analysis*: The assessment of impacts should concentrate on those that are likely to be the most significant or will lead to important distributive effects.
- The 2002 Communication also refers to the added-value of IA as identified by the Commission (EC, 2002):
- IA is a *process of systematic analysis* of the likely impacts of interventions by public authorities. Therefore, IA should be made an integral part of designing policy proposals and making decision-makers and the public aware of potential impacts.
- IA is an *aid to decision-making*, not a substitute for political judgement: IA provides an input to informed decision-making, however, does not present easy-to-follow descriptions or recommendations.

- IA is an *effective and valuable communication tool*: Consultation with stakeholders may generate useful discussion and bring valuable information and analysis.

In general, the IA outlined above is only a requirement within the European Commission and not in the EU Member States. However, the 2004 Staff Working Paper (EC, 2004) argues that "to be fully efficient, the IA practice will need to be complemented, where necessary, by equivalent practices in the Member States". This should apply in those areas where they use the right of initiative for new legislation (Justice and Home Affairs) as well as for the transposition of EU Directives that leave the Member States broad margins for implementation (EC, 2002).

Procedural steps

Since 2005, a two-stage process for IA exists in the European Commission, consisting of a "roadmap" and an "impact assessment". "Roadmaps" (previously known as "preliminary assessment") are requested by the Commission services for the initiatives they have put forward for the Work Programme. Through this, information about initiatives is distributed early on and a brief statement is included about the likely impacts of policy options (also comprising availability of data, time and consultation plan, etc). Based on the roadmaps, the Commission will decide whether an "impact assessment" (previously known as "extended impact assessment") is necessary for a policy proposal (Ecologic *et al*, 2007).

It is the responsibility of the respective DG to carry out an IA for its policy proposals in cooperation with other Commission services affected. For individual IAs that cut across the responsibility of several DGs, Inter-Service Steering Groups are created, headed by the lead DG. The Secretariat General coordinates the basic support structure for IAs in the Commission. In 2006, the Impact Assessment Board (IAB) was established to ensure more consistent and high quality IAs. It is chaired by a Deputy Secretary General and is under the direct authority of the Commission President. The IAB not only provides advice to the Commission services on methodology and approach at the early stages of an IA, its mandate is to also scrutinize and issue opinions on the quality of individual draft IAs.

The "Impact Assessment Guidelines" define *three procedural steps* for the IA process (EC, 2005c):

- First phase:
  - Planning of the IA;
  - Setting up of Inter-Service Steering Group;
  - Consultation of interested stakeholders and obtaining expertise;
  - Carrying out the IA analysis.
- Second phase:
  - Presentation of findings of IA report (even if initiative is withdrawn);
  - Inter-Service Consultation alongside policy proposal;
  - Examination by Group of Commissions (in some cases);

- Submission to the College of Commissioners.

- Third phase:
  - Submission of the IA report, alongside the policy proposal, to other institutions;
  - Final IA report, published on European Commission website.

The following questions guide the IA process (EC, 2004):

1) What issue/problem is the policy proposal expected to tackle?
2) What main objective is the policy proposal supposed to achieve?
3) What are the main policy options available to achieve the objective?
4) What are the positive and negative economic, social and environmental impacts expected from the different options identified?
5) How can the options be compared?
6) What possible monitoring and evaluation arrangements can be applied for the policy?

The analysis of the potential positive and negative economic, social and environmental impacts of policy proposals (question 4) are in the centre of the IA. The IA Guidelines suggest a *three step analysis*: The first step is to identify those impacts that are likely to occur as a consequence of implementing a policy. This analysis should build on a causal model which links the causes (action, instrument, etc) to the effects (impacts). The second step is the identification of the most significant impacts. Again, the causal model is suggested as is a qualitative process of description (likelihood, magnitude of each impact) or an impact matrix (action according to their short-, medium- and long-term impacts). The third and last step is the advanced analysis of impacts which can be qualitative (*e.g.* case studies, scenario approach) or quantitative (based on indicators) or a combination of both.

From 2003 until June 2007, the Commission services carried out 248 impact assessments (Table 1.2). The Directorates with the highest number of IAs in the respective year (ranked 1st, 2nd and 3rd) were DG Environment and DG Transport. A good example of a recently completed IA is on "Communication on Airport Capacity" by DG Transport in which for each optional measure, the economic, social and environmental impacts are listed in a table.

Table 1.2. European Commission Impact Assessments by Year and Directorate

	Total	1st	2nd	3rd
2003	21	DG ENV (4)	DG TREN (3)	Several other DGs (2)
2004	30	DG ENV, MARKT, EAC (4 each)	DG DEV, EMPL (3 each)	Several other DGs (2)
2005	73	DG TREN, JLS (12 each)	DG ENV (8)	DG DEV, ENTR (5 each)
2006	67	DG ENV (10)	DG TREN (9)	DG JLS (8)
2007*	57*	DG TREN (10)	DG ENV, SANCO (9 each)	DG EAC, RTD (3 each)

* The IAs for 2007 are listed until 14 June 2007.

Evaluation of impact assessments

In early 2006, the European Commission launched an independent evaluation of its IA system. The objective was to review the experiences made since 2002, including how the IAs are carried out and used by the Commission services, their quality and their role in the policy or legislative process. The evaluation included a wide-ranging consultation process involving stakeholders, EU institutions and Member States.

In 2004, the Institute for European Environmental Policy (IEEP) released a report on how SD considerations have been addressed in the extended IAs that were carried out in 2003, the first year of IA. They came to the following conclusions (IEEP, 2004):

1) First, the analysis of the policy problems to be addressed tends to reflect the perspective of the responsible DG which suggests that inter-service consultation should be strengthened.

2) Second, the range of impacts assessed is limited. Little explicit attention is given to SD issues or the trade-offs between the different SD pillars. Most attention is given go economic impacts with little treatment of environmental and social impacts.

3) Third, the majority of impacts are discussed in qualitative terms. Only occasionally are there attempts to quantify long-term environmental or social issues. Therefore, an infrastructure for more extensive data collection and analysis in the IA system is suggested.

In March 2006, DG Enterprise organised in cooperation with the Secretariat General and other Commission services a conference on "Further Development of Impact Assessment in the European Union". The discussion focussed on the methodological aspects of IA and how integrated IAs are applied in the law-making process. David Wilkinson of IEEP highlighted that the Commission's IA is the most ambitious in the world. As it is a learning-by-doing exercise, there are however mixed results in the experiences made so far. He identified four key problems:

1) Unclear purpose: It is not always clear what exact purpose the IAs have. Achievement of balanced policy integration (SD), "better regulation" or orientation towards the new Lisbon objectives which seem to focus on competitiveness rather than on integration?

2) Resources and proportionality: IA Guidelines leave too much discretion to DGs; temptation to leave out difficult, long-term environmental and social impacts.

3) Stakeholder representation: Stakeholders are included too late in the policy process when options are already determined. Earlier involvement and financial support for NGOs would benefit IA results.

4) Credibility: The link between IAs and the final policy decisions should be made clear. Transparency about how IAs influenced policy decision.

The Network of European Environment and SD Advisory Councils (EEAC) issued in April 2006 a Statement of its working group on governance about the achievements and prospects of the IA of the European Commission (EEAC, 2006). The statement is based on the analysis of four IAs and concentrates on the quality of the assessment process rather than on the overall outcomes.

Several problems and shortcomings of the IA were identified, *e.g.* insufficient consideration of environmental issues; NGOs and environmental experts were less involved than business representatives; concentration on short-term impacts and qualitative analyses (*e.g.* cost-benefits analysis); lack of capacities in DGs for carrying our IAs; and the potential for deliberation, social learning and innovation was not exploited. These results suggest that there is room for improvement of the Commission's IA system.

Applications of SIA in Europe

Impact assessment approaches on the national level

The EU encourages Member States to also introduce IA approaches. A recent study by Ecologic (2007) shows, however, that information on IA systems in the Member States is "patchy and sometimes contradictory". It is further argued in the study that the contradictions are due to the fact that IA practice in the Member States varies strongly and, thus, the categorisation of procedures and measures is often a matter of interpretation.

Different findings show that IA processes are complex and it is, therefore, difficult to categorise them in a comparable manner. In a Communication from the Commission about better regulation, a summary of various IA activities in the Member States is provided (EC 2005a). Additionally, a recent study for the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (Arbter, 2005) provides an overview of IA activities in Europe which include sustainable development issues.

The definition of SIAs given in the introduction is important in how the two SIA country case studies in Switzerland and Belgium have been selected: SIAs refer to policies, programmes, plans and projects and not only to laws; they are mainly based on NSDS or similar national SD policy frameworks and – most importantly – they are, like the IA of the European Commission, policy driven and focus on examining the impacts of policy proposals in terms of SD and the principles of better regulation.

Sustainability impact assessment in Switzerland

Overview

The Swiss national sustainable development strategy (NSDS) of 2002 provides in Measure 22 a provision to investigate the feasibility of a sustainability assessment (SA). The aim is to "develop a tool that can be used to evaluate the effects of draft legislation, concepts and projects in terms of the three dimensions of SD and to indicate potential deficiencies" (Swiss Federal Council, 2002). In other words, an SA is intended to evaluate initiatives and programmes put forward by the Swiss Federal Government with regard to SD objectives, to highlight shortcomings and to optimize the initiatives and programmes in question. The objective is to integrate SD in the development of policies, strategies, programmes and concepts of the Swiss Government.

Currently, there is no legal obligation to carry out an SA for government initiatives and programmes in Switzerland. However, a phase of practical testing was introduced with a Federal Council resolution in 2003. The aim is to refine SA as an ex-ante

evaluation instrument and to look further into procedural and institutional issues. In 2004, the Federal Office for Spatial Planning (ARE) developed a concept and methodological foundation for this process on the national level (ARE, 2004).

SIA approach

The Swiss SA approach involves several principles, including the following:

- SA is based on a systematic and comprehensible approach and a coherent system of objectives;
- SA is by its very nature a process, including iterative procedures, involvement of stakeholders, etc;
- SA is based on a methodological framework that can be applied to policy proposals from all sectoral ministries;
- SA is not a new assessment process to replace other existing or planned assessment, Instead, it should be applicable in combination with other instruments (*e.g*. SEA, RIA);
- Transparency is regarded as fundamental element at each stage of the SA process.

Procedural steps

The federal agency (*e.g*. ministry) that put forward an initiative or programme is in charge of carrying out the SA. This agency is also responsible for the level of involvement of other ministries and stakeholders. ARE may take part in SAs as an advisory body, ensuring consistent application of the SA method throughout the Federal Government.

A government initiative or programme should be subject to an SA if there are conflicts between at least two SD dimensions. On the one hand, initiatives and programmes are assessed on the basis of the SD criteria laid out in the NSDS. On the other hand, instructions are provided how to deal with trade-offs and specific individual impacts. Negative impacts of initiatives and programmes with regard to SD are particularly addressed in SAs when they show one of the following characteristics (Wachter, 2006):

- Minimal social, economic and environmental requirements are affected, e.g. breaching environmental law;
- Impacts are irreversible or reversible only with difficulty;
- Impacts will primarily affect future generations;
- Impacts are difficult to predict or involve risks for which negative effects cannot be excluded; and
- Impacts concern areas which already show severe SD problems and may increase in the face of new developments.

The SIA process is broken down in three parts and includes seven procedural steps:

1. *Relevance Analysis:*

   The main purpose of the first stage is to determine to what extent a government initiative or programme is relevant for SD. Based on the results of this, it is decided whether an SA will be carried out. The relevance analysis involves two steps:

   Step 1: Presenting the subject; and

   Step 2: Establishing SD relevance.

2. *Impact Analysis:*

   This stage is to examine the effects of a proposed initiative or programme with regard to SD criteria. For this, a detailed criteria matrix with 27 SD criteria is used. The depth of analysis and the resources applied should be in proportion to the significance of the initiative or programme, taking into account available information and time as well as staff and financial resources. The choice of the method to be applied depends on the nature of the initiative and expected impacts. Two procedural steps are involved:

   Step 3: Defining the procedure; and

   Step 4: Conducting the analysis.

3. *Assessment and Optimization:*

   At this stage, the results of the impact analysis are looked at. The aim is to compare positive and negative impacts and to identify potential conflicts and trade-offs of the different measures in the initiative or programme. There are three steps involved:

   Step 5: Assessment;

   Step 6: Optimization; and

   Step 7: Presentation of results.

Practical experiences and outlook

The conceptual and methodological framework by ARE was tested in two pilot applications between 2004 and 2006: the "Sectoral Transport Plan" and the "Agriculture Policy 2011". "Sectoral plans" are the most important spatial planning guidance documents of the Swiss Federal Government. With these plans, the government sets out the planning policies for specific fields, identifies the objectives and how they should be implemented.

The Sectoral Transport Plan is the central instrument for transport infrastructure planning on the national level. In order to accommodate this plan with the goals of SD, a SA for the programme section of the plan was undertaken between 2004-06 (ARE, 2006). The SA was carried out by an external team of experts. In order to optimize the sectoral plan with regard to SD, the SA started very early and in parallel to the development of the plan. In total, five different versions of the programme section of the sectoral plan were part of the SA between August 2004 and April 2006. The SA focused on the objectives of

infrastructure policy, the development strategies, the basic principles and priorities in specific parts of the plan and modalities of implementation (Wachter, 2006).

The SA consisted of the three procedural parts outlined above. The "relevance analysis" comprised only of a brief qualitative estimation of the effects of the Sectoral Transport Plan on SD. The "impact analysis" focused on the qualitative evaluation of the effects of individual strategies. The analysis was based on the 27 SD criteria and additional transport specific criteria developed for the sectoral plan. The analysis did not, however, examine the effects for each of the 27 criteria. The criteria were mainly used as kind of theoretical framework in order to guarantee coverage of the most important SD issues. Finally, the "assessment and optimization" part formed the core of the SA and analysed the plan's potential impacts and trade-offs. The analysis was based on four questions:

- To what extent does the plan comply with the goals of SD and what contradictions can be detected?
- Is the plan's design balanced and comprehensive in terms of the three SD dimensions?
- To what extent are the defined goals and strategies consistent with the implementation measures?
- To what extent have specification been included which guarantee that SD goals are taken into account in future planning steps?

All actors involved acknowledged that the SA contributed to the improvement of the Sectoral Transport Plan. Through the application of the SA, SD issues were introduced more comprehensibly into the plan and contradictions between measures could be eliminated to a large extent (Wachter, 2005). Nevertheless, there are several principle issues with regard to SA that need to be clarified in the future:

- Institutional and legal embodiment of SA;
- Relationship between SA and other existing assessment or evaluation tools;
- Approach of involving stakeholders and sub-national political levels;
- Communication of SA results to stakeholders and citizens;
- Flexible application of SA in order to keep costs low.

Sustainability Impact Assessment in Belgium

Overview

The idea to introduce an SIA in federal policy-making has been maturing for some years in Belgium. SIA was explicitly mentioned for the first time in the Coalition Agreement of the Belgium Government in 1999. A reference to the development of an SIA methodology was also included in the first NSDS (2000-04). The most important legal document on which recent efforts to introduce SIA is based is the Royal Decree of 22 September 2004. This decree not only defines SIA, but also established the "Cells for SD" (responsible for the implementation and follow-up of the current NSDS of 2004 in all public services) and laid out competencies and responsibilities concerning the

introduction of a federal SIA process. In 2006, a manual for SIA was produced on the basis of the results of a study about the methodology and feasibility of SIAs (Paredis *et al*, 2006) as well as of the experiences of the Flemish region's Regulation Impact Assessment.

In January 2007, the Belgium Federal Government added SIA to the rules for the Federal Council of Ministers. Since its adoption on 16 March 2007, SIAs must be included in each major policy proposal of the Federal Council of Ministers. This can take the following forms:

- An explanation why an SIA is not necessary;
- The application of a quick-scan SIA; or
- The application of an extended SIA.

The Federal Planning Service Sustainable Development (PODDO) supports the federal government in the implementation of the SIAs. For this purpose, PODDO has set up a helpdesk that provides administrations with practical information on the SIA manual. Additionally, PODDO is responsible for monitoring the quality of the SIAs.

SIA approach

SIA in Belgium is considered as a learning process with the ultimate goal to better and more systematically integrate SD in the preparation of policy proposals by the federal government. Given that SIA has the purpose to evaluate economic, social and environmental effects of policies before decisions are taken, it should also streamline and integrate other assessment methods. However, a number of evaluation methods will remain outside the SIA, mainly because of their specific character or position in the policy and regulatory process, like the Kafka test (to avoid administrative burdens), the advice of the Inspectorate of the Budget and the budget agreement.

The responsibility for carrying out an SIA lies with the individual ministries that propose a policy. As mentioned above, assistance is provided by PODDO. In the 2006 SIA manual, four procedural steps have been identified:

1. *Screening:*

   This stage is to determine whether an SIA for a policy proposal needs to be carried out. A screening matrix for a quick-scan is provided in the manual. An SIA is only necessary if the proposed policy has potentially significant economic, social or environmental impacts in the short- to long-term. For proposals that are unlikely to have negative impacts, no SIA needs to be carried out.

2. *Scoping:*

   The scoping stage should clarify the content, depth and method of the SIA in order to make the exercise proportional to the potential impacts and a focus on the most significant effects is possible.

3. *Assessment:*

   At this stage, the potential impacts of the proposed policy and eventual alternative measures are assessed.

4. *Accompanying measures:*

   The final step is the formulation of possible accompanying measures to avoid or reduce undesired impacts of the policy proposal and to foster the desired impacts as much as possible.

Practical experiences and outlook

As part of the study about on methodology and feasibility of SIA (Paredis *et al*, 2006), three case studies were undertaken by the research team. The first two case studies (on introducing ethical criteria in public purchasing and a policy proposal for the use of biomass fuels in transportation) set out to test all phases of the Belgium SIA approach. The third case study tested exclusively the screening methodology.

Case study 1: Introducing ethical criteria in public purchasing

A European Directive (2004/17/EC) on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts needed to be introduced into national law. The new law had the aim to also include the possibility to introduce ethical criteria in public contracts. The proposal for introducing this law in Belgium was used as a test case for SIA by the research team.

The SIA included:

- an analysis of the policy measure,
- an identification of policy alternatives (in total, four alternatives were formulated),
- an identification of impacts (potential economic, social and environmental impacts of the formulated four policy alternatives),
- a decision about the involvement of stakeholder involvement (it was decided to not organise extensive participation), and
- an evaluation of alternatives.

Although it was decided very early in the SIA process that the test case would only include a screening phase, some important general conclusions about the application of IA could be drawn. First, the test case demonstrated that in an ex-ante assessment, the identification of potential impacts of a policy proposal is a very sensitive issue. If no hard facts and data are available, the discussion of potential impacts can easily turn into a discussion of values. Second, analysing the potential impacts can help to provide structured information about the quality of the proposal, initial assumptions and potential effects (indented or not intended, direct or indirect, etc). Third, the process offers the possibility to elaborate general or complementary alternatives to the policy proposal, thus contributing to a more rational and balanced policy-making.

Case Study 2: Policy proposal for the use of biomass in transportation

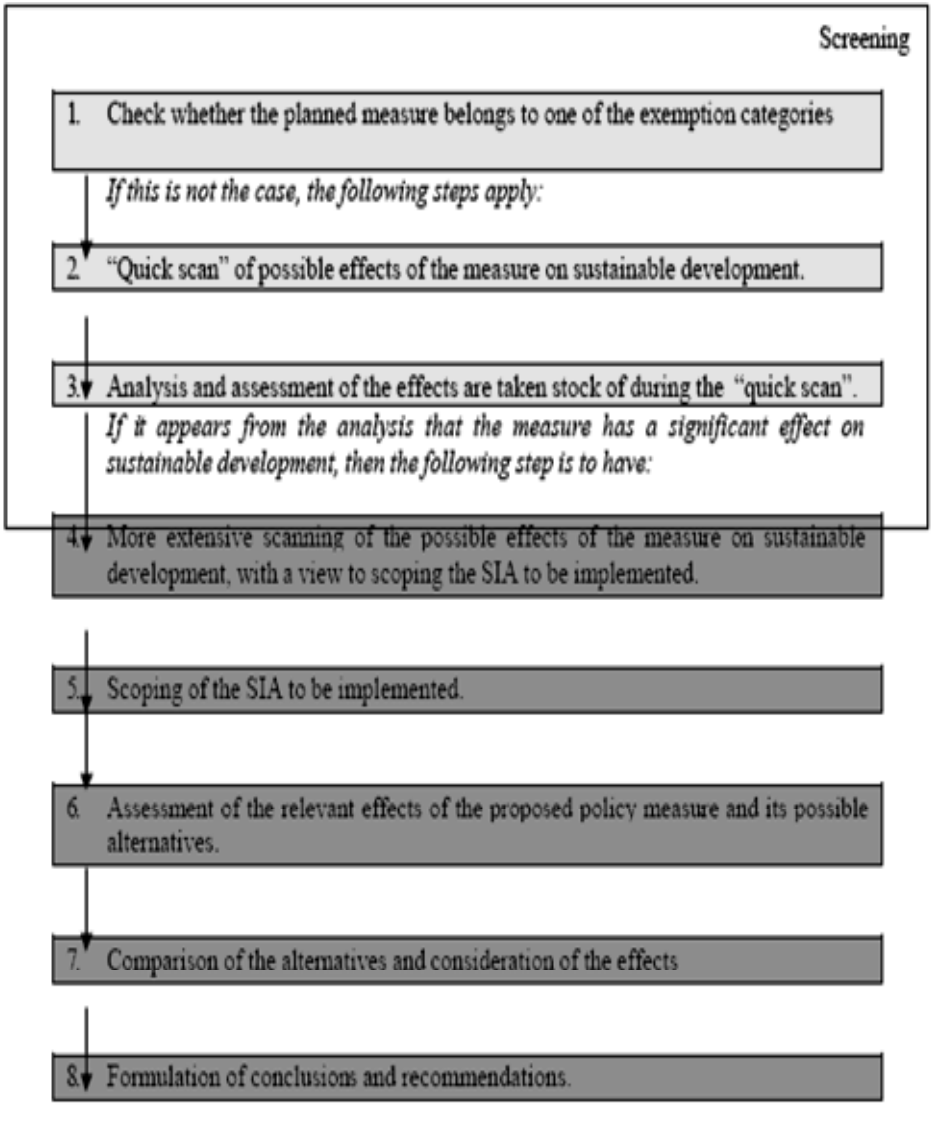
This policy proposal promoted the use of biomass fuel in transportation and was based on two EU Directives (2003/30/EC, 2003/96/EC). The screening process was conducted by the researchers during a meeting with civil servants from two different

ministries. In total, four policy options were identified. A screening and scoping matrix was used to investigate possible direct and indirect economic, social and environmental impacts of the individual options. After this, a scoping and impact analysis was carried out.

The conclusions highlight that this policy proposal was an ideal example of carrying out an SIA, particularly by looking at the potential mid- and long-term economic, social and environmental impacts of using biomass in transportation. Second, during the SIA process it was considered as particularly difficult to identify relevant alternatives. The first five alternatives were seen as too restrictive. Third, it became apparent during the SIA that the horizontal integration issue of SD is of great importance, *i.e.* comparing objectives in different policy fields (like transport, climate, social exclusions, etc.) as defined in the NSDS. Finally, the research team experienced that a comprehensive SIA is a resource intensive task. They devoted about three person months only for the identification of likely impacts and the effectiveness of the policy proposal (Paredis *et al*, 2006).

On the political level, the Federal Government only agreed upon the screening part of the SIA which is now fully included in the manual. The manual for scoping was rejected. It was decided that, at that point in time, extended SIAs would only be applied to a very limited number of major decisions. As the SIA approach is regarded as a "learning-by-doing" exercise, the intention is to first develop more capacities for this integrated assessment tool. After the initial capacity-building phase, the SIA manual will be adapted and extended SIAs will be applied more widely. Therefore, the current practical application of SIA concentrates on screening and quick-scans (Figure 1.1).

Figure 1.1. Sustainability Impact Assessment Approach in Belgium



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Chapter 2. Sustainability Impact Assessment and Strategic Environmental Assessment

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Introduction

This paper firstly defines the terms strategic environmental assessment (SEA) and sustainability impact assessment (SIA) and highlights the common features of and the differences between these two instruments. Secondly, it touches upon the shift from SEA to SIA currently happening in many countries. Thirdly, it sums up lessons learned from SEA practice in Austria and draws conclusions for the Austrian approach to SIA.

SEA and SIA: Common features and differences

The definition of SEA used in this article is (Sheate, W. *et al*., 2001):

"*SEA is a systematic, decision aiding procedure for evaluating the likely significant environmental effects of options throughout the policy, plan or programme development process, beginning at the earliest opportunity, including a written report and the involvement of the public throughout the process.*"

Sustainability impact assessment is according to UKDETR (2000), Verheem, R. (2002) and George, C. (2002):

"*SIA can be defined as a systematic and iterative process for the ex-ante assessment of the likely economic, social and environmental impacts of policies, plans, programmes and strategic projects, which is undertaken during the preparation of the above and where the stakeholders concerned participate pro-actively. The main aim is to improve the performance of the strategies by enhancing positive effects, mitigating negative ones and avoiding the transfer of negative impacts to future generations*".

SEA and SIA have some common features: Both are

- decision aiding instruments, helping the decision makers to take more sustainable decisions;
- participatory processes, involving the public concerned or interested during the preparation of the plans, programmes or policies;
- integrated into the development process of the strategies, in order to optimise the solution interactively during its preparation; and

- processes consisting of several steps and not only scientific studies or written reports.

There are also differences between SEA and SIA (Table 2.1). These differences relate to their focus, their legal status, their level of application and also areas that could attract criticism. However, in practice SEA and SIA are not always as distinct as the above definitions suggest. Firstly, some countries use a holistic definition of the environment, including the bio-physical, the social and the economic environment. Secondly, even the EU-SEA Directive mentions social aspects including population, human health and cultural heritage and economic aspects such as material assets in its definition of environmental effects.

Table 2.1. Differences between SEA and SIA

SEA – Strategic Environmental Assessment	SIA – Sustainability Impact Assessment
Focus	
Seeks to raise the profile of environmental considerations in decision-making concerning policies, plans and programmes.	Aims to support the decision-making process in relation to all three aspects of sustainable development (environmental, social and economic issues), the interests at stake have equal weighting.
Legal or formal basis at international level	
EU-level: SEA Directive: Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment UN-level: SEA Protocol (2003): Protocol on strategic environmental assessment to the convention on environmental impact assessment in a transboundary context – not in force as of 2007.	EU-level: not legally required but applied by the European Commission in accordance with the Communication from the Commission on impact assessment COM(2002)276.
Level of application	
For plans and programmes with likely significant impacts on the environment (requirement of the SEA Directive). Also for policies and legislation with environmental impacts. Not used for single projects.	No restrictions in the level of application. Mostly used for policies, plans and programmes and for large scale projects of a strategic nature.
Areas that could attract criticism	
May be regarded as incomplete if social and economic effects are not addressed at all. More difficult to develop equally weighted planning solutions if only environmental aspects are taken into consideration.	"Weaker" environmental arguments might be traded-off against "stronger" socio-economic issues, which may dominate the appraisal.

Shift from SEA to SIA

During the last years, a shift from SEA to SIA began. Already in 2002 at the Annual Conference of the International Association for Impact Assessment (IAIA) in The Hague, it was stated that "sustainability assessment is widely regarded as the next generation of SEA" (Fuller, 2002). In Austria, some SEAs also address social and economic effects of plans and programmes explicitly, while they are still called SEAs. More and more SIA-approaches are appearing internationally, both at the national and at the regional level, as well as in international organisations (Arbter, 2005).

Some of the reasons for this shift from SEA to SIA are:

- *Incomplete view:* Sometimes SEAs only address environmental effects and neglect the social and economic effects of plans, programmes or policies, and can be regarded as biased or incomplete.
- *Transparency:* Normally plans, programmes and policies not only affect environmental interests. If they also have social and economic effects and social and economic interest groups are involved, they will ask for the assessment of social and economic effects as well. The assessment has to be opened up to all the three dimensions of sustainable development.
- *Holistic considerations*: Especially in assessments at strategic planning levels the interdependency of environmental, social and economic effects needs to be addressed if a robust recommendation for planning solutions is expected. If you only take environmental effects into account the holistic view of all the relevant consequences of the plan, programme or policy is missing.

Lessons learned from practice in Austria

For effective strategic environmental assessments, it is not enough to get the assessment of the effects "right", meaning to choose the "right" assessment criteria and to estimate the effects accurately. The design of the assessment process, *e.g*. the integration of the assessment into the planning process or public participation in the process, is as important as the assessment method. The participation of the interest groups affected throughout the entire process can be crucial for successful SEAs. That means continuous involvement of environmental NGOs and others which are affected by the plan, programme or policy.

Concerning public participation, information and consultation of the public on the draft plan, programme or policy is often too late and too narrow for inspiring dialogue and for taking new ideas and genuine knowledge on board. Therefore, Austria has developed a highly participative SEA approach, which we call the SEA Round Table. That means that the affected interest groups take part actively in the entire SEA process, from defining the objectives to the final planning draft. They cooperate in all planning and SEA steps and can influence the development of the plan and the assessment continuously. The aim of the SEA Round Table is to develop a consensual planning solution (Box 2.1).

Box 2.1. Participatory Round Table Approach in Austria

Participatory Round Table approaches involving all stakeholders can make impact assessment processes more effective.

Public participation *per se* cannot guarantee more sustainable plans, programmes or policies. However, the Round Table approach supports the reconciliation of environmental, social and economic interests in face-to-face negotiations during the planning process, if environmental, social and economic interest groups are represented equally weighted at the Round Table. It also increases the mutual understanding of different viewpoints. Both can lead to more sustainable and more consensual planning solutions.

At strategic planning levels, we usually face uncertainty in impact prediction and we touch questions of values during the planning and assessment process, which cannot be solved solely by expert knowledge. The Round Table approach helps to discuss and check assumptions and assessments from the different angles of the interest groups involved. This can lead to more robust and justified results.

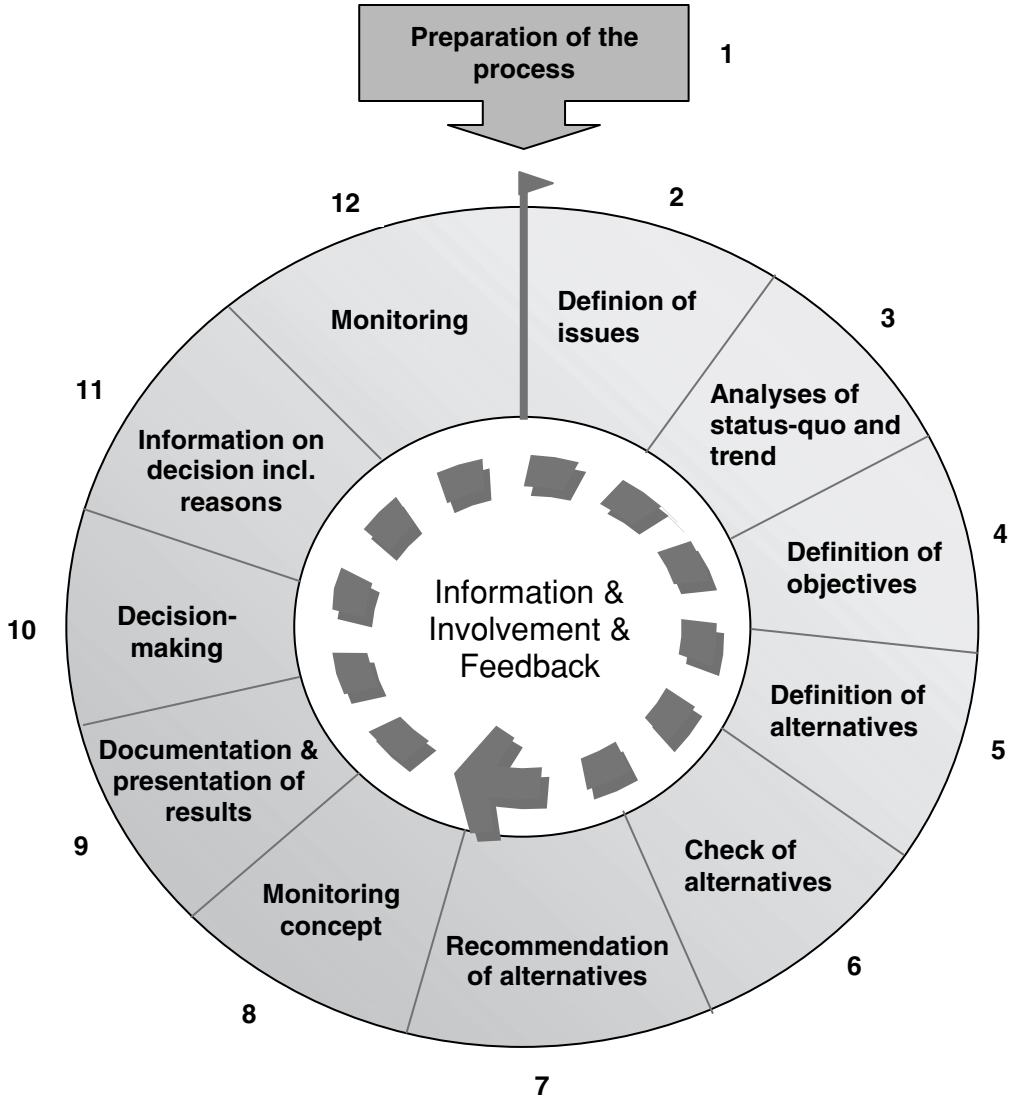
The Round Table approach can also increase the acceptance and credibility of the results of impact assessments. The results should be broadly backed by the interest groups involved, more transparent and easier to understand and based on a broader knowledge base.

SIA in Austria

Austria does not have any formally required SIA or any other assessment instrument at the level of policies and legislation. The government (led by the Austrian Environment Ministry) is currently developing an SIA approach based on the lessons we have learned from SEA. Based on knowledge of assessments practices, a pro-active development process for policies and legislation is being designed.

Environmental, social and economic aspects are integrated into the policy or legislation during all 12 process steps (Figure 2.1). The 12 steps are linked to the policy cycle and support preparing policy or legislation. Two steps accompany political decision making (taking results into account and explaining the decision). The last process step (monitoring) takes place when the policy or legislation is implemented. The interest groups affected cooperate actively throughout the entire process of developing the policy or legislation. We also provide checklists as methodological tools, which support the work during the 12 process steps.

Figure 2.1. Draft Sustainability Impact Assessment Process in Austria



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Chapter 3. Sustainability Impact Assessment and Regulatory Impact Assessment

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Introduction

Driven by more complex and complicated policy challenges, persistent problems, and conflicting interests, the desire for rooting policy-making in the available stock of knowledge and applying supporting techniques and procedures has grown. Impact Assessments (IA) are increasingly promoted and implemented in recent years at the European Union (EU) level and in member states. They are understood as attempts, procedures and tools to assess, usually *ex ante*, the effects of policies on the physical and societal environment, notably on the dimensions of sustainable development.

There have been evaluations of the impact assessment system of the European Commission with typical research questions such as: 1) which impacts are considered? 2) to what extent do policies or strategic objectives guide IAs? 3) at which stage of the policy process is the IA done? and 4) how is knowledge and evidence used?

This poses a more fundamental question about the nature of appraisals and their role in the policy process, *i.e.* which and how much evidence base can there be for policy-making? This paper addresses this larger question, specifically:

1) the relationship of Regulatory Impact Assessment (RIA) and Sustainability Impact Assessment (SIA) and the use of different methodologies and tools;
2) integration regarding scope and objective and particularly methods and the relationship of the technical and political realms; and
3) overall conclusions and potentials for learning processes.

Rationalising the policy mess

The growing interest of the European Commission and a number of member states during the last decade in developing sophisticated tools for policy appraisals is embedded in, or derives from, a broader desire for more "evidence based" policy making. This has taken place against the background of increasingly complex problems. Such tools are expected to help legitimise decision-making and to increase the credibility of decisions.

However, there has been, over a longer period of time, research in political science and other disciplines on the policy process and the role of knowledge and policy analysis

in policy-making, which gave way to a debate between "rationalists" and "post-positivists", the latter arguing that (Sabatier and Jenkins-Smith, 1999; de Leon, 1997):

1) the model of a policy cycle might be a useful heuristic device, but a rational, linear conception of the policy process is not an empirically robust model;
2) there is no central steering mechanism, but policy decisions are the outcome of complex interest constellations and the available policy options are limited by actor constellations; and
3) knowledge has a more varied role that the positivist model would suggest.

The latter emphasises the role of argumentation and discourse in shaping policy debates and decision-making (Majone, 1989), with knowledge being not only factual information but strategically used by different actors to structure policy problems and solutions and to gain influence. These authors have claimed new "participatory" forms of policy analysis, but are criticised for remaining in the analysis of competing frames and norms and for not having developed concrete new approaches for decision-making.

This debate and findings are reflected in empirical analysis on the practice of Impact Assessments. The search for the best policy option has particularly occurred in the context of integrated impact assessments. However, many policy-makers are sceptical regarding "formal" tools, which often are associated with quantification and monetisation. At the same time there is a confusion and/or frustration regarding the limited use of rationalising with *ex ante* assessment, as the political decision-making is perceived as following other mechanisms (Jacob *et al*, 2008). Hence, it is a reflection of "muddling-through" and represents the limits of policy appraisals at the other end of the spectrum.

This desire for "the solution" is reminiscent of the "Deep Though"-story in Douglas Adam's "*The Hitchhiker's Guide to the Galaxy"*. In this science-fiction comedy of the 1970s, a race of hyper-intelligent pan-dimensional beings build a computer called "Deep Thought" to calculate the question of "the meaning of life, the universe and everything". After seven and a half million years of calculation it came up with the answer: 42. Deep Thought at the same time predicts that another computer would be built and designed by it to calculate what this answer actually means (Adams, 1979).

Post-positivists claim that policy analysis must be fundamentally reinvented to become more participatory and deliberative, given *inter alia* the empirical findings that knowledge is not merely constituted by factual information, but strategically used, and in parts also created, by different actors.

A middle course is suggested on the basis of empirical and theoretical grounds (Owens *et al*, 2004). These researchers reject the polarisation between "rationalists" and "post-positivists", and claim that even quite technical procedures have, as an unintended effect, provided important apertures for deliberation and learning between different frames and coalitions.

Regulatory Impact Assessment vs. Sustainability Impact Assessment

Empirical research on impact assessments and practice in EU member states has suggested a number of classifications along various criteria:

1) timing of the IA in the policy process (from *ex ante* to "justificatory" to *ex post*);

2) range of impacts considered (from "issue-specific" to "integrated"); and
3) type of knowledge involved and range of participation – from expert knowledge (internal-external) to stakeholder involvement.

A main underlying variable is the motive for performing an Impact Assessment (or other appraisals), which is often then also associated with the types of methods and tools used. This section presents the main origins of the European Commission's impact assessment system, empirical findings on the assessment of different impacts, and explores problems related to quantification and monetisation. It finally looks into culture-, country-, and profession- specific paradigms and governance styles that frame IA systems and preferred methods.

Two strands of Impact Assessment in the European Union

The EU's impact assessment system has two "parents" or "two apparently contradictory reform trends" (Jacob *et al*, 2008). The first is the Lisbon European Council in March 2000 which asked the Commission to "*to set out by 2001 a strategy for further coordinated action to simplify the regulatory environment"*, a call that was followed by the White Paper on European Governance (July 2001). The second was the Gothenburg European Council in June 2001 which adopted the EU Sustainable Development Strategy, which proposed that the Commission should "*include in its action plan for better regulation … mechanisms to ensure that all major policy proposals include a sustainability impact assessment covering their potential economic, social and environmental consequences"*.

A Task Force was set up in the Commission to develop an approach for a (sustainability) impact assessment. At the same time the so-called Mandelkern group elaborated a report on better regulation (published in November 2001). This report was considered by the Laeken European Council in December 2001, together with a Communication of the Commission on "Simplifying and Improving the Regulatory Environment" (EC, 2001).

In June 2002, the better regulation package was published, containing both an "Action Plan: Simplifying and Improving the Regulatory Environment" (EC, 2002b) and a Communication on "Impact Assessment" (EC, 2002a). In this Communication, "sustainability impact assessment" was in a way merged, at least qua objective, with "regulatory impact assessment", an approach deriving from the better regulation agenda into one approach, originally called preliminary or extended Impact Assessment, and later "integrated Impact Assessment".

This Communication states three objectives, namely impact assessment: 1) as a tool to improve the quality and coherence of the policy development process; 2) to contribute to an effective and efficient regulatory environment; and 3) to contribute to a more coherent implementation of the European strategy for Sustainable Development.

The first Impact Assessment Guidelines, issued in October 2002, put the order of objectives as "First, to consider the effects of policy proposals in their economic, social and environmental dimensions, and second, to simplify and improve the regulatory environment". However, while "protecting the environment" is included in the list of fundamental goals to be considered in an IA, Art. 6 of the EC Treaty, laying down that environmental concerns must be integrated in Community policies, is not referred to (EC/SGE, 2002a).

The revised version of the Impact Assessment Guidelines of June 2005 lists Art. 2 of the EC Treaty, whereby the Community should promote a "*harmonious and sustainable development of economic activities…"*, but not Art. 2 of the EU Treaty, which defines as a task of the Community "*to promote ... sustainable … growth respecting the environment*" (EC, 2005d).

The 2005 IA Guidelines repeat on the cover page a quote from the Commission's Strategic Objectives 2005-2009, displaying a conviction that the three "dimensions" are, or should be, mutually reinforcing, and a commitment for the overarching objective of sustainable development (EC, 2005a):

> "We should make policy choices that ensure that our various objectives are mutually reinforcing. Actions that promote competitiveness, growth and jobs, as well as economic and social cohesion and a healthy environment reinforce each other. These are all essential components of the overarching objective of sustainable development, on which we must deliver."

One can observe in the 2005 Guidelines, compared to the 2002 version, a shift of emphasis away from sustainable development, which appears less, and less explicitly, as an objective. The Commission's Communication on "Better Regulation for Growth and Jobs" of March 2005 stated:

> "While the existing impact assessment tool provides a solid basis, the Commission believes that the assessment of economic impacts must be strengthened so as to contribute to the objectives of the renewed Lisbon strategy. Deepening the economic pillar of impact assessment does not compromise the importance of "sustainable development" and the integrated approach, which remains the basis of the Commission's approach. Deepening the economic analysis, which also includes competition aspects, should improve the quality of the assessment of the true impact of all proposals. This will, therefore, make a significant contribution to strengthening competitiveness including effective competition while continuing to properly assess social and environmental consequences of proposed measures. This approach will be confirmed and translated in the context of the general update of the Impact Assessment Guidelines to be applied from April 2005" (EC, 2005c).

As the text says, this move took place in the context of the mid-term review of the Lisbon strategy, which followed the so-called Kok report's recommendations to refocus on growth and employment from November 2004. In its Communication to the Spring Council 2005, the Commission suggested that "… *a new approach to regulation should seek to remove burdens and cut red tape unnecessary for reaching the underlying policy objectives"*(EC, 2005b). The core message is also sometimes summarised in the equation: "Less red tape = more growth".

Simplification of the regulatory framework is one of eight key measures, which at the same time comprises, besides improving the Commission's impact assessment system, measures such as simplifying existing legislation (through codification and other methods) and withdrawing or re-drafting pending legislation.

Where referring to the type of impacts to be considered, the Guidelines 2005 nevertheless maintain the trio "economic, social and environmental" impacts. The above-mentioned call for strengthening the assessment of economic impacts, however, is reflected in extended guidance on quantitative analysis, modelling and monetisation, particularly in the Annexes to the Guidelines. Several commentators and analysts state

that the new Guidelines "stress the relative dominance of economic performance and competitiveness over social and environmental aspects" (Renda, 2006). Such a move is not fully in line with the above-mentioned strategic objective and commitment of the Commission, as it suggests that various objectives are not, or cannot be made "mutually reinforcing".

The "better regulation agenda" has since been a subject of discussions along the lines whether, or how much, "better regulation" means "deregulation", the latter with the supposed danger to "throw the baby out with the bath water". The first strategic review of Better Regulation in November 2006 proposed a target for cutting administrative costs of regulation by 25% by 2012, to continue with measures for reducing existing and pending legislation, and to improve the quality of impact assessments through the creation of an independent panel of experts, the "Impact Assessment Board" (EC, 2006).

A "high-level group on competitiveness, energy and the environment" was launched in February 2006 to exploit the synergies between these areas and to "explore ways to unleash the growth potential of basic and intermediate product industries by further integrating competitiveness, energy and environmental policies".

The Commission continues its commitment to an "integrated IA", assessing the economic, social and environmental impacts. However, these objectives, including sustainable development or "integrated" (IA), were not mentioned by the Secretary General of the Commission in a speech in June 2007. She addresses several objectives of the better regulation agenda and defines the purposes of IAs rather broadly as being designed to improve the quality of policy proposals, to facilitate better informed decision making and to enable the Commission to communicate decisions more effectively (EC, 2007).

In the second strategic review of Better Regulation of January 2008, the Commission reacts to a series of points made by the evaluation report. Sustainable development is mentioned once in the broader political framework. In the list of "analysis of specific impacts" to be reinforced, environmental impacts are not included (EC, 2008). The main characteristics of Regulatory Impact Assessment (RIA) and Sustainability Impact Assessment (SIA) can be summarized as in Table 3.1.

Table 3.1. Main Characteristics of RIA and SIA

	Regulatory Impact Assessment (RIA)	Sustainability Impact Assessment (SIA)
Objective	Assess the impacts of regulation on the economy/on business ("BIA" also framed as business compliance costs/compliance costs assessment; more confined is looking at "administrative burdens", *i.e.* only the information and reporting requirements are calculated).	Assess the impacts of policy proposals on the key dimensions of sustainable development: economic, social and environmental (plus the external impacts, *i.e.* outside of Europe).
Political goals*	Increase competitiveness, "fostering growth and jobs" (the "Lisbon Agenda").	Move towards more sustainable development (the EU SDS/"Gothenburg Agenda").
Purpose/type	Predominantly "full cost assessment" or "issue-specific assessments", sometimes also policy integration tool (EVIA).	Policy integration tool
Opinion on Methods	Increase the use of quantitative analysis and monetisation.	There are limits to monetisation when it comes to social and environmental impacts, and particularly (long-term) benefits, as well as ethical problems with monetisation.
Typically promoted Methods	Cost/benefit analysis, cost effectiveness analysis or other methods for quantification and monetisation.	Multi-criteria analysis or other methods for combining qualitative and quantitative assessments.

*Both ranking "among the top priorities in the EU agenda in 2003 (Renda, 2006).

Empirical findings on the assessment of different impacts

There has been empirical research on the performance of the EU impact assessment system, also analysing how different impacts are considered, and how they are compared. A first investigation in 2004 of 21 IAs reported significant asymmetries: sustainable development issues had been inadequately addressed, more attention was paid to short-term economic than to environmental or (particularly) social impacts, and trade-offs between the different dimensions were insufficiently considered (IEEP, 2004).

Other studies, which also analysed the IA systems of member states and/or OECD countries, had similar results, stating that despite the encouragement of an integrated approach by the EU, the focus in practice lies on economic aspects, and "non" economic aspects are nearly always framed in an economic way (Hertin *et al*, 2007), or that most procedures, including the EU system, focus on direct, short-term and financial costs (Jacob *et al*, 2007).

The full evaluation of the Commission's IA system, commissioned by the Secretariat-General, concluded:

"The Commission's approach to IAs was found to be balanced. However, because of the difficulty of identifying and quantifying certain types of impacts, the analysis of economic impacts is often more developed and concrete than the analysis of social or

environmental impacts" (TEP, 2007), with slightly better records for the environmental over the social impacts.

The authors observe that the difficulties in to quantifying social and environmental impacts is a recurrent problem and suppose that is unlikely to be solvable in the short term, as it "affects not only the Commission but researchers and political institutions around the world". For environmental impacts, quantification is attributed as being the main challenge, whereas in the case of social impacts, it is often not clear what is meant and how to assess a very broad range of impacts subsumed under this header (TEP, 2007).

The research project "Evaluating Integrated Impact Assessments (EVIA)" in 27 member states and the EU, also finds that "the majority of IAs consider direct economic effects while social and environmental impacts are less often analysed". The EU system, along with very few member states, gets the credit of a pioneer for pursuing the objective of using IA as a strategic instrument for policy integration and sustainability. But even though, it is apparently difficult in practice to take all relevant aspects into account, which accounts even more for intricate areas such as distributional issues, long-term, external and unintended side effects (Jacob *et al*, 2008).

EVIA also sees a strong potential for the EU system "to promote broadening of assessments beyond direct economic costs", a call that would have repercussions on the EU to continue efforts to maintain and improve its broad system, instead of overemphasizing economic impacts.

As regards IA systems in EU member states, the EVIA results reveal certain confusion between "IA" and "administrative burden assessment", which is the dominant motive in most jurisdictions. This assessment type belongs to the "RIA-family" and is predominantly based on the "Standard Cost Model" (SCM) methodology, which covers only administrative costs for businesses caused by information obligations. Actors involved in this type of assessment are often not aware of the use of IA as a tool for policy integration, and are also used to analysis based on monetised data only.

Quantification and monetisation

The choice of assessment methods is disputed in discussions on impact assessment. The preference for and choice of methods influences whether and how well different impacts are assessed and considered in the process of bringing together all impacts, be it for parallel consideration, and/or any form of "integration".

The evaluation of the Commission's IA system states in this respect:

"[I]n spite of significant efforts to develop appropriate methodologies, certain types of impacts continue to be impossible to quantify or monetize. In both the social and environmental pillar, where quantification is possible it tends to require sophisticated modelling techniques that are time and resource intensive to adapt and apply. As a consequence, the analysis of short term economic impacts is often more developed and concrete than the analysis of typically longer term social or environmental benefits, which can also give rise to concerns about the balance of IAs. This can be further compounded under the recent requirement to undertake the calculation of administrative burdens (using the Standard Cost Model), which is often seen to support the economic argument" (TEP, 2007).

Two main views

Regarding quantification and monetisation there are two main views. The first aims at as much quantification as possible. Within this fraction, many favour monetisation, *i.e.* expressing impacts in terms of economic costs and benefits, as it allows aggregation of different types of impacts and because monetary values can be easily – and effectively – communicated to policy-makers and the public.

The other position is sceptical of methods such as cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA), because there is a potential bias in favour of impacts that can be easily monetised and against those where this is more difficult (or impossible), like social and environmental impacts, innovation effects, indirect effects. It is also criticised that such methods are not transparent enough about political and/or ethical judgements that become assumptions in economic valuation. These already start with the very basic question whether everything can be expressed in monetary values, and extend to questions on the justification of discounting, and if so, in which way, to any other valuation (Ott., 2003).

Such assumptions also point to a problem of "integration". Experience with different methods applied at the project level suggest that assumptions built into, for example, the transport department's CBA, such as the value of time-savings for road users, has contributed to a bias in favour of road construction, and justified schemes even when environmental impacts (separately assessed) were likely to be severe (Owens, 2007).

This sceptical position favours the use of a broader range of qualitative and quantitative methods, including those that try to include both aspects and results in one approach, such as multi-criteria analysis (MCA), and in addition demands the use of sensitivity analysis, a kind of meta-analysis, which reveals the impact of (normative and other) assumptions on the outcome of an analysis.

This scepticism also generally refers to monetisation rather than to quantification in general (Jacob *et al*, 2007). The latter is a rather obvious approach, when attempting to achieve more structure and concreteness in assessments, and with that trying to provide some estimation. Quantification seems to have a broad meaning, ranging from approximations with rather simple classifications and rough calculations to, more or less possible, more sophisticated calculations and/or modelling. It is therefore not necessarily appropriate to use "quantification" and "monetisation" in one breath.

The Commission's guidelines and practice: practice in Member States

The Commission's Impact Assessment Guidelines are in principle neutral, stating for example: "*Combining quantitative and qualitative methodologies is good practice"* (EC, 2005d). They also acknowledge the limits of quantification and monetisation, by alerting for the former that uncertainty may be too high to make precise quantified estimates, that in such cases ranges of plausible values should be given, and thereby avoiding an illusion of precision, also called "spurious accuracy". Monetisation ("estimating the monetary value of both negative (costs) and positive (benefits) impacts") is considered as a further development of quantitative analysis, with the assigned advantage of facilitating the comparison of policy options.

It is acknowledged, that "*not all impacts can be quantified; nor can they all be reliably expressed in money terms"*. In case the latter is "*too difficult or uncertain"*, the

Guidelines recommend that "*the main effort should go into describing and, where possible, quantifying impacts accurately in their own terms*".

Overall the pull seems to go towards quantified analysis, with preference for monetisation. "*The more significant an action is likely to be, the greater the effort of quantification and monetisation that will generally be expected*", expresses a request rather than a recommendation. A similar call is made in the context of non-market impacts, such as environmental impacts: "*Having done this [scoping], it is important to proceed, when possible, with quantification and then monetisation of those impacts*." Again, it is acknowledged that some impacts, "particularly environmental ones" are difficult to value, and therefore it is recommended to "*set out the process from qualitative to quantified to monetised estimates in a transparent manner and avoid a black-box approach*".

As regards the range of quantitative methods, the Guidelines confirm the observation made above, but at the same time in a subtle way show a preference for a certain type, by saying " … *quantitative techniques, varying from simple extrapolation – … – through to proper quantitative modelling*".

The call for monetisation has increased over time, which is reflected in different wording and emphasis in the Guidelines of 2002 and 2005, and particularly in the Annexes to the 2005 Guidelines, where, after some general chapters, almost only such methods are addressed. The Annex on "Methods of Comparing Impacts" discusses cost-benefit analysis (CBA), cost-effectiveness analysis (CEA) and multi-criteria analysis (MCA). Among the disadvantages of CBA, the above-mentioned concerns are not mentioned. As a disadvantage of MCA, it is stated that "*because of the mix of different types of data, [MCA] cannot always show whether benefits outweigh costs*".

When it comes to applying methods for quantification/monetisation, the evaluation of the Commission system finds that an average 35% of the IAs undertook an extensive degree of quantification. While this applied to around 30% of economic impacts (and another 20% "minimal"), it was the case for 10% of social and environmental impacts (plus 10-20% minimal). The extent of monetised impacts other than those, which are by their very nature financial ones, is in general low, and almost only applies for economic impacts.

The authors conclude that "*there continues to be a need to develop appropriate methodologies for quantifying and possibly monetising non-economic impacts, in order to better understand potential impacts in a simpler and clearer fashion, but more importantly to provide a better balance of quantitative information across the three pillars*" (TEP, 2007).

In discussing the proposal to "c*ontinue to improve and provide support on methodologies*" the report lists as pros:

1) *"developing more sophisticated methods, … would allow for more rigorous and evidence based IAs;*

2) *the use of agreed methodologies is likely to reduce concerns regarding the objectivity of analysis and by extension IAs;*

3) *the use of more quantitative methods will allow for easier comparison of options, even if they in some cases can only be used indicatively, therefore providing a better foundation for policy decisions".*

As regards cons, the report finds that there are no clear disadvantages to the development of more sophisticated methodologies, besides that it requires time and resources. Nonetheless, it addresses warnings like the need to recognise "*the limitations of methodologies which are based on quantitative data, in so far that they may be based on very "patchy" data, and should therefore not be given too much prevalence in making policy decision"* (TEP, 2007).

In comparison of impact assessment practice in EU member states and the EU, the EVIA project finds that in member states some "stripped-down versions" of CBAs, CEAs and administrative burdens assessments prevail. Some jurisdictions use economic analysis as the main framework, and call for monetisation as much as possible. Only a few member states also have other types that combine quantitative and qualitative methods such as multi-criteria analysis and risk analysis. However, the proposed methods focus on specific issues rather than analysing a broad range of potential impacts including side-effects, and more exploratory methods (*e.g.* scenario analysis) and those for capturing uncertainties are also not applied.

In practice, quantification is limited. Typically only direct costs are expressed in economic values, while other impacts – if considered – are expressed in qualitative terms, which leads to similar problems of imbalance. However, most member states' assessment procedures predominantly focus on economic costs and administrative burdens from the outset, and do not have, in contrast to the EU system, the objective of a comprehensive, "integrated" assessment including different dimensions of sustainable development.

The EVIA project calls on policy-makers to recognise that the use of sophisticated methodologies is not a panacea. The researchers also observe the expectation that assessments provide a "straightforward guide to decisions", while in practice this can only be achieved with more "technical" IAs for very specific policy options. According to the authors, in more complex cases assessments reveal that policies have a wide range of consequences, which cannot be easily weighed up. They conclude that further development of methodologies is useful, but should be seen as a step towards more transparency and a better understanding of the questions involved with the policy proposal (Jacob *et al*, 2008).

Overall, the recommendations deriving from the evaluation of the Commission's IA system as well as from other studies cover to a much larger extent the procedural and institutional component of the IA system. With this they may be more relevant than others who emphasise the need to develop better tools for quantification/monetisation, which might be rooted in paradigmatic grounds or belief systems.

The debate on cost-benefit analysis in the United States

The United States was the first country to introduce regulatory impact analysis in 1981, following a previous, lighter system of the 1970s, as an obligatory measure for all executive branch agencies for their proposed regulations. The Office for Information and Regulatory Policy (OIRA), the "gatekeeper against excessive regulation" and part of the Office of Management and Budget (OMB), favour cost-benefit analysis (CBA) and cost-effectiveness analysis as analytical approaches for regulatory analysis, with CBA having seen an increased application since the 1960s (Gattuso, 2002):

> *"Both benefit-cost analysis (BCA) and cost-effectiveness analysis (CEA) provide a systematic framework for identifying and evaluating the likely outcomes of alternative*

regulatory choices. A major rulemaking should be supported by both types of analysis wherever possible." (OIRA, 2003).

CBA has been the subject of "fierce" debate over the past years. Critical authors define it as a "non-neutral, anti-regulatory tool that provides a misguided view on the costs and benefits of regulations" (Renda, 2006). Having investigated several past policy-decisions in the fields of public health and infrastructure, some conclude that if CBA had been applied to these policies, it would have gotten the answer wrong in all cases, and would have had disastrous consequences in terms of efficiency and public health (Ackerman *et al*, 2005). It is argued that the benefits of environmentally sensible regulations are often "priceless", that CBA frequently recommends rejection of such policies, "on the grounds that their costs exceed economists' estimates of their benefits", and conclude that CBA boils down to "knowing the price of everything and the value of nothing" (Ackerman and Heinzerling, 2004).

Others negate the neutrality of CBA on the grounds that regulatory costs must not exceed benefits (Parker, 2003; Driesen, 2005). Ethical questions as well as technical problems arise from assigning monetary values to avoided illness, death, and environmental damage. "*Monetization requires very controversial value assumptions and in many cases proves impossible*." Hence, "*the value choices in choosing methods for quantifying benefits make objective value neutral CBA a theoretical impossibility"*.

A number of scholars complained to the OIRA, suggesting a revision of its approach to CBA. In 2003, the OIRA acknowledged the critiques on the use of CBAs in public health and environmental regulation by stating: "*When important benefits and costs cannot be expressed in monetary units, BCA is less useful, and it can even be misleading, because the calculation of net benefits in such cases does not provide a full evaluation of all relevant benefits and cost*s" (OIRA, 2003).

With the introduction of revised "Guidelines for the Conduct of Regulatory Analysis", the administrator of the OIRA emphasises that there should be more emphasis on cost-effectiveness analysis, formal probability analysis for rules with more than a billion dollar impact on the economy and more systematic evaluation of qualitative as well as quantified benefits and costs.

Governance styles and paradigms framing the Impact Assessment and preferred methods

Favouring policy appraisals to some extent has to do with underlying governance and/or political paradigms, mainly regarding the motive for such appraisals. The point of departure for the diffusion of impact assessment cannot be tracked down easily. For regulatory IA, the roots apparently lie in the United States. Other motives such as policy integration have different and more widespread origins, be it only the entire "planning discipline" and practice, at different levels of policy-making. This has usually been characterised by attempts to rationalise decision-making, to reduce complexity, and often to reconcile different interests, though with different approaches.

The framing and/or motive, and consequently focus and approach for policy/impact assessment, including the preference for certain methods, can be to some extent attributed to the preferred (underlying) governance styles of a country. Those are typically classified as "hierarchy" (regulation), "network" and "market", with related political paradigms (Meuleman, 2008).

The MATISSE project, for example, assigns the EU and the UK to the paradigm of market liberalism, both with a focus on simplifying and reducing administrative burdens on industry, Germany to one of "moderate social and economic liberalism", with better regulation and de-bureaucratisation, and Sweden to one that emphasises cost effectiveness, economic growth and better regulation (Hertin *et al*, 2007).

Others attribute the UK to "market" governance, Germany to "hierarchy" "Rechtstaat" tradition), the Netherlands to "network", whereas the EU has firm roots in "hierarchy" (as regards its internal culture), combined with the "network" style as an external culture, and with a strong influence of the "market" style (concerning the chosen policy instruments) (Meuleman, 2008). Both are of course classifications at a high aggregation level, but it helps to understand preferences for certain approaches, instruments and methods, and is useful to have in mind when exchanging best practice.

"Better regulation" has two roots which overlap: one more in the market paradigm, with the emphasis on reducing administrative burden on industry, gauging whether regulation is necessary, and preferring flexible and market-based policy instruments; the other one in the Rechtstaat-paradigm, with striving for better law-making, both of which are also reflected in different objectives for IA. "Sustainable development" has not become a paradigm anywhere, while policy integration might be linked to better law-making.

There are similar consideration for impact assessment approach and methods: the market paradigm tends to favour the monetary valuation of costs and benefits, whereas the Rechtstaat-paradigm, increasingly combined with the network one, focuses on procedures and institutions.

Empirically, such preferences are also reflected in, for example, government officials' reservations about quantification and monetisation as collected by the EVIA project: positive statements about quantification decrease from 63% in the UK, to 55% in The Netherlands, to 42% in Germany, with the same order and greater differences in statements about monetisation. On average in the three countries, monetisation is considered as "not always appropriate" by 77% of the respondents (Jacob *et al*, 2007).

The evaluation of the Commission's IA system gathered statements from different stakeholder groups, and found that 78% agreed that stronger efforts for quantifying impacts should be undertaken (decreasing from 82% of industry, to 72% of NGOs, to 68% of member states). Overall around 60% agreed that more efforts should be made to monetise impacts, while the difference between the groups were significant: both industry and member states agreed with around 70%, while from NGOs only 27% agreed to more monetisation (TEP, 2007), the latter probably reflecting the certain asymmetry between the assessment of different impacts and a perceived causal connection between monetisation and the consideration of economic impacts.

Another influence on preferences for methods derives from the background of individuals involved: Economists tend to prefer monetisation, modelling and methods like CBA and CEA, while social scientists and planners are more actor-oriented and focus on process and procedure; the latter also applies to lawyers.

The preference of the former discipline particularly for the tool CBA, seems to lie in the inherent favour for expressing everything in monetary values, with an advantage of simplification in the respect that with this single unit a balancing (in the meaning of "calculations") can be performed and there is no debate about trade-offs between

different units. This has the practical effect that societal/political discussion about value judgements are omitted or circumvented.

There might also be a kind of ownership, deriving from the fact that this method was "invented" by economists, and it is therefore also just better known, whereas the more holistic MCA approach has different roots. One does lie in economics, which has apparently leaded to a "school" of MCA that is afflicted with similar problems like CBA regarding disguised assumptions. Another one seems to advocate that assumptions should be agreed upon by concerned parties.

Paradigms or governance styles can be identified within a political system or sub-system, in which actors can be aggregated to "advocacy coalitions" which share a specific "belief system" made up of three levels of beliefs. According to this theory, the "deep core beliefs" are the main glue of coalitions and very resistant to change, as are the normative elements of the second level "policy core beliefs", a category which however mainly comprises empirical elements that may change over time with a gradual accumulation of evidence (Sabatier and Jenkins-Smith, 1999).

It cannot be clearly identified how much different beliefs in this meta-field of impact assessment belong to which level, but at least in parts it goes as deep as supporting different types of capitalism. It is hypothesized that problems for which accepted quantitative data exist are more conducive to policy-oriented learning across belief systems than those in which data are generally qualitative (associated with "subjective") or lacking. The more general one applies to IA as procedural instrument, stating that policy-learning across belief systems is more likely when there is an intermediate level of informed conflict, requiring that both/all parties have the technical resources to engage in the debate and that the conflict lies between secondary aspects of the belief systems (or one core belief involved).

This speaks for focussing on the process of IA, enabling parties and coalitions to participate, trying to provide the basis for informed debate (which is attempted with IA), and this process needs to include an agreement on (quantitative) data used in the informed debate. This again requires transparency about assumptions in assessments and within applied methods.

"Integration" in Impact Assessments

In the context of impact assessment, the term integration is used in several ways:

1) *scope:* integrated IA as equivalent to "broad" IA, *i.e.* covering the impacts of all, or the relevant dimensions of sustainable development;
2) *objective:* IA with the objective of policy integration;
3) *methods:* integrating different assessment methods into a single method or methodological framework;
4) *procedure:* comparing the results of assessments, including different impacts and different policy options, ranking the options, and ultimately making a final choice; and
5) *policy approach:* integrating the IA process into the policy-cycle and strategic planning.

The first two aspects have been discussed: to which extent and with which methods different impacts are considered according to guidance documents and how it looks in practice. This covers the question of "how balanced" impacts are treated, which also

touches upon aspects of methodology and decision-making. As regards methods, the practical-technical step of comparing different impacts and policy options and preparing, if possible, a ranking is closely related to the question of aiming at a single methodological framework.

For "how to compare different impacts" the EC IA Guidelines 2005 present a "simple multi-criteria analysis, which compares positive and negative impacts expressed in a mixture of qualitative, quantitative and monetary terms". Alternative approaches suggested are cost-benefit analysis, which compares positive and negative impacts expressed in the same units, normally in monetary terms, and cost-effectiveness analysis, which compares the costs of achieving a given objective, as well as other existing methods if appropriate.

The latter two methods are used, or may be used, both for assessing individual impacts (of different dimensions) and as a framework for comparing them, while MCA is designed for the latter application. The EC underlines for the analytical approach of assessing (individual) impacts that results must be transparent, reproducible and robust. For the former, the Guidelines state that it must be clear to "others" how the estimation of impacts was achieved.

The preference for CBA over MCA is not clear. If one faces the situation that assessments of impacts are present in the form of both qualitative and quantitative/monetised data, it seems plausible to use for comparison a methodological framework that provides for including both types of data. The experience in the USA shows that the inclusion of social, environmental and economic impacts in an IA is difficult to achieve if CBA serves as overall framework of analysis (Jacob *et al*, 2007).

The EVIA project recommends to connect and compare different impacts "without the over-ambitious objective to integrate all aspects into a single methodological framework", and refers to a wide range of multi-criteria assessment approaches to be promoted through guidance documents and training. A useful overview of existing tools with guidance for their application in different situations has been elaborated by the research project "*Sustainability A-test*."

The EC principles also need to apply to any method that compares impacts from different dimensions. But there is an inherent problem of such methods or methodological frameworks. They do work with assumptions, which are often not made transparent, and/or they are not put to the arena that should agree on such assumptions. These range from very basic ones like "everything can be expressed in monetary terms", to a series of assumptions about preferences of human beings (*e.g.* "there is a preference for immediate consumption"), which leads to more detailed ones like the choice of a discount rate.

There is a connection between methods and process and between the technical and political domain. Regardless of how sophisticated tools or methods are, the technical/mathematical sides must not start from assumptions that are not given facts, but lie in the societal/political domain. Whatever decision-making or consensus-seeking process it might be, such assumptions need to be decided or agreed upon, and in any case, be made transparent. Some propose that all assumptions should be confined to the political realm, and only the technical application, *i.e.* the calculations and modelling ("the world of mathematics"), be assigned to the "experts" (In 't Veld *et al*, 2008).

It is assumed that this will trigger different CBAs with different assumptions, depending on who commissioned it, and is considered as an important step for transparency and accountability, leaving "ranking the options" and "making the choice"

to the political arena. Such a strict division between "politics" and "mathematics" would also mean that the discussion about the "objectiveness" of economic analysis becomes void. CBAs become a calculation mechanism with results depending on the assumptions made in the political domain.

Starting from assumptions that would require societal/political decisions, as well as striving for a single methodological framework and a result of an impact assessment that displays the "best" policy option are signs for a "longing for the 42" (Adams, 1979). As it leads to the final policy choice, the process of ranking options needs to be in the political domain.

The EC IA Guidelines in principle underline this: "*Impact assessment is an aid to political decision-making, not a substitute for it"*. Under "How to compare the impacts of different options" it is clearly said that impacts should be summarised by area of impact and not be aggregated, but positive and negative impacts should be stated next to each other. Also in the chapter on "Ranking the options" it is reiterated that the *"final choice is always left to the College of Commissioners"*.

The Guidelines also say it is "possible and desirable" to rank the policy options, which needs to be presented in a "transparent and understandable" way. This is found important for policy-makers to examine trade-offs between affected groups and/or between areas of impacts, and allows the proposal to be amended so as "to help minimise trade-offs, to identify accompanying measures aimed at mitigating any negative effects, and to maximise the opportunities for a "win-win" outcome" (EC, 2005d).

Political judgments, both on assumptions and weighing up options, must not be disguised as technical rationality. Assessments of different impacts should be conducted separately, since they require different approaches and methods. "*The process of integration must take place explicitly and visibly in the political domain. A sound integrated Impact Assessment will clarify, and not conceal, political choices"* (EEAC, 2006). This process should be integrated in the sense that it stimulates reflection and cross-sectoral learning.

Conclusions

The argument so far suggests that the aspiration of increasing the knowledge base in policy-making is a positive pursuit, if understood in a wider sense, comprising different kinds of knowledge and different ways of producing and considering analysis. It is the same for impact assessment, which is a promising means for this end if it is understood as a procedural instrument.

This means that analysis and knowledge production, the elements of assessment in the narrow sense, are embedded in a well-designed process that supports institutional and policy learning. In these respects, the polarisation between technical and deliberative approaches is unhelpful, and a constructive way forward would involve careful tailoring of different forms of appraisals (Owens *et al*, 2004).

For the analysis, i.e. assessment of impacts itself, it was shown again that there are limits to "technical" rationalisation, in particular when it comes to monetisation. This is a popular approach, because effects are expressed in one unit, which provides for avoiding debates over trade-offs between different impacts. It is apparently appealing to get a "42"-type outcome, i.e. one figure that stems from offsetting costs and benefits. Examples have shown that this can be a powerful tool in political communication. However, besides

the question of whether it is desirable on ethical grounds, there are methodological limits to monetising impacts that are not direct economic costs, and some empirical research has shown that this "gets things wrong".

The inherent problem with this approach, and its most common tool cost-benefit analysis, is that it works with assumptions which are typically chosen by the user of the method, but would require a societal/political choice. Methods, as well as assumptions made within a method, need to be made transparent and/or choices are to be made in the political domain. In a situation where in most cases both qualitative and quantitative data exist, multi-criteria analysis seems to be a more appropriate approach in general, if it discloses in the same way the choices made and/or provides that concerned parties agree upon the assumptions.

In practice, the tendency towards cost-benefit analysis has led to a certain asymmetry in considering impacts that cannot or less well be monetised, notably social and environmental impacts. One could strive to improve methodologies for monetising such impacts, but the structural imbalance will continue. Without denying efforts for improving data quality and more quantification, it seems more promising to make use of a variety of available tools for collecting and comparing qualitative and quantitative data, with multi-criteria analysis promising for comparisons. The assessment of impacts of different dimensions and displaying the results need to be kept separate.

Another driver is the different motives for impact assessment, which should best be clarified already in the term used. "Impact Assessment" alone is interpreted in different ways. Integrated Impact Assessment *(i.e.* in the meaning of 'broad') seems only appropriate for systems that try to reconcile both predominant objectives, namely better regulation and sustainable development. If the principle of transparency was followed, it would be excluded that 'integration' means a 42-approach.

Following up on the conclusion on the process above, other authors stress the importance of a well-designed process that supports institutional and policy learning. Assessment procedures should be designed in a way that is more conscious of process and the limitations of knowledge in order to foster conceptual learning and establish conditions under which "evidence can play a more prominent role in political decision-making" (Hertin *et al*, 2007). This should also include more consideration of challenges deriving from the 'policy mess" and approaches developed by disciplines such as psychology for group communication and conflict resolution.

Such a tailoring and embedding could take the form that Impact Assessment is seen as a process that is intertwined with the policy-making process, and within the Impact Assessment process there are different elements of technical assessment and deliberative opportunities (Niestroy, 2000). This does not have to take a complicated shape and overload capacity. It is more a matter of concept, design and filling it with life. Proportionality needs to be kept in mind.

The concept of the Commission's Impact Assessment system in principle already goes in this direction, but would gain from an improved conceptual basis along these lines and more consistent application in practice. These recommendations might be timely, as at the time of writing the Commission is preparing a revision of its Impact Assessment Guidelines.

With a few exceptions, Member States' Impact Assessment systems have apparently not embraced the objectives of a sustainability impact assessment and/or brought it together with the predominant better regulation objective. In this respect, the

Commission's system seems to be a model worth paying attention to. When moving in this direction, the methods and processes of Strategic Environmental Assessment should also be considered, which strive for the integration of environmental concerns in sectoral planning, and hence can be seen both as one fraction of policy making as well as covering two out of three sustainability dimensions.

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Part II. Identifying Tools for Sustainability Assessments

Chapter 4. The Sustainability A-Test

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Introduction

Assessment tools play an important role in decision-making processes. The variety of tools that can be used to carry out assessments is huge. Each tool has its own specific qualities and contributes in a particular way. Each tool can be used to address different issues, including costs and benefits, short and long-term effects, global competitiveness and many more key aspects in relation to sustainable development.

Assessment tools comprise all kinds of tools used to carry out assessments. Examples are found not only among modelling tools, cost–benefit analysis and participatory tools, but also among tools that frame integrated assessments for sustainable development, such as the European Commission's Impact Assessment procedure.

Sustainability A-Test, which evaluated tools for sustainability assessments, was an EU-project within the 6th Framework Programme administered by DG Research. Eighteen partners from the European Union and more than 40 researchers from Europe and Canada were involved in the project. The overall goal was to strengthen integrated assessments for sustainable development by scientifically underpinning the use of assessment tools in integrated assessments for sustainable development.

The project achieved this by describing, assessing and comparing tools that can be used to measure or assess sustainable development. An evaluation framework, developed within the project, was used to compare the various tools and a number of assessment methods with the requirements of sustainable development assessments. A literature review of the applications of the tools and a case study helped to underpin the results.

All results from the project are gathered in a Webbook, an electronic handbook, offering various entries to find suitable information about tools and their support in assessments. This Webbook is intended to support the selection of suitable tools for sustainability assessments and is accessible via www.SustainabilityA-Test.net.

This paper describes the Webbook and clarifies the five entry-points that make the information included in the Webbook accessible to policy makers and researchers. A number of webpages are presented to show what the entry-points look like. How one can use the Webbook to select a suitable assessment tool is then discussed. This first explains what the project understands by the word "tool", after which it describes the tool overview and its categories. The theoretical framework used for the selection of a specific tool is presented. The paper ends with conclusions and recommendations for further research.

The Webbook

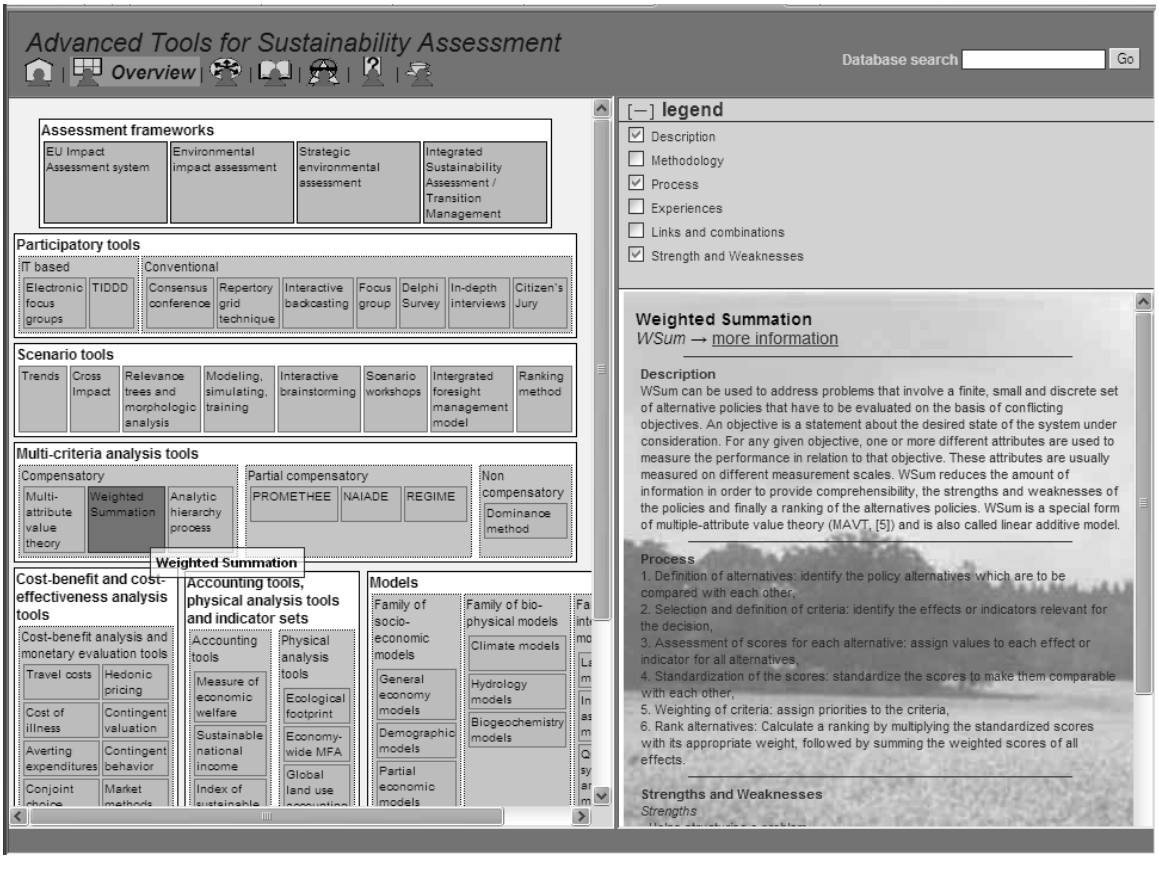
The Webbook developed in the *Sustainability A-Test* unlocks a vast amount of information about tools for sustainability assessments. This information can be accessed via the Webbook through five entry-points (a standard Google TM search can also be used within the Webbook):

1) tool overview
2) tool search
3) book of references
4) case study
5) about

Tool overview

The tool overview is an interactive representation of all tools covered by the project (Figure 4.1). Clicking on a tool will show information about it on the screen. The information is concise and easy to understand for non-experts. In this way, the overview can provide easily accessible information on tools and thus contribute to communicating that tools exist and what these tools can do for policy-making and scientific communities.

Figure 4.1. Screenshot of the Tool Overview on the Webbook

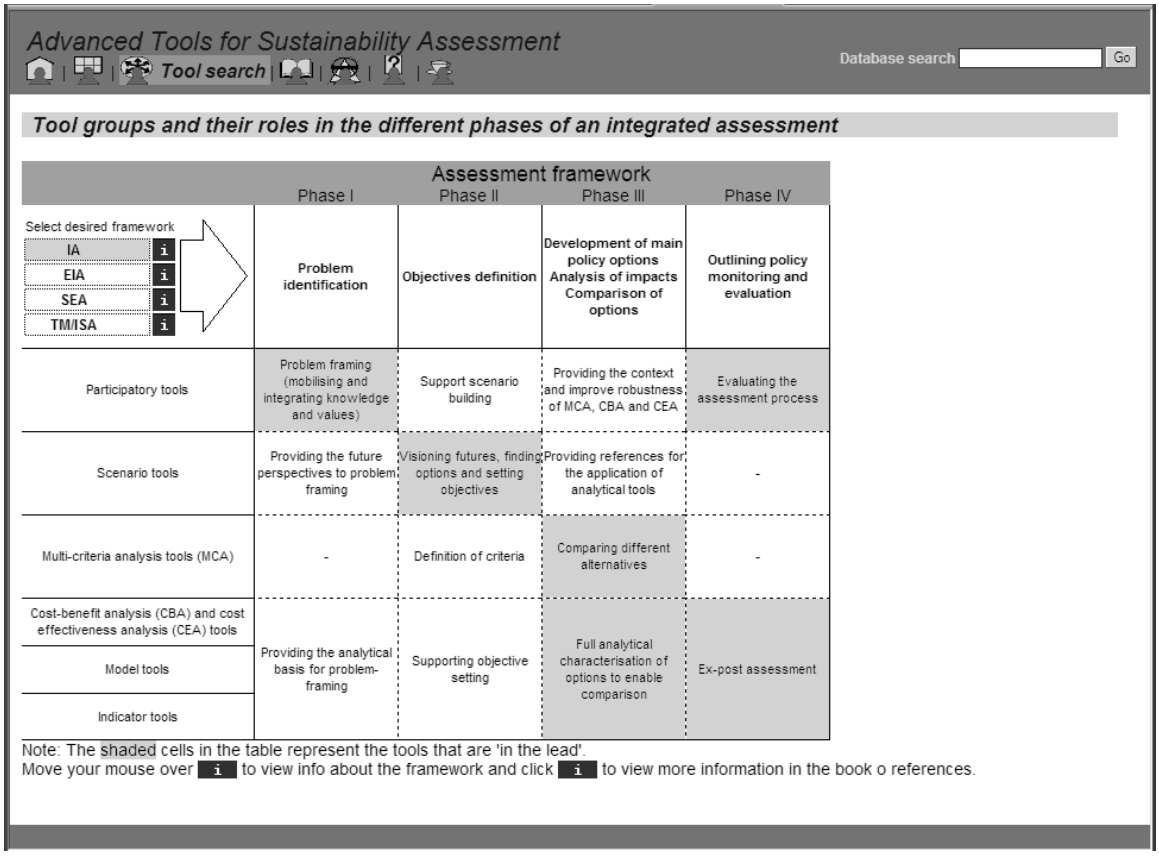


Tool search

The theoretical framework on the role of tools in sustainability assessments is embedded in the Webbook (Figure 4.2). This framework visualises the "ideal-type" integrated assessment and shows the user what tasks are to be done and what tool groups can be used to support these tasks. In that sense, it fulfils two functions: giving information about what integrated assessment could actually entail and giving information about the role of the different tool groups.

The Table giving the roles of various tools in the Webbook is interactive, so the user can select the desired assessment framework from a list of available assessment frameworks and it will be adjusted automatically. Clicking on a particular tool group in the Table will open a page explaining what tools belong to that particular group, and what criteria are relevant in choosing a tool from that group. In this way, the Webbook clearly shows that the selection of a particular tool should be done after selecting the task one wishes to support by tools.

Figure 4.2. Screenshot of the Table Containing Tool Roles on the Webbook



Advanced Tools for Sustainability Assessment

Tool search | Database search Go

Tool groups and their roles in the different phases of an integrated assessment

	Assessment framework			
	Phase I	Phase II	Phase III	Phase IV
Select desired framework: IA, EIA, SEA, TM/ISA	Problem identification	Objectives definition	Development of main policy options Analysis of impacts Comparison of options	Outlining policy monitoring and evaluation
Participatory tools	Problem framing (mobilising and integrating knowledge and values)	Support scenario building	Providing the context and improve robustness of MCA, CBA and CEA	Evaluating the assessment process
Scenario tools	Providing the future perspectives to problem framing	Visioning futures, finding options and setting objectives	Providing references for the application of analytical tools	-
Multi-criteria analysis tools (MCA)	-	Definition of criteria	Comparing different alternatives	-
Cost-benefit analysis (CBA) and cost effectiveness analysis (CEA) tools	Providing the analytical basis for problem-framing	Supporting objective setting	Full analytical characterisation of options to enable comparison	Ex-post assessment
Model tools				
Indicator tools				

Note: The shaded cells in the table represent the tools that are 'in the lead'.
Move your mouse over i to view info about the framework and click i to view more information in the book o references.

Book of reference

The book of references is for users who want to know more about a tool than is given in the short outlines in the tool overview. This book is structured according to the tool groups. Clicking on a particular tool will access more detailed and extensive information on that tool (Figure 4.3).

A link to the tool information sheet (TIS) can be found here also. A TIS shows how tools cope with a large number of evaluation criteria. Information can be read on-screen but may also be printed out or converted and saved into a PDF file.

Figure 4.3. Screenshot of Book of Reference Information on the Tool "Consensus Conference"

Case study

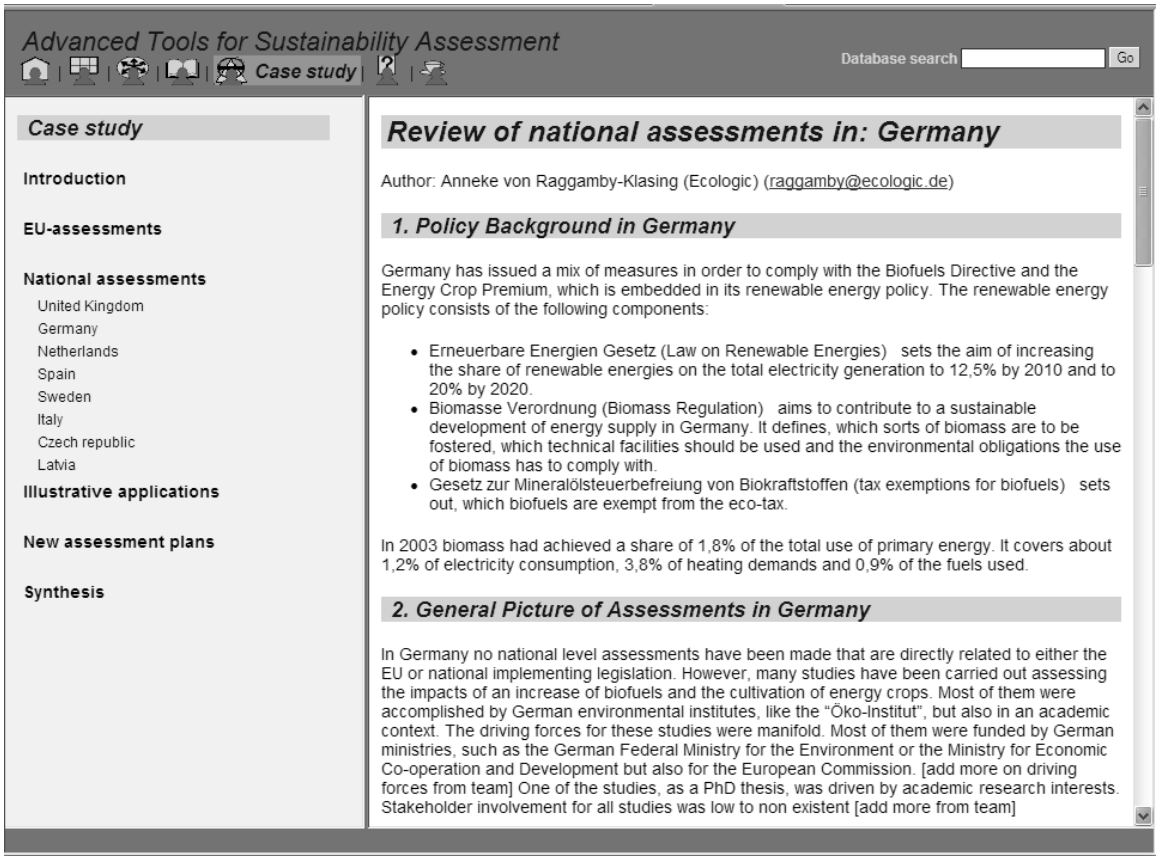
All information generated during the case study of the project is accessible via the "case study" entry-point. Here, the user can discover how a particular tool has been used in practice by the EU and in a number of EU countries (Figure 4.4). Illustrated applications show how a tool can be used, while three assessment plans have been developed to illustrate how tools can be combined.

Although information is not available for all tools, it may be added in the future. Providing users with real examples of how tools have been applied helps both to build trust in the tools and to create a better understanding of these tools by illustrating their applications.

About

The About section leads the user to all the relevant information on the *Sustainability A-Test* project, such as an introduction to the project, the definitions used in the Webbook, the reports delivered by the project, an overview of all project partners and their homepages, links to other relevant projects, and contact information.

Figure 4.4. Screenshot of the Review of National Assessments in Germany



Selecting tools

Tools

To avoid misunderstanding, this section first explains how the word "tool" has been defined in the *Sustainability A-Test* project. Here, the word tool is used as a collective term for all tools and methods included in the project (De Ridder, 2006). Different types of tools exists, which can roughly be described as analytical tools and methods, participative tools and methods and the more managerial "assessment frameworks".

Analytical tools mainly look at the nature of sustainable development, often employing some form of computation. Examples of analytic tools are accounting tools such as sustainable national income or genuine savings, but also the integrated assessment model, which allows one to describe and explain changes between periods of dynamic balance.

Participatory tools support the involvement of researchers, non-scientists such as policy makers, representatives from the business world, social organizations and citizens in assessments.

Assessment frameworks are used twofold: first to investigate the policy aspects and the controllability of sustainable transitions and second to provide guidance for actually executing an integrated assessment. Transition management (Rotmans *et al*. 2000, 2001) is an example of the first type of assessment framework and the European Commission's Impact Assessment procedure is an example of the second type.

Tool overview

In principle the *Sustainability A-Test* project considered all tools used in Europe for carrying out assessments. However, only those that are most common and/or promising have been evaluated and integrated in the Webbook. In the first instance, this amounted to 44 tools, categorized into 8 groups. During the project, however, the categorization changed a few times and a number of tools were added. Finally, the following tool groups were distinguished:

1) *Assessment frameworks:* procedural tools describing how assessments *could/should be done;*
2) *Participatory tools:* tools that aim to mobilise stakeholders and their values, views, knowledge and ideas;
3) *Scenario analysis:* tools that can be used to develop scenarios;
4) *Multi-criteria analysis:* tools that help with the consideration of various criteria;
5) *Cost-benefit analysis and cost-effectiveness analysis:* tools that assess some financial/economic parameters;
6) *Models:* tools that try to simulate real-world processes;
7) *Accounting tools, physical analysis tools and indicator sets*: tools that clarify the physical side in an assessment.

During the project, the tool overview was under heavy discussion. Although its initial purpose was to provide an overview of all tools covered by the project, it resulted in an overview in which the hierarchy of the tool grouping has significance (De Ridder, 2006). The main distinction finally made was between tools that need other tools and tools that can be used without other tools.

Multi-criteria analysis tools, scenario tools, participatory tools and assessment frameworks belong to the first group. Cost-benefit and cost-effectiveness analysis tools, accounting tools, physical analysis tools and indicator sets, and model tools belong to the second group. Without tools from the second group, applying tools from the first group either often gets stuck or remains qualitative.

A controversial issue was the position of cost-benefit analysis tools. But since cost-benefit analysis is about investigating the justification of one option on the basis of its costs and benefits, it is comparable to physical analysis tools that shine a light on the physical sides of a policy option and therefore it was placed in the second group.

Evaluation framework

All tools have been described in a standard way, by means of an evaluation methodology described in the project's inception report (De Ridder, 2005). The

evaluation criteria used included the suitability of assessment tools to support the various steps of a policy process *(e.g.* problem recognition, analysis of policy proposals), their ability to cover the various key aspects of sustainable development (*e.g.* environmental, social and economic impacts, and crosscutting issues like intergeneration effects) and operational aspects such as the costs, time needs, etc to actually apply the tool.

A database accessible via Internet was set up to store the collected information. The evaluations were done by the tool experts of the project team and peer-reviewed by experts from outside the project consortium.

The purpose for the evaluation was twofold. *First*, it would provide the user of the Webbook and the searcher for a suitable tool with specific information about the characteristics of the tools. Because all tools were evaluated according to the same evaluation criteria, this tool information is comparable to that for other tools. *Second,* it would help the project build a kind of search engine that could help users find tools and promising tool combinations, so that it could propose realistic solutions for carrying out assessments.

Unfortunately, the evaluation criteria weren't able to fulfil the second task. For a large number of tools, the evaluation did not provide the basic information needed to show which tools could be part of assessments, possibly in combinations with other tools and approaches, to measure and assess the three pillars of sustainable development.

There were two main reasons for this. *First*, the evaluation framework didn't contain the most relevant evaluation criteria for each tool. The tool "sustainability impact assessment", for example, requires specific criteria focusing on its role in the decision making process. *Second*, the evaluation framework was not always used at the most relevant level of tools. It was, for example, applied at the level of cost-benefit analysis instead of at the level of methods that can be used to monetise benefits. This meant that the evaluation criteria could not be used for the selection of a specific tool. Therefore a new approach was needed.

Theoretical framework

There are similarities among integrated assessment approaches, which lead to a generic set of four successive phases:

1) Phase I – *Problem analysis:* The aim is to understand the problem and to frame it;
2) Phase II – *Finding options:* The aim is to identify all possible options that could solve the problem as defined in Phase I;
3) Phase III – *Analysis:* This phase characterises the details of the options developed in Phase II, with the final aim to select options for implementation.
4) Phase IV – *Follow up:* The aim is to learn, first by reflecting on the entire process and second by monitoring and evaluating the selected and implemented option.

Quick assessments and rather simple policy processes as well as long-lasting and complex transition processes and all approaches in between can be linked to these four generic phases. The theoretical framework, used for the selection of a specific tool, is summarised in Table 4.1.

Because the role of tools is essentially the same in different types of assessments, the generic phases listed above can also be replaced by headings belonging to a particular

framework. So, whether the framework is used for Impact Assessment or Integrated Sustainability Assessment, the tasks that are to be done, at least in the generic way described, will largely remain the same. Note, however, that the context, timeframe and scope of the tasks can be quite different.

Table 4.1. The Role of Tools in Sustainability Assessments

	Phase I Problem analysis	**Phase II Finding options**	**Phase III Analysis**	**Phase IV Follow-up**
Participatory tools	Problem framing (mobilising and integrating know-ledge and values)	Supporting scenario building	Providing the context for and improve robustness of MCA, CBA and CEA	Evaluating the assessment process
Scenario tools	Providing the future perspectives to problem framing	Visioning futures, finding options and setting objectives	Providing references for the application of analytical tools	–
Multi-criteria analysis tools (MCA)	–	Definition of criteria	Comparing different alternatives	–
Cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA) tools	Providing the analytical basis for problem-framing	Supporting objective setting	Full analytical characterisation of options to enable comparison	Ex-post assessment
Accounting tools, physical analysis tools and indicator sets				
Model tools				

Table 4.1 shows only six tool groups in the left-hand column. The seventh tool group, Assessment Frameworks, is reflected in the labels of the top row (problem analysis, finding options) and the corresponding terminology found in different types of assessments, like Impact Assessment or Strategic Environmental Assessment. A cell describes a task that is to be done in a particular phase. This task can be supported by the tool group of the same row as the cell. The shaded cells in Table 4.1 represent tasks that are "in the lead" in a particular phase.

In case of selecting tools for an integrated assessment, first the tasks need to be identified for which support is actually needed. These tasks determine which tool group to look at. Then, a best suitable tool within the tool group should be selected. This is done based on selection criteria that are specific for each tool group. Table 4.2 gives an overview of the selection criteria identified for each of the tool groups. Note that for the tool groups at the bottom of the table, the coverage of sustainable development aspects is

an important selection criterion. For the multi-criteria analysis tools, the scenario tools and the participatory tools, other criteria are used.

Table 4.2. Summary of the Selection Criteria for a Tool within each Tool Group

Tool group	Criteria
Participatory tools	Number of participants to involve, whether or not ICT-based tools can be used, goal of participation, problem content, type of outcome desired and type of mediator needed/available
Scenario tools	Type of desired scenario, problem content, type of outcome desired of the process and necessity to involve (scenario) experts
Multi-criteria analysis tools	Decision rule and type of data
Cost-benefit and cost-effectiveness analysis tools (valuation methods)	Approach (stated-preference or revealed preference) and aspect (of sustainable development) to be monetised
Accounting tools, physical analysis tools and indicator sets	Aspects (of sustainable development) to be covered
Model tools	Aspects (of sustainable development) to be covered

In summary, the tool search is based on trying to find answers to the following four questions:

1) Where are we in the policy process (which phase)? (select one of the columns in Table 4.1);
2) What tasks are to be done in that phase? (select one of the cells in the selected column);
3) Which tools can be deployed to support these tasks? (select the tool group indicated at the beginning of the row of the selected cell);
4) Which specific tool should we select to support these tasks? (Go forward to a new table showing the selection criteria specifically defined for the selected tool group; based on these criteria, one can select the desired tool).

Conclusions

The Webbook, developed in the course of the *Sustainability A-Test* project, can be helpful in making integrated assessments for sustainable development for two reasons. *First*, it outlines what an integrated assessment for sustainable development might look like, and *second,* it clarifies the role of tools in an integrated assessment and provides

scientifically underpinned, easily accessible information about these tools to increase tool use and support use of tool combinations. In this way, the Webbook can forge a link between the scientific and policy-making communities.

Three main entry-points can be found in the Webbook to make the information about the tools easily accessible and to support a user in finding a best suitable tool. These entry-points are:

1) Tool overview: An interactive representation of all tools. Clicking on a tool shows information about it on the screen. The information is concise and easy to understand for non-experts.
2) Book of references: A full list of tools, structured according to the tool groups. Clicking on a particular tool will access more detailed and extensive information on that tool. The tool information sheet gives information about how tools cope with a large number of evaluation criteria.
3) Tool search: An interactive table which informs the user about what integrated assessment could actually involve and about the role of the different tool groups. The table also serves as a guide to help the user going through the process of selecting a suitable tool.

One conclusion that logically follows from the overview of the role of tools in assessments is that combinations of tools are needed for the various tasks of an integrated assessment. Not any one tool can support all tasks that are to be done. There is room for significant improvements in the way integrated assessments are carried out by making use of efficient combinations of existing tools. A precondition for devising tool combinations is to know both what tools exist and what each can deliver.

More research is needed into making and using combinations of existing tools (De Ridder, 2006). Although the *Sustainability A-Test* theoretically underpinned why tool combinations are necessary, not that many tool combinations were actually tested in practice within the project. It is recommended to address tool combinations and tool use in connection with actual policy-supporting integrated assessment processes, such as the Impact Assessment procedure used by the European Commission. Such research should particularly identify, and possibly solve, barriers and constraints with respect to the actual use of existing tools and tool combinations.

Finally, as the *Sustainability A-Test* project did not cover all tools that exist, the Webbook should be considered a first step towards better dissemination of tool information. The success of the Webbook depends, on the one hand, on the ability to maintain the site, to keep it up-to-date and to further improve it. On the other hand, its success depends on disseminating the site to potential users (policy makers and researchers). Nowadays, the website is available through the intranet of the European Commission. But, to give the website a serious chance to succeed as a "tool information broker", not only for EU policy makers but also to a broader community of policy makers, consultants and researchers, a budget for maintenance and dissemination is necessary.

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Chapter 5. The Role of Tools in Impact Assessments

Anneke von Raggamby, Ecologic, Germany

Introduction

The Impact Assessment (IA) procedure of the European Commission (EC) consists of three major steps which are usually accompanied by stakeholder consultation. Planning the Impact Assessment, which is also the beginning of the first step, starts with the Commission's Strategic Planning and Programming Cycle. The first step ends with conducting the impact analysis which goes into Inter-Service Consultation alongside the proposal. Steps two and three mainly set out how the Impact Assessment is employed throughout the decision-making process.

Though the impact assessment process formally starts early in the policy process with the Strategic Planning and Programming Cycle, the actual analysis of impacts is only one step. This is also the stage of the impact assessment in which tools are used. Impact assessment tools refer to a variety of methods, analytical approaches, procedures and frameworks that can be used for the assessment of policies. Examples of tools are cost-benefit analysis tools, participatory tools, scenario tools, multi-criteria analysis, and models. The EC Impact Assessment procedure foresees the use of these tools in the in-depth analysis of the identified impacts.

Against this background, this article presents observations on the availability and actual use of tools in EC Impact Assessment practice. It then identifies problems of tool use and reflects on ways forward.

Background

When discussing the availability of tools and reflecting on how tool use could be improved, one has to take into account the broader picture. Aside from technical considerations, framework conditions stemming from the political context, the availability of resources and the approach to impact assessment *inter alia* influence the use of tools.

The EC Impact Assessment system is rooted in two processes which constitute the political context. As the Commission Impact Assessment website states: The Göteborg European Council in June 2001 and the Laeken European Council in December 2001 introduced two important political considerations: *first*, to consider the effects of policy proposals in their economic, social and environmental dimensions; and *second*, to simplify and improve the regulatory environment.

Depending on their institutional background, desk officers may be biased towards one or the other of these two processes when choosing tools in the phase of impact analysis. Commission desk officers often have to do the impact assessment with limited resources in terms of time, money and personnel. The availability of resources directly influences the choice and use of tools. For example, if the budget is low the desk officer will not be able to commission a research institute to develop a complex model, which may be needed to assess the impacts identified.

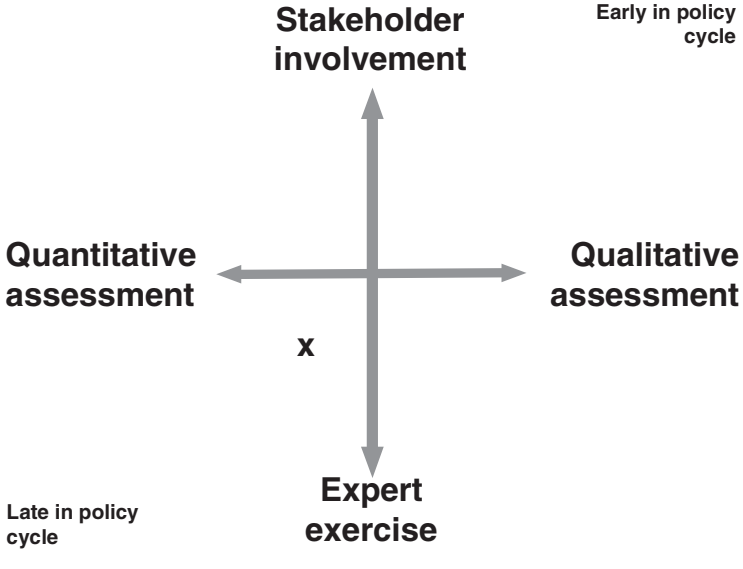
The approach to impact assessment varies according to:

1) quantitative *vs.* qualitative impact analysis and

2) expert *vs.* stakeholder knowledge.

There is no real consensus as to which approach to follow. The two extreme positions would be either to follow a quantitative approach and to draw on expert knowledge or to follow a qualitative approach and draw on stakeholder knowledge. In the first case, it is more likely that models and quantitative tools are used, while in the second case, participatory and qualitative tools may be preferred (Figure 5.1). Depending on the preferred approach, the importance of tool use and also the choice of tools are expected to vary.

Figure 5.1. Two Dimensional Impact Assessment Approach



Tool choice in practice

The following sections analyse more closely which tools are available for impact assessments, which tools are wanted, which tools are actually used and what problems occur in tool use.

Available tools

With regard to impact analysis, the Commission impact assessment guidelines set out the following approach for tool use. The Commission distinguishes between identifying the most important impacts and analysing the identified impacts in-depth.

For identifying the most important impacts, the Commission recommends simple tools, while the in-depth analysis could involve more significant efforts. To this end, the Commission proposes to make use of "quantitative techniques, varying from simple extrapolation – based for instance on previously derived coefficients (*e.g.* units of CO_2 per unit of industrial activity) – through to proper quantitative modeling".

Essentially, the aim of analysis is to understand the extent of the impacts of policy options and to estimate the costs and benefits in monetary form when this is feasible. The Annexes to the EC guidelines provide further guidance on how to undertake a quantitative analysis and set out some important rules for economic analysis (EC, 2005). Though qualitative tools are mentioned, a clear emphasis is on quantitative tools and monetisation.

The following tools are explicitly referred to:

1) *IQ-Tools* making use of a Computable General Equilibrium model;
2) *quantitative modelling* including Computable General Equilibrium (CGE) models, sectoral models *(e.g.* the EU funded energy models PRIMES, POLES, SAFIRE), macro-econometric models (*e.g.* NEMESIS, QUEST II, WARM) and environmental impact assessment models that use impact pathway analysis;
3) *cost-effectiveness analysis;*
4) *monetisation of non-market impacts;* and
5) *life Cycle Assessment Approach.*

In addition to these tools, a broad number of other instruments exist. The *Sustainability A-Test* project identified a set of 50 assessment tools and has placed them into seven groups (Table 5.1). These seven groups are the result of cumulating tools with common characteristics as well as common roles in an integrated assessment (Ridder *et al*, 2008). Tools exist that support each phase of the impact assessment and address each impact category. The groups are:

1) assessment frameworks;
2) participatory tools;
3) scenario analysis tools;
4) multi-criteria analysis tools;
5) cost–benefit and cost-effectiveness analysis tools;
6) accounting tools, physical analysis tools and indicator sets; and
7) modeling tools.

Desirable tools

As the previous section has shown, a broad range of tools exists and they are easily accessible. This broad assortment of tools makes it difficult to choose the right tool for the task at hand, so that it may seem as if one were facing a jungle of tools. So, what kind of tools do EC Desk Officers wish for?

When asking them for their opinion, they emphasised that tools should be flexible, easy to adapt to a given policy or given circumstances, up-to-date and suitable to be combined so that one tool can cover blind spots of another tool. Desk Officers had no illusions about the flaws and limitations of using tools. Rather than expecting tools to give an exhaustive picture of the impacts, they expected the tools to reliably show main tendencies of a proposal, that is, whether it will help to achieve the objectives. Overall, Desk Officers agreed that instead of providing additional tools, a better consolidation of what is already there was needed.

Practical tools

An analysis of the tools used in practice for Impact Assessments shows that the actual demand of EC Desk Officers for formal tools and methods is generally quite low. The majority of impact assessments described potential effects qualitatively, often backed up by simple and selective statistics or cost data. Tool use practice shows that tools are used less often than one would expect and that quantification is less comprehensive than the guidelines or the overall discussion on impact assessment would suggest.

The most popular tools used are:

1) *cost-benefit analysis and cost-effectiveness analysis*. Many impact assessments contain (basic) elements of cost-benefit or cost-effectiveness analysis that assesses the direct costs of a proposal, although a full analysis of costs and benefits of all impacts is rare.
2) *modeling*. Some impact assessments include results from micro- or macro-economic models. These are often of sectoral character (e.g. energy or transport policy) (Raggamby and Turnpenny, 2006).
3) *multi-criteria analysis.* Some impact assessments make use of multi-criteria approaches based on basic scoring systems.

Tool use problems

In addition to lack of time and resources, methodological limitations are often mentioned in the context of problems in tool use practice. Those impact assessments that contain elements of quantification or monetisation often only use these tools to assess economic impacts, which therefore dominate the policy discussion and leave social or environmental impacts – if analysed at all – largely unexpressed in quantitative or monetary terms (TEP, 2007).

Many authors argue that this is due to the fact that economic impacts can more easily be quantified and monetised than environmental and, especially, social impacts. Both often are either of qualitative character, or cannot be quantified/monetised due to a lack of data or methodological gaps. Nevertheless, environmental and social impacts may be as, or even more, severe than economic impacts. This is, however, often not shown or acknowledged due to the aforementioned limitations and the quantitative/expert exercise logic which mainly relies on quantitative results (Raggamby and Turnpenny, 2006).

Conclusions

The findings described above call for easy solutions: 1) poor tool use should be improved *e.g*. through training; and 2) more tools allowing one to combine quantitative and qualitative information such as multi-criteria analysis should be used. The advantages (numbers are easy to communicate) and disadvantages (policy-makers' reservations; social and environmental impacts are difficult to address) of quantification should be acknowledged and new or better methods to quantify/monetise social and environmental effects should be developed.

Things, however, are more complicated. Improving tools and their use – though certainly useful - will not necessarily make environmental and social issues politically more salient or lead to a more sustainable policy-making process. A shift in the impact assessment approach is needed towards a process-oriented, integrated approach that entails more the stakeholder involvement/qualitative exercise logic than current practice. The role of tools thus should not be an aim in itself but depend on the function and stage of impact assessment (*i.e.* as a scoping tool at an early stage of the policy process, as a consultation and consensus-building instrument at a later stage and as an assessment of detailed policy design options towards the end of the policy process).

This will help to improve not only the overall quality of the impact assessment and its relevance in the policy process but also the consideration of environmental and social impacts therein (Ecologic *et al*, 2007).

Table 5.1. Tools Identified in Sustainability A-Test

Tool Group	*Tool sub-groups*	*Tools*
Assessment frameworks	EU impact assessment	
	SEA	
	Transition management	
Participatory tools	IT based	Electronic focus groups
		TIDDD
	Conventional	Consensus conference
		Repertory grid technique
		Interactive backcasting
		Focus groups
Tools for scenario analysis		Backcasting
		Forecasting
Cost-benefit and cost-effectiveness analysis	**Cost-benefit analysis and monetary evaluation tools**	Travel costs
		Costs of illness
		Averting expenditures
		Hedonic pricing
		Contingent valuation
		Contingent behaviour
		Conjoint choice questions
		Market methods
		Cost-effectiveness analysis
Tools for multi-criteria analysis	Compensatory	MAVT
		Weighted summation
		AHP
	Partial compensatory	PROME-THEE
		NA impact assessment DE
		Regime
	Non compensatory	Dominance method
Models	Family of integrated models	Land use models
		Integrated assessment models
		Qualitative system analysis models
	Family of bio-physical models	Climate models
		Hydrology models
		Biochemical models
	Family of socio-economic models	**General economy**
		Partial economy models
		Demographic models
		Public health models
Indicators	Indicators for land-use and/or physical impacts	Ecological footprint
		Economy-wide MFA
		LCA
		GLUA / TRUA
		CLARC
	Indicator sets	Single actor
		Multi actor
	Indicators for greening accounts	MEW
		NAMEA
		Genuine savings
		SNI
		ISEW
	Vulnerability	Livelihood sensitivity approach
		Vulnerability indicators and mapping

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Chapter 6. Using Assessment Tools in the Policy Context

Donald Macrae, Better Regulation Commission, United Kingdom

Introduction

The use of assessment tools in the context of how policy staff normally works and, therefore, the working environment in which any tools may be required to operate is an important consideration. This analysis of that working environment, which is based on experiences in the United Kingdom, shows that good project management must be accompanied by certain controls and that assessment tools can have varying results depending on the context. The most useful tools are those which can be used from time to time, rather than requiring a consistent process over time, and those which are tailored to specific policies, rather than attempting to integrate multiple policies.

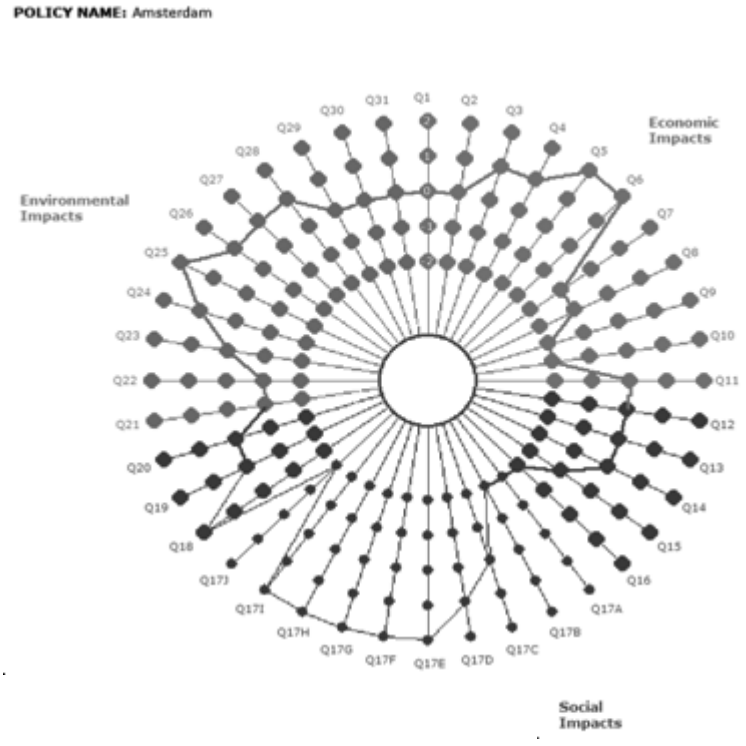
The UK Department for Environment, Food and Rural Affairs (Defra) has been the lead Department for sustainable development, although this is a joint goal across Departments. In February 2005, a Policy Reform Group (PRG) was established, consisting of a voluntary group of Director Generals from nine policy Departments who met regularly to share experiences and concerns about the policy function. This was not a study of policies but of the overall working environment of tens of thousands of policy staff.

In September 2005, a Ministerial Challenge Panel for Regulation (MCPR) was set up in Defra as an internal quality assurance function which scrutinised policy dossiers across the range of the Department's activities and across the lifecycle of the dossiers. Surprisingly, this function was lacking across Departments – an early observation of the Policy Reform Group. The combination of the PRG analysis and the MCPR scrutiny provides a background for understanding the environment in which policy assessment tools and methodologies have to operate, with suggestions for what might be most effective.

Stretching the Web

Defra has produced a tool for graphically representing the impact of a policy proposal on the three pillars of sustainable development, called "Stretching the Web" (Defra, 2007). The graphic is a spider diagram, hence the "web" reference, and the intention is to show where that web needs to be stretched in order to optimise the impact (Figure 6.1).

Figure 6.1. Example of the "Stretching the Web" Spider Diagram



Source: Defra (2007), *Stretching the Web*.

The tools start with three questionnaires, one for each pillar of sustainable development (Box 6.1). There are set questions in each but the user can add three more in each, tailored to the project in hand. Each has to be scored on a range of -2 to +2 in terms of negative and positive impact on these pillars. The software then constructs the spider diagram.

The strength of the tool is the visual impact of the results. The varying impact of the policy on the three pillars may be understood (or may not) but seeing the pattern of impact is intended to emphasise the strengths and weaknesses of the policy. The exercise of considering the questions is also valuable in itself since some of these issues may not have been addressed until that stage. By asking the questions in order to generate something else, this tool provides a different approach to consideration of these issues to that of a normal impact assessment. By adding the open questions, it also requires the policy developer to think further about each issue. In these subtle ways, it may be able to avoid the "tick box" approach that many assessment tools suffer from in their application.

Much depends on the set questions already built in to the tool but, for some policy developers, it may still be taking them into areas that they would not otherwise have explored. There remains a question of whether they are qualified to assess the answers in the areas that they are not familiar with and therefore how successfully they can make an overall assessment – another reason why the main value of the tool is probably awareness raising. It also raises the issue of any integrated assessment tool of whether there can be

an adequate degree of impartiality in the integrated assessment if it is being done wholly by a practitioner in one field.

Box 6.1. Economic, Social and Environmental Questions

Economic Impact Questions:

Q1. Will the proposal have a significant impact on competition?

Q2. Will the proposal impact on small businesses?

Q3. Will the proposal introduce new criminal sanctions or civil penalties?

Q4. Will the proposal bring receipts or savings to Government?

Q5. Will it impact on costs, quality or availability of goods and services?

Q6. Will it impact on the public sector, the third sector, consumers?

Q7. Will the proposal result in new technologies?

Q8. Will the proposal result in a change in the investment behaviour both into the UK and UK firms overseas and into particular industries?

Social Impact Questions:

Q12. Will the proposal have an impact on health, wellbeing or health inequalities?

Q13. Will the proposal influence safety at work or affect the likelihood of accidents in the community?

Q14. Will the proposal affect the rate of crime or crime prevention or create a new offence/opportunity for crime?

Q15. Will the proposal affect the levels of skills and education?

Q16. Will the proposal affect the provision of facilities or services that support community cohesion or in other ways that affect the quality of life in the local community?

Q17. Could the proposal result in any changes in or a differential impact on any of the following: race equality, rural proofing, human rights, gender equality, disability equality, children and young people, older people, income groups, devolved administrations, particular regions?

Environmental Impact Questions:

Q21. Will the proposal lead to change in the emission of Greenhouse Gases?

Q22. Will the proposal be vulnerable to the predicted effects of climate change?

Q23. Will it lead to a change in the financial costs or environmental and health impacts of waste management?

Q24. Will it impact significantly on air quality?

Q25. Will it involve any material change to the appearance of the landscape or townscape?

Q26. Will it change the degree of water pollution, levels of abstraction of water, exposure to flood risk?

Q27. Will it disturb or enhance habitat or wildlife?

Q28. Will it affect the number of people exposed to noise or the levels of exposure?

Impact Assessment vs. Regulatory Impact Assessment

The UK developed a new impact assessment form that replaces the previous Regulatory Impact Assessment (RIA) (BERR, 2008). The RIA had become overloaded with checks for additional policies as they gained prominence and its use was uneven. It was decided by the Better Regulation Executive (then part of the Cabinet Office, supervising the application of "Better Regulation" across government) to replace it with something simpler, in the hope that it would be used more effectively.

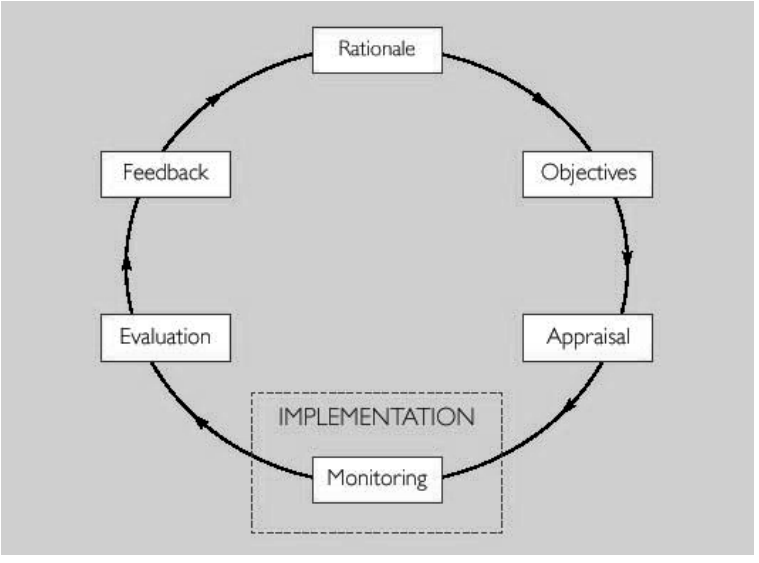
The new Impact Assessment was intended to be able to summarise any policy in two to three pages. A major problem with the former RIA was that many were bloated and counter-productive, sometimes running to hundreds of pages that few people other than their authors ever read. An underlying problem was lack of clarity over what the policy was actually trying to achieve, which the new form was intended to expose more clearly.

The question is why the previous RIA was considered to be in need of replacement. To understand this better, the working environment for policy staff needs to be seen in a wider context.

The business of policy

The world of the government policy maker is an appealing mystery to many people. It is the source of considerable impacts on society, the economy and the environment but not always as intended by the policy makers. What is visible to the public are the effects of policies and some of the intentions. Increasingly, the consideration behind the policies is also shared with the public through consultation on various impact assessments or even just on the policy proposals. There are also many policy tools in the public domain and an assumption that the policy process follows a clear, rational development path, such as the policy cycle based on Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback (ROAMEF) (Figure 6.2).

Figure 6.2. ROAMEF Policy Cycle from the HM Treasury "Green Book"



Source: UK Treasury (2003), *The Green Book*.

Policy proposals come under fierce challenge in the political domain, including challenge from the media and lobby groups. That external challenge is normally to the substance of the policy rather than the process and few policy makers can feel themselves safe in the remote ivory tower that their critics contend they inhabit. However, that challenge and concern is in relation to the merits of the policy, not the process. Within government, there may also be challenge to individual Departments from the central Departments, although this tends to be for high-profile or high-risk policies and will be managed down as much as possible by the Department.

What has not been studied, however, is the wider operation of the policy function itself, as opposed to the policy formation process or the merits of individual policies. There have been tens of thousands of people working in "policy" in the UK government alone but not all of them by any means are fully engaged in formulating policies. There are many other activities within the policy area, such as:

1) transactional activities (answering Ministerial correspondence);

2) generic processes (such as the legislative process);

3) unplanned but resource intensive work (crisis management);

4) knowledge gathering and monitoring (sectoral stewardship);

5) resource allocation and planning (financial and performance management); and

6) Organizing the large numbers of staff (organizational design).

These form the background to the policy function and the working environment within which policy staff formulate policy. Highly visible public challenge to a policy is

obviously influential but so is the policy-maker's level of resource allocation and ability to manage a project, regardless of its merits. These other activities can have an impact on how the policy-maker goes about the activity of policy formulation.

Concern over these background factors led to the establishment in February 2005 of the UK Policy Reform Group (PRG).This was a voluntary coming together of very senior and experienced policy officials (Director General level) from nine policy Departments to share their experience and concerns around these issues. The Departments originally represented were Environment, Food and Rural Affairs; Trade and Industry; Culture, Media and Sport; Health; Education and Skills; Transport; Constitutional Affairs; Home Office; and the Office of the Deputy Prime Minister (Planning and Communities). The Chair was from Defra but represented the Government Legal Service for neutrality. The Group has always had an external challenge member from the management consultancy industry.

Although at the time they happened to be in these nine Departments, each member had experience of many Departments in their careers and indeed many have moved on during the life of the Group, so the level of experience available to the PRG has been considerable. The method of working was lightly structured discussion once a month, with annual "away days" to take stock and agree a future work programme. The PRG is about to enter its fourth year, with some new members to supplement its coverage.

At its first away day, the Group agreed a work programme that involved analysing "The Business of Policy" – what it is that policy people do and how they go about it. Its main conclusions were as follows:

1) *A large amount of policy work is not task-based; much is reactive or reflective.* Reactive work is often very visible, reacting to "events", usually in crisis conditions. These can be natural or human disasters with loss of life, economic shocks affecting employment or economic well-being, identification of new threats to key concerns and other forms of emerging risks to the public good. There will also be short-term political crises based on perceived scandal of one sort or another. Any of these can give rise to key policy decisions taken at speed which have impacts as great as policies that were a long time in careful gestation. There are times when many policy tools simply cannot be applied and these instances may not be minor. Many policy tools assume a structured approach to policy formulation that may not be possible.

2) *Reflective work, in contrast, has time but again may not have any clear task or outcome*. There exist many standing teams who monitor a subject or a sector with a view to anticipating "events" or more generally considering whether any intervention may be needed. This can form the grounding for major policy work at a later stage, such as on climate change, but may also be of a relatively trivial nature because of either history, habit or because of a Ministerial concern or interest. Quite apart from the resource issue, such teams may generate interventions partly to justify their existence and partly from a genuine concern about doing good in that sector. Tasks can therefore emerge. If a resourced team backed by an interested Minister starts to engage with a vocal constituency about a single issue, it would be surprising if nothing then happened. However, it may bear little relation to the strategic outcomes of the Department or wider government. Reflective work can give rise to new policy work across a very wide spectrum.

3) *Where there is a clear task, whatever the source, its management will not necessarily be well structured*. This applies both at the level of skills and business controls. Before

considering specific policy tools, basic project management disciplines are needed in order to provide a structure in which to apply them. This is a relatively new development within the last ten years and has encountered resistance from policy staff who see it as a bureaucratic diversion from their habitual approach. In addition, there has been a lack of adaptation of project and programme methodologies for policy work. The paradigm for project management relates to large scale information technology procurement projects and does not translate easily to policy formation. Again, this is changing but development of tailored tools is slow.

4) *Systemically, there are few controls on start-up, performance management and closure*. Policy tasks can emerge and evolve, driven by political salience rather than having a clear framework. The lack of a gateway process on start-up is key. That lack allows policy activity to proceed without clarity around objectives, resources and timescale. In turn, that makes performance management during its execution difficult to apply and makes exit very difficult. What may have seemed to start out as a project may effectively develop into a standing team as the objectives multiply and diversify. What can be more important than lack of success criteria is a lack of failure criteria. Even if a policy tool shows that the policy is wrong, that may not be enough to bring it to a halt, if there are strong enough interests in its continued survival and continued spend.

5) *Resourcing can also be unsystematic*. In business, a new product would be subject to planning and research, leading to a business case that clarified the investment needed in order to take it to market. In policy, the level of investment is often the starting point and the team then sees what can be achieved for that amount of resource. The resource, in that situation, is probably determined by the political importance attaching to that issue at the time the decision is made. That approach means that the political importance has to be maintained in order to maintain the funding, which can skew outputs and outcomes. Even where the resourcing is more carefully planned, it can never be guaranteed over a time scale of years. It will still be subject to the pressure of changing political priorities.

6) *Even generic processes are subject to a degree of tribalism*. The PRG tried to form clusters of Departments that shared generic processes, with the aim of agreeing good practice and learning from each other. There was enthusiasm for finding good practice and learning from others – but only insofar as each assumed they had the best practice and others should learn from them. The discussions entrenched habits rather than opened up new methods. Even within one Department, an innovative methodology that was taken up across most of the Department was rejected by one other part of it. What may appear a form of tribalism or loyalty to the team is also a belief that one's area of policy is unique and other methods, no matter how impressive, wouldn't really work. What it adds up to, however, is a reluctance to adopt new methods.

7) *Delivery of results is a further challenge*. For some policy staff, the deliverable is a policy, not something that happens on the ground. The outcome is of course dependent on implementation of the policy but that may be done by people who had no involvement in formulating the policy. That may be poor communication but it may also be because no delivery chain exists at the time of formulation or there may be insufficient resource for a dedicated delivery chain and implementation is added to the many duties of local authorities. This issue tends to be worse the higher the level of determination of the policy, *e.g.* international treaty or EU Directive, which can also be subject to exactly the same issues of lack of business controls as domestic policy-making. A further constraint is that there is such continuing pressure for new initiatives

and new policies; the policy team simply has no resource left for working with the delivery team or for reviewing the operation of previous policies.

The PRG analysis of policy as a business showed many weaknesses from a business perspective but the policy function is a feature of the political world and not the commercial world. The "bottom line" is the political imperative then current, not a matter of finance. Political imperatives change and that can be an accurate response in a democratic system rather than a whim or lack of strategy. That does not mean that better business controls and better project disciplines are neither desirable nor possible but rather that the analysis has to recognise the importance of flexibility, uncertainty and adaptability.

The PRG never tried to make an overall assessment of how well or badly the policy business was run. It did the analysis of what happens in its collective experience but did not commission research to assess how often the bad outweighed the good, or otherwise.

The business of regulation

A qualitative approach can be seen from a second institution, Defra's Ministerial Challenge Panel on Regulation (MCPR), which was an internal quality assurance mechanism for how well Defra applied regulation as a tool. Given that the majority of Defra's policies were implemented through regulation, this was in effect a quality assurance mechanism for how that Department did policy. As such, it was extremely rare. Although policies are subject to robust challenge externally, there is a dearth of internal checks. External checks include challenge from the Centre, such as the Panel for Regulatory Accountability, but they applied to a small number of key policies, for which the Departments would prepare. The MCPR, therefore, provided a unique snapshot of business as usual across the policy spectrum in one large policy Department.

The Panel was chaired by a Minister and had two Board members plus important external stakeholders. These included:

1) the then Department for Trade and Industry;

2) the Small Business Council;

3) the Confederation of British Industry;

4) the National Farmers' Union;

5) the Environment Agency;

6) the Better Regulation Commission; and

7) the Better Regulation Executive.

It met roughly every six weeks, for around three hours and covered up to five dossiers, with around 30 minutes for each. The policy team would be represented at Director level and would be questioned by the Panel. A scoring system was applied and the policy team would hear the Panel's deliberations on a score. The scores ranged from 1, which meant that there was good practice shown which ought to be disseminated, to 5 which meant that there were serious concerns which should be addressed before

continuing. The Panel did not have authority to stop anything but a score of 5 could not be ignored.

In addition, the two Board members held a Filter Panel which examined around 10 – 15 dossiers prepared by the Regulation team and filtered them down to the 5 or so that went to the next Panel. That significantly increased the number of dossiers scrutinised to some level. Those that did not go forward were still subject to feedback from the Filter Panel and many came back at a later stage of development for further scrutiny.

Dossiers were taken from across all policy activities, including environment, agriculture, animal health and rural development. They were also taken at any stage – EU Commission Communication or Strategy, EU legislative proposal, "Common Position" stage in EU negotiations, domestic implementation, consultations and delivery. Because of that breadth, the Panel could not be "gamed" and therefore got an accurate representation of how things were.

Results were varied. There were some 1s and some 5s but normally the discussion was around which side of 3 to fall. That did not include those that the Filter Panel judged not ready so to some extent an overall performance on the better side of 3 should have been expected. It showed the validity of much of the PRG's analysis but also confirmed that there was a substantial amount of good quality work, despite the difficulties. The Panel encountered initial resistance from the policy teams but gradually gained a respect as it demonstrated that it was as interested in good practice as in bad. It also prepared well and showed genuine engagement rather than confrontation. Some policy teams asked for their dossiers to be reviewed and occasionally the entire team would turn up to listen to the discussion. For others, it always remained an overhead that diverted resource from the task in hand.

The Panel was particularly helpful in crossing policy boundaries and making connections that the different teams were unaware of within their own boundaries. One meeting of the Panel was with just the four policy Director Generals, looking at where their policy interests merged or conflicted. It was the first time they had met for that purpose and it led to further informal meetings and some policy re-alignment

The Environment Agency subsequently established their own internal challenge panel, looking at different stages of policy implementation and operations. The Department of Trade and Industry also set up a similar body to the MCPR.

The Panel took to scoring regulatory impact assessments (RIAs) as did the Filter Panel. The weaknesses of applying the RIA tool over the development of the dossier were very apparent. However, the importance of the RIA was also apparent. Sometimes, the RIA was good enough to focus the issues and served as the basis for discussion, even if a different conclusion emerged. There were some occasions where the RIA showed that the policy was misguided and the evidence base did not support the proposal.

Other times, the RIA was obviously done to justify a decision rather than as a basis for making a decision and there were occasions where the RIA had been done by external consultants with virtually no knowledge transfer. What was rarely if ever seen was an RIA that evolved over the period of the dossier in the way that was originally intended. The Regulation team's two page template for submissions to the Filter Panel proved an effective way of focusing the issues and influenced the emphasis in the UK's new Impact Assessment on getting the whole thing down to two or three pages.

Conclusions

Quality resources go into designing good assessment tools, but the tool's effectiveness is in its use. That use depends on many factors other than the best intentions of both the designer and the user. The OECD has recognised the importance of the policy framework in which regulatory impact assessments are done but this tends to focus on framework controls being imposed by the Centre, rather than built into the policy function at a granular, Departmental or even team level (OECD, 2007). This paper has attempted to flag up the difficulties in operating at that granular level which, unfortunately, is where policy is actually done.

Tools that can be used as a one-off check at a point in the process are more likely to be used effectively than those that assume continued engagement and application. The latter are subject to the extent that the policy project is properly managed in a way that allows that application. There can be a danger in the policy tool itself substituting for project management, which it probably was not designed to do and would have to be distorted to achieve. The PRG's analysis serves to warn of the limitations of assuming too much structure and planning in the policy process – even to the extent that there is a process at all, in some cases.

Integrated tools that try to cover multiple issues are also less likely to be effective than ones tailored for particular policies. This is problematic for sustainability assessment tools, which tend to attempt to cover the three pillars. Managing the trade-offs across these pillars is always a challenge but it is arguable that the most that such tools should aim to do is to raise awareness in the mind of the user of the range of issues that are affected. Government interventions are rarely neutral in their impacts but are also prone to unintended consequences on other government policies. The trade off in a sustainable development assessment is just one illustration of the ripple effect of interventions. The experience of the MCPR indicates that an institutional challenge on cross-boundary conflicts is likely to be more balanced than a single issue team trying to resolve impacts on other policies through one assessment instrument.

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Part III. Conducting Sustainability Assessments

Chapter 7. Balancing Interests in Sustainability Assessments

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Introduction

In Measure 22 of the Sustainable Development Strategy 2002, the Swiss government (Federal Council) issued a mandate for the development of a set of tools which could be deployed at an early stage of political projects and initiatives in order to assess and optimize them from the sustainable development perspective. In 2004, the Federal Office for Spatial Development (ARE), which provides the Confederation's sustainable development policy coordination platform, published a conceptual framework and basic methodology for assessing the sustainability of the Federal Government's political initiatives (ARE, 2004).

After a pilot phase in which initial practical experience was gained using real-life examples, the method is being evaluated in 2008 in order to integrate the results in the renewal of the national sustainable development strategy due in 2008. However, so far sustainability assessments are not yet compulsory.

Anyone who looks more closely into sustainability assessment realizes that a large number of very different approaches are taken around the world. These may differ with regard to the following:

1) purpose (to improve a project, to compare variants, to aid in the decision-making process or to determine a project's sustainability);
2) timing (*ex ante*, parallel/iterative, *ex post*);
3) level of application (policy, strategy, programme, plan or project level);
4) fields of application (issues, policy sectors);
5) assessment criteria;
6) evaluation and aggregation methods;
7) rules for dealing with conflicting goals and for balancing interests; and
8) process structure and procedures.

The problem of balancing interests, which is the central theme of this paper, can manifest itself in several different forms. These depend, for example, on whether the sustainability assessment is intended to result in a definite decision about a particular variant at the end of a decision-making process, or to be a longer term assessment that runs in parallel to a project with a view to optimizing a specific initiative.

Swiss approach to sustainability assessments

Balancing interests in Swiss sustainability assessments is based on a methodical approach that is intended to improve project work related to specific initiatives, is conducted at an early stage (*ex ante*) as the project is being drawn up, and is used primarily at the policy, strategy and programme levels. The different steps of the sustainability assessment process in Switzerland are summarized in Figure 7.1.

The Swiss approach to sustainability assessments can be outlined as follows:

1) sustainability assessments offer a method of assessment and optimization that aims to strengthen sustainable development as an integral, cross-sectoral part of political planning and decision-making;

2) they evaluate the social, economic and ecological impacts of the federal government's projects and initiatives;

3) they reveal conflicting goals and seek ways to optimize those projects and initiatives at as early a stage as possible;

4) the method is rooted in the systematic capture of direct and indirect, desirable and undesirable effects of political projects;

5) the primary objective and characteristic of this instrument is the creation of transparency by offering a comprehensible, holistic impact evaluation or assessment; and

6) it is also intended to develop proposals for improvement and optimization and to provide a context in which different variants can be considered.

The framework concept puts forward four main steps in this work:

1) a *relevance analysis* that is a straightforward means of establishing a project's relevance in sustainability terms;

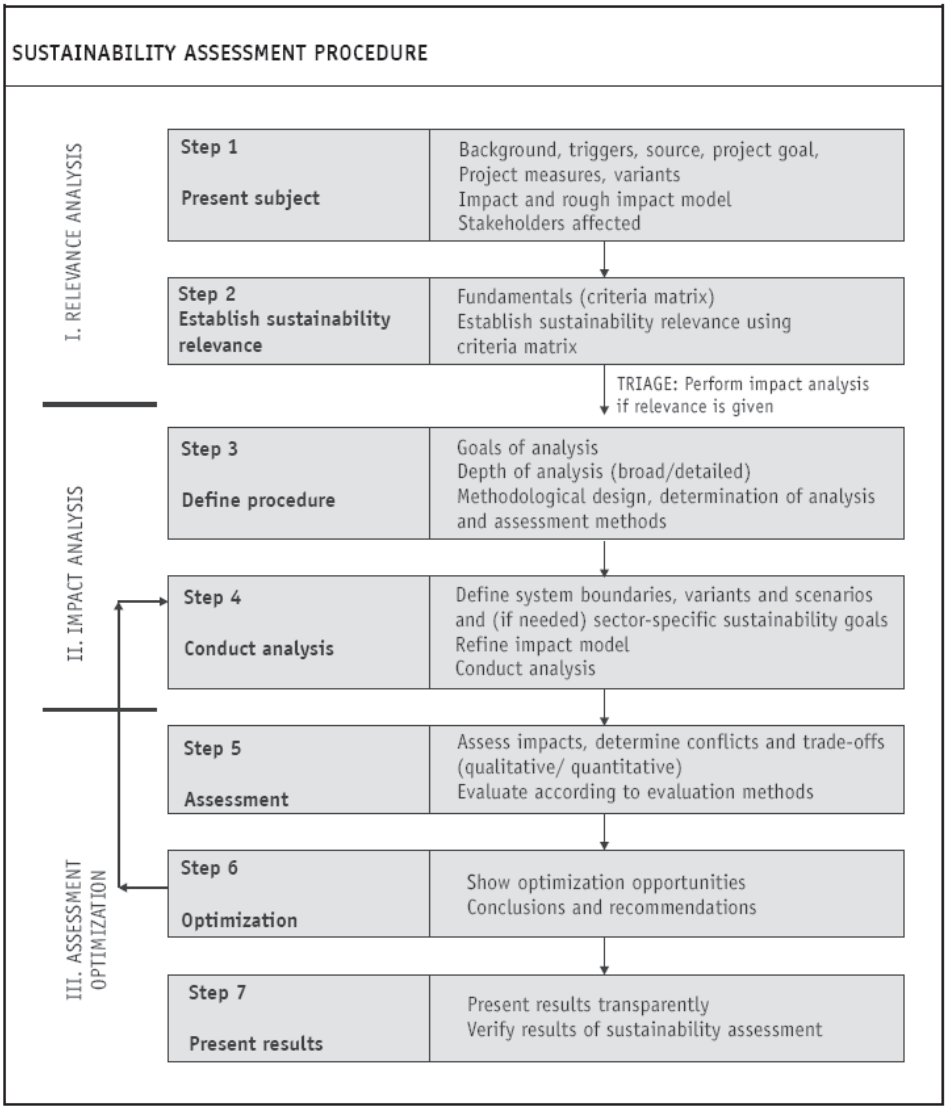
2) a more general or more detailed (as necessary) *impact analysis* that examines how an initiative will affect the three dimensions of sustainability and identifies conflicting goals;

3) an *assessment* that evaluates the impacts that have been identified, using specific criteria such as whether or not they will trigger irreversible trends; and

4) a *report* to decision-makers that documents opportunities for optimization in a clear and understandable way.

What follows is not a comprehensive examination of the Swiss approach, but addresses only those aspects which concern the balancing of interests. It should be emphasized that sustainability assessments provide decision-makers with a basis for action in this regard, but are no substitute for policy-level decisions.

Figure 7.1. Sustainability Assessment Process in Switzerland



Balancing interests in spatial planning projects

Spatial planning provides the most important basis of experience in respect of sustainability assessments in Switzerland. The Spatial Planning Ordinance, based on the Federal Spatial Planning Act of 1979, contains an article that deals explicitly with balancing interests (Box 7.1).

This provision places the emphasis on process-related elements:

1) identifying interests;
2) assessing interests and analysing their impacts;
3) considering interests as comprehensibly as possible in the decisions; and
4) presenting decisions and the reasons on which they are based.

Box 7.1. Balancing Interests in Spatial Planning

The Swiss Spatial Planning Ordinance of 28 June 2000 specifies the following in Article 3 on Balancing Interests:

1. Should authorities be granted a measure of discretion when fulfilling and coordinating spatial planning-related tasks, they must balance opposing interests by:

a. identifying those interests which are affected;

b. assessing those interests and, in particular, analysing how they might be reconciled with the desired spatial development and possible impacts;

c. on the basis of this assessment considering these interests in their decision in as comprehensive a manner as possible.

2. They must present how they have balanced such interests in the reasons for their decisions.

The absence of specific methodological guidelines or requirements and the lack of a material foundation on which to balance spatial planning interests have emerged as key problems. Sustainability assessments take this approach a step further, extending its scope of application far beyond spatial planning.

Balancing interests in sustainability assessments

Identifying interests

Supplementing the approach to balancing interests in spatial planning outlined above, sustainability assessments offer a clearly defined set of assessment criteria which also describe the interests that must be factored into any decision. This guarantees that all of the interests that should be included are actually considered in decision-making.

The target dimensions and guidelines, as formulated by the Swiss Federal Council in its Sustainable Development Strategy 2002, give the framework for the sustainability assessment (SFC, 2002). Projects and activities are to be evaluated in terms of the Federal Council's fifteen criteria (Table 7.1) or in terms of the 27 more detailed criteria defined by the Interdepartmental Sustainable Development Committee (ISDC).

Table 7.1. Evaluation Criteria of the 2002 Sustainable Development Strategy

Environment	Economy	Society
Natural areas, biodiversity	Income, employment	Health, safety
Renewable resources	Preservation of / increase in productive capital	Education, development, individual identity
Non-renewable resources	Competitiveness, innovative capacity	Culture, social values
Water, soil, air, climate	Market mechanisms/true costs	Equal rights, legal certainty, equal opportunities
Impact of ecological disasters, risk of accidents	Public sector	Solidarity

Assessing interests

This essentially involves analysing the impacts of a project, *i.e.* investigating the effects that it will have on the sustainability criteria. The Swiss approach to sustainability assessments does not lay down any binding methodological requirements. In the past, however, impacts have generally been determined in semi-quantitative form (++ / + / 0 / - / --), accompanied by a commentary which sets out the related arguments in narrative form (Table 7.2).

Table 7.2. Semi-Quantative and Narrative Impact Assessment

	Economy*	Environment*	Society*	Comments
Element 1	++	+	0	…
Element 2	--	-	n.a.	…
Element 3	-	--	++	…

Note: * Assessment of the individual elements either in full in accordance with the three dimensions of sustainability and detailed statements on specific sustainability criteria in the Comments column, or further breakdown of the three sustainability dimensions columns to address the various sustainability criteria.

Balancing interests

Interests must also be balanced in parallel with the impact analysis. The underlying understanding of sustainability is extremely important here, specifically where this understanding lies on a continuum between the concepts of strong and weak sustainability – concepts which deal with substitutability between the three dimensions of sustainability. Weak sustainability allows the three capital stocks of environment, economy and society to be substituted for each other. Strong sustainability, meanwhile, does not allow any such trade-offs.

Based on the concept of sustainability set out in the national Sustainability Strategy, Swiss sustainability assessments take the middle road between strong and weak sustainability. The term is "sensible sustainability" (Serageldin and Steer, 1994), although

"weak sustainability plus" is sometimes used in a Swiss context. This approach rests on the precept that individual elements of the aforementioned capital stocks can be substituted for each other. They can therefore be offset against one another to a limited extent, as long as such offsetting is transparent, is not systematically detrimental to the same sustainability dimension, and that the biosphere's overall ability to bear the attendant burden is respected.

Many aspects of the environment display specific characteristics which, even taking the potential for technological advancement into consideration, make it unrealistic that they could ever be replaced by social or economic capital. Many environmental goods such as a stable climate, biodiversity, fertile soils or the atmosphere's ozone layer are vital for the survival of humanity, and capital would not, as a rule, compensate for their destruction. Intervention in the natural world must not be allowed to result in an irreversible loss which compromises future generations' scope of action. The "sensible sustainability" concept means that certain frameworks or limits to substitutability must be observed when giving full consideration to target dimensions in project development or assessment.

In practical use in the form of sustainability assessments, the concept means that the results of impact analyses must also be qualified. Special assessment criteria indicate how specific individual impacts are to be evaluated. The negative impacts that a project may have on the dimensions of sustainability are then classified more strictly as not sustainable or less sustainable if:

1) they affect or violate minimum social, economic or environmental requirements (these also include requirements under environmental law, which must be complied with at all times, *i.e.* sustainability assessments should not be used as leverage against environmental legislation);
2) they can be reversed only with great difficulty or not at all;
3) they will have to be borne by future generations rather than today's;
4) there is uncertainty about their consequences, or if they involve such risks that the possibility of serious negative effects cannot be completely ruled out; and/or
5) they affect areas that are already afflicted by acute sustainability problems, or the effects might worsen problems already visible in current trends.

These additional assessment criteria might be given as part of a commentary on the impact analysis, and/or might result in a tougher or more lenient assessment of those impacts.

Based on an assessment of individual criteria, the main conflicting goals should also be addressed. Conflicting goals arise as soon as a project generates negative impacts in addition to positive ones. They may emerge at individual criterion level or between the sustainability dimensions themselves. The greater the gulf between positive and negative impacts, the greater the conflict between goals. These positive and negative impacts can be drawn from the aforementioned assessment and then interpreted. It is also worth drawing up a matrix setting out both conflicts and synergies, as well as describing the main overarching conflicting goals (Table 7.3).

Table 7.3. Synergies (+) and Conflicts (-) Matrix

	Element 1	Element 2	Element 3	Comments
Element 1	++	+	0	…
Element 2	--	-	n.a.	…
Element 3	-	--	++	…

Considering interests (optimization)

There are essentially two procedures which may be followed here. One is to formulate a range of different variants for a project which permit a better balance between the three dimensions of sustainable development. The other is to draw up ancillary or supplemental measures to ameliorate identified negative impacts or reinforce weak positive ones.

Presenting decisions

Finally, the evaluations of the various dimensions of sustainable development must be presented and explained in a clear and comprehensive way. The objective here is to draw up a transparent basis for decision making which includes the available options and alternatives. A comprehensive assessment table which covers all 15 Federal Council or 27 ISDC criteria provides a highly detailed basis, but is not always suitable for communications purposes and is very time-consuming where several variants are involved. Findings should be presented in accordance with the following principles:

1) the impacts on the three dimensions of sustainable development must be clear;
2) indirect impacts must be clear;
3) uncertainties and risks should be stated;
4) qualitative information must remain recognizable as such and must receive the same emphasis as quantitative information;
5) the most important conflicting goals between individual criteria must be apparent; an aggregate presentation is no substitute for examining individual criteria; and
6) optimization opportunities should be presented and it should be possible to compare variants.

Findings may be presented in chart form in many different ways (*e.g.* rosettes, network diagrams, tables). Whenever possible, several of these forms should be used, in combination with narrative descriptions. Particular care must be taken to choose methods of presentation which both convey an overall view and illustrate particularly severe individual effects. Researchers should thus aim for an appropriate mix of information, condensed into charts and tables, and qualitative explanations.

The Sectoral Transport Plan

As a case study, the sustainability assessment of the Swiss Sectoral Transport Plan highlights the points above. This is a central tool for transport infrastructure planning at the national level in Switzerland. It consists of two parts: a "programme" section, which is strategic and programmatic and covers all modes of transportation, and an implementation section, which looks at the specific modes of "road traffic" and "rail/public transport".

The programme section was drawn up in an initial phase running from 2004 to 2006. This section concentrated on providing an overall view and identifying the primary objectives, principles and priorities that the federal government wishes to apply to planning transportation in Switzerland.

A parallel sustainability assessment in accordance with the federal government's framework concept was conducted to bring the Sectoral Transport Plan into line with sustainable development objectives (ARE, 2004). The assessment was intended to identify imbalances and deficits between the dimensions of environment, society and economy and to describe opportunities for optimization.

An external project team was charged with carrying out the sustainability assessment (Infras/Ecoplan, 2006). Since the aim of this assessment was to optimize the Sectoral Transport Plan, assessment work began at an early stage and continued as the plan was being drafted. The assessment covered a total of five different versions of the programme section of the Sectoral Transport Plan between August 2004 and April 2006.

An analysis of the impacts of individual planning precepts formed the core of the sustainability assessment. The evaluation focused on the objectives of transport infrastructure policy, development strategies, principles for action and priorities in sub-domains, and the logistics of implementation. An example of an impact analysis of a sub-planning strategy within the Sectoral Plan is given in Table 7.4.

Table 7.4. Example of Impact Analysis in the Sectoral Transport Plan

Impact analysis of the "Development of rural areas and tourism regions" strategy				
Principles	Env	Econ	Soc	Comments
S4.1 Maintain the quality of access to rural areas and tourism regions	0	+/-	++/-	**Env**: Neutral impacts on maintaining access quality (any increase in traffic would occur even without the Sectoral Plan). Nothing is being done to counter the trend toward growing traffic volumes, however. **Econ**: Maintaining the infrastructure is important to the region's competitiveness, but at the same time involves high costs if that infrastructure is not used efficiently. **Soc**: Solidarity between regions (connection to the regions, possibility of work in tourist destinations). Well-being may be impaired if such measures induce additional traffic volumes.
S4.2 Appropriate basic public transport services; preserve infrastructure in peripheral regions	0/+	+/-	++/-	**Env**: Neutral environmental impacts from maintaining basic services; infrastructure use remains the same. Basic public transport services prevent an increase in the proportion of motorized individual transport used in peripheral regions. **Econ**: Maintaining the infrastructure is important to the region's competitiveness (although whether a good infrastructure alone is enough to do this is questionable). Also high maintenance costs, and it is almost impossible to use the infrastructure efficiently in peripheral regions. **Soc**: Solidarity between regions is central (redistribution). Very high costs mean fewer resources available for heavily populated areas which may be more affected or under greater pressure.
S4.3 Maintain connections between rural areas	0	+/-	+	**Env**: Neutral environmental impacts from maintaining infrastructure, and usage remaining the same. **Econ**: Maintaining the infrastructure is important to the region's competitiveness, but at the same time involves high costs if that infrastructure is not used efficiently. **Soc**: Connection with neighbouring areas as an aspect of social solidarity (no cut-off areas)

Legend: ++ (very positive), + (positive), - (negative), - - (very negative). The dual symbols indicate positive and negative impacts (+/-, ++/- or +/- -). 0 means neutral impacts.

Goals which conflicted with those of other sub-strategies within the Sectoral Transport Plan were then formulated as a narrative argument and proposals for optimization were developed. No particular tools or tables were used for this work.

This impact analysis established that the Sectoral Transport Plan would bring about an improvement across all sustainability dimensions and criteria when compared with the trend if no Sectoral Plan were in place. Furthermore, the questions were raised as to whether the Sectoral Plan had the right emphasis in the light of current sustainable development issues, and the extent to which it might be optimized in this respect based on

the special assessment factors. They were derived from the "sensible sustainability" concept (minimum requirements, irreversibility, etc.). The aim was to highlight where further optimization had to be targeted, to formulate ancillary instruments and measures, and to provide greater detail and more binding policy precepts.

In order to limit the time and resources required, this additional assessment did not look into all of the individual elements and impacts of the Sectoral Transport Plan. Instead, it grouped the sustainability criteria into more general areas, which were then assessed using the additional criteria (Table 7.5). This shows that the following impact areas are of particular importance with regard to the sustainability of the Sectoral Transport Plan: climate and energy, landscape and natural habitats, soil, and government debt.

Table 7.5. Sustainable Development Assessment of Sectoral Transport Plan

	Critical problem	Trend	Shift of burden	Irreversibi-lity	Minimum standards	Uncertainty /risks
Environment						
Climate/energy	Yes	Negative	Yes	Yes	Not met	Yes
Emissions	Yes	Positive	No	No	Met	No
Landscape, natural habitats/soil	Yes	Negative	Yes	Yes	Not met	No
Economy						
Quality/efficiency	Yes	Negative	No	No	Met	No
Government debt	Yes	Negative	Yes	No	Met	No
Competitiveness	No	Positive/ neutral	No	No	Met	No
Society						
Health, safety	Yes	Positive	No	No	Not met	No
Solidarity, justice	No	Neutral	No	No	Met	No
Equality of opportunity, participation	No	Neutral	No	No	Met	No

The overall assessment that followed concluded that, on aggregate, the Sectoral Transport Plan took appropriate account of the three dimensions of sustainability. The objectives and principles all aimed in the right direction and represented substantial improvements compared with developments without a Sectoral Plan. There was room for further improvement in the Sectoral Plan in the specific areas of climate conservation, limiting urban development, and the impact on the government budget.

The sustainable development assessment stated that the Sectoral Transport Plan did not result in a worsening of the situation compared with the reference scenario, but at the same time would achieve modest progress at most. Particular attention was to be paid to

the three areas just mentioned because they are of primary importance to the concept of "sensible sustainability". The assessment concluded that they concern trends that cannot be reversed or can be reversed only with difficulty, and the attendant burdens would have to be borne mainly by subsequent generations.

Conclusions

With the Swiss approach to sustainability assessments, balancing interests is neither neat nor straightforward. Instead, the Swiss approach is more qualitative, based heavily on transparency and a narrative on the pros and cons. This lends particular importance to the procedural elements of sustainability assessments, which are not here described in greater detail. In particular, the process must ensure that all affected stakeholders are involved, and it must guarantee an atmosphere which encourages discourse and debate. It is largely impossible to meet the requirements of a fair and comprehensive sustainability assessment if the balancing of interests is conducted by an individual person or agency without any input in the form of conflicting opinions.

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Chapter 8. Assessing the Energy Contributions to Sustainability

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Introduction

"Ecodevelopment", which first came into use in the 1970s, is intended to reconcile economic and ecological approaches to growth. International conferences started to gather constituencies dedicated to the environment and to the economy as in Stockholm in 1972. There was strong reaction to the word "ecodevelopment"; translation of this new concept into action was interpreted as saying that nature may be as important as money.

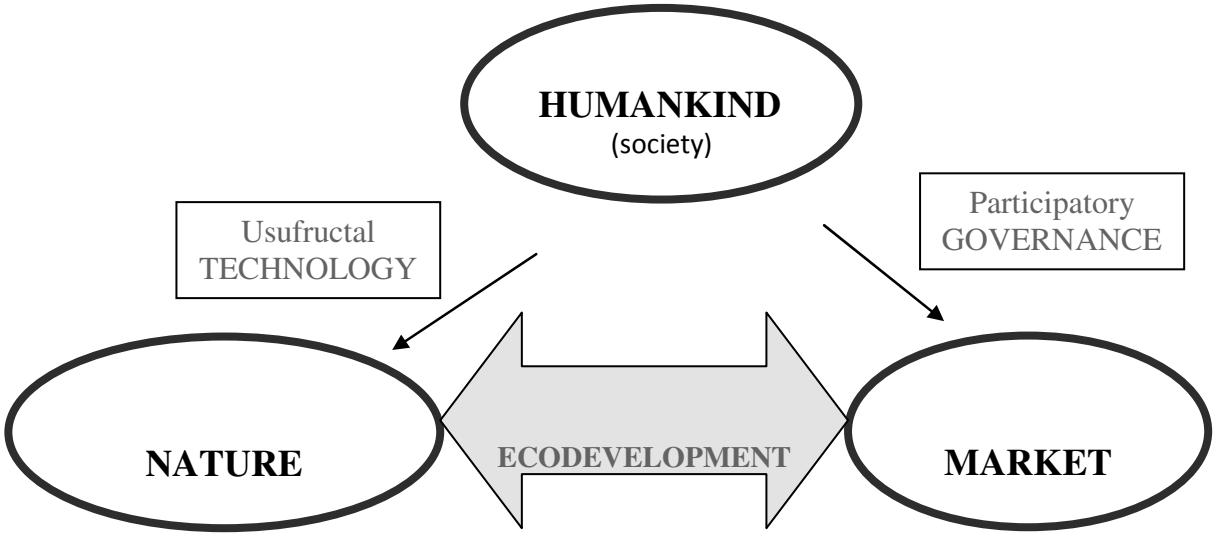
It took almost two decades, *i.e.* until the World Commission on Environment and Development (WCED) issued the Brundtland Report, to translate the concepts embodied in "ecodevelopment" into the acceptable term "sustainable development" which added society to the pillars of environment and the economy (WCED, 1987). This concept had just been coined, when the awareness of an unprecedented threat to our planet arose: global warming.

Five elements of ecodevelopment

With the challenge of climate change, the tenets of science and technology came into the fray to better study the relationships between nature and mankind and try to stop the enhancement of the greenhouse effect. This task led to the creation of the Intergovernmental Panel on Climate Change (IPCC). With the 3rd and 4th IPCC Reports, it became obvious that attempts to mitigate climate change would not be sufficient to stop the trend (IPCC, 2007). The most recent step has been to add efforts to adapt to the problem.

For this adaptation, the mobilisation of the population at large is needed. Ecodevelopment requires now a fifth component: participatory governance, *i.e.* an improved, more balanced relationship between society and the economy. It is these five elements (or pillars and relationships) that should be the basis for sustainability assessments. Ecodevelopment results from the harmonious relationships between nature and humankind served by a fair market, usufructal technologies and participatory governance (Figure 8.1).

Figure 8.1. Actors and Relationships for Ecodevelopment



Source: HELIO International

Energy sustainability assessments

HELIO International started working on ecodevelopment assessments in 1996, focusing on energy policies since they are the main climate change driver and are conspicuously absent in both the Brundtland Report and the Agenda 21. In 1997, at Rio+5, a first global report was issued based on regional observations by local analysts. Through a series of methodological workshops, a roadmap and process were then designed and structured around a handful of central indicators of national energy policy. Country reports were written by national experts in a number of countries, issued on CDROMs and on the website for use by policy- and decision-makers, as well as media, NGOs and researchers.

In 1999, to contribute to the implementation and viability of the Kyoto Protocol mechanisms, a set of indicators were developed to insure that these mechanisms would be designed to be conducive to sustainable development. This work gave rise to the CDM SD-Matrix and to the South-South-North organisation (SSN) and work, as well as to further methodological tools, including monitoring protocols and the Gold Standard.

Recently, studies have been conducted on how to assess the vulnerability to climate change and to reinforce the resilience of energy systems, mostly in African countries which are the most threatened by such changes (Helio, 2007). Tools are being developed to measure the impacts of renewable energy penetration with a particular attention to rural electrification and with the co-operation of several Mediterranean institutes.

Sustainable Energy Watch (SEW)

There is a world-wide network of observers and regional co-ordinators (Sustainable Energy Watch) who monitor and regularly report on sustainable energy developments using a series of specific indicators (SEW, 2008). A group of international energy experts

serve as advisors and have developed the methodology for the set of selected indicators. They also regularly review the approach to ensure that the monitoring accurately reflects changes underway.

These indicators are in line with the actual *credo* of the wise-use energy community (users and producers alike), that energy efficiency improvements, renewable energy and changes in consumption, behaviour and management patterns are necessary to restore long-term sustainability. They deal with the five aspects of sustainability: environmental, social, economic, technical and civic, but remain very close to everyday preoccupations so as to be able to enlist the good will of policy- and decision-makers to which this work is primarily addressed.

Energy analysts in every part of the world have started using this approach which is both quantitative and qualitative to evaluate the contribution of energy to sustainable development. Findings are reported to civil society and interested parties, who will be in a position to arrive at energy decisions which are more conducive to ecodevelopment. It is the Sustainable Energy Watch approach to assessing the pertinence and the long-term sustainability of energy systems that this paper will now outline.

Assessment methodology and process

In a given geographical area each, observer-reporter (OR) audits the current energy situation, *i.e.* reports using statistics and facts, and compares them to those of previous years for the same area and evaluates progress towards ecodevelopment. The observer-reporter analyses a situation which is rooted in the past and is constantly evolving. The OR is not mandated to advocate a specific course of action, but to outline possible alternatives which, in his/her view are likely to improve overall welfare.

The number of quantitative energy sustainability indicators retained has been limited to ten for the sake of manageability (two for each of the five components of sustainability: environmental, social, economic, civic and technological). These indicators have been selected as they provide an overall snapshot that is reasonably coherent and representative. The indicators are simple and refer to everyday realities. Some are easy to assess from information collected in official documents, others have to be computed by the observer-reporters using their expert knowledge of the country they live in.

It would be wrong, however, to expect that ten indicators can completely explain the full situation. A good and meaningful sketch is what is hoped for. The choice of these benchmarks, furthermore, is not value-neutral. They have been selected to simplify monitoring, but nevertheless assess progress made by energy policies in order to lead to an increased welfare for the population and to a more sustainable development for all. Better indicators may come to light as a result of future experience and the representation will, it is hoped, reflect this process of self improvement over time.

Each geographical area is described by a few general statistics which are used to introduce a qualitative discussion of the particular conditions of the area and its contribution to social progress by comparison with those studied in the previous years:

1) *geographical traits:* percentage of arable land, main resources, presence of desertification, etc.;

2) *demographic characteristics,* reflected by total population, its distribution, evolution and state of health, reference to the Human Development Index;

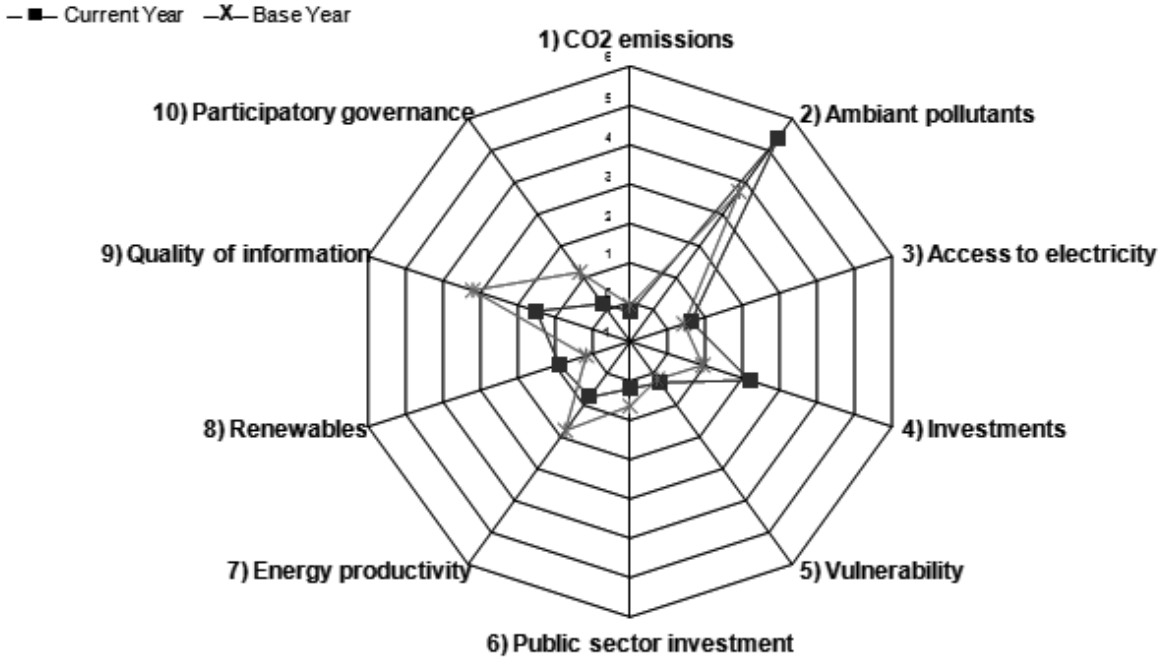
3) *economic development,* measured by GDP and GDP per capita, at current prices and at Purchasing Power Parity, alongside the Index of Sustainable Economic Welfare (Daly and Cobb, 1994). This allows a discussion of income distribution, of its bias and of progress in alleviating poverty.

Ten indicators of sustainability

Ever since the Brundtland Report (1987), a lot of work has been devoted to the definition of sustainable development and to the choice of appropriate indicators. More often than not these indicators, however, remain environment indicators and do not incorporate the full flavor of ecodevelopment. A limited set of statistics are needed based on two of the most representative or typical figures on each aspect of sustainability: environmental, social, economic, civic and technological.

Rather than making up a composite index, a visual representation of the ten indicators can give a good idea of the overall progress of a country towards improved sustainability (Figure 8.2). The level of sustainability reached since 1990 is shown by the length of ten vectors reaching towards the center of a circle. The periphery of the circle will therefore be point 0 (1990 reference) and the center be 1.

Figure 8.2. Ten Indicators of Energy Sustainability



A scale of evaluation has been provided for each indicator. An achievable optimum level of sustainability will be reached when all vectors have reached the center. Progress in each of the five components of sustainability will be materialised thanks to a line joining the top part reached by the two vectors specific to this form of sustainability. This

line will thus delineate an area, similar to the part of a wing, representing the specific form of sustainability reached in the region considered. The graph thus achieved can be likened to a dynamic helix, illustrating the capacity of each nation to move towards improved sustainability.

A baseline set of indicators has been created from which to infer progression towards or regression from energy-related sustainability. By concentrating on feasible, policy-relevant, energy-related indicators at the intersection of economic, social, technological and environmental sustainability, this tool can deliver a usable set of goals and measurements to citizens and decision-makers alike. However, important as the indicators are, they are only carefully chosen statistics and merely give one part of the story. The most interesting contribution comes from the qualitative personal assessment given by the observer-reporters in each country.

Selection of indicators of sustainability

Several criteria have guided the selection of the ten indicators of sustainability. Each indicator must:

1) be clearly definable, simple to understand, and easily communicated to citizens and decision-makers alike;
2) be relevant to actual or anticipated policies;
3) reflect an important aspect of the social, economic, environmental, or technological elements of the energy system;
4) measure something of obvious value to observers and decision-makers; and
5) have durability and long-term relevance.

In addition, the underlying metric – the actual measurement or statistic used – must be generally available for most, if not all, countries. This combines measurability, data availability, and achievability; in other words, data collection and vector calculation must be do-able. If calculation is required to derive an indicator, it must be simple to do. The indicator set as a whole should be indicative of a country's and the world's progress towards energy-related sustainability. And improvement in an indicator's measurement is indicative of genuine progress toward an energy system that sustains and improves human health and happiness.

The aim of this indicator set is to be applicable to the current energy situation in a given country and to highlight what is pertinent and achievable. The environmental indicators cover CO_2 emissions per capita (global pollution) and ambient energy-related emissions (local pollution). The social indicators cover guaranteed access to electricity and investments in clean energy. The economic indicators cover energy resilience and burden of public energy investments. The technological indicators cover energy intensity and renewable energy deployment. The civic indicators cover quality of information and participatory governance. These are outlined in more detail below.

Indicators for environmental sustainability

Indicator 1: Per Capita Energy Sector Carbon Dioxide Emissions

Global environmental impact is measured by carbon dioxide (CO_2) emissions per capita. Each nation's per capita emissions will be compared to the 1990 global average. The long term objective is a convergence towards a reduction of seventy percent of global emissions.

Indicator 2: Most Significant Energy-Related Local Pollutant(s)

Selecting the indicator for the most significant local environmental pressure is done by local observer-reporters. It is necessary to choose a pollutant that strongly impacts local human or environmental health, *i.e.* impacting human respiratory, reproductive, and immune systems, negatively effecting forestry, lakes and rivers, agriculture, domestic animals, fisheries, or infrastructure etc. Such pollution sources are frequently related to industry, mining, fuel refineries, manufacturing, or electric power plants. Non-point pollution sources such as vehicles often pose the greatest hazard to health and are often difficult to mitigate. If information is available their emission rates could be used. The objective is a nine-tenth reduction of the selected pollutant(s).

Indicators for social sustainability

Indicator 3: Households with Access to Electricity / Percentage of Household Income Spent on Energy

Access to electricity is considered a social good; it helps spread literacy and education, it contributes to improved health through the refrigeration of medicines, and to increased communication and awareness. While western standards of electric consumption need not be adopted, access to some level of affordable power is appropriate.

Indicator 4: Investment in Clean Energy (a proxy for employment)

Several studies show that investment in clean energy – renewable energy and energy efficiency – creates more jobs and generates faster growth than comparable investment in conventional energy. For this social indicator new employment in clean energy projects could be measured, *e.g.* employment in cleaning up conventional energy projects through the installation of pollution control equipment or the reclamation of mined areas or wetlands restoration etc. However, comprehensive data on employment gains are not available in most countries. There is therefore a substitute indicator for which data are generally available: investment in renewable energy and energy efficiency.

Indicators for economic sustainability

Indicator 5: Energy Resilience / Energy Trade Benefits

Many countries are highly dependent on imported fuels for transportation, heating, cooling and lighting of buildings and electric power generation. The threat of supply interruption is real, primarily for unforeseeable political reasons but also due to pipeline accidents, system vulnerabilities, embargoes, terrorism, and civil strife. The more universal threat is price fluctuations that can destabilize both importing and exporting nations. The development of improved extraction technologies and new discoveries of reserves have led to increased fossil fuel supplies that have out-paced consumption. Indeed, contrary to price forecasts, energy prices have declined strongly in real terms since the mid-1970s. The latest international problems brought about by disruption of supplies, *e.g.* war in the Middle East, hurricanes, however have recently raised the price of fuels significantly.

Separate metrics have to be selected for import-dependent and export-dependent countries. In order to provide an incentive for net energy importers without discouraging imports of renewable energy, imports of non-renewable energy are measured as a fraction of non-renewable energy consumption. Importing countries can improve sustainability by reducing either imports or consumption of non-renewables or increasing imports or consumption of renewable energy.

Indicator 6: Burden of Public Energy Investments

This indicator compares government investment in non-renewable energy supply to total GDP as a measure of the burden of energy development on the economy. The primary purpose of this indicator is to measure the level of public funds in the energy supply sector and to provide incentives for investment in cost-effective renewable energy supplies and end-use efficiency. Government enterprises and deals with private entities tend to shift scarce resources into capital-intensive buys. Such investment should either be decreased or shifted to the private sector, or both should occur.

Indicators for technological sustainability

Indicator 7: Energy Intensity (energy consumption/GDP)

This indicator measures each nation's progress towards increasing the level of economic activity per unit of energy consumed. Many nations already track such progress and the World Bank, United Nations, International Energy Agency and the OECD publish periodic comparative reports. However, this simple calculation is complicated by a number of factors. The available data compare economies with widely different geography, economic development, climate and levels of industrialisation. Some sources compare indices of energy efficiency, *e.g.* fuel economy of personal vehicles; others compare specific sectors, *e.g.* industrial energy use per dollar of industrial output; while others aggregate the nation's economy.

Only consumption of commercial energy is typically counted, thus ignoring large quantities of "traditional" fuels such as wood, charcoal, bagasse, and other biomass fuels used in many countries. A consistent definition of what is meant by economic output is

not clear-cut either; the convention of counting GDP output at current exchange rates works better for comparing industrialised countries than developing nations. In the latter cases, purchase power parity (PPP) accounts of GDP are more appropriate.

Indicator 8: Renewable Energy Deployment

Global use of renewable energy is growing faster than the use of fossil fuels and electricity. Globally, wind power capacity is increasing annually. The use of photovoltaic cells – semiconductor devices that turn solar radiation directly into electricity – is expanding nearly as fast as wind power. Fossil fuels and nuclear power – heavily subsidised and politically favored for decades – still generate a large fraction of the world's electricity. Yet the market is changing, as is political and popular support. Renewable costs are falling and are becoming more competitive even without counting the multiple benefits of clean, environmentally superior power. India, Germany, and Denmark are now leading the world in installed wind power capacity.

Indicators for civic sustainability

Indicator 9: Quality of Information

Adequate, reliable and accessible information are the main requirements for civic processes to function effectively. They provide for transparency and good policy. Quality information is dependent on the accuracy, availability and free accessibility to good data. Early dissemination of quality information allowing fairness and equality of participation by independent bodies and energy agents representing both the energy demand and supply sides is also needed. Polls have shown that independent environmental non-governmental organisations (ENGOs) are more trusted that any other organisations to provide reliable information, therefore their engagement with civic bodies or means of action, financial and otherwise, will be used as a proxy for this indicator.

Indicator 10: Participatory Governance

Decision-making processes show the true measure of civic sustainability. If citizens are genuinely involved from the time a policy or project is contemplated, they will develop a sense of ownership and the decision will likely be better and easier to take and implement. Balanced governance also prevents a whole host of problems and confrontations. Participatory governance can be measured by the number of independent bodies and of ENGOs on the boards of energy entities.

Conclusions

Assessment reports based on these indicators are produced periodically and subject to peer review. For some countries they constitute a reward of their efforts towards ecodevelopment, but for others the results are not as positive. For all involved, it is an opportunity to learn where a country stands in terms of energy sustainability and where efforts should be applied to lead to ecodevelopment.

To communicate this knowledge, a graphic representation is used. The graphic representation of data is eloquent, but purely indicative of where efforts have to be made

to improve overall energy sustainability. It is still necessary to ask who has the power to improve the situation. Who makes decisions in the energy sector of the country?

From their own experience, observers in the energy field will all say that the most important way of promoting improvements in energy policies is through an authentic planning and decision-making process involving energy users as early as possible in the planning process.

The work of the Sustainable Energy Watch (SEW) had been replicated in a number of countries. With its simple set of indicators and its monitoring worksheets, it aims to prevent decisions that have often proven detrimental to entire countries. Tools are provided for energy analysts who want to look at the bigger picture and help promote energy policies to be more conducive to ecodevelopment for all.

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Chapter 9. Assessing the Sustainability of Trade Policies and Agreements

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Introduction

Economic globalisation and the liberalisation of international trade have generated widespread concern not only for their economic impacts but also for their potential impacts on the environment and for their social impacts, particularly on the poorest and most vulnerable groups in society. There is a high level of public awareness of the potential impact of trade liberalisation on sustainable development, reflected in such issues as "fair" trade in terms of the distribution of the economic gains from trade; "sustainable" trade in renewable natural resources; and "decent work" standards to protect against the exploitation of labour. Trade negotiators need to give careful consideration to the environmental and social consequences of trade agreements.

As a consequence, trade liberalisation in now seen less as an end in itself, and more as a means to an end. This has a number of important and related implications for trade assessment methodologies:

- First, the shift in the objective of trade negotiations from purely economic development to a broader goal of sustainable development means that the measures used to assess the *ex ante* or *ex post* impact of trade negotiations will become multidimensional, involving potential trade-offs and "balanced" policy choices between economic, social and environmental impacts;
- Second, it highlights the importance of integrating mitigation (and enhancement) measures within the assessment methodology;
- Third, it creates the need for a closer alignment and integration between trade policy and regulatory policy at both domestic and international levels; and
- Fourth, it highlights the need to incorporate the good governance principles of transparency and accountability within the assessment methodology.

This paper describes how these issues are addressed in the Trade Sustainability Impact Assessment (SIA) methodology adopted by DG Trade for the *ex ante* assessment of the European Commission's trade negotiations. This includes the role played by regulatory mitigation and enhancement measures in the SIA methodology; the relationship between assessment and decision-making in the context of trade policy assessment; and the main challenges and limitations of the SIA approach. A number of proposals are presented for the further refinement and development of the methodology.

Trade Sustainability Impact Assessment methodology

During the 1990s, civil society organisations expressed increasing concern over the potentially adverse effects of further trade liberalisation on the environment, on employment levels and wage rates in high income countries as well as on the development process in developing countries. In response to civil society concerns, the European Commission (EC) has embarked on an ongoing programme of Sustainability Impact Assessment (SIA) studies of all its trade negotiations.

The programme aims to ensure that policy choices are informed by an assessment of their potential economic, social and environmental impacts in both the European Union and its trading partners, and that they are consistent with the overarching objective of sustainable development (EC, 2005). The process includes extensive consultation and participation with stakeholders and other interested parties, alongside qualitative and quantitative research into the relationships between proposed trade measures and their potential effects.

In 2006, DG Trade produced a guide for conducting Trade SIAs (EC, 2006a). The Commission is committed to undertaking a Trade SIA for all trade negotiations, whether multilateral, regional or bilateral. To date, more than 20 SIA studies are underway or have been completed. The studies are prepared by external experts on a contracted basis and are available on the EC's Trade SIA website. The EC has held two international conferences to review experience and further develop the process (EC, 2003b; EC, 2006b).

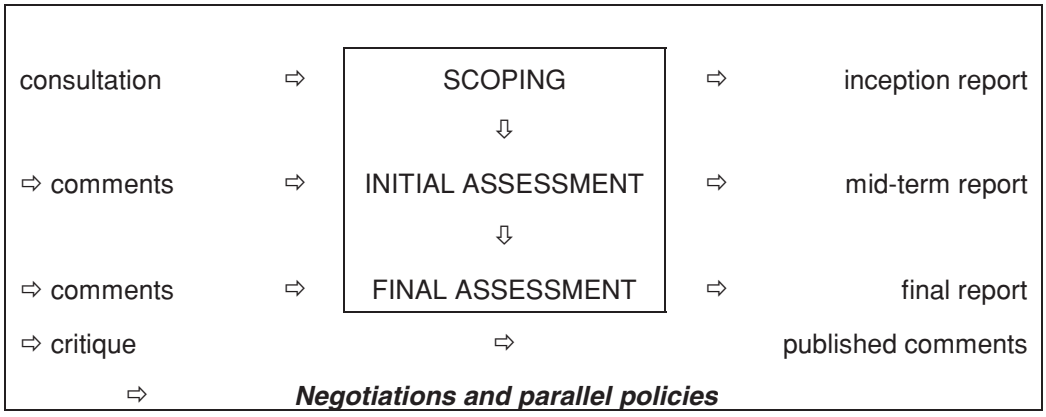
The SIA studies aim to inform the public debate on trade liberalisation, and through that debate, provide objective information to decision-makers to enable them to more fully integrate sustainable development into trade policy. To achieve this, the SIA process has to include extensive consultation and participation with stakeholders and other interested parties, alongside its technical analysis of causes and effects. The process gathers different views and evaluates them in the light of available information, to provide objective information that is intended to inform the negotiations and contribute to the design of national and international policy measures to enhance beneficial effects and mitigate potentially adverse ones.

The SIA process

A typical SIA project needs to examine all the trade measures under negotiation and their potential impacts on all economic sectors in the affected countries. A broad assessment may be undertaken in a preliminary overview SIA, which identifies those measures and sectors for which more detailed sectoral SIAs are needed. Consultation takes place at key stages of either type of assessment (Figure 9.1).

The technical aspects of the assessment follow the vertical sequence in the central box, interacting with the horizontal inputs and outputs of the consultation process. The first need in the technical assessment is to evaluate the causal relationships for all aspects of the trade policy agenda.

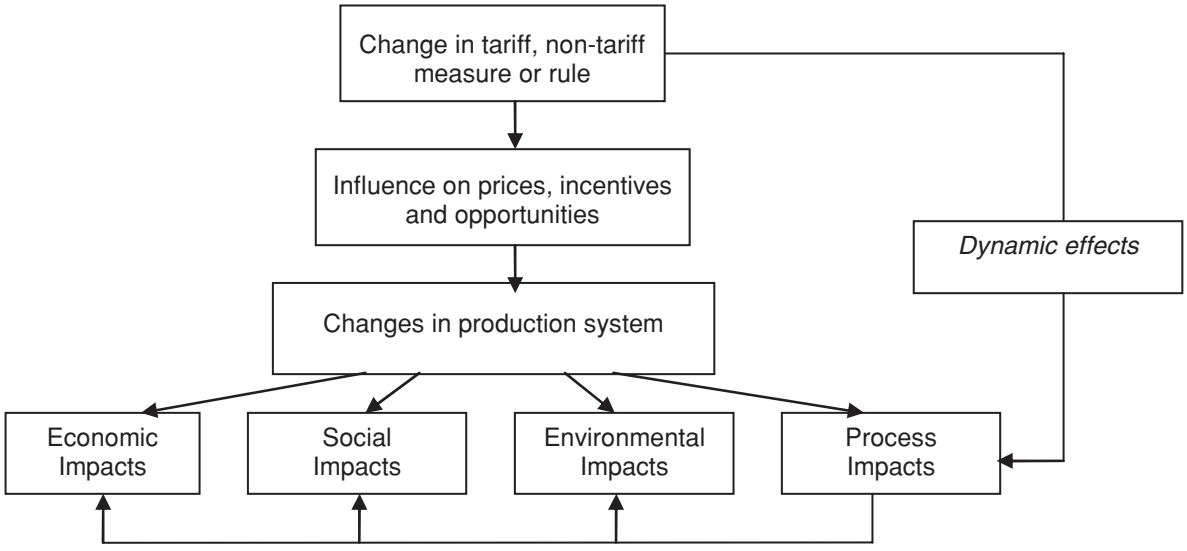
Figure 9.1. Overview of the SIA Process



Assessing sustainability impacts

All of the components of a potential trade agreement have an economic effect, which will in turn have social and environmental effects. Some may also have direct social or environmental effects. The analysis of causal relationships includes, where appropriate, those embedded in economic modelling studies, together with logical analysis of other relationships and empirical evidence from the literature (Figure 9.2).

Figure 9.2. Assessment of Trade Policy Impacts



For each component of the policy agenda, the central part of the technical analysis begins by identifying the effect of the proposed change on economic incentives and

opportunities, in comparison with a baseline of no change to existing agreements. This will cause changes in the production system, differently in different countries, with consequent economic, social and environmental impacts that may interact with each other. Some impacts may be only temporary, occurring while the system adjusts to the change, while others will continue into the longer term.

Long-term impacts may also arise through the impact of the trade measure on underlying processes of economic development, social transformation and environmental degradation (or improvement) that are taking place in response to various drivers of change. Any effect which the measure may have on accelerating, decelerating or otherwise altering any of these processes may have significant long term impacts on the economic, social or environmental aspects of sustainable development.

For some components of the policy agenda such as tariff changes, the causal relationships are fairly well understood, and may have been incorporated into economic and other models, including computable general equilibrium modelling (Kirkpatrick and Scrieciu, 2007). In some cases, the relationships are less well understood, and empirical evidence of past effects is limited. In such cases, much of the analysis consists of evaluating the validity of the various claims made by negotiating parties for and against the proposed measure, alongside stakeholder concerns and further logical analysis of likely causes and effects.

The EU's approach to trade impact assessment is not intended to evaluate the impacts of any particular negotiating position or trade policy, but rather, to provide information that may contribute to policy development in both the EU and its trading partners. In some of the early studies, attempts were made to evaluate a range of alternative scenarios for a potential trade agreement, but the large number of permutations combined with a relative lack of precision in assessment techniques made this impracticable. Subsequent studies have instead used a single scenario comprising an outer bound for each of the measures under negotiation, from which the likely impacts of any intermediate position can be inferred for each measure.

Indicators for trade assessments

At the broadest level, sustainable development can be defined in terms of the 18 Millennium Development Goals (MDGs). Some of the more recent SIAs have therefore assessed the impacts on each of the MDGs. While this provides important information, these targets are too general to give a clear indication of many significant impacts.

At the regional level, a greater degree of precision may be available in an established indicator set. For example, in the SIA of the Euro-Mediterranean Free Trade Area, impacts on each of the 34 priority indicators of the Mediterranean Strategy for Sustainable Development were assessed. Even here however, many of the indicators are designed to monitor the effects of other actions than trade liberalisation, while many of those that are relevant to trade are too broad to indicate important impacts.

The Trade SIA methodology therefore steers the assessments according to nine aggregate indicators or sustainable development themes, and two indicators of sustainable development processes (Table 9.1). More specific analysis is guided by an initial scoping exercise based on consultation, a review of causal effects, and the evaluation of stakeholder concerns. More detailed "second tier" indicators are developed from the

significant impacts identified during the assessment, primarily for the purpose of subsequent monitoring.

Table 9.1. First Tier Indicators for Trade SIA

Economic	Social	Environmental	Process
Real income	Poverty	Biodiversity	Adherence to sustainable development principles
Fixed capital formation	Heath and education	Environmental quality	Effectiveness of sustainable development strategies
Employment	Equity	Natural resource stocks	

The Trade SIA approach used by DG Trade preceded the impact assessment (IA) procedures adopted by the Commission in 2002 for the assessment of all policy proposals (EC, 2005). The general IA procedures require the assessment to be in terms of sustainable development, while at the same time assessing the potential impact on European competitiveness and employment (Franz and Kirkpatrick, 2007). The relative weight which is attached to the economic (competitiveness) objective and the broader goal of sustainable development is a matter of ongoing internal negotiation within the Commission.

The general IA procedures are also applied to proposals for new trade policy negotiations. However, there are a number of important differences in approach (Ruddy and Hilty, 2008). First, the IA studies of trade negotiation proposals reflect the tension between the objectives of competitiveness and sustainable development, as seen in the Commission's most recent Trade Strategy Communication (EC 2006d; George, Iwanow and Kirkpatrick, 2007).

The focus of the IA assessment is on economic impacts, with less attention given to potential environmental and social impacts. Second, the IAs for trade policy do not involve wide public consultation and do not provide full public access to the assessment reports. The Commission's IAs are conducted internally and access to the reports is restricted (EC, 2006c). If the development of a negotiating position was done publicly, it would reveal the hand of the negotiators and weaken their position. Therefore, although the publicly conducted SIA process is intended to inform negotiating positions, it does not define them.

Mitigating and regulatory measures

The Trade SIA methodology includes assessment of potential mitigation and enhancement or "flanking" measures which if adopted and fully implemented, would offset the potential negative impacts and enhancement the positive impacts. The effectiveness of existing regulatory measures is also part of the assessment of potential flanking measures.

The importance of "behind the border" regulatory policy has been emphasised in recent EC trade assessments and negotiations. It is now acknowledged by trade analyst

and negotiators that trade performance depends not just on demand conditions but also on internal supply conditions. Hence the widening of trade negotiations from a focus on market access alone, to include issues of trade facilitation and domestic regulations affecting investment and business sector development (Kirkpatrick and Iwanow, 2007). Similarly, the OECD has highlighted the need for IA to include assessment of regulatory reform on trade and foreign investment (OECD, 2007).

While these efforts to allow for regulatory issues within trade policy are to be welcomed, it should be noted that they are limited to the economic impacts of regulation on trade outcomes.

In contrast, the Trade SIA methodology provides for the assessment of regulatory measures to deal with environmental, social and economic impacts. The need for regulatory measures to mitigate significant negative environmental effects of trade liberalisation receives particular attention (Scrieciu and Kirkpatrick, 2008). The use of mitigation measures to address adverse social impacts is also included in the Trade SIA methodology. However, the scope of flanking measures is limited to domestic regulatory measures in the EU and the partner countries. This is a serious limitation of the SIA methodology as applied to trade policy and reflects the absence of global institutional structures to regulate the global environmental and social impacts of international trade.

From assessment to policy

The Trade SIA and the IA procedures currently used by the European Commission share many common characteristics, reflecting the more generic impact assessment approach to policy making. The impact assessment approach (also known as regulatory impact assessment or RIA), is based on the notion of an evidence-based approach to decision-making, where rational and consistent policy choices made in a transparent and accountable manner, based on a consideration of the available evidence (Kirkpatrick and Parker, 2007).

The objective of the trade sustainability impact assessment program as specified by the EC is to "integrate sustainability into trade policy", so that the implementation of the negotiated trade measures and accompanying policy measures will contribute to the "best possible outcome" in terms of sustainable development (Box 9.1).

Box 9.1. EC Trade Sustainability Impact Assessment

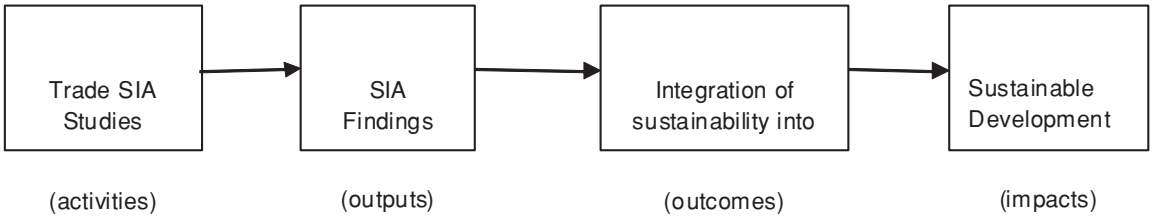
Sustainability Impact Assessment is a process undertaken before and during a trade negotiation which seeks to identify economic, social and environmental impacts of a trade agreement. The purpose of an SIA is to integrate sustainability into trade policy by informing negotiators of the possible social, environmental and economic consequences of a trade agreement.

The idea is to assess how best to define a full package of domestic policies and international initiatives to yield the best possible outcome, not just in terms of liberalisation and economic growth, but also of other components of sustainable development. An SIA should also provide guidelines for the design of possible accompanying policy measures. Such measures may go beyond the field of trade as such and may have implications for internal policy, capacity building or international regulation. Accompanying measures are intended to maximise the positive impacts of the trade negotiations in question, and reduce any negative impacts.

Source: DG Trade website, "Frequently Asked Questions"

Ex ante assessment (and *ex post* evaluation) can be undertaken at different stages of the effects chain which extends from the initial activities or inputs, through outputs and outcomes, to final impacts on the goal that has been set for the original policy measure or intervention (Figure 9.3).

Figure 9.3. Assessment of Trade SIA



The integration of sustainable development into trade policies and accompanying measures was discussed at an international SIA seminar organised by the European Commission in 2003, where participants called for sustainable development to be more firmly established as an overarching aim of trade negotiations (EC, 2003a). The seminar also sought clarification of the role of SIA in the negotiation process; with many participants worried that SIAs would lead only to accompanying measures to mitigate negative effects of agreements, rather than to modifications in the EU's negotiating position. In responding to these concerns DG Trade stated that: 1) sustainable development has to become a central objective in all trade negotiations; and 2) SIA is an analytical and information tool that should play a key role in attaining this objective.

DG Trade is committed to SIAs that improve the EU's negotiating positions in the interests of sustainable development. SIAs are not intended to find ways of compensating for the shortcomings of negotiating positions by identifying the need for complementary measures.

For each SIA, the Commission aims to prepare a paper based on the SIA findings, which defines points of agreement, responds to disagreements, and considers what further action should be implemented. Prior to publication, the position paper is drafted and discussed with Member States at the Trade Committee – the so-called "133 Committee". This time-consuming process has been completed only for some of the earlier SIA studies. Typical responses fall into one of five main categories:

1) specific new action is proposed;

2) possible new action is under consideration;

3) more detailed analysis is needed before decisions on action can be taken;

4) sufficient action is already being taken; or

5) the Commission disagrees with the SIA findings.

Where the responses fall in the first group, the proposed action has tended to be non-specific, such as raising awareness of EC delegations. This suggests that the SIA studies have had little direct influence on negotiating positions. In order to obtain wider evidence

of the impact of the SIA studies, a pilot questionnaire survey was undertaken to solicit the views of internal and external stakeholders. The limited number of responses cautions against generalising the results, which are best interpreted as providing an indication of the range and variety of views that a larger and more representative sample might reveal.

Responses were received from NGOs, the private sector and EC trade negotiators and officials, giving both "outsider" perceptions and "insider" judgements informed by experience. In the responses to specific questions, no statistically significant difference was identified between the responses of insiders and outsiders. However, differences may be gleaned from the specific comments made. Respondents were asked to consider both outputs and outcomes for those SIA studies with which they were familiar.

On the outputs, nearly 70% of respondents thought that the SIA methodology had improved with the more recent studies, and only one thought that it had deteriorated. Almost 50% considered the quality of analysis of the potential economic, social and environmental impacts to be good or very good. The responses to all the questions on the consultation process were positive overall, with 78% indicating satisfactory or better, and 50% good or very good. The discussion of mitigation and enhancement proposals and recommendations for policy-makers was the weakest element. This was considered to be poor or very poor by 52% of respondents, and satisfactory or good by 48%. None thought that it was very good.

In relation to outcomes, the survey asked two questions covering the impact of the SIAs on decision making:

Question A: To what extent has SIA strengthened the integration of sustainable development into trade policy decisions?

Question B: What is your overall impression of the extent to which SIA has influenced decision-making in each of the following areas? – Influence on trade agreement; influence on development aid programmes; influence on EU domestic policy; influence on domestic policy in non-EU countries.

For the first question, 59% of responses considered that the impact was low or very low, on a scale from 1 to 5 for very low to very high. Only one respondent gave a score of 5, for very high impact. The responses for the second question were similar, indicating particularly low influence on trade agreements or on domestic policy in non-EU countries.

They indicated somewhat greater influence on EU domestic policy and development aid programmes. For development aid, 31% of respondents reported a medium level of influence, and 6% a high level. For EU domestic policy 30% of responses ranged from medium to very high influence (10% each), but with 70% reporting low or very low influence. Over 80% of respondents thought that the influence on trade agreements or non-EU domestic policy was low or very low.

These results reveal a sharp difference between the judgements on the quality of the methodology and technical analysis and the effects that the SIA findings have on the decision-making process, and reflect a perceived failure to integrate the studies into trade negotiations and linked policies. In part, this is related to the institutional and political context in which negotiations are conducted and SIAs are undertaken. There are significant tensions between an impact assessment process which evaluates impacts for all trading parties, and a decision-making process based on negotiation between those

parties. This difficulty is compounded by the introduction of social and environmental issues into negotiations whose prime focus is on specific economic gains and losses.

More generally, the results reflect the fundamental dichotomy within IA between impact assessment as an analytical predictive technique and as a process for improving the quality of decision-making in the public sector. Impact Assessment is a tool for decision-makers, not a decision-making tool. In other words, to be effective in terms of affecting the goal of sustainable development, the results of Trade SIA (or any other form of IA) will need to influence the decision making process (George and Kirkpatrick, 2008).

Barriers to policy influence

The Trade SIA programme is an ambitious effort to strengthen the evidence base of trade policies and steer them towards sustainable development. The studies completed so far have shown that appropriately designed trade reforms have the potential to make a significant contribution to development, and, with appropriate parallel measures, can do so in an environmentally and socially sustainable manner. Typically, the SIA studies show that global impacts on climate change and biodiversity loss are adverse, with additional local adverse environmental impacts, and significant social impacts that include losers as well as gainers.

It has, however, proved extremely difficult to realise these goals through the existing trade negotiating process. Multilateral trade negotiations are not designed to deliver sustainable development. Their purpose has always been to maximise economic gains through a process of trade liberalisation. International trade negotiations take place in an institutional setting in which the WTO is responsible for maintaining the rules and standards for promoting the liberalisation of trade, while other international bodies are responsible for international agreements on social and environmental issues.

WTO committees on trade and environment and trade and development aim to ensure consistency between WTO agreements and these other agreements, but its own responsibility is limited to the management and promotion of international trade. The aim of bilateral/regional trade negotiations is similarly restricted to promoting trade, while remaining consistent with international agreements on social and environmental issues.

To the extent that current global development is socially inadequate and environmentally unsustainable, this may be taken as an indication of the relative weakness of international social and environmental institutions compared with those responsible for economic issues. This weakness may limit the extent to which SIA can contribute to enhancing sustainability within existing international structures and decision-making frameworks.

The lacuna in international policy coherence is reflected particularly in the ongoing debate on the appropriate content of the WTO multilateral trade negotiating agenda. Interestingly, the WTO itself has identified the broadening of the negotiating agenda through new co-operative efforts as one to the major challenges to the organisation's future authority and influence (WTO, 2007). These issues include the distributional consequences of international harmonisation of "behind the border" internal measures; and the management of environmental consequences of trade liberalisation (WTO 2007: 360-362).

Trade negotiators, individually and collectively, are not responsible for sustainable development issues. They are given little specific information on how they should handle them, if at all, even when relevant information is made available. Their prime aim is to achieve market access gains, within the constraints placed by the government's overall policy.

They operate within a broad assumption that trade liberalisation, in any form, will help sustainable development and that adverse impacts will be countered through the expected economic gains. This assumption is not borne out by the SIA studies. The current impasse in multilateral trade negotiations, and corresponding difficulties at the regional and bilateral level, may be taken as both an opportunity and an incentive for governments to re-evaluate the role of trade in contributing to wider goals, and to adapt the policy-making process accordingly.

To help address this fundamental disconnect in the trade negotiation process, transparent multi-country SIA studies as undertaken for the EC might make a larger contribution if undertaken on behalf of the wider international community, rather than being commissioned by one of the main negotiating parties. Such studies might for example be commissioned jointly by a group of international bodies (such as UNEP, ILO, OECD, UNCSD and UNCTAD), with the WTO and other international bodies such as the World Bank and IMF invited to participate as observers. The findings of such studies would have no mandate to influence the WTO negotiations directly. However, they may carry sufficient weight and credibility in the public arena to influence negotiations indirectly.

Similar initiatives may also be taken at the regional level. In the Mediterranean region for example, the EU and its partner countries have adopted the overarching Barcelona Process. This pursues a wide range of development objectives, among which the creation of a free trade area is just one component. In parallel they have developed a Mediterranean Strategy for Sustainable Development. Further refinement of the sustainable development strategy, and its adoption as the defining strategy of the Barcelona process, would allow trade policy to be made subordinate to sustainable development, and steered more strongly towards sustainable development goals. A similar approach might be taken for other regional agreements.

For single country studies, the decision-making processes are more straightforward, impacts can be studied in more detail, and recommendations can be made more specific. The integrated assessment of economic, social and environmental effects, by each country for its own purposes, may be particularly influential in helping developing countries to formulate their trade policy more effectively, and to play a stronger role in international trade negotiations.

Conclusions

The EC programme of Sustainability Impact Assessments of global and regional trade agreements has presented many challenges. These include the difficulties in carrying out effective consultation at the regional or global level; the technical aspects of assessing sustainable development impacts whose origins lie in complex economic effects; the estimation of significant trans-boundary and global impacts; the integration of effective flanking measures into the assessment of potential impacts; and potential conflicts with local, regional and global decision-making processes.

In all these areas, approaches have been developed which move some way towards addressing the issues, but many challenges remain. Many of the studies have shown that the benefits that have traditionally been expected from the static efficiency gains of trade liberalisation are small, and that many of the significant impacts occur through long-term dynamic processes. The analysis of these longer term effects and their interactions with other policy areas is expected to be a key area for future developments in trade impact assessment.

Potential conflicts have been identified between the impact assessment process and the decision-making process. While some of these have been addressed by institutional changes within the Commission, further attention needs to be paid to the decision-making process itself in order to better address the most significant regional and global issues that have been identified in the assessments. Most trade agreements have adopted sustainable development as a goal, but the bodies which negotiate them are not responsible for sustainable development, do not have the competence to define what sustainable development means, and are not subject to the requirements of any other authority except as provided through international environmental law and other mechanisms of regional and global governance.

The Trade SIA approach can assist in addressing these challenges, by providing a methodological framework for the systematic, evidence-based assessment of the potential positive and negative consequences of adopting the proposed trade liberalisation measure. So far, there has been very little use of the Trade SIA methodology in the EU's partner countries themselves. Building capacity in trade assessment, particularly in lower income developing countries and transition economies, would strengthen these countries' capacity to negotiate on the basis on an understanding of the potential consequences of their negotiated agreements.

The United Nations Environment Programme (UNEP) is undertaking a programme to build capacity in developing countries to undertake integrated impact assessments of this nature, with the support of the EC. The OECD has produced Guidelines for applying strategic environmental assessment in development cooperation, which follow a broadly sustainable development approach by including environmental, social and economic impacts in the assessment of development policy (OECD, 2006). An expansion of such assistance through the multilateral Aid for Trade programme would be particularly beneficial for countries, which do not have the capacity to support their negotiators with detailed assessments of the impacts of other countries' proposals, or of their own proposals.

At the same time, the Trade SIA methodology that is adopted will need to be appropriate to the different institutional endowments and capacities that exist in the non-OECD countries. An uncritical or inappropriate transfer of the EC's Trade SIA methodology could be damaging to the credibility of the approach and to the aim of integrating trade policy into the goal of sustainable development. The issues of Trade SIA transferability and adaptation are potential areas for further investigation and research.

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OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(97 2008 07 1 P) ISBN 978-92-64-04725-9 – No. 56241 2008

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ISBN 978-92-64-04725-9
97 2008 07 1 P