

# SPSD II

## METHODOLOGY AND FEASIBILITY OF SUSTAINABILITY IMPACT ASSESSMENT. CASE: FEDERAL POLICY-MAKING PROCESSES

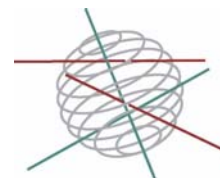
E. PAREDIS, T. BAULER, P.M. BOULANGER, A. HEYERICK, L. LAVRYSEN, F. VARONE, E. ZACCAÏ, M. WAKTARE, A. BONIFAZI, B. LUSSIS, P. THOMAES, N. RISSE, R. DOOM



### PART 1

SUSTAINABLE PRODUCTION AND CONSUMPTION PATTERNS

-  GENERAL ISSUES
-  AGRO-FOOD
-  ENERGY
-  TRANSPORT



**Part 1:**  
***Sustainable production and consumption patterns***

FINAL REPORT



**Methodology and Feasibility of Sustainability Impact Assessment.  
Case: Federal Policy-making Processes**

**CP/46**

Erik Paredis, An Heyerick, Ruddy Doom – CDO, UGent  
Tom Bauler, Edwin Zaccāi, Marco Waktare, Alessandro Bonifazi –  
IGEAT, ULB  
Paul-Marie Boulanger, Benoît Lussis – IDD  
Frédéric Varone – AURAP, UCL  
Luc Lavrysen, Pieter Thomaes – Centrum voor Milieurecht, UGent  
Nathalie Risse – SMG, ULB

*May 2006*



D/2006/1191/17  
Published in 2006 by the Belgian Science Policy  
Rue de la Science 8  
Wetenschapsstraat 8  
B-1000 Brussels  
Belgium  
Tel: +32 (0)2 238 34 11 – Fax: +32 (0)2 230 59 12  
<http://www.belspo.be>

Contact person:  
*Mrs Marie-Carmen Bex*  
Secretariat: +32 (0)2 238 37 61

Neither the Belgian Science Policy nor any person acting on behalf of the Belgian Science Policy is responsible for the use which might be made of the following information. The authors are responsible for the content.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without indicating the reference.

## **Acknowledgements**

We would like to thank the people from the users committee who did the follow-up of the whole project and on whose inside knowledge and expertise we could count for formulating valuable remarks and adjustments to the project.

Furthermore we would like to express our gratitude to the civil servants who were involved in the case-studies. Thanks to their willingness to invest their already limited time, we were able to draw some important lessons from the case exercises for elaborating realistic scenarios for the implementation of SIA in the federal policy context.

The contributions of the experts in the field of sustainable development policy whom we interviewed and/or who participated in the final seminar were important for analysing the feasibility and potential support for SIA within the political and administrative context.



# Table of contents

<b>INTRODUCTION</b> .....	<b>7</b>
<b>PART 1: RESULTS OF THE RESEARCH TASKS</b> .....	<b>9</b>
<b>1. STATE OF THE ART</b> .....	<b>9</b>
<b>2. METHODOLOGICAL FRAMEWORK FOR SIA</b> .....	<b>16</b>
2.1 General framework for SIA.....	16
2.1.1 SIA as a process .....	16
2.1.2 SIA as an instrument for decision-making .....	18
2.1.3 Which criteria for sustainable development assessment? .....	20
2.2 The importance of screening and scoping.....	21
2.3 Methods for cognitive and evaluative integration.....	25
2.3.1 Tools for cognitive integration.....	27
2.3.2 Conclusions on cognitive integration tools .....	28
2.3.3 Integration of evaluation .....	29
<b>3. CASE-STUDIES</b> .....	<b>31</b>
3.1 Introduction .....	31
3.2 Case 1: Introducing ethical criteria in public purchases .....	32
3.2.1 Approach .....	32
3.2.2 Analysis of the policy measure .....	32
3.2.3 Identification of policy alternatives.....	33
3.2.4 Identification of impacts .....	34
3.2.5 Identification of stakeholders .....	35
3.2.6 Evaluation of alternatives.....	35
3.2.7 Conclusions .....	35
3.3 Case 2: Biofuels.....	36
3.3.1 Policy description and alternatives .....	36
3.3.2 Screening and impacts identification .....	37
3.3.3 Scoping and impact analysis .....	39
3.3.4 Conclusions .....	42
3.4 Case 3: Testing the SIA-matrix.....	44
3.4.1 Case-study setting .....	44
3.4.2 Procedural lessons learned: is it feasible to use an impact matrix for screening? .....	47
3.4.3 Technical and methodological lessons learned: does the impact matrix work?.....	47
<b>4. PUBLIC INVOLVEMENT IN SIA</b> .....	<b>49</b>
4.1 Introduction .....	49
4.2 The participation spectrum and the participants.....	49
4.3 Costs and benefits of participation.....	50
4.4 Participation in SIA .....	51
4.4.1 Meta-level .....	52
4.4.2 Process level .....	52
a) Screening phase.....	53
b) Scoping phase.....	53
c) Impact assessment (identification, analysis and evaluation of impacts).....	54
d) Reporting.....	55
<b>5. INSTITUTIONAL AND POLICY CONTEXT FOR SIA</b> .....	<b>56</b>
5.1 Institutional and legal building blocks for SIA at federal level.....	56
5.2 The influence of the general policy context on SIA .....	57
5.3 The federal policy preparation process: current state of affairs .....	58
5.4 The elaboration of SIA .....	60
5.5 The selection of policy proposals for SIA .....	60
5.5.1 Selection criteria .....	60
5.5.2 Selecting institution .....	61
5.5.3 Regulatory Agenda.....	61

5.5.4	Transparency.....	62
5.6	The execution of SIA .....	62
5.7	Coordination of the SIA-process.....	62
5.8	Evaluation of the SIA-process .....	63
5.9	The juridical implementation of SIA .....	63
<b>6.</b>	<b>THE DOUBLE VALUE-ADDED OF SIA.....</b>	<b>64</b>
<b><i>PART 2: INTEGRATING THE RESEARCH RESULTS IN THE FEDERAL DECISION</i></b>		
	<b><i>PROCESS.....</i></b>	<b><i>67</i></b>
<b>7.</b>	<b>SCENARIOS FOR A FEDERAL SIA.....</b>	<b>67</b>
7.1.	Scenario 1: The Maximization of “Institutional Integration” for SD .....	70
7.2	Scenario 2: Maximization of “Impact Objectivation” .....	73
7.3	Federal policy actors and their interpretation of SIA-scenarios.....	76
<b>8.</b>	<b>INSTITUTIONAL AND POLICY IMPLICATIONS .....</b>	<b>78</b>
<b>9.</b>	<b>PROPOSING AN INSTITUTIONAL FLOW CHART FOR SIA.....</b>	<b>79</b>
9.1	The meta-process.....	79
9.2	The screening process .....	80
9.3	The assessment process.....	82
<b>10.</b>	<b>PROPOSING A SIMPLE INTEGRATIVE FRAMEWORK FOR SIA.....</b>	<b>85</b>
10.1	Introduction .....	85
10.2	Identifying concerned stakeholders and systems.....	87
10.3	Testing for effectiveness and long term efficiency.....	87
10.4	Testing for relevance .....	90
10.5	Conclusions .....	93
<b>11.</b>	<b>FUTURE RESEARCH AND STUDY QUESTIONS .....</b>	<b>94</b>
<b><i>LITERATURE .....</i></b>		<b><i>97</i></b>
<b><i>METHODOLOGICAL ANNEX.....</i></b>		<b><i>101</i></b>
<b>1.</b>	<b>CONTEXT AND OBJECTIVES OF THE RESEARCH PROJECT .....</b>	<b>101</b>
<b>2.</b>	<b>STRUCTURE OF THE RESEARCH PROJECT .....</b>	<b>101</b>
<b>3.</b>	<b>OUTPUT OF THE RESEARCH PROJECT .....</b>	<b>103</b>
<b>4.</b>	<b>SCIENTIFIC METHODOLOGIES USED.....</b>	<b>104</b>
4.1.	Secondary analysis of literature and practice with regard to SIA.....	104
4.2.	Interviews and questionnaire .....	104
4.3	Case-studies.....	105
4.4	Policy dialogue.....	106
<b>5.</b>	<b>ENCOUNTERED PROBLEMS.....</b>	<b>107</b>
<b><i>ANNEXES.....</i></b>		<b><i>109</i></b>

## Introduction

Policy is developed in a complex and uncertain societal environment, where an increasing number of concerns have to be taken into account. Sustainable development policies in particular have the ambition of integrating economic, environmental and social concerns. Configuring such sustainability policies is confronted with evaluation problems and the demand for an early indication of whether criteria for sustainable development are met. Generating, integrating and communicating information for decision-making is an important need for policy strategies aiming at sustainable development. Apart from the ongoing refinement of specific assessment tools, worldwide different scientists are developing ‘Sustainability Impact Assessment’ (SIA). SIA can be described 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 (...)” (Arbter, 2003). SIA can thus be considered as an integrated instrument which combines interdisciplinary evaluations with processes of multi-stakeholder policy-making.

Also in Belgium, the idea of introducing SIA in the federal policy context has been on the political agenda for some years. SIA was explicitly mentioned for the first time in the Federal Coalition Agreement of 1999. The development of a SIA methodology has also been extensively referred to in the first Federal Plan on Sustainable Development (2000 – 2004), including an action plan with strategic objectives for introducing SIA and the measures needed for the realization of its implementation. Also the second Federal Plan on SD has rephrased this issue and the need for a SIA-practice has been repeated in the Federal Coalition Agreement of July 2003. The Royal Decree of 22 September 2004 creating Cells for Sustainable Development in all federal administrations, is the most concrete document showing the political willingness to introduce some form of Sustainability Impact Assessment, since one of the tasks of the Cells is the execution and/or coordination of SIAs.

This report is the result of a research project between July 2004 and February 2006, entitled *Methodology and Feasibility of Sustainability Impact Assessment. Case: Federal policy-making Processes*. The project aimed at contributing scientific insights to be taken into account when elaborating a methodological and institutional framework for the implementation of SIA in the Belgian federal context. The project had four main goals:

1. research into the limits and potentials of ex ante evaluation methodologies and SIA in particular
2. research into the possibilities of the technical development of a ‘learning aid’ or ‘tool’ for SIA
3. research on the institutional integration of SIA at Belgian federal level
4. definition of needs and supporting capacities of policy-makers and stakeholders in using SIA.

The research was done by a team of researchers from different institutions and with different backgrounds: Centrum voor Duurzame Ontwikkeling (CDO, Ugent), Centre d’Etudes du Développement Durable (CEDD, ULB), Institut pour un Développement Durable (IDD), Association Universitaire de Recherche sur l’Action Publique (AURAP, UCL), Centrum voor Milieurecht (UGent). For a more detailed description of the research set-up, we refer to the methodological annex.

This final report consists of two parts and numerous annexes.

Trying to get a grip on SIA implies making an analysis of the different building blocks which constitute SIA. The research results of this analysis are described in part 1 of the report. It starts in chapter 1 with a synthesis of the literature review which was made of the state of the art of forms of Impact Assessments in general, and Sustainability Impact Assessment in particular. Chapter 2 focuses



on methodological aspects of SIA, while chapter 3 gives the results of several case studies carried out in the course of the research, using the described methodology. Chapter 4 and 5 go into detail for institutional aspects of SIA: chapter 4 is concentrated on the problem of participation in SIA, while chapter 5 makes an analysis of the institutional and policy context within which SIA will have to function at Belgian federal level. Chapter 6 discusses the added-value of SIA for policy-making.

Part 2 of the report summarizes the results of the research tasks which were concerned with the integration of SIA in Belgium's federal policy. In the course of the research, it became clear that the 'ultimate' form of SIA does not exist, but that depending on choices made, several conceptions of SIA are possible. Building on the results of part 1, this part first describes in chapter 7 several possible scenarios for SIA at Belgian federal level and the choices which they imply. Chapter 8 concisely discusses some policy implications of introducing SIA, while chapter 9 proposes several flow charts for setting up an SIA framework at federal level and for executing SIA for selected policy proposals. Drawing on the discussion in chapter 2 (methodological framework) and the experiences described in chapter 3 (case studies), chapter 10 proposes a simplified methodological framework for executing SIA. Finally, some follow-up research questions are formulated in chapter 11.

The different Working Papers on particular research themes, which are an integral part of this final report, can be consulted and downloaded from the website of Belgian Science Policy and from the websites of the research partners.

## Part 1: Results of the research tasks

### 1. *State of the Art*

According to Pope<sup>1</sup>, many sustainability assessments are originally developments of ‘integrated assessments’, derived either from the practice of Environmental Impact Assessment (EIA) or of Strategic Environmental Assessment (SEA), which have been extended to incorporate social and economic considerations along the original environmental ones. Mono-dimensional assessments, whether on the project level or on the strategic level, expanded thus into reflecting a ‘triple bottom line’ approach to sustainability. Stemming from other types of assessments, the experiences with SIA have developed in several stages.

Environmental Impact Assessments occur at the level of projects. In the United States, they were already employed as early as the seventies. The National Environmental Policy Act of 1969 established the EIA process. EIA is used to analyse the environmental impacts of a proposed project (mostly infrastructure and construction projects) and its alternatives, and to document the analyses in an Environmental Impact statement. As the latter is exposed to various forms of quality controls and/or stakeholder consultation, EIA is perceived<sup>2</sup> as a way to improve the quality of decisions, notably the compliance of project-related decisions with environmental standards, requirements and expectations. For the European Commission<sup>3</sup>, an environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. The process involves an ex ante analysis of the likely effects on the environment, recording those effects in a report, undertaking a public consultation exercise on the report, taking into account the comments and the report when making the final decision and informing the public about that decision afterwards.

In order to cope with the level of strategic decisions, i.e. policies, plans and programmes, Strategic Environmental Assessment was developed from the late 1980s to be complementary to EIA. SEA can be defined<sup>4</sup> as “*the formalised, systematic and comprehensive process of evaluating the environmental effects of a policy, plan or programme and its alternatives, including the preparation of a written report on the findings of that evaluation, and using the findings in publicly-accountable decision-making*”. Despite that the many definitions of SEA do not differ considerably one from another, the fact that there is no consensus on its boundaries or precise characteristics appears<sup>5</sup> to render SEA more vulnerable than EIA. More recent conceptualisations of SEA take a broader and more complex and varied perspective and allow SEA to include the social and economic dimensions (for further details on SEA, we refer to the extensive annexed working paper<sup>6</sup> dedicated exclusively to SEA).

Alongside EIA and SEA, both replying to environmental concerns and agenda, a series of other non-environmental evaluation processes can be understood as being of filiation to SIA. Among those, we depicted:

- Social Impact Assessment (sIA), as defined by the Interorganizational Committee on Guidelines and Principles for sIA, “*Social Impact Assessment is the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions...Social impacts include all social and cultural consequences to human populations of any public or*

<sup>1</sup> Pope, J.; Annandale, D.; Morrison-Saunders, A. (2004). Conceptualizing Sustainability Assessment, *Environmental Impact Assessment Review* 24, 595-616.

<sup>2</sup> Steinemann A., 2001, *Improving alternatives for environmental impact assessment*. EIA Rev. 21 1, pp. 3–21, in Pope et al., 2004. *Op.cit.*

<sup>3</sup> See for instance : <http://europa.eu.int/comm/environment/eia/home.htm>

<sup>4</sup> Thérival R., Partidario M.R., 1996, *The practice of strategic environmental assessment*. London: Earthscan Publication Limited, 206 p.

<sup>5</sup> Dalal-Clayton B., Sadler B., 2004. *Strategic environmental assessment : an international review*. Final draft. London: International Institute for Environment and Development (IIED), London.

<sup>6</sup> Risse N., 2004, *Revue de littérature et synthèse de l'état de l'art en évaluation environnementale stratégique*, ULB-SMG, Bruxelles. 62p.

*private actions that alter the ways in which people live, work, play, relate to one another, organise to meet their needs, and generally cope as members of society. Cultural impacts involve changes to the norms, values and beliefs of individuals that guide and rationalise their cognition of themselves and their society”.*<sup>7</sup>

- Regulatory Impact Assessment (RIA), originating from the United Kingdom, was developed to evaluate policy proposals, in order to inform policy decisions and allow assessing the impacts of policy options in terms of the costs, benefits and risks of a proposal. Initially, RIA was meant to check whether regulatory initiatives have impacts on business, charities or voluntary bodies. They progressively included social and environmental considerations, so to progress towards the same type of understanding<sup>8</sup> than SIA. RIA has however different origins from SIA, as RIA was developed on the margin of the more general quest for “better regulation”, trying essentially to improve the coherence and efficiency of traditional policy-making.
- Health Impact Assessment (HIA) is commonly used at the World Health Organisation (WHO) as well as in the United Kingdom. HIA is defined by the WHO<sup>9</sup> as a “*combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population*”.
- Business Impact Assessment (BIA) is used in many countries to evaluate whether new policy initiatives have harming effects on the competitiveness of firms. They have been particularly widely used within the European Commission, where their realization for each policy proposal was mandatory until BIA were recently integrated into the more general scheme of Impact Assessment.

The common ground of these evaluation mechanisms is their function: evaluation of a policy proposal by considering different policy options (or alternatives) at a more or less early stage of the decision-process in order to strengthen the positive outcomes of the proposed policy, diminish the negative (side-) impacts of the policy and determine the necessary mitigation or compensation mechanisms which will allow to render a positive overall impact of the policy.

Differences are mainly in relation to the definition of the target, the scope and the scale of the positive and negative impacts that are considered to be inside of the evaluations’ boundaries. The closer these boundaries are approaching a SD-understanding, the closer the type of evaluation gets to SIA. In this respect, the Trade Directorate General of the European Commission has developed, in conjunction with consultancy, a Sustainability Impact Assessment (DG-Trade-SIA) in order to evaluate the impacts of policy options during the DG’s international trade negotiation processes. The former Trade Commissioner<sup>10</sup> defined their scheme as “*a process undertaken during a trade negotiation with the idea of identifying the possible economic, social and environmental impacts of a trade agreement. It should help to inform negotiators of the possible consequences of a trade agreement on all three fronts. Assessments may also provide guidelines for the design of possible measures to maximise positive impacts and to reduce any negative impacts of the accords being negotiated.*”

As expected, SIA can take several institutional and procedural forms, as well as be developed along several definitions and system boundaries depending on the authors or the organisations using them, as it is also the case for SEA.

An analysis of existing SIA-type evaluations has shown that SIA as it is understood for this project (strategic, integrated, ex ante, participatory) is still in an early, developing phase. However, the

<sup>7</sup> Quoted in F.Vanclay, 2002, *Conceptualising social impacts*, Environmental Impact Assessment Review, 22 (2002), 183-211, p.190.

<sup>8</sup> In this respect, we stress that the Flemish region is currently starting to implement a RIA-scheme which appears to be closely related to what SIA-type evaluation schemes should be.

<sup>9</sup> European Centre for Health Policy, 1999, *Health Impact Assessment. Main concepts and suggested approach*. Gothenburg consensus paper, WHO Regional Office for Europe, Brussels.

<sup>10</sup> Lamy P., 2003, « *Les Etudes d’Impact sur le Développement durable (EID): Vers un commerce durable? »*, SIA Séminaire – Centre Borschette, Bruxelles, 6 février 2003.

literature study strongly confirmed that several initiatives<sup>11</sup> are being developed, though they are mostly in an experimental phase.

A selection of these existing SD-related Impact Assessment procedures have been analyzed more profoundly in which particular attention was dedicated to the screening and scoping phases:

- the European Communities Impact Assessment (CEC-IA), as one of the recent processes of ex ante policy-proposal evaluation which will probably become one of the most important references for national or sub-national initiatives;
- the European Communities Sustainability Impact Assessment of DG Trade (CEC-SIA), as a very specific, but nevertheless important, context-driven ex ante evaluation exercise;
- the Swiss Sustainability Evaluation (Sw-SE), as the first (and only) sustainability-oriented ex ante evaluation process on national level;
- the United Kingdom's Regulatory Impact Assessment (UK-RIA), as representative of evaluation procedures which strive towards better regulation and consider SD as a secondary evaluation objective;
- and finally, the Flemish Regulatory Impact Assessment<sup>12</sup> (FI-RIA), which is the first Impact Assessment procedure implemented in Belgium.

Other Impact Assessments could have been integrated into this profound analysis, however, their specific characteristics, whether procedural or substantive, were considered to be too important as to be relevant as reference procedures for the Belgian context. All the same the 5 processes selected were felt to be sufficiently broad in scope, scale and objectives as to give us satisfactory insight into the main constituents of a SIA process.

Each of the 5 analyzed IA schemes has been introduced into a comparative table following the configuration of a SWOT-analysis. The SWOT-analysis was detailed into procedural and substantive issues. Such a distinction is in many cases pretty artificial, but was felt useful here in order to separate clearly issues related to more technical questions from issues having been defined by the institutional setting of each IA (see table 1).

---

<sup>11</sup> See among others :

Devuyst D., Hens L., De Lannoy W., 2001, *How green is the city? Sustainability assessment and the management of urban environments*. Columbia University Press.

Draaijers, G.; Verheem, R.; Morel, S., 2004, *Developing a general framework for sustainability assessment*. The Netherlands

George C., 2002, *Environmental Assessment and Management*, in Kirkpatrick C., Clarke R., Polidano C. (eds), 2002, "Handbook on Development Policy and Management", Edward Elgar.

George C., Kirkpatrick C., 2003, *Sustainability Impact Assessment of World Trade Negotiations: current practice and lessons for further development*. Paper prepared for the conference 'New Directions in Impact assessment for development', University of Manchester, Nov2003.

Godard O., 2003, *Sustainability Impact Assessment and integrated modeling in controversial universes: a background*. Paper presented at the SUSTRA workshop, Université Catholique de Louvain, March 2003, Louvain, Belgium Knigge M., Leipprand A., 2003, *Public Participation in SIA*, Workshop paper 'SIA of Trade Agreements and New Approaches to governance', Centre for Philosophy of Law, University of Louvain, Belgium.

Pope, J., 2003., *Sustainability Assessment: What is it and how do we do it?* Paper for the Institute for Sustainability and Technology Policy, Murdoch University

Wilkinson D., Fergusson M., Bowyer C., Brown J., Ladefoged A., Monkhouse C., Zdanowicz A., 2004, *Sustainable Development in the European Commission's Integrated Assessments for 2003*. Final Report. IEEP, London.

*Table 1: Table of comparison of existing integrated impact assessments*

Strengths	Weaknesses	Opportunities for SIA-BE	Threats for SIA-BE
<b>Procedural issues</b>			
<i>United Kingdom – Regulatory Impact Assessment</i>			
(no reporting of screening phase) Strong methodological support (implemented at the levels of central and departmental units) linked to relevant procedural steps should assure regular quality improvement. During the process, the IA is re-scoped iteratively and continuously in order to allow adjustments to emerging objectives or questions.	(no reporting of screening phase) The 3 types of RIA (initial, partial, final) are understood as a sequence of procedural steps, but do not materialize in specific outputs or reports. Apart from a negative list (which allows to exclude some policy proposals according to their nature), there exists no formal screening phase and thus no screening reporting.	(no reporting of screening phase) Strong procedural embeddedness into the policy-making process, combined with formal implication (at the end of the process) of political actors, emphasizes the political backing of the evaluation process and should help develop inter-departmental capacity-building.	(no reporting of screening phase) Continuous and cumulative process (from initial to final) gives potentially a lot of flexibility w/r to the depth of the IA, introducing bargaining and blurring the adequacy between the initial objectives and the results obtained. Heaviness of the structure and the obligation for all policy proposals to undergo IA, drives towards an oversimplification of the assessment of the impacts.
<i>Commission of the European Communities – Impact Assessment</i>			
Clear and unambiguously defined phasing and timing of the preliminary assessment (i.e. screening). Decision to evaluate policy proposals more extensively is taken collegially by political actors (i.e. commissioners) on the basis of administration's recommendation.	Administrations' recommendation stated in the preliminary assessment to develop IA into an extensive evaluation is not systematically taken into account in the final decision, and no transparent argumentation is given with regard to the decision to pursue with subsequent Extended Assessment. Decision appears thus highly political and may favor opportunistic and strategic behavior.	Strong rationalization and sequencing of the process, the strict timing coupled to an open-end 'political' decision (to pursue or not to pursue), as well as the relatively strict separation of tasks, prepares the ground for greater independence between policy-makers and decision-makers.	Apparent, but non-motivated, (political) bargaining whether to pursue with extended impact assessment or not risks to reduce civil servants' motivation to perform preliminary assessments seriously. The comparatively 'flat' and 'simple' European policy development process is based on a very rationalistic understanding, which does not appear to be a suitable 1:1 model applicable to the fuzziness of policy-making in Belgium.
<i>Flemish Region – Regulatory Impact Assessment</i>			
(no RIA reports available yet) Well-formalized process (on paper) with the main components being well-articulated. The theoretical setting and sequencing of the process corresponds to a very ideal IA. The developed process is very complete right from the start, comprising a number of accompanying	(no RIA reports available yet) The screening&scoping process appears to be complex, as it comprises 3 subsequent decision steps: a formal check with regard to the nature of the policy proposal, a thresholds' analysis, a political decision based on a checklist-report.	(no RIA reports available yet) The deployment and implementation of the RIA-process is phased over 10 years. It is meant to grow from a merely intra-administration effort towards a larger encompassing evaluation effort, only once sufficient capacity has been developed in house. A relatively complete pre-	(no RIA reports available yet) On paper, the RIA-process is probably too deterministic to be applicable in such a form to an evaluation directed towards SD. The articulation between difficulties linked to substantive issues (e.g. the thresholds' analysis) and procedural mechanisms, which should allow for flexibility when

<p>measures (e.g. central help desk), which should confound quality and impact of the RIA-reports.</p>		<p>assessment mechanism is used in the first phase of development as basis for a light RIA, which will be deployed further at later stages into a full-size RIA.</p>	<p>facing fundamental problems (e.g. linked to value judgments), is not clear at all. The process itself appears already 'closed' before any experience with the implementation of the RIA could have been collected. The ambitious setting of the RIA presupposes a strong political support in favor of developing and using the mechanism. SIA at federal Belgian level appears as too fragile and non-supported to strive towards imitating the Flemish model.</p>
<p><i>Swiss Sustainability Impact Assessment</i></p>			
<p>As the SIA is deliberately steered to be an administrative exercise, with some but few external consultation happening, the process is very clear and well-determined. Administrations seem to be rather free to execute and define the SIA according to their own understanding.</p>	<p>Appears to be limited as a technical exercise to be executed by technocracy without many openings towards non-represented actors of civil society.</p>	<p>The pre-assessment steps are clearly separated one from another, i.e. the description of the policy does not integrate the judgment on further analysis, or in other words, the description of the policy proposal's causality does not include a description of the impacts or their positive or negative direction (this being asked at a later stage). The clear phasing of the pre-assessment should induce for civil servants to 'step back' from the policy proposal and to allow for new perspectives of the proposal to fully develop.</p>	<p>There might be a risk that the separation between explicating the causalities and assigning them values might be difficult to understand for civil servants and thus to execute. This would speak for the necessity to organize capacity-building in a formal way and to organize pre-assessment as an inter-departmental exercise, which could exasperate organizational difficulties.</p>
<p><i>Commission of the European Communities – DG Trade - Sustainability Impact Assessment</i></p>			
<p>(considerably different initial context) The atypical strength of the evaluation scheme is linked to the fact that the assessments are closer to scenario studies than to ex ante evaluations. The constraints of the exercise are thus different, allowing for: extensive input by consultants, extensive time-frame for the evaluation, consistent budgets and resources.</p>	<p>(considerably different initial context) High uncertainty in the outcome of Trade negotiations can not be mirrored in the evaluation, and thus the usefulness of these exercises does not clearly appear.</p>	<p>(considerably different initial context) The procedural setting being completely different, no direct conclusions for the Belgian federal level can be drawn.</p>	<p>(considerably different initial context) The procedural setting being completely different, no direct conclusions for the Belgian federal level can be drawn.</p>

**Substantive issues**

<i>United Kingdom – Regulatory Impact Assessment</i>			
(no formal screening method) A limited number of impact evaluation methods can be used during the evaluation of the impacts and the methods to be used are listed. The evaluation reports are very synthetic (6-10 pages) and non-technical and thus easily accessible for non-experts.	(no formal screening method) It remains unclear how far the evaluation of the impacts is influenced, rescaled, re-scoped... during the process. The proportionality of the evaluation of the impacts with regard to the issue of the policy proposal is thus not verifiable by outsiders of the process. The evaluations themselves do not appear to be extendable towards encompassing SD-criteria.	(no formal screening method) The very limited scope of the evaluation process, combined with a limited amount of methods to be used, gives a very clear identity to the RIA (even if this identity is not adequate for an SIA evaluation). Simultaneously: allowing a strong generalization of the evaluation procedure permits to widen the range and number of policy proposals to be evaluated during one policy period.	(no formal screening method) The emphasis given to evaluate the policy proposals solely in terms of monetary costs and benefits represents a major limitation when it comes to evaluating complex non-economic impacts, especially if these are interlinked such as with SD. Furthermore, the extremely limited depth of the impact assessments does not match the objectives of an SIA-type evaluation.
<i>Commission of the European Communities – Impact Assessment</i>			
Quite clear and unambiguous mission given to the fonctionnaire to realize the preliminary report along the lines of a comprehensive form. Alternatives, objectives and communication strategies are sketched already at the phase of pre-assessment.	Impact evaluation methods remain inexistent on the level of the preliminary assessment, which permits the application of rules of thumb rather than favoring an effort to structure already available information. The emphasis appears to be less on the level of impact determination, than on policy explanation. The report is corresponding to a narrative, more than to a decomposition of impacts. The preliminary assessment report does not make a clear link with scoping the subsequent extended evaluation, which is normally not described in the preliminary reports.	The transparency given to the decisional work program right in the beginning of the year, when publishing the preliminary impact assessments, can be considered a real value-added towards opening the policy-making process. All the more as the preliminary assessment reports are rather understandable, even if a minimum knowledge of European policies is a prerequisite.	On the level of the impacts, no formal rules are explicit which clarify the trigger for an extended assessment, e.g. it is not defined what is sufficiently important as an impact (or as an uncertainty) to trigger an extended assessment, or what can be considered being sufficiently cross-cutting to need inter-departmental consultation. The part of the preliminary impact report destined to report on the impacts is rather insignificant. The preliminary report focuses more on allowing a structured description of the policy proposal, than to develop on impacts.
<i>Flemish Region – Regulatory Impact Assessment</i>			
(no RIA reports available yet) The light RIA establishes formal rules, i.e. quantitative and qualitative thresholds, which allow systemizing the trigger for subsequent evaluation. This setting of thresholds (the mechanism itself is copied from other countries' experiences, e.g. Canada) allows to address the redundant	(no RIA reports available yet) The light RIA demands only to assess the policy options with regard to costs and benefits (plus their regulatory impact). Even if both can be determined also qualitatively, this methodological hegemony of cost-benefit analysis (consistent by the way with other RIA-	(no RIA reports available yet) Even if the thresholds of the Flemish RIA could not hold for a SIA, the mechanism in itself could be a starting point to formalize and systemize SIA, and to determine rules of thumb for what should be assessed as a 'significant' impact. It shows also that quantification mechanisms and basic	(no RIA reports available yet) From the current hybrid form of the RIA, the step-wise transformation of the process into the final setting of a light RIA, which includes screening, is not clear. The cleavage between the detailed and determined setting of the operationalized RIA-form and the vagueness of the final

<p>problem of deciding what is 'significant' and not as an impact. The thresholds used are both qualitative and quantitative, allowing thus for some flexibility in judging. The form used for the light RIA explicitly demands to construct different options to the policy proposal and to assess them with regard to their effects.</p>	<p>type exercises) could be directing the RIA towards an economist vision of regulatory impacts. Indirect effects are not explicitly taken into consideration.</p>	<p>algebra-like decision rules can become popular with policy makers too, and that their fear of such simplification might not be as developed as many would think.</p>	<p>scheme to be implemented in some years remains very important.</p>
<p><i>Swiss Sustainability Impact Assessment</i></p>			
<p>The screening method is separated into a criteria matrix which allows to expose interlinkages between the 3 dimensions of SD. The decision to pursue with an extended assessment is linked to a series of explicit rules, which are to detect whether the different impacts will show conflicts between the objectives and outcomes for 2 of the 3 SD-dimensions. A limited number of discriminatory questions are made explicit, which will trigger an extended SIA in any case. These control questions are derived from SD-principles mostly.</p>	<p>Paradoxically the strong link of the methodology to SD-issues and criteria might make the entire SIA process strongly dependent on the prominence SD has as a strategic policy agenda. A weakening importance of SD as a policy-makers' referent, will discredit the SIA-exercise automatically.</p>	<p>The criteria of the checklist are derived from the principles of the Swiss national strategy on SD, and are thus accepted as being politically relevant for decision-makers. The scoping matrix allows to give a rough impression of the impacts of the policy proposal's options, hence allowing to determine which option needs special attention during the extended assessment.</p>	<p>The explicitness and pre-determination of the decision rules might initiate misuse and pervert their initial objective: as it is explicit on basis of which 'rules' the decision for or against extended assessments will be taken, policy-makers and civil servants might deliberately form their answer to the matrix in a way as to detour those rules. Instead of an open bargaining process, the transparency of the rules might induce behind the back manipulation of the matrix.</p>
<p><i>Commission of the European Communities – DG Trade - Sustainability Impact Assessment</i></p>			
<p>(considerably different initial context) <i>There is no clear and unique screening methodology. Each 'round' and each international negotiation will trigger its own screening&amp;scoping. This is notably linked to the fact that each assessment is outsourced from the beginning to the end to consultants. The entire pre-assessment is thus a matter of scoping the evaluation process and not of deciding on subsequent evaluation.</i></p>	<p>(considerably different initial context) <i>There is no clear and unique screening methodology. Each 'round' and each international negotiation will trigger its own screening&amp;scoping. This is notably linked to the fact that each assessment is outsourced from the beginning to the end to consultants. The entire pre-assessment is thus a matter of scoping the evaluation process and not of deciding on subsequent evaluation.</i></p>	<p>(considerably different initial context) The use of a matrix to determine the scope of the subsequent analysis presents an interesting way to systemize the difficult task to draw the ToR of the subsequent evaluation.</p>	<p>(considerably different initial context) <i>There is no clear and unique screening methodology. Each 'round' and each international negotiation will trigger its own screening&amp;scoping. This is notably linked to the fact that each assessment is outsourced from the beginning to the end to consultants. The entire pre-assessment is thus a matter of scoping the evaluation process and not of deciding on subsequent evaluation.</i></p>



## 2. Methodological framework for SIA

### 2.1 General framework for SIA

SIA can be analyzed both as a process and as an instrument for decision-making. As a process, it can be decomposed in a sequence of well-delimited practical operations each with its objectives, constraints and methods. As an instrument for decision-making, SIA can be understood as a kind of multi-criteria decision-making situation, where an optimal solution does not pertain.

#### 2.1.1 SIA as a process

As already pointed out in the previous chapter, SIA is a newcomer in a world of *ex ante* impact assessments already populated by well established practices such as EIA (Environmental Impact Assessment), Technological Assessment, Health Impact Assessment, Social Impact Assessment, Risk Assessment, Strategic Environmental Assessment (SEA), Regulatory Impact Assessment (RIA), etc. Beyond their differences, most of them share a common structure and follow more or less the process depicted in figure 1. Up to now, except for minor variations, SIA is no exception.

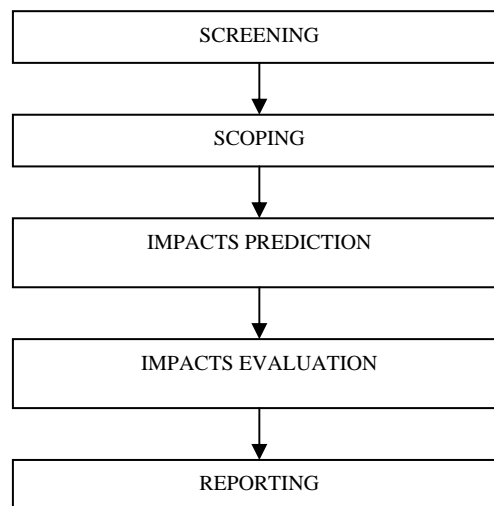


Figure 1: The Impact Assessment process

1° Normally, the first stage consists in *screening* the incoming proposals (projects, plan, program, etc.) and selecting those that should undergo a SIA. Usually, this screening process comprises a complete rewriting of the proposal, a preliminary for any further analysis. The new formulation should comprise:

- A description of the *problem* the policy wants to address, the identified causes of the problem, the actors and/or systems affected.
- An explicit formulation and justification of the *objectives* the policy wants to reach, with, if possible, quantitative targets.
- A formulation of different *policy options or alternative ways* to reach the objectives: an important step since it is these different options that will be assessed and weighted against each other.

Indeed, very few proposals are actually formulated as described here above. The problem to be addressed and the objectives to be reached are often explicitly mentioned, however usually in a very loose way. Most often, the objectives are imprecise, the causes of the problem are not scientifically

analysed and alternatives are almost never identified. Subsequently, the first value-added of *ex ante* impact assessment is that it makes necessary a more structured and rational presentation of policies.

2° If, at the end of the screening phase, the policy proposal has been considered worth a thorough assessment, the nature, scope and importance of this assessment is decided upon during what is called the *scoping* phase. In this context, “scoping” means establishing the institutional, methodological and practical (deadlines, time and financial budget) requirements and constraints of the assessment. This phase has important methodological and political implications for the two following stages of the process.

3° Impact analysis. The next step consists in *predicting* and *analysing* the likely impacts of the different alternatives. This step is at the heart of SIA. It usually follows a structure in which the important environmental, economic and social impacts of the different policy options are identified<sup>13</sup>, predicted and then qualitatively and/or quantitatively assessed. More precisely, the purpose of impact prediction is to assess the relative performance of the different alternatives with respect to the:

- direction,
- magnitude,
- duration,
- significance scale,
- likelihood,
- degree of reversibility

of the identified impacts. It is also crucial to know what social group(s) will be affected and in what way in order to assess the ethical value of the different alternatives but also to evaluate their probability of success.

However, beforehand, the scoping process should have defined how far to go in the prediction of impacts. More precisely, it should have stated:

- How precise and exact it has to be,
- At what level of geographical and social scale it has to stay;
- How far in the future it has to look;

The *prediction and analysis* of impacts is a cognitive operation, similar to a scientific enquiry, dealing with multiple types of information and facts: scientific as well as commonsense, general as well as local, objective as well as subjective. This multitude of information types and levels render it necessary to look at the way the different stakeholders will feel and react about policy impacts.

A distinction is sometimes made in the literature between “objectives-led”<sup>14</sup> assessments and other kind of assessments (“baseline-led”<sup>15</sup> or “EIA-driven”<sup>16</sup>, for example). While the distinction is not always clear, it points more or less to a difference in emphasis in the assessment process. Contrary to the other kind of assessments, “objectives-led” ones would focus less on impacts and more on consistency between the proposal’s objectives and higher level strategic commitments. This kind of concern is sometimes called “tiering” or, alternatively, “vertical integration.”

In other words: “The objectives-led approach assumes that if the (strategic) action’s objectives are sustainable and the (strategic) action is internally coherent, then the whole (strategic) action is sustainable.”<sup>17</sup> Indeed, sustainable development has already given birth to a whole hierarchy of cascading commitments from the top of the institutional ladder (the United Nations) to the bottom (municipalities, companies, etc.). First at the Rio conference (1992) and then at the several

---

<sup>13</sup> Usually, the most important impacts will have been identified already during the screening phase.

<sup>14</sup> Sheate, W., Dagg S., Richardson J., Palerm J. Steen U. (2001). SEA and integration of the environment into decision-making. European Commission Contract, No. B4-3040/99/136634/MAR/B4. Available at [http://europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea\\_integration\\_main.pdf](http://europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea_integration_main.pdf).

<sup>15</sup> Therivel R. (2004). *Strategic Environmental Assessment in Action*. London, Sterling VA: Earthscan.

<sup>16</sup> Pope at al. (2004).

<sup>17</sup> Therivel (2004 : 77-79).

conferences that took place in its aftermath, countries and several intergovernmental organisations have very formally and officially committed themselves to sustainable development. As a consequence, many have adopted sustainable development strategies and/or legislations that aim at giving a concrete substance to these somewhat abstract and general commitments. It is also the case for Belgium, which has already, amongst other initiatives, launched two federal plans for sustainable development. As a consequence, in Belgium as in many countries around the world, every new policy whatever its range, sector and goal, has to integrate itself in a complex network of multi-level multi-sectoral commitments for sustainable development (in theory at least). To look at the consistency between any newly given objectives and higher-level commitments is therefore certainly part of any SIA. Actually, it can be considered as a way to assess the relevance of the policy with respect to sustainable development.

However, if Sustainability Impact Assessment should be in some way “objectives-led” it cannot be just that. Vertical integration is only one condition of compliance with sustainable development requirements. Even if a policy’s objectives can be said to be compatible or even instrumental with respect to other SD strategies and plans, it remains to be seen if the planned actions and measures are the most appropriate way to reach them and, more specifically, if the economic, social and environmental, direct and indirect, short-term and long-term impacts are both internally consistent and compatible with the philosophy of sustainability. Only by identifying, predicting and assessing them as accurately as possible, this can be analyzed.

4° The different policy options or alternatives are then compared and eventually (if possible) ranked on the basis of their overall performance in terms of sustainable development. This assumes that sustainable development criteria have been defined beforehand, which is probably the most difficult issue in SIA. Contrary to impact prediction, *impact evaluation* is concerned with values and preferences, which are always more or less contestable. Therefore, despite the existence of well-established methods and tools that can help the decision-maker, the ranking of alternatives cannot be entirely reduced to a technical problem, especially in issues such as sustainability and development. It remains above all a political problem, subjected to democratic deliberation.

5° A *report* is written, explaining the outcomes of the different stages, the procedures and methodologies followed (e.g. the way in which information was gathered, which stakeholders participated and how, etc.) and exposing the pros and cons of the different alternatives. This report enters into the decision-making process, where the *follow-up* to the assessment is decided and where it is usually made public.

### 2.1.2 SIA as an instrument for decision-making

The two crucial phases of SIA, i.e. the prediction of impacts and the evaluation of the different policy alternatives can be analysed in the more general context of the decision theory. Any decision – and selecting a policy option amongst others is a decision like any other – comprises the following elements:

- An objective (O);
- A set  $A = [a_1, a_2, \dots, a_n]$  of  $n$  alternative ways to reach the objective (policy alternatives);
- A set  $C = [c_1, c_2, \dots, c_m]$  of  $m$  evaluation criteria on which to assess the various alternatives;
- A set (perhaps empty)  $W = [w_1, w_2; \dots, w_m]$  of  $m$  importance weights for each criterion;
- An evaluation function  $f$  such that  $O = f(W * C * A_i)$ .

In complex decision-problem, more often than not, every criterion will be, in turn, broken down in a subset of (sub)criteria, possibly with its own set of (sub)weights.

The decision problem can thus be represented as a hierarchy with O at the top, A at the bottom and several levels of criteria in between, as in the figure 2 below.

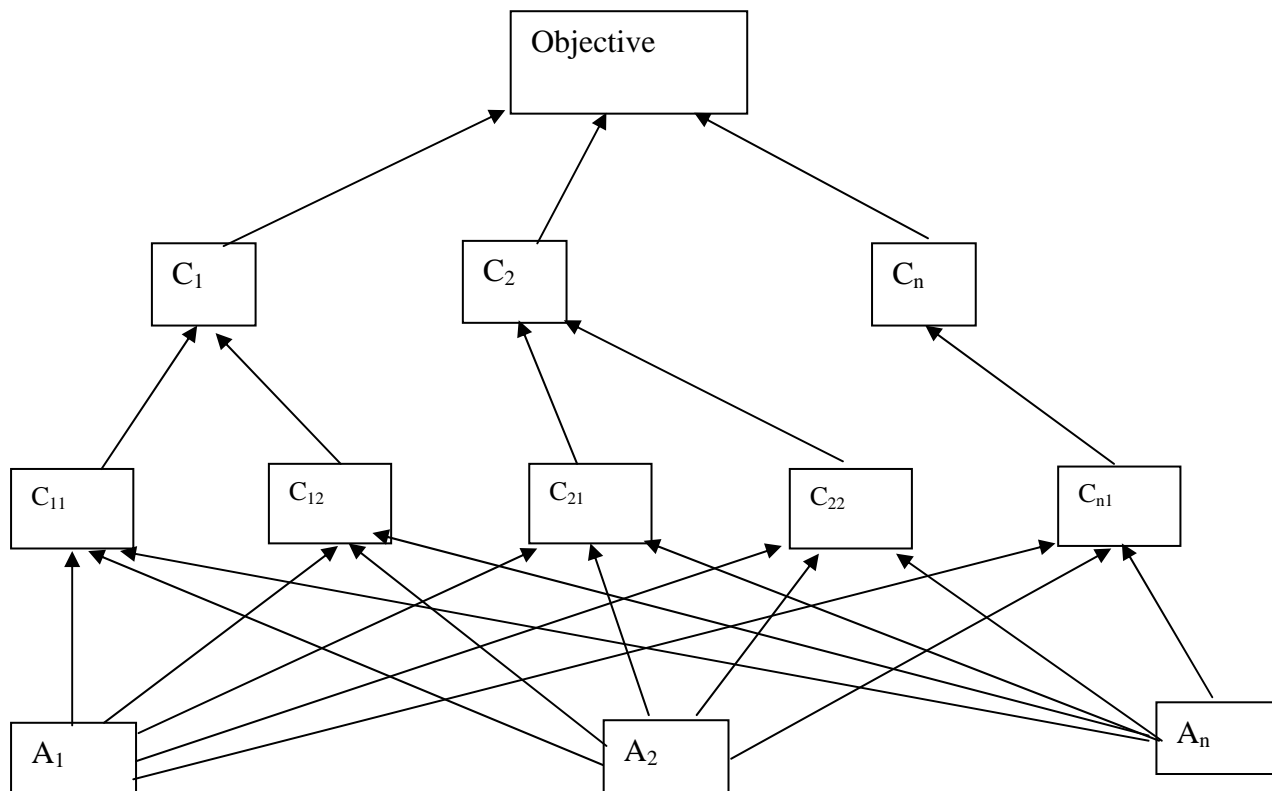


Figure 2: The multi-criteria decision making model

Every alternative is assessed against the various criteria, leading to the construction of what is called an impact matrix (see table 2).

Table 2: The impact matrix in multi-criteria decision-making framework.

Criteria	Weights	Alternatives			
		a <sub>1</sub>	a <sub>2</sub>	•	a <sub>n</sub>
c <sub>1</sub>	w <sub>1</sub>	c <sub>1</sub> w <sub>1</sub> a <sub>1</sub>	c <sub>1</sub> w <sub>2</sub> a <sub>2</sub>	•	c <sub>1</sub> w <sub>n</sub> a <sub>n</sub>
c <sub>2</sub>	w <sub>2</sub>	c <sub>2</sub> w <sub>2</sub> a <sub>1</sub>	c <sub>2</sub> w <sub>2</sub> a <sub>2</sub>	•	c <sub>2</sub> w <sub>2</sub> a <sub>n</sub>
•	•	•	•	•	•
c <sub>m</sub>	w <sub>m</sub>	c <sub>m</sub> w <sub>m</sub> a <sub>1</sub>	c <sub>m</sub> w <sub>m</sub> a <sub>2</sub>	•	c <sub>m</sub> w <sub>m</sub> a <sub>n</sub>
f		f(c. w. a <sub>1</sub> )	f(c. w. a <sub>2</sub> )	•	f(c. w. a <sub>n</sub> )

In the public policy context, the objective O is the main goal of the intended program or policy and the various alternatives [A] may refer to alternative measures or policies<sup>18</sup>.

Except for setting the objective, and in some cases, identifying the alternatives<sup>19</sup>, SIA has to do with

- 1) Identifying the criteria (I);
- 2) Weighing them (E);
- 3) Assessing every alternative with respect to each criterion, that is filling the impact matrix with partial scores) (I);
- 4) Aggregating the partial scores for each alternative giving an overall evaluation (I+E);

<sup>18</sup> Or various possible “states of the world” in which the policy is going to take place.

<sup>19</sup> It is most often expected from the impact assessment process that it suggests alternative ways to reach the objective when the proposed appear to be flawed.

5) Identify the “best” alternative (E).

the different kind of methods that can be used in stages 2, 3, 4 and 5 of the process will be discussed in section 2.3 on Methods for cognitive and evaluative integration. In the following section the difficult problem of the choice of suitable criteria for SIA is addressed.

### 2.1.3 Which criteria for sustainable development assessment?

Sustainability impact assessments usually adopt a Triple Bottom Line conception of sustainability (Pope et al. 2004, Vanclay, 2004) and look for social, economic and environmental impacts of the assessed policies. However, this is more or less independent of the criteria used for assessing them. Indeed, “(SIA)...assumes that the economic, environmental and social impacts are to be assessed according to the criteria consistent with the promotion of sustainable development”. (Lee, 2004). What are these criteria?

Usually, in general policy and projects appraisal, the classical criteria are the following: relevance, effectiveness, efficiency and equity (Gasper 2004<sup>20</sup>, Stone 2002<sup>21</sup>).

- The **relevance** criterion concerns the relation between the proposal’s objectives and the problem it is said to address. Assessing the relevance of any policy or proposal consists in answering the following question: “does it address the real problem?”
- “Does it really address it?” raises the question of its **effectiveness**. The criterion concerns the choice of instruments and policy measures taking account of the nature of the goal to achieve. Its assessment will be slightly different if done *ex post* or *ex ante*. If *ex post*, one will look at the degree to which the objectives have been reached, their degree of achievement and also at possible unforeseen, unwanted impacts. If *Ex ante*, the assessment will consist in a logical analysis of the assumed relationship between the measures and activities planned and the assigned objectives.
- The **efficiency** criterion concerns the relation between costs and advantages, between inputs (financial, human and natural) and outputs. The assessment consists in checking if the proposed policy makes the most rational uses of the available resources in order to achieve the purposes (or the goal).
- Finally, the **equity** criterion refers usually to the fairness or justice in the distribution of benefits and of burdens of the assessed policies in the population and social groups.

One can argue that these criteria are also relevant for sustainable development appraisal even if they don’t suffice (additional criteria should be considered). However, they should be interpreted in SD terms. We will briefly give some suggestions concerning possible SD interpretations of these criteria.

**Relevance.** For sustainable development, it doesn’t suffice that the policy proposal adequately addresses an identified problem; it must also address a real priority from a sustainable development point of view. The policy objectives settled down in already adopted global, international and national sustainable development strategies can be considered as sustainable development priorities. The UN Millennium Development Goals and the EU Gothenburg’s strategy objectives, for instance, constitute higher-level sustainable development priorities for EU nations (they all have subscribed to them). The objectives of the Belgian Federal Plan for Sustainable Development should also be conceived off as federal sustainable development priorities and any new federal policy should at a minimum be consistent with them and hopefully contribute to their accomplishment. This is exactly what is meant by the expression “objectives-led” assessment.

**Efficiency.** From a sustainable development point of view, efficiency should be assessed both from a short-term and from a long-term point of view. From a short-term point of view, one will pay attention

---

<sup>20</sup> Gasper, D. (2004) *The Ethics of Development. From Economism to Human Development*. Edinburgh : Edinburgh University Press.

<sup>21</sup> Stone, D. (2002). *Policy Paradox. The Art of Political Decision Making*. New-York, London: W.W. Norton and Co.

to financial costs (including opportunity costs) of alternative policies, as for any kind of policy. Cost-effectiveness analysis can be very helpful here. However, caring for sustainability implies that one should select the alternative making the more parsimonious use of environmental resources as measured by indicators such as the Ecological Footprint (EF), Total Material Requirement (TMR) or decoupling indicators.

**Equity.** From an ethical point of view, Sustainable development is characterised by its double requirement of intra and of intergenerational equity. However, there are several conceptions of equity and it is unclear (and still an open issue) which of them to adopt. Even the Brundtland report is ambiguous on that matter, speaking at some places of “basic needs satisfaction”, and at other of “fair share of resources”. On the other hand incompatibilities can happen between the requirements of intergenerational equity and those of intragenerational justice. It follows that assessing proposal in terms of equity is the most difficult part of the evaluative part of the process.

**Additional criteria.** In addition to the criteria discussed here above, SD policies should comply with additional requirements in terms of **precaution** and of **participation**. Actually, both can be conceived as requirements of equity. Participation is the only way to get sure that all the (living) people affected by a decision will have the opportunity to express their opinion and defend their interests. Precaution is necessary to protect current and next generations in a context of ignorance<sup>22</sup> about the likely occurrence and consequences of systemic risks and of irreversibility.

Last but not least, in order to qualify as SD policy, every policy proposal should testify that it could be **generalised** in space and in time without inconsistency. This means that, if every country in the world should adopt it, it would remain beneficial for all. This would rule out all “zero-sum” and “Red Queen” –like policies. We are aware that this can be quite difficult to assess. Indeed, it is probably logically impossible to demonstrate that a policy could be carried on everywhere and forever. But it must be possible, at least in some cases, to prove that a given policy cannot not be generalised.

## 2.2 The importance of screening and scoping<sup>23</sup>

Obviously, evaluating each and every policy proposal developed by public authorities would be a time-consuming and resource-intensive exercise. Simultaneously, overlooking policy proposals that bear potential strong negative impacts on sustainable development can have undesirable consequences that could have been anticipated and avoided with a proper evaluation. Hence, the importance attached to a first selection process, called *screening*.

*The screening stage is generally the first phase in an Impact Assessment. It acts as a process, where policy proposals are rapidly assessed for their potential impacts. It provides a systematic way of structuring information, which should help deciding whether a more thorough and extended impact assessment could usefully be undertaken, highlighting the need for further investigation on the proposed policy*<sup>24</sup>.

Screening procedures can be distinguished into two<sup>25</sup> broad types of approaches<sup>26</sup>. On the one hand, *prescriptive approaches* select by means of law or regulation those policy proposals which should become subject to an extended Impact Assessment. Selection is done on the basis of criteria such as the nature of the policy proposal (e.g. program, policy, plan...), the budgetary implications (e.g.

<sup>22</sup> “Ignorance is a state of knowledge under which we are neither able to fully quantify probabilities nor to characterise all the possible outcomes.” (M. Common and S. Stagl, (2005). *Ecological Economics. An Introduction*. Cambridge: Cambridge University Press, p. 388).

<sup>23</sup> This section synthesizes and vulgarizes an analyses of literature and practice with regard to screening and scoping, which is more extensively reported in the working paper Bauler T., Wåktare M. (2006), *Towards a screening mechanism for SIA: process and content issues related to the federal Belgian case*. Working Paper, February 2006, ULB-IGEAT. 77p.

<sup>24</sup> Department of International Development - DFID (2003). *Environment Guide, a guide to environmental screening*. UK. AND Blair-Stevens, C. (2002), *Introducing health impact assessment (HIA): Informing the decision-making process*, Health Development Agency, Department of Health, edited by Taylor, L.

<sup>25</sup> Other approaches to screening exist, such as volunteer designation of policy proposals, random selection, etc. However these are less applicable to pursue the goals of SIA.

<sup>26</sup> United Nations Environment Program - UNEP (2002). *Environmental Impact Assessment Training Resource Manual*, Second Edition.

budgetary threshold)... Prescriptive approaches can be formalized either as ‘inclusion lists’ (positive list) or as ‘exclusion lists’ (negative list) of policy types, which should or should not undergo extended assessment.

The second approach to screening, i.e. *discretionary approaches*, does not pre-determine those policy proposals that should undergo extended assessment by type, issue, theme, size, budget... Instead, a simplified evaluation mechanism is developed methodologically and procedurally, which has to be triggered for each policy proposal. These pre-assessments allow an insight on the necessary extension of the subsequent evaluation on the basis of the foreseeable significance of the impacts.

Both approaches are not necessarily antagonistic and can be combined into a coherent selection process. As a matter of fact, some decisions taken by public authorities are simply not suited for evaluation at all; others are not suited for SD-type evaluations. Some form of prescriptive selection seems thus unavoidable, and be it only to skim from the political agenda, issues such as nominations or errata. Practice shows that some countries exclude also from their pool of eligible policy proposals, proposals that implement European regulation on the ground that these are already assessed on the European level<sup>27</sup> and that the Member States’ lever to reengineer European regulation is anyway very limited in most cases. Other public authorities introduce thresholds into their prescriptive approaches, for instance a minimum amount of budgetary spending, or minimum number of citizens or firms touched by the regulation... Very rarely, and if so mainly in relation to issues of state security and defence, public authorities exclude some policy proposals on the basis of their sector nature.

Simultaneously, evaluating potential impacts on SD solely on the basis of fixed prescriptive rules does not allow accounting sufficiently for the complexities and uncertainties of the sustainability paradigm. As a consequence, screening relies in most cases also on pre-assessment tools, such as short evaluation notes, impact matrixes, causal chain exercises...

While screening allows deciding if a policy proposal should be subject to an extended SIA, the next step in the process, called *scoping*, determines how to evaluate the policy proposal. As every policy proposal can potentially enter the SIA process, the range of policy proposals which are potentially submitted to SIA is very large. Comprehensive configuration of each SIA-exercise in accordance with the policy proposal’s specific nature, form, extent... is thus crucial. More specifically in the context of SD, scoping is used to determine, notably, the depth and the integrative character of the final extended evaluation exercise: for instance, some policy proposals might not necessitate an integrated, participatory, fully fledged SIA, but would nevertheless profit from a specifically designed evaluation of their environmental impacts. *Scoping* allows setting an individual and specific evaluation framework for each policy proposal having been identified as critical during the screening process. Scoping processes structure the subsequent extended evaluation and identify those elements (e.g. economic sectors, environmental dimensions, social groups, geographical distribution...) that the extended evaluation needs to focus on. Scoping is also permitting to define the data needs and to determine the methodology selection of the extended evaluation. In short, scoping allows determining the *Terms of Reference* of the extended evaluation.

Considering the fact that scoping determines the configuration of the subsequent SIA assessment, it is thus comprehensible that scoping is understood by many actors as a crucial step in the evaluation process. To a certain extent, scoping sets the fundamental boundaries of the evaluation, deciding who will take part when in what moment to the assessment process, but also defining which evaluative questions and elements are most important to be taken into account during the evaluation. Above all scoping is also the phase of the SIA-process to trade-off between the desirable and the feasible in terms of evaluation. Issues that are considered during the scoping phase include matters of *proportionality* between the evaluation’s depth and impact and the policy proposal’s importance, as well as *allocative* matters such as the intelligent distribution of means and capacities between the

---

<sup>27</sup> Wäktare M. (2005), *L’Analyse d’Impacts de la Commission Européenne. Revue de la littérature et analyse de cas*. Working paper. ULB-IGEAT. 49p.

different parallel SIA-evaluations, and matters of technical *feasibility* (for example in terms of data needs) of the evaluation.

While being largely technical, it has nevertheless been repetitively requested that scoping phases are opened to the participation of stakeholders and/or non-administrative public institutions (e.g. parliament or senate). Obviously, scoping is identified by all stakeholders alike as the crucial moment of defining the evaluation questions and the technical SIA-configuration. Understandably, they request to intervene in these discussions.

As mentioned above, one of the first challenges for an operational SIA-process is to develop a selection (i.e. screening) and configuration (i.e. scoping) mechanism, which allows to allocate efficiently existing resources and capacities for evaluating policy proposals by identifying those proposals which would best undergo a more extended assessment, and by configuring individually the assessment. Such a selection is necessarily a matter of trade-off between the evaluability of the policy proposal, the means and capacities available, the potential (positive or negative) impacts of the policy proposal, the lever to adapt the policy proposal, the will to open and re-engineer policy, the awaited benefits from inter-service consultation and stakeholder dialogue, the flexibility of the policy agenda's timing...

Some of these factors, such as the potential future impacts of a policy proposal, can be explored in a sufficiently objective way on the basis of robust methodologies and tested assessment tools (e.g. such as impact matrixes, quick scan tools...). However, many of these factors are a matter of judgment and of will of the authors and supporters of the policy proposal at hand. The selection of policy proposals for extended SIA is thus also - and maybe primarily - a matter of perceived political opportunities<sup>28</sup>, which should however be informed as much as possible by the results of the use of objective screening tools and procedures.

Many of the above-mentioned factors cannot be set on an absolute scale, but remain a matter of relative weighting and comparing between a number of policy proposals on a number of factors. This, however, calls for a relatively precise positioning of the screening and scoping moments into an operational and existing policy-making agenda (e.g. such as it is the case with the annual working program at the level of the European Commission) in order to have at hand a sufficient pool of policy proposals for comparison and choice. Currently, this necessary condition for a performing SIA is far from met at federal level in Belgium, as there exists neither a clear policy calendar, nor a very far-reaching obligation for information on the government's future policy intentions. Both the screening and the scoping moments of SIA call however inevitably for the existence of what is called a regulatory agenda.

As for the operationalization of a screening instrument (such as for instance the impact matrix developed and tested during the project), it appears<sup>29</sup> that it remains (especially within the current federal policy making process) necessary to rely on the mutual collaboration of civil servants and representatives of the policy proposals' initiator (e.g. members of ministerial cabinets). The most evident argument for this being of course, that if the aim is to let SIA deploy the maximum of its impact and usefulness, then it needs to be initialized at an early moment in the policy-formulation and policy-making process, implying that still relatively few detailed information on the policy proposal exists, except for those information which have been used by the policy initiator to configure the proposal. Hence, the necessity to involve in any cases the policy initiator, which in the current federal setting is often a member of the relevant ministerial cabinet, sometimes a civil servant.

---

<sup>28</sup> This is not to say that the motivations - political or not - behind such selection processes should remain in the dark. Quite opposite: whatever the motivations for the selection are, these need to be rendered transparent. The success and impact of tools such as SIA - which are widely executed as internal administrative evaluation mechanisms, but where the resulting societal implication and coordination are of foremost importance - are largely dependent on the credibility raised with the tool in the midst of stakeholders, civil society, but also civil servants and politicians themselves.

<sup>29</sup> See notably the testing phase of the screening matrix, which was performed during the SIA-project, and is reported in section 3.4 of the present report.



As a consequence, the process of selecting policy proposals to undergo SIA could evolve around 2 basic principles.

First, the selection should rely on a triple procedural structure comprising a prescriptive exclusion of some types of policy proposals (e.g. with a negative list of policy types, which are deemed not relevant in any case for SIA) followed by a discretionary phase which filters policy proposals on the basis of their expected impacts on sustainable development (e.g. with a standardized impact determination- and impact reporting-tool such as the tested combination *impact matrix / argumentative form*). The final selection of the policy proposals to undergo an extended SIA could be performed by political actors on the basis of information generated during the discretionary phase while considering political opportunities as well as evaluative capacity within administration.

Second, SIA is not only about avoiding and mitigating negative, unsustainable impacts of policies. Many authors and institutions<sup>30</sup> rather prioritize the enhancement of ‘secondary’ effects of SIA, for instance in terms of strengthening policy learning, bottom-up integration of the principles of sustainable development into administrative and political culture, administrative networking, policy coherence... However, some preconditions have to be fulfilled in order to make these effects develop in the mid term. At the level of the selection of policy proposals for SIA, the most important characteristic<sup>31</sup> to realize is to ensure a high degree of transparency. The inevitable trade-offs with selecting proposals for SIA need to be explained and made accessible to the wider public. This condition ideally includes opening the selection process to the consultation of stakeholders (e.g. consultative forums, parliamentary debates, public or expert hearings...).

The analysis of literature and practice stressed the following important building blocks which should be respected while deciding on an accurate screening and scoping process:

- Pre-assessments should be unambiguously inserted into the calendar of policy- and decision-making, and particular attention has to be paid to the proper phasing of the mechanisms.
- The selection moment of policy proposals to undergo an extended assessment should be configured as collegial as possible, both on the basis of inter-departmental collaboration (horizontal) and inter-institutional consultation (vertical).
- While the responsibility of the different members of the working groups should be shared, the tasks of the different actors should be defined clearly.
- During the initial phase of developing SIA, and thus of deciding on the accurate screening and scoping process, a detailed timetable should be followed.
- In order to develop step-wise from prototype screening to an operational process, and to sustain the quality of the process, a series of accompanying measures and mechanisms need to be initialized which can assure both the development of capacity and of quality evaluations.
- In the light of many different interpretations which can be given to SIA, it is of importance to develop from the start a clear identity to the SIA-process (e.g. procedural vs outcome-directed evaluation).

SIA is a flexible evaluation mechanism, which develops its qualities also on the basis of adapting the evaluation process to the policy proposal at hand. Scoping, i.e. setting the *Terms of Reference*, of the evaluation should thus allow determining the most opportune and important aspects specifically for each policy proposal. This should automatically lead in the longer run to a range of “types” of SIA, some being deliberately more environmental (i.e. variety on the prioritized dimension), some more participative (i.e. variety on the objective), others strictly expert-driven (i.e. variety on the executioner), and still others stressing impact prediction (i.e. variety on the prioritized methodologies). This flexibility needs to be actively promoted, especially in the light of the uncertainties and interpretations that are attached to evaluations in the realms of sustainable development.

---

<sup>30</sup> This recurrent insight is widely shared by international institutions, academics, practitioners and NGOs alike, largely on the basis of sometimes long experience with parent evaluation mechanisms such as Environmental Impact Assessment, Strategic Environmental Assessment, Social Impact Assessment, health Impact Assessment...

<sup>31</sup> Other conditions to fulfil are: assure quality control, invest into central steering capacities, develop specific information tools, promote for capacity-building within administration...

Screening exercises inherently present a strong contradiction: identifying impact-rich policy proposals without bringing the impact identification and -assessment to a level of detail, which would allow to nuance sufficiently depth, direction and desirability of the policy's impacts. Nevertheless, screening remains a crucial phase in SIA, not the least because successful screening has important levers on the success of the entire SIA-scheme: a bad selection of policy proposals can ruin in the midterm the credibility and robustness of the SIA-process itself, and can kill the initial motivation of the involved actors.

Not entirely objectivable, because of the above-mentioned contradiction, screening will inevitably rely at least partially on subjective value judgments and intuition. Furthermore, the act of inserting policy proposals into an extended SIA or not, will ultimately remain a matter of political judgment too, including bargaining and trading-off between opportunities, feasibility and capacities. This inevitable, but very strong link to subjectivity during screening can become a constant thread for the credibility of screening methods. One solution to manage these threads and limitations of screening lies in careful procedural design introducing a considerable amount of transparency and participation to the screening exercises.

### 2.3 Methods for cognitive and evaluative integration

We have seen in chapter 2.1 that, considered as a decision-making problem, SIA involves two kinds of operations: cognitive and evaluative. As SIA is expected to be an integrated assessment, one needs to distinguish between cognitive and evaluative integration<sup>32</sup>. This distinction provides a basis for a – however crude – taxonomy of the various tools and methods found in the impact assessment literature. Handbooks of Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), Integrated Assessment (IA), etc., are full of references to methods and techniques such as: checklists, life-cycle analysis, focus groups, system models, matrix methods, cost-benefit analysis, optimisation, multi-criteria analysis, input-output analysis, Computable General Equilibrium models (CGE), risk assessment, etc. However, it is very difficult to find a rationale to the way they are presented and organised. More often than not one is facing unordered lists, mixing cognitive and evaluative tools, data acquisition and data utilisation methods, qualitative and quantitative methodologies, simulation and optimisation, objective and subjective methodologies, causal and non-causal approaches, etc.

The figure below proposes a tentative<sup>33</sup> taxonomy of several methods<sup>34</sup> viewed from an integrative standpoint and based on this distinction<sup>35</sup>.

---

<sup>32</sup> A more thorough discussion of integration in impact assessment and of the cognitive integration tools referred to hereafter can be found in Boulanger P.-M. (2005). "Integration in SIA : meanings, patterns and tools". Ottignies: Institut pour un Développement Durable. (<http://www.iddweb.be>).

<sup>33</sup> Tentative insofar as it doesn't pretend to be exhaustive or the most accurate.

<sup>34</sup> We include in this overview some tools that are rarely -if any- mentioned in the environmental assessment literature but that we believe should be part of the assessment toolbox. We have in mind here (fuzzy) cognitive maps and Bayesian networks.

<sup>35</sup> It is impossible to give here a complete and detailed overview of the various cognitive and evaluative methods available for SIA. For further information we can orient the reader to the "SustainabilityA-Test" project, notably to the document "D6: Bundle of preliminary tool overview and evaluation papers". It can be downloaded at the following address: "[http://www.ivm.falw.vu.nl/Research\\_projects/index.cfm/home\\_subsectionid/FC7E12EA-D5A0-4EC0-8D5A2B69456307CD](http://www.ivm.falw.vu.nl/Research_projects/index.cfm/home_subsectionid/FC7E12EA-D5A0-4EC0-8D5A2B69456307CD)"

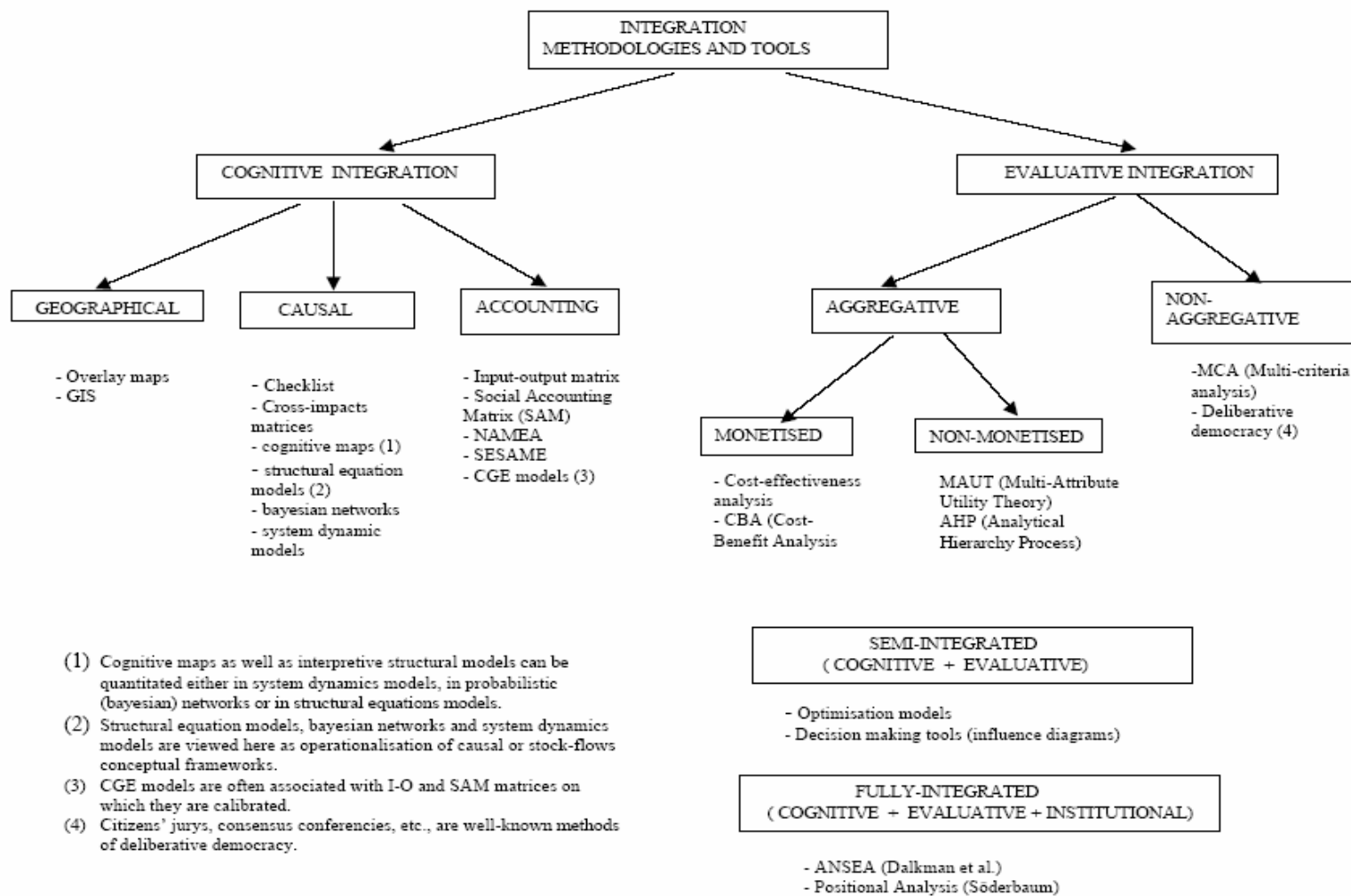


Figure 3: Integration methodologies and tools

### 2.3.1 Tools for cognitive integration

Cognitive integration consists in putting together the various kinds and pieces of information necessary to take a well-informed decision. This is, a priori, not restricted to scientific knowledge, even if other sources of information are often omitted in the literature.

The methods listed in figure 3 under the heading “cognitive integration” have been regrouped in three main classes: geographical, causal and accounting. The classification is partly based on the distinction proposed in the OECD report “Sustainable Development: Critical issues” between analytical and accounting frameworks<sup>36</sup> for integration of economical, environmental and social variables.

OECD does not give a precise definition of analytical frameworks but gives only two examples of such framework: the PSR, DSR, DPSIR approach and the “resource-outcome indicators” approach.

- The former is a kind of general causal model of the relationships between the environment, the economy and policy. It has proved very efficient in dealing with environmental issues but is less suited to the social and distributive aspects of sustainable development.
- The “resource-outcome indicators” approach focuses on the various kinds of assets (resources) necessary to meet the needs of future generations and the way these needs are met today (outcomes). It is very close to the definition of SD in terms of the four capital stocks (man-made, natural, human and social).

If the DPSIR framework is basically a causal model, the resource-outcome is basically a stock-flow model. It is to be noticed that variables (indicators) in causal as in stock-flow models refer to systems, not to agents. On the contrary, accounting frameworks are built on exchange relations or transactions between *agents*: industries, households, and institutions<sup>37</sup> as pictured in the Social Accounting Matrix (SAM), an extension of national economic accounts stated in matrix form. Another recent extension of national economic accounts, NAMEA (for National Accounting Matrix with Environmental Additions), allows also integration of natural resources, wastes and pollutions in the common framework. Actually, combining a SAM and a NAMEA opens the way to fully economic, social and environmental integration. The only example of such schemes is the SESAME<sup>38</sup> (System of Economic and Social Accounting Matrices including Extensions) framework developed in the Netherlands. In SESAME, integration of environmental, economic and social variables is achieved in a consistent manner while expressing each sector in its “natural” units (money, physical units and time units). Actually, SAM and NAMEA models constitute generalisations of the Leontief input-output tables on which Computable General Equilibrium (CGE) models are usually calibrated.

The methods and tools listed beneath the “causal” heading can be seen as operationalisations of analytical models such as causal (DPSIR, for example) or stock-flows models of environment, society and economy. Indeed, structural equation models or Bayesian network models suppose a cause-effect relationship between the variables. In system dynamics models, the dynamic behaviour of the system depends on the network (structure) of interlinked positive and negative feedback loops between stocks (levels) and flow variables (rates).

With geographical methods, integration results from the superposition of representations of different point of views (as successive layers) on a topographical map of the concerned area. Overlay maps and

<sup>36</sup> OECD, (2001), *Sustainable Development – Critical Issues*, p.62.

<sup>37</sup> If nature is introduced, as is the case with the NAMEA (National Accounting Matrix including Environmental Accounts), it is on the model of the economical agent delivering its production to others agents (industries, households..) and being serviced by them (as waste).

<sup>38</sup> See for example, Timmerman, J. and P. van de Ven, (2000). “The SAM and SESAME in the Netherlands: A modular Approach” in United Nations, ed., *Handbook of National Accounting, Studies in Methods*, Series F, N°75/Vol 2., pp 309-351. See also : F. Duchin., (1998), *Structural Economics. Measuring Change in Technology, Lifestyles and the Environment*. Washington.D.C.: Island Press.

GIS deserves a special treatment as very powerful integration techniques provided that the decision has physical impacts on land uses and landscape, which is far from always true.

The methods and tools are - rather loosely - ranked from the less demanding to the more demanding in terms of data requirements and/or skills. For instance, checklists are less demanding than cross-impact matrices, overlay maps less than full GIS application, etc. The less demanding will be preferred at the screening stage of the process or in case of lightweight assessments. However, beyond this consideration, it is very difficult to say which integration method is to be preferred. It depends heavily on the kind of policy or program to be assessed. Indeed, each has its strengths and weaknesses. For instance, Bayesian networks are very good in risk assessment, contrary to accounting methods. Social accounting matrices are probably the best way to explore the distributive impacts of macro-economic policies but are very weak when it comes to long-term consideration. Overlay and GIS methods are priceless in assessing land-use policies but inadequate for trade policies, for example, etc. Moreover, they are not necessarily exclusive one of the other. For example, input-output matrices and GIS are frequently associated in land-use and transport models.

### 2.3.2 Conclusions on cognitive integration tools

- Causal tools may be expressed either in matrix or in graphical form. The latter is more convenient for collaborative (participative) modeling; the former is best suited to mathematical manipulations. However, it is always possible to switch between the two modes of presentation.
- Though the impact assessment literature seems unaware of it, there is a whole continuum between purely qualitative causal frameworks (such as the DPSIR) and tools (such as checklist or cross-impact matrices) and fully quantitative models such as systems dynamics models. In between, one finds semi-quantitative tools such as FCM (Fuzzy cognitive maps), or Bayesian networks<sup>39</sup>. It is therefore possible to enrich progressively the assessment as needed, beginning with a cognitive map, then quantifying it a bit as FCM, finishing if necessary and feasible with a full-fledged system dynamic model or, if risk is at stake, with a Bayesian network (or an influence diagram).
- In any case, it is helpful to start with a graphical model of the relations between the relevant variables (policy variables, identified impacts, intermediary variables). If the problem is mainly a dynamical one, the graph will contain cycles, and feedbacks will have to be considered. If not, it will boil down to an event tree, likely to mutate to a Bayesian network if endowed with probabilities.
- Accounting integration is much more demanding in terms of existing database. It supposes the existence of highly disaggregated social accounting matrices, input-output tables and environmental accounts.
- Cognitive integration can be *ex post* or *ab initio*. If *ex post*, it can only be done by coupling pre-existing disciplinary causal models. The different causal integration tools discussed here can be used either *ex post* or *ab initio*. It is much less the case for the accounting approach. Integration of economical, environmental and social variables in SAM-NAMEA frameworks is mainly an *ab initio* process, because they must have been identified from the beginning in the categories of the accounted for activities, factors and institutions

---

<sup>39</sup> I don't mention here qualitative physics nor neural networks, the former because I don't believe in its potential in assessment (although I believe in its pedagogic virtues), the latter because of their "black box" character.

### 2.3.3 Integration of evaluation

Evaluative integration refers to the way differing values, standpoints and perspectives are integrated in the decision-making process and outcome. It concerns the weighing of assessment criteria and the way the individual impacts are aggregated or not in the overall evaluation of the different alternatives.

Evaluation approaches can be distinguished according to two important distinctions:

- Aggregative or not;
- Monetary or not.

Aggregative methods aim at attributing to each alternative a synthetic value computed by aggregation of the different partial assessments (corresponding to internal cells of the impacts matrix in section 2.2). The common unit in which aggregation is done can be monetary or not.

The champion of aggregated monetarised evaluation methods is the well-known Cost-Benefit Analysis (CBA). It consists in using existing market prices – and when unavailable or inadequate because of market failures, ascribed or computed accounting prices - to calculate the net present monetary value for society<sup>40</sup> and the future social costs and benefits of the assessed policies. If the sum of discounted benefits outweighs the sum of discounted costs, the policy is considered advantageous. Accordingly, alternative policies are ranked following their net present value (NPV), thus providing a convenient method to select the “best” policy<sup>41</sup>.

The use of cost-benefit analysis in environment policy and management as well as in sustainable development has been criticised both from an economic point of view (Chichilnisky 1998<sup>42</sup>, Gowdy 2004<sup>43</sup>, Hanley 1999<sup>44</sup>, Munda<sup>45</sup> 1996) and from a philosophical one (Anderson<sup>46</sup>, O’Neill<sup>47</sup>, Richardson<sup>48</sup>, Sagoff<sup>49</sup>). We find these arguments convincing enough to discard CBA as the principal tool in evaluating impacts and selecting alternatives. However, it can provide useful information on the short-term efficiency of the different options.

The non-monetarised aggregative alternatives are the Multi-Attribute Utility Theory (MAUT) and the Analytical Hierarchy Process ‘AHP).

The MAUT approach assigns to each impact or criterion a non-monetary subjective utility which are then aggregated with an additive or multiplicative function in order to obtain an overall utility index for the assessed alternative. It is an interesting challenger to CBA and has already been used with some success in sustainability impact assessment of Clean Development Mechanism (CDM) projects (Sutter 2003)<sup>50</sup>. However, the choice of the partial utility functions and values as well as the selection of weights – already a difficult task in a single decision-maker case - becomes almost impossible in a group decision-making context.

<sup>40</sup> Cost-benefit analysis at the firm level is rather called cost-revenue analysis.

<sup>41</sup> Theoretically, alternatives should be compared on basis of the Pareto-improvement criterion, which states that a situation A is better than a situation B if it makes at least one person better-off while nobody is made worse-off. This is a rather theoretical and unlikely situation, so the Kaldor-Hicks criterion is used instead. It states that a change from state A to state B is an improvement if the winners from the change could fully compensate the losers and remain still better off than in situation A. Cost-benefit analysis assumes that if the aggregate benefits of a policy exceed its aggregate costs, the Kaldor-Hicks criterion is met.

<sup>42</sup> Chichilnisky, G. (1998). "The Costs and Benefits of Benefit-Cost Analysis" Policy Forum, (ed. C. Perry) *Environment and Development Economics*, University of York, UK, 202-207.

<sup>43</sup> Gowdy, J. (2004) "The revolution in welfare economics and its implications for environmental valuation and policy", *Land Economics*, **80**: 239-257?

<sup>44</sup> Hanley, N. (1999). "Cost-benefit analysis of environmental policy and management", in Jeroen C.J.M. van den Bergh, (ed), *Handbook of Environmental and Resource Economics*, Cheltenham UK, Northampton MA USA: Edward Elgar, pp.824-837.

<sup>45</sup> Munda, G. (1996). "Cost-benefit analysis in integrated environmental assessment: some methodological issues", *Ecological Economics*, **19**: 157-168.

<sup>46</sup> Anderson, E. (1988). "Values, Risks, and Market Norms," *Philosophy and Public Affairs*, **17**: 54-65.

<sup>47</sup> O’Neill, J. (1993). *Ecology, Policy and Politics: Human Well-Being and the Natural World*. London: Routledge.

<sup>48</sup> Richardson, H. (2000). "The Stupidity of the Cost-Benefit Standard", *Journal of Legal Studies*, **29**: 971-1003.

<sup>49</sup> Sagoff, M. (1988). *The Economy of the Earth*. Cambridge: Cambridge University Press.

<sup>50</sup> Sutter, C. (2003). *Sustainability Check-Up for CDM Projects. How to assess the sustainability of international projects under the Kyoto Protocol*, WVB, Wissenschaftlicher Verlag Berlin, Berlin.

The analytical hierarchy process (Saaty 1980)<sup>51</sup>, is an alternative way to obtain an aggregated “sustainable development” score or index for each policy option. It consists basically in making pair-wise comparisons of the different criteria on a cardinal ratio scale (from 1 to 9), which aggregated (with some matrix manipulation techniques) enables to find out the weights vector. The same process of pair-wise comparisons using the same cardinal ratio scale is then done for each alternative on each criterion, giving partial indexes of performance that are finally aggregated, taking into account the weights computed in the first stage of the process. The AHP is a rather effective and efficient way to rank alternatives even in a group decision-making context.

All the methods discussed hitherto assume a weak view of sustainable development insofar as they allow for substitutions between the different criteria. Only two approaches exist, compatible with a strong sustainability standpoint: outranking multi-criteria methods and deliberative democracy.

The Multi-Criteria (MCA) outranking methods are the only mathematical tools that acknowledge the reality of value pluralism. All other methods deny this pluralism more or less insofar as they hide it under a somewhat artificial aggregated index. Furthermore, they can take into account quantitative as well as qualitative impacts. However, not all versions of outranking MCA methods rule out compensation between criteria. It is only the case for “non-compensatory” versions.

Finally, a combination of discursive ethics (O’Hara 1996)<sup>52</sup> or deliberative democracy and multicriteria evaluation methodology is probably the most sensible way to deal with the problems of incommensurability and incomparability that characterise sustainable development issues. The Social Multi-Criteria Evaluation Methodology elaborated by Munda and others (Funtowicz, Martinez-Alier, Munda and Ravetz, 2002<sup>53</sup>) is the most accomplished attempt to achieve such a combination and constitutes as such the most promising solution for a participative, yet effective and efficient evaluative integration.

---

51 Saaty T.L. (1980), *The Analytic Hierarchy Process*, McGraw-Hill, New York

52 O’Hara, S. (1996) “Discursive ethics in ecosystems valuation and environmental policy”, *Ecological Economics* (16):95-107.

53 Munda, G. (2004): Social multi-criteria evaluation: Methodological foundations and operational consequences. *European Journal of Operational Research* (158)-3: 662-677.

### 3. *Case-studies*

#### 3.1 Introduction

During the Integration and Testing phase of the research project, the results of the Exploration phase have been combined and integrated in a preliminary proposal for a Belgian SIA. This draft has then been applied to a selection of case-studies with the aim to draw some lessons from these exercises and to elaborate an improved version of a SIA for the Belgian federal context. The aspiration was to select a number of case studies differing in scope and scale of impact. Based on the lessons-learned during these case studies an improved version of SIA could subsequently be elaborated. However, the selection of relevant case studies proved to be somewhat problematic. Basically, the range of proposed cases on which the selection could be based was inadequate. Notwithstanding a repeated appeal to the federal public services for proposing relevant cases, it proved to be far from evident to engage administrative actors in the testing phase of SIA. As well the ICSD, the PPS-SD, as individual administrations were contacted to provide the research team with policy initiatives under construction on which SIA could be tested. Though, after insisting, only around a dozen propositions for cases were suggested, most of which were unusable or irrelevant for the project. In general all suggested proposals were small-scale policy initiatives with little or even negligible impacts.

This observation is rather contradictory to the fact that SIA is intended to be implemented on important governmental decisions, as formulated in the Federal Coalition Agreement (2003). This reluctance to expose policy initiatives to SIA could be assigned to (a combination of) several factors. First of all, it could be imagined that SIA is not really taken seriously by the administrative actors. Consequently they don't consider it worthwhile to invest their already restricted time. Secondly, a possible reason is that the administrations have no access to important policy initiatives. As mentioned in detail in chapter 4 policy initiatives are developed on two levels in the federal context. The more important policy proposals are taken care off by the Ministerial Cabinets, while the more technical or less urgent dossiers are treated by the administrations. Therefore it might be possible that the administrative actors which were contacted don't have the authority to propose more important policy initiatives as cases for this project. Thirdly, a far-reaching, ex-ante assessment procedure such as SIA might be perceived as too intrusive. The need for increasing the liability of political actors has gradually gained importance, however the willingness to formulate, compare and weigh policy alternatives in a transparent way might still be lacking in the current policy culture.

Despite the difficulties for getting hold of suitable cases, three case-studies eventually have been selected.

- Introducing ethical criteria in public purchases
- Decreasing excise taxes on biofuels
- Testing the screening instrument

For the first two case studies a simulation of SIA was performed. As far as possible, all phases of SIA were dealt with (screening, scoping, impact identification, impact prediction, impact evaluation, reporting) in close cooperation with a group of civil servants involved with the subject. More concrete this means that the policy measure concerned was analyzed and alternatives for the measure were sought. The potential economic, ecologic and social impacts of the alternatives were described with the impact matrix as developed for task EX 3. Furthermore the policy alternatives were compared and the possibility of stakeholder participation in the process was discussed. To conclude a report of this exercise was prepared and presented to the people involved.

The case on the screening methodology was conducted in a different way. The research team has developed a matrix for the identification of potential impacts during the screening phase. The feasibility and robustness of this matrix was tested on a selection of policy proposals with a series of restricted working groups.



Obviously, these three cases cannot be regarded as representative for the strategic policy initiatives for which SIA is intended. They give an inaccurate image of the complexity evoked by SIA (methodological, organizational and institutional). However, testing SIA on some truly relevant cases remains crucial for the creation of a SIA instrument/process of high quality with adequate public and political support. Consequently, when thinking about the phasing-in of SIA, it should be considered to introduce a trial period during which several in-depth case studies are performed and procedures are formally tested. Introducing SIA in the federal policy-making context inevitably calls for a learning-process in which the cooperation of administrative and political actors is essential. This also requires the willingness to open up the policy-making process and allowing negotiation and mediation from other actors.

## **3.2 Case 1: Introducing ethical criteria in public purchases**

### **3.2.1 Approach**

First of all, a working group was established, consisting of several administrative actors of the different Public Services concerned with the subject of public purchases<sup>54</sup>. This group was invited for a kick-off meeting on 13/07/2005 and a closing meeting on 14/09/2005. In between some restricted meetings and individual consultations over the telephone have taken place. At the end a report was distributed and commented on by group members.

The first task for this working group was the analysis of the policy proposal. The societal problem on which it aims to formulate an answer was described in detail. Also the related risks (societal consequences) and the causes were discussed as well as why the current legislation is not satisfactory. Subsequently, alternatives for the policy measure were defined and the potential economic, ecologic and social impacts of the alternatives were described. Furthermore the policy alternatives were compared and the possibility of stakeholder participation in the process was discussed. To conclude a report of this exercise was made and presented to the people involved.

### **3.2.2 Analysis of the policy measure**

The regulation concerning public purchases is strongly determined by the global principles of the free market. The European legislation<sup>55</sup> offers a binding framework that leaves only very limited freedom for the national governments to integrate sustainability criteria in public contracts. In Belgium the European Directive is currently being transposed in a national law on public orders, which should become valid in 2006. This new law will regulate all aspects of public orders, including some possibilities to introduce ethical criteria in public contracts within the free market context. The general principles and possibilities as described by the law, should later on be implemented by Royal or Ministerial Decrees, implementing the law. The possibilities for introducing ethical criteria in public contracts are the subject of this case-study.

Taking account of the principles of open competition, introducing the possession of certain labels (ecological, social, sustainable ...) as a criterion for public purchases would implicate a form of unfair competition. Other products / services which meet the same criteria, but do not have the label, should also be able to subscribe for the public contract involved. Sustainable products and services can contain an ecological approach, a social / ethical approach or a combination of these. Concerning the social and ethical aspect of public purchases a confusion of concepts needs to be clarified. Within the international discourse on sustainable public purchasing ethical criteria are understood as the working conditions in which products / services are produced. In this context the 8 basic principles as

---

<sup>54</sup> From the FPS P&O: Mr. Bruggeman, Mr. Debray, Mrs. Jalet, Mr. Vervliet, Mr. Lerno;  
From the chancellery of the prime minister: Mr. Dardenne, Mr. Depre;  
From the PPS SD: Mrs. Smeets, Mrs. Sokolowski, Mr. Henrix.

<sup>55</sup> Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts

determined by the International Labour Organization (ILO) are frequently referred to (syndicate freedom, no discrimination, gender equality, no forced labour, no child labour ...). According to the European Directive, social criteria can be included as implementation criteria, as well as within the context of restricting the access to an award procedure for sheltered workplaces, social insertion companies, etc. (for example: 20% of the employees in the implementing company comes from unemployment or 10% of the personnel is disabled). In the continuing of this text the term “ethical criteria” refers to the basic principles of the ILO<sup>56</sup>.

According to the European Directive public contracts can only be granted, based on the price (‘public tender’) or based on the comparative relation of price to quality (‘call for tender’). In the first possibility the order has to be assigned to the tenderer which has submitted the most economical tender. In the second possibility the order is assigned to the most economical tender, however taking into account some other granting criteria. The evaluation is subsequently based on the weighing of these criteria (for example through a scoring system). However the granting criteria have to be directly related to the subject of the order, that is the product or service concerned (quality, technical value, aesthetic or functional features, ...). Also ecological characteristics can be defined as granting criteria, while, according to these stipulations, the ethical circumstances in which a product / service was produced are not directly linked to the subject of the order.

The introduction of ecological and social criteria in public contracts has been a political issue for quite some time now. There is relative consensus for these aspects and the use of ecologic and / or social criteria in calls for tender has been rather established, unlike the use of ethical criteria. Introducing ethical criteria in public contracts remains a rather problematic issue and currently an international discussion is taking place on how to effectively introduce ethical criteria in public orders.

### **3.2.3 Identification of policy alternatives**

Taking the introduction of ethical criteria as objective, four alternatives were identified. In view of the limited freedom within the European legal context, these alternatives are situated on the level of implementation choices the national law on public contracts allows. The European Directive and consequently also the Belgian law, incorporate the possibility to take ethical criteria into account in public contracts. However the application of this possibility completely depends on the willingness of the contracting authority to effectively bring ethical criteria into play in the tender.

1. First of all the zero option has to be considered. In this case the possibilities to introduce ethical criteria in public contracts are not used. In the end the contracting authority has the choice to take ethical criteria into account or not.
2. The law provides the possibility to use ethical criteria as implementation clause (art. 40, 5°). This means that the tenderer agrees not to put forward products / services for which the ILO-conventions have not been respected during one or more phases of the product life cycle. Implementation criteria have to be mentioned in the call for tender, but they cannot be used for the valorisation of the tenders as such in the stage of awarding the contract. Consequently, this possibility purely consists of a written engagement of the tenderer. The contracting authorities can only intervene during the execution of the contract when it is clear that the implementation criteria are not complied with. However there are no means available to actively search for possible infringements of those criteria.
3. Secondly the possibility can be considered to use ethical criteria as granting criteria during the granting procedure. In the European Directive, this possibility was rejected. According to the European Commission ethical criteria can only be applied under the form of an implementation clause or in the context of qualitative selection because they have no direct link with the subject

---

<sup>56</sup> Moreover the confusion of concepts remains. A circular letter of 2002 addressing all Federal and Programmatic Public Services employs the term “social criteria” for implementation criteria based on the ILO-principles. Those ILO-principles are also used for the Belgian Social Label.

of the contract. Also in the Belgian transposition of the Directive this reasoning was followed and only the possibility to include social criteria as granting criteria was restrained. During the treatment of the preliminary draft of law, a short discussion took place concerning the possibility to use ethical criteria as granting criteria in Belgium. Since the criteria are scored in a granting procedure, the burden of proof would shift towards the tenderer, while in case of implementation criteria the burden of proof rests with the contracting authority. However, this stipulation would be contrary to the European Directive. Only when the European Directive is modified, this option could be realised.

4. A more implicit possibility to use ethical criteria in public contracts is provided by application of art 26 of the new law. This article stipulates the modalities for negotiated procedures without previous notification, in which the contracting authority consults the economic operators of their choice and negotiate the terms of contract with one or more of these. In this procedure the contracting authority is free to consult only those potential tenderers of whom is known that they meet the defined ethical criteria. Negotiated procedures are only possible in certain well-defined circumstances, such as secret assignments, urgent orders or orders with limited financial importance (less than 67.000€). Most of the public contracts however can be categorised as being of limited financial importance and therefore can be awarded by means of a negotiated procedure. Despite this possibility however, it is assumed that ethical criteria are rarely or never taken into account in this context. Mostly it is not clear which potential tenderers are ethical. The availability of information about providers of ethical products / services is needed for realizing this implementation-option in practice. Among other things, this requires pro-active market research by the administration.

### 3.2.4 Identification of impacts

The people of the FPS P&O and of the PPS SD were contacted separately to identify the potential economical, ecological and social impacts of the formulated policy alternatives, based on the impact matrix (cfr Chapter 2.2). This exercise illustrated that there seems to be disagreement between the two federal services concerning the potential impacts.

According to the FPS P&O, the possibilities as offered by the law can only result in a change of practice if extensive control mechanisms would be instituted and a widespread sensitisation campaign would be organised. Serious inspection would be needed to verify if the written statement that ethical criteria will be complied with during the implementation of the contract (cfr. Implementation option 2 and 3) corresponds with reality. The majority of public purchases are complex compounded products for which it is extremely difficult to retrieve the origin of the separate parts. Therefore the statement that a product is produced in ethical circumstances in fact remains free of real engagements, for even the importer of these products often has no clue of the respective product life cycle. However, a control mechanism to verify the actual working circumstances in which the production takes place should have an international dimension and would be extremely resource-demanding. Moreover an extensive communication campaign is perceived to be necessary to inform the actors concerned of the possibilities the law offers to use ethical criteria, of the way these possibilities can best be put into practice and of the relevance of doing so. This way a network can be formed of people who are convinced of the value of using ethical criteria in public contracts. However, in the current Belgian context, it can be assumed that these preconditions (especially the control mechanism) are not realistic. According to this point of view the effects of the possibilities the new law offers to integrate ethical criteria in public contracts will be zero.

The FPS SD on the other hand considers this law and the possibilities it offers for ethical purchasing as part of an ongoing learning process that needs to be stimulated. The ethical aspects of purchases are more and more considered as important on national as well as on international level. Only by persistently bringing the need for ethical consumption to the attention an actual change in attitude can be achieved. According to PFS SD it is within this broader context of awareness raising that the new law (the possibilities it offers to introduce ethical criteria in public contracts) undeniably will have an

important impact. In this point of view even the smallest effect is a gain. The estimated impacts are situated on the economical and social level. No ecological impacts are anticipated. Most identified potential impact concern indirect effects on developing countries on medium term (5 to 10 years). Also these civil servants however are convinced of the need for a communication campaign to inform administrative actors as well as the public.

### **3.2.5 Identification of stakeholders**

The working group judged that it would be unrealistic to involve stakeholders for this case-study. For practical as well as fundamental reasons it was decided not to organise an extensive participation process. First of all the policy in question concerns a very technical issue for which a certain amount of prior knowledge of the existing legislation and the international discussions concerning ethical consumption and production is a precondition. Secondly the available timing was too limited for organising a sound participation process. Lastly, the measure is likely to be insufficiently important to motivate potential stakeholders to invest the time and money needed for engaging in a participation process. The PPS SD has stated that in this phase of trial and error it is not desirable to organise broad participation. Of prior importance is the commitment and knowledge building of the civil servants concerned. The people of the FPS P&O do see a possibility to involve some relevant stakeholders in a more definite SIA-process (ex. UNIZO, VBO, FEDIS, sectors, ...).

### **3.2.6 Evaluation of alternatives**

It has to be concluded that the translation of the European guideline into Belgian law probably will not have any significant short-term impact on the government's ethical purchasing practises. Potential long-term effects might occur, but only if a number of specific preconditions are met.

Some suggestions for complementing the policy proposal were discussed:

- As mentioned before introducing ethical criteria as granting criteria would be contradictory to the European guideline. An adaptation of the guideline could be aimed for, requiring political initiatives.
- The competent Minister could draw up a circular letter imposing a certain amount of ethical purchase behaviour for negotiated procedures without previous notification.
- A standardisation process for ethical products and services should be initiated on Belgian as well as European level.

### **3.2.7 Conclusions**

Already very early in the process it became clear that this proposal – in a ‘real-life’ policy situation – would never pass the screening phase. From the beginning, the potential impacts of this policy proposal were presumed to be very limited. This was confirmed later on, when filling in the impact matrix. The minimal potential impacts would not justify an extensive methodology such as SIA. Therefore it was considered irrelevant to implement a further procedure for a profound SIA. Accordingly, the results of this case are not representative for aspects of SIA, subsequent to the screening-phase.

Still, some interesting conclusions can be drawn. First of all, this case has clearly demonstrated that in an ex-ante setting, it remains a very sensitive and subjective matter to identify potential impacts of a policy proposal. Notwithstanding the fact that the screening-matrix attempts to objectify the identification of potential impacts, this remains a matter of values if no hard facts and figures are put on the table. Discussing the potential impacts in that case rapidly turns into discussing belief systems. In this context situational factors such as uneven power relations of the participants or overwhelming personalities can (and will) influence the outcome of the exercise. Therefore a considerable uncertainty factor about the occurrence of effects always has to be taken into account.

Despite the flaws inherent to the policy proposal concerned, this case has also demonstrated that the screening of a policy proposal can be a very interesting and relevant policy exercise. Analysing a policy proposal and reflecting upon the potential impacts can provide structured and argued information on its quality, the presuppositions and the effects (intended or not, direct or indirect, ...). It also offers the possibility to elaborate alternative or complementary options for the realisation of the policy objectives, thus contributing to more rational and balanced policy-making. Furthermore, filling in the screening matrix allows introducing the concept of sustainability in the patterns of thought of the administrative and policy actors involved in the exercise and translating it to their field of interest.

### **3.3 Case 2: Biofuels**

#### **3.3.1 Policy description and alternatives**

The policy proposal concerned aims at promoting the use of a limited amount of biomass fuels in transportation in conformity with the EU directive DE 2003/30/EC. It does so mainly by reducing the excises on biofuels and making them competitive relatively to fossil fuels as authorised by another EU directive. More precisely, the policy leans upon two European directives:

- DE 2003/30/EC<sup>57</sup> which sets indicative objectives concerning biomass fuels uses. These objectives are expressed in terms of percentage of biofuels made available on the fuel market for transportation: 2% in 2005, 2.75% in 2006, ending with 5.75% in 2010;
- DE 2003/96/EC makes the reductions of excise duty on biofuels possible but excludes overcompensation. The biofuels' price can therefore never come below the fossil fuel price due to defiscalisation.

It is worth noting that Belgium had the choice not to transpose the first directive. However, this directive has been transposed but its precise implementation modalities were still to be defined. At the time of the case study, it was very likely that the Belgian fuel policy would meet the following additional requirements:

- It should be budgetary neutral. Therefore, the reduction in excises on biofuels would have to be compensated by an equivalent increase in excises on fossil fuels.
- Three biofuels are concerned by the excise duty reduction: diesel (<50 ppm sulphur) + biodiesel ; gasoline + bioethanol ; pure rapeseed oil. In order not to overcompensate, biofuels production costs must be estimated. There are important differences between the 3 biofuels categories in this respect so the defiscalisation schedule can be different for each of them;
- The government chose to work with a tender addressed to biofuels producers<sup>58</sup>. The definition of the tender specifications (not yet defined at the moment of the case study) will be a very important issue. It could indeed be the way to introduce some conditions to the introduction of biofuels on the Belgian market. These conditions could be based on environmental or social requirements (that could have eventually some market implications).

The screening process has been performed during a meeting with civil officers from the “taxes and excises” department and from the “health, energy and environment” department<sup>59</sup>. Four policy options have been identified:

---

<sup>57</sup> It is interesting to bear in mind that the directive states also that: “An increase in the use of biofuels should be accompanied by a detailed analysis of the environmental, economic and social impact in order to decide whether it is advisable to increase the proportion of biofuels in relation to conventional fuels.”

<sup>58</sup> We mean by biofuels producers not the farmers who grow the crops (beets or rape or whatever) used for the production of the fuel but the one who mix biofuels with fossil fuels to make the final product available on the market.

<sup>59</sup> We want to thank especially Mrs Ellegaard, as well as Mr Dufourny and Mr Dugaillier for their kind and competent collaboration.. All mistakes in interpretation of the policy are our own.

1. **The zero option:** Belgium does not transpose the directive and, therefore, does not need to decrease the excise duty on biofuels. Biofuels are not competitive with fossil fuels and are not introduced in the Belgian market;
2. **The Excise reduction + tender option:** It is the policy actually implemented in Belgium as described above;
3. **The full-open option:** this is the German option. The market is open to all biofuels and there is no tender. The reduction in excise duty concerns a fixed amount of biofuels whatever their origin, for instance on a first mover basis.
4. **The substitution duty option:** the government imposes to economic actors bringing fuels on the market (petroleum companies) to introduce biofuels into their products. This could be done in parallel with an excise duty

### 3.3.2 Screening and impacts identification

The *screening and scoping matrix* has been used to look for possible direct and indirect impacts of the *tender option* in comparison with the *zero option*. The following impacts have been identified:

#### ➤ Economic impacts

##### Direct impacts:

- **Positive impact on 2 activity sectors: agriculture production and food industry** because of the opening of new markets for agricultural products;
- **Positive impacts on the economic structure by increasing entrepreneurship and innovation** both at the EU and Belgian levels. These impacts come from the expected development of new activities such as extracting and refining the biofuels;
- **Positive and negative impact on economic dependency (uncertain):** the energy dependency is expected to decrease with biofuels utilization (even if biofuels are imported) because of the diversification of energy suppliers. However, the policy could also lead to an increase in food dependency;
- **Uncertain impact on economic diversity:** the number of production units may increase but the policy may lead to a mono-production of biofuels that may be harmful for agriculture;
- **Positive impact on private local investment**
- **Positive (but uncertain) impact on public investment (local level):** the Walloon government will maybe provide some help for the installation of a new production unit (Wanze) and to the development of infrastructure (fluvial and road transportation);

##### Indirect impacts

- **Negative impact on consumer prices (macro-economic category):** due to the increase of excise duty on fossil fuel, the fuel prices will increase as well;
- **Positive impacts on commercial balance:** due to the substitution of fossil fuels by biofuels produced in Belgium;
- **Uncertain impact on activity of mechanical industries:** motors transformation may be needed in order to accept rapeseed pure oil. However, it is rather unlikely that this type of biofuels enter the fuel market (it will most probably be used for agricultural machinery);
- **Negative impacts on the transport sector:** due to the fuel price increase;
- **Uncertain impact on retail sector:** because of the possibility of auto-consumption in the agricultural sector.

➤ **Environmental impacts**

**Direct impacts**

- **Positive impacts on the acidifying emissions** (reduction of SO<sub>2</sub> emissions from diesel);
- **Uncertain impact on emissions of ozone-depleting substances:** this will depend on standards for biofuels. Some emissions may occur during the refilling of the car;
- **Positive impact on GHG emissions:** due to the substitution of fossil fuel;
- **Positive impact on the stock of non-renewable resource:** less fossil fuel is required with biofuels;
- **Positive impact on the consumption of renewable energy;**

**Indirect impacts**

- **Uncertain impact on acidifying and eutrophying emissions** during the agriculture process. These emissions largely depend on the agricultural practises and on the reference scenario (will the area used to produce biofuels replace fallows or fields that would have been cultivated anyway ?)
- **Negative impacts on the quality and quantity of surface and groundwater** due to agriculture practices;
- **Uncertain impact on the density of species and on endangered species** if, for example, permanent fallows are used to produce biofuels (if the area of cultivated lands increases);
- **Negative impacts on land use rate** if some uncultivated lands are used to produce biofuels;
- **Uncertain impact on the amount of protected and sensitive lands** (same reasons);
- **Positive impact on the energy consumption** because less energy is needed to ride 1 km with biofuels than with fossil fuel;
- **Negative impact on transport demand** due to the transportation of biofuels not compensated by a diminution of fossil fuel transportation;
- **Positive impact on environmental risk;**
- **Negative impact on the likelihood of GMO dissemination:** GMO could be used to produce biofuels. This is not likely to occur in Europe but is possible in other countries that could sell biofuels in Europe;
- 

➤ **Social impacts**

**No direct impacts have been identified;**

**Indirect impacts**

- **Positive impacts on income level for low-income groups:** Even if farmers are not currently a low-income group, it may be at risk in the future due to the dramatic diminution of some food prices. Biofuels create a new market that could create some additional revenues;
- **Positive impacts on employment rate and employment creation** because of the creation of activities in the agriculture sector and for biofuels processing (extraction, preparation and distribution);
- **Uncertain impact on health** (depend on the type of emissions).

It is necessary to add that the impact identification has been done by comparison with a baseline scenario characterised by a declining activity in the agricultural sector due to the reform of the Common agricultural policy of the EU. Notably, the reform of the EU sugar policy is likely to have important negative impacts on the activity and therefore incomes of the sugars beets producers. On the other hand, the same reform was most likely to bring over positive environmental impacts, especially with respect to greenhouses gases emissions following the massive use of fertilisers in the sugar beet sector.

The number of impacts identified during a less than 3 hours meeting testify that the screening matrix is a useful tool. Indeed, the participants acknowledged that they would have overlooked some possibly important impacts were it not for the items in the screening matrix. It is in the environmental domain that the exercise was the easiest. This is partly due to the objective and scientific nature of the domain, partly also to some participants' knowledge of the existing literature on life cycle analysis of biomass fuels. Things are much more difficult with economic and still more with social impacts. We think that because these are more ideological and subjective domains, the impact identification should involve representatives of the stakeholders. However, knowing who the concerned stakeholders are, supposes that we already have some ideas about possible economic and social impacts.

### **3.3.3 Scoping and impact analysis**

As explained above, the screening exercise highlighted the likelihood of several direct and indirect impacts, mainly in the economic and environment sectors. However, the screening exercise made clear that some expected direct and indirect effects would point in opposite directions, leaving high uncertainties about the net effect to be expected concerning, for instance:

- Net impacts of the policy with respect to GHG emissions. The policy aims at reducing GHG emissions from transport by partly substituting biofuels to fossil fuels. However, the baseline conditions (BAU) with the ongoing EU Cap reform would probably entail a reduction in GHG from agriculture. Will the assessed policy offset this effect by giving new incentives for crop raising and if yes what will be the net effect?
- Net impacts on energetic independence. A subsidiary goal of the assessed policy is to reduce Belgian energetic dependency. However, it is not clear if the policy will foster domestic production of biofuels and if so, one can still wonder if the feedstocks used in domestic biofuel industry will be imported or locally produced. Bluntly stated, the problem is to know if we are going to trade oil dependency against biofuel or fuel crops dependency.
- Impacts on food security. If available lands are used for growing fuel crops, less will be devoted to growing food crops or for alternative uses of biomass. Again, are we going to trade food independence against energetic independence?

However, at the time of the case study, the details of the implementation of the proposal were already set so that it was impossible to elaborate on these issues in detail. Moreover, if we managed to gather representatives from the concerned administrative departments at two occasions, it proved almost impossible to organise other meetings with them. This highlights the limits of an exercise that puts an additional burden on the shoulders of already overloaded (even if good willing as they were) people without an explicit mandate from their hierarchy.

Nevertheless, it was decided to continue the process on our own and this for two reasons:

- We wanted to get an idea of the resources necessary to carry through a SIA on a topic such as this one;
- We wanted to put to work a tool such as cognitive mapping in order to assess its actual usefulness in SIA.



The cognitive map of the policy is shown in figure 4. It consists of nodes expressing the different concepts (or variables or events) describing the assessed proposal, interlinked by edges or arrows showing the causal relations between them. The sign at the head of the arrows expresses the direction (not the magnitude) of the influence between the tail node (cause) and the head one (effect). A positive sign means that the tail node influences the head one in a reinforcing way (more leading to more or less leading to less). Inversely, a negative arrow means that the tail influences the head in the opposite direction: more of the one leading to less of the other, or less to more.

Usually, cognitive (causal) maps are to be interpreted as participative tools enabling several decision-makers or stakeholders to build a common representation of a situation, a problem or a strategy. However, the cognitive map below is not the outcome of a participative exercise but captures the vision of one member of the research team. Therefore, it should be understood only as an example of what could come out of such an exercise. Of course, in a real SIA, it should be worked out during one or several meetings between stakeholders steered by a facilitator. While it helped us to get a clearer idea of the complexity of the problem and of the intricacies of the indirect impacts of the proposal, it is not quite sure that it is worth the effort to build them. We propose in section 4 of part 2 an alternative way to express the causal relationships between policy actions, objectives and impacts, which we find more workable and less cumbersome.

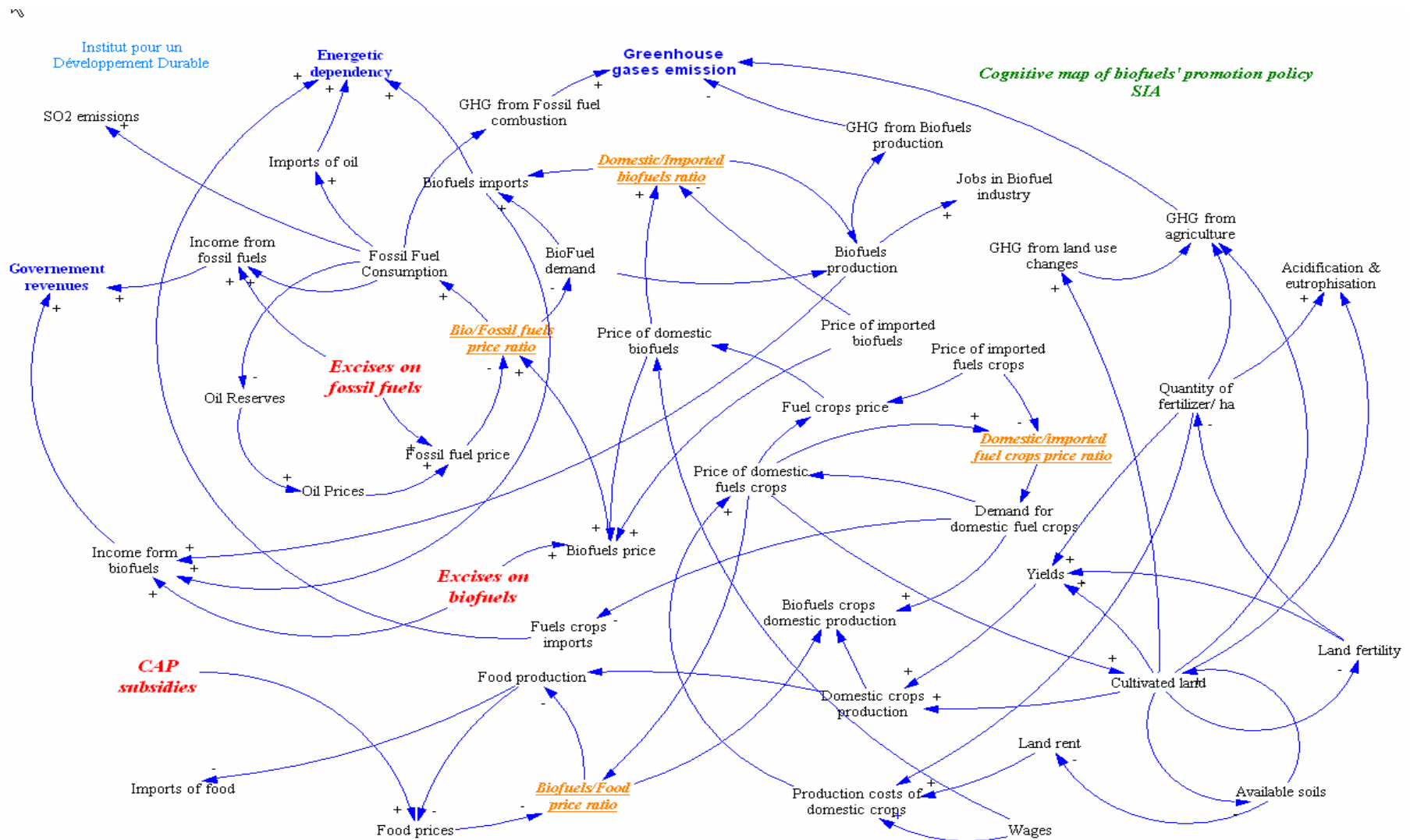


Figure 4: Cognitive map of biofuels' promotion policy

The analysis of impacts has been pushed further in two directions<sup>60</sup>:

- **Environmental:** The objective was to estimate the policy proposal's potential in terms of **net** reductions in CO<sub>2</sub> emissions. In other words, we wanted to assess the **effectiveness** of the policy in terms of its main goal: reducing greenhouse gas emissions. An overview of the literature on life cycle analysis has been undertaken in order to find the emissions coefficient of the production of biomass and of biofuels. Then different scenarios of biofuels consumption and production have been analysed. The following table summarises the main conclusions of the environmental assessment.

*Table 3: Emissions of GHG from road transportation (Millions tons of CO<sub>2eq</sub>)  
An exploratory scenario*

	Lowest estimate	Highest estimate
2003	29,2	
2008, without biofuels	30,9	
2008, with biofuels	30,1	29,9
Difference with 2008 without biofuels	- 2,5 %	- 3,1 %
Evolution w.r.t. 2003	+ 2,9 %	+ 2,3 %

- **Economic:** The objective was to assess the financial efficiency (cost/effectiveness) of the policy. Tables 4 and 5 summarise the main conclusions of the economic analysis. Even, if the policy is supposed to be budgetary neutral, an opportunity costs always remains, which we tried to estimate. The question thus is to know if there could not be a more efficient way to spend these resources. That is, can we find other measures or policies enabling to save more CO<sub>2</sub> at a cost lower than 70 €/ton (lowest estimate).

*Table 4: Ex-ante opportunity costs of the reductions in excises (2008 – millions €)*

	Lowest estimate	Highest estimate
Ethanol	33,1	71,2
Diester	51,4	126,3
Total	84,5	197,5

*Table 5: Opportunity cost per ton of CO<sub>2eq</sub> saved*

	Lowest estimate	Highest estimate
Gasoline + éthanol	170 €/ton	500 €/ton
Diesel + diester	70 €/ton	200 €/ton

### 3.3.4 Conclusions

- The “biofuels case” is the perfect example of a policy that should be subjected to an extended impact assessment. The number, magnitude and uncertainties of its likely impacts are such that it should not be adopted in a total ignorance of its mid-term and long-term environmental, economic and social effects, especially for less developed countries.

<sup>60</sup> In what follows, lowest and highest estimates refer to – respectively the lowest and highest - estimates of Greenhouse Gases Emissions of the biomass fuels production chain reported in the life-cycle analysis literature

- This is a very resource-intensive task. We have devoted at least 3 man/months just in order to identify its likely impacts and obtain a first impression of its effectiveness in terms of GHG emissions and its opportunity costs. Because we are not the most skilled and competent people on this topic, we think it gives a good approximation of the time civil officers (like us, not necessary experts in the field) would have to devote to it.
- The problem addressed is essentially dynamic in nature. Even if the targets of the assessed proposal are modest, it is likely to trigger a dynamical process (for example of transforming agriculture from a food producing activity to an energy producing one) whose consequences are impossible to assess without rather demanding methods, quantitative (system models) as well as qualitative (scenario building).
- One of the most difficult aspects of SIA in this case consisted in defining relevant alternatives. It is clear that the five different policy options identified during our first screening meeting are too restrictive. They all take for granted that more biofuel consumption is an effective and efficient way to reduce GHG emissions in the transport sector. But we have seen that this is a very questionable assumption. So what are the relevant alternatives? For instance, in this case, should we restrict ourselves to the transport sector or could we accept as alternative any policy aiming at reducing GHG emissions, whatever the sector? This is mainly an institutional question because from a substantive point of view, it is clear that any proposal at least as relevant for the policy goal and objectives should be considered. But, this leaves open the question of the definition of the actual objectives. For example, in the biofuel case, is GHG emissions reduction the first objective or rather the promotion of biofuels in the world or, maybe, the mitigation of impacts of changes in the EU Common Agricultural Policy on (some groups of) farmers? Should we look for alternative ways to maintain the income of this particular groups while obtaining some GHG emissions reduction or just to reduce significantly our GHG emissions? We found that the opportunity cost of a ton of CO<sub>2</sub> saved was particularly high. The next step should be to search for alternative uses of the biomass that could reduce GHG at lower costs while giving employment and income opportunities for farmers and workers in the crop transformation industry. For instance, an interesting alternative could be to promote the use of the same volume of biomass not as a fuel (transportation) but as combustible (heating) or as raw materials for “green” chemistry.
- At the time of the case study, we underestimated the usefulness of checking for vertical integration by comparing the objectives set in the 2<sup>nd</sup> federal plan for sustainable development in transportation, climate, energy, struggle against social exclusion and the objectives and impacts of the assessed proposal. This would have shown that while claiming to take effect in the transportation sector, the biofuels promotion policy does not contribute to - and probably hinders - the objectives of the federal plan in the transportation domain. Indeed, whilst the promotion of another mobility model than the ongoing ‘all car’ one is one the main objectives of the Federal Sustainable Development Plan, it is obvious that the biomass fuels promotion policy as currently conceived off would, on the contrary, reinforces that undesirable mobility pattern.”

### 3.4 Case 3: Testing the SIA-matrix<sup>61</sup>

#### 3.4.1 Case-study setting

For the current project, we developed an Impact matrix (see section 2.2) based on a model developed by Kirkpatrick et al.<sup>62</sup> in the context of CEC DG Trade SIAs. A similar approach to the *objectivation* of impact determination during screening is also used at national level by some countries, for instance in Switzerland. Impact determination during screening in the cases of SD-evaluations is building in most analyzed countries on the use of matrixes. One of the main reasons for using impact matrixes instead of other tools, is linked to a secondary effect attributed to these matrixes, namely that they stimulate civil servants to decompose the policy proposal on the table into its mechanics and to standardize the exploration and reporting of policy effects. Furthermore matrixes seem particularly appropriate<sup>63</sup> for SD-type impact determination, as they allow to consider multiple dimensions and issues which need to be covered when taking SD as a starting point for evaluations. The internal mechanics of the Impact matrix is described more thoroughly in section 2.2 as well as in the Users' guide developed specifically for the testing phase (see appendix 10\_4 of the dedicated working paper).

Unlike the procedural setting of the screening, the project partners felt it necessary to implement a testing phase of the Impact matrix. The feasibility and robustness of the Impact matrix was thus tested by simulating the filling in of the matrix with the concurrence of a series of 'working groups' for a selection of policy proposals. It should be kept in mind that these screening tests were executed on policies already operationalized (or very near from their first steps of implementation) and not on policy proposals (as it would be the case in reality). As with some of the other case study configurations (e.g. ethical purchasing), it wasn't possible to gather for this exercise a series of policy *proposals* that were still in the decision-making process.

During the testing exercises, the main attention was directed towards exploring how far, how fluid and in which conditions civil servants (and members of ministerial cabinets) could use such an impact matrix on policies. As far as possible with the small number of screening case studies, we tried to address specific questions of interest for the later operationalization of the screening matrix. For instance, we explored how far civil servants and members of cabinet could collaborate on the screening phase, or in other terms, if it was of use to integrate 'political' agendas already during the initial steps (e.g. filling in the matrix) of the screening. Particular attention was also given to understand what type and depth of 'technical assistance' would be needed by the working groups to successfully complete the task of filling in the impact matrixes: some groups were given only factual information (e.g. by solely handing-out the technical description of the matrix via mail), while others were supported more actively on the basis of group meetings where the project members played the role of facilitators, animators and ensured some methodological support. The different configurations of the tests of the screening matrix are synthesized in the following table.

Of course, due to the rather small amount of test runs (4 policies were finally tested), due to the specificities of the individual policies, and due to the variability of the working groups' capacities it is difficult to extrapolate entirely robust conclusions on the feasibility and usability of the impact matrix or on the ideal composition of the working group to fill in the matrix. Operational obstacles didn't allow to engage into a larger number of test runs. For instance, quite a serious amount of energy and time had to be invested initially into the case studies in order to "convince" administration and/or cabinets to volunteer their policy for the test.

<sup>61</sup> This section is based on Bauler T., Wåktare M. (2006), *Towards a screening mechanism for SIA: process and content issues related to the federal Belgian case*. Working Paper, February 2006, ULB-IGEAT. 77p.

<sup>62</sup> Kirkpatrick, C. and Lee, N (2002), assisted by Curran, J., Franklin, J. George, C. and Nomura, H. Further development of the methodology for a sustainability impact assessment of proposed WTO negotiations, Mid-term report to the European Commission. Institute for Development Policy and Management, University of Manchester.

<sup>63</sup> Abaza H., Baranzini A. (eds) (2002), *Implementing sustainable development : integrated assessment and participatory decision-making processes*. (published for the UN-Environmental Programme) Edward Elgar. Cheltenham, UK.

Conversely, the fact that the impact matrixes were filled in on the basis of existing policies, and not on the basis of policy *proposals*, appeared not to present a serious flaw during the case studies: the amount and depth of available information about the impact mechanics and impact depths of the screened policies did not appear to be very high in most cases.

It should also be noted that the case studies on the level of the screening phase focalized solely on the feasibility of the impact matrix. As the case studies were mere simulations of screening processes, it wasn't feasible to simulate the entire screening and scoping procedure. We concentrated thus the case studies entirely on the exploration of the robustness of the impact matrix and did not try to test, for instance, a range of institutional process alternatives.

In the following, we render two sets of lessons learned during the testing of the impact matrix. A first set of lessons is linked to procedural aspects highlighted during the filling in of the matrixes (which are not to be confused with institutional aspects related to the screening process). The second set of lessons presented below, focuses on the technical and methodological aspects of the matrix.

Obviously, the aim of the testing exercise was not to evaluate the policies with the impact matrix, but to assess the matrix itself as a tool to evaluate the policies. The results of the pre-evaluations, i.e. the content introduced with the different working groups into the matrixes, are thus of no particular interest here. Hence, in order to ensure best possible collaboration to the testing, we guaranteed the confidentiality of the pre-evaluations to the participants of the case studies.

*Table 6: overview of case study for testing the SIA-matrix*

<b><i>Policy proposal and initiator</i></b>	<b><i>Composition of working group</i></b>	<b><i>Test question and Test configuration</i></b>
<p>Plan d'action "Valoriser la diversité" (Action plan to promote equal opportunities inside of federal administration)</p> <p><i>Federale Overheidsdienst Personeel &amp; Organisatie (FOD P&amp;O)</i></p>	<p>Lisa Coppin, civil servant (FOD P&amp;O, Cellule "Diversité")</p> <p>Anne Schmidt, civil servant (FOD P&amp;O, Cellule "Diversité")</p>	<p><i>Q: Is it feasible to leave the screening matrix with a group of civil servants which will be directly concerned with the implementation of the policy proposal? Working group composed only of 2 civil servants responsible for the operationalization of the Action Plan. Matrix and matrix guide sent by mail. One short (2 hours) interactive meeting to fill in screening matrix with support by the project team.</i></p>
<p>Operationalization of Teleworking for federal civil servants</p> <p><i>Federale Overheidsdienst Personeel &amp; Organisatie (FOD P&amp;O)</i></p>	<p>Leni Pelgrims, civil servant (FOD P&amp;O)</p>	<p><i>Q: Is it feasible to leave the screening matrix to a single civil servant with no direct support? Working group composed of 1 civil servant responsible for the operationalization and evaluation of the Teleworking Plan. Matrix and matrix guide sent by mail. One short meeting (1hour) to collect feedback on the difficulties encountered during the use of the matrix.</i></p>
<p>Bilateral aid program for social and economic infrastructure in Ecuador</p> <p><i>Directorate general Cooperation &amp; Development (DGCD)</i></p>	<p>Arnold Jacques de Dixmude, civil servant (DGCD) Guido Schueremans, civil servant (DGCD) Thibaut Michot, cabinet member Minister De Decker (multilateral cooperation)</p>	<p><i>Q: How far can a multi-actor working group fulfill the task? Working group composed of 3 people with 3 different profiles: 2 civil servants (from which 1 is responsible for the operationalization, the 2<sup>nd</sup> is concerned with environmental aspects on a more general level, as well as with evaluation) and 1 member of cabinet. Matrix and matrix guide sent by mail, 1 short meeting to explain the functioning of the matrix. Individual filling in of the matrix (deskwork). 1 extended meeting (2hours) with one civil servant to discuss the results.</i></p>
<p>Plan "logement" – Politique des Grandes Villes</p> <p><i>Federale Overheidsdienst Personeel &amp; Organisatie (FOD P&amp;O)</i></p>	<p>Noémie Feld, cabinet member Minister Dupont (cellule politique des grandes villes) Sophie Coekelberghs, civil servant (Cellule Politique des Grandes Villes)</p>	<p><i>Q: How far can a multi-actor working group fulfill the task? Working group composed of 2 people (temporarily a 3<sup>rd</sup> person, former member of cabinet, joined the last meeting) with different profiles: 1 cabinet member, 1 operationalizing civil servant. A 1<sup>st</sup> meeting served to discuss the evaluability of the Plan "logement" in the SIA-context. 2<sup>nd</sup> meeting served to introduce the screening matrix. 3<sup>rd</sup> meeting was scheduled to collaboratively fill in the matrix.</i></p>

### 3.4.2 Procedural lessons learned: is it feasible to use an impact matrix for screening?

Screening can be operationalised with a number of different tools. Using an impact matrix, as proposed here, is only one among a range of options, even if impact matrixes are very widely used in this context and appear to be best practice in many countries and administrations. One of the questions we had to address was thus to identify the apparent necessary conditions to a successful impact determination exercise:

1) Even with a quite extensive “Users’ Guide” and an introductory meeting, it appeared that the use of the impact matrix was not in all cases straightforward to the participants. Some occurring problems were necessarily linked to the prototype-character of the matrix, which had itself some technical flaws (see below for a more extensive list of such flaws). Others seem to be linked more directly to the character of the exercise, and revealed that not all participants were used to think of policies in terms of impacts. Especially so because the matrix demands to identify multi-dimensional impacts (including thus impacts outside of the policy field of the civil servant), and to make a difference between direct (i.e. wanted) and indirect (i.e. unwanted) impacts.

Extrapolating from the testing, most screening exercises will need to ***rely on considerable technical and methodological support***. This support should be able to provide 3 crucial aspects:

- First, participants needed support on the correct use of the impact matrix during the group meetings. Issues, which repetitively presented interrogations, were, for instance, linked to the time horizon to consider, or to the differences between direct and indirect impacts, to the geographical sphere to be considered... Support actors should thus have in depth knowledge of the mechanics of the impact matrix and of the interpretations given to the different items, especially as the screening process needs to rely on a homogenised filling in of the impact matrixes.
- Second, the filling of the matrix was considerably facilitated in those policy domains where the members of the research team had personal knowledge. Support should thus be provided by actors which have knowledge of the policy domains. This speaks directly for the implementation of support units at the level of each administration or even in some cases at the level of the different DGs.
- Third, group meetings occurred to be largely operating as group discussions where participants explored together the potential impacts of policies. The research team acted in this setting as animators and facilitators of the discussions. Members of support units should thus have the necessary capacities (and authority) to act as animators, notably to influence the direction of the meetings.

2) Especially in the case of the more complex and long-term policies, indirect (political) intentions and unspoken (hidden) agendas were not necessarily clear to all civil servants involved in the operationalization of the policies. It was thus in some cases, difficult to specify the wanted or unwanted character of impacts. Furthermore was it in some cases difficult for civil servants to have the necessary overview of other existing policies (for which they were not directly responsible), which might influence extent and direction of the impacts of the policy under scrutiny. It appeared thus during the case studies that it would be particularly ***important to include into the exercise of impact determination the initiators of the policy***, who are aware of the entire range of intentions and the complementarities with other policies. In the current policy-making process at federal level, this means to include high-level ministerial cabinet members into the exercise.

### 3.4.3 Technical and methodological lessons learned: does the impact matrix work?

Despite the occurrence of some procedural difficulties, the case studies showed that the use of an impact matrix can be a necessary and useful step in a screening and scoping process. However, technically and methodologically, the matrix as it was developed for the case studies revealed some weaknesses, some of which can be corrected by adjusting the matrix, others are inherent to the use of a



generic tool which can not be tailored to the requirements of each policy's characteristics. The most obvious weaknesses detected were addressing that :

1) The *depth and extent of the items of the impact matrix* was not adequate for every policy analysed. For some minor policies, the impact matrix appeared to be too extended and included too many items. This entailed at some moments that participants were stimulated to think of extremely indirect effects. Conversely, for some policies, the impact matrix was not specific and detailed enough. Especially, in the case of very sectoral and mono-dimensional policies, direct and indirect impacts are concentrated on a very limited number of items of the matrix. Thus giving no clear and differentiated picture of the potentially encountered impacts. While the first issue can be managed (notably, with competent group animators), the second aspect could call to leave some room for participants to adjust the matrix and its items during the course of the exercise.

2) Some *misinterpretations of the mechanics of the matrix* did occur repetitively and although clearly explained in the Users' Guide needed further explanation during the group meetings. Especially, the necessary distinction between an increase/decrease of impacts and the valuation of the evolution (positive or negative impact?) were not in every case easy to put in practice. Furthermore, the important number of items to be discussed on the basis of the impact matrix in conjunction with limited time investments by some civil servants (typically, not more than 2 hours), entailed in some cases that not all aspects of the policies' impacts were discussed. Especially, the aspects of temporal and geographical distribution of the impacts were repetitively filled in with quite little attention. Furthermore, participants were uneasy to identify those items which should be considered as being under some form of original stress. Two explanations were given: first, the fact that a policy is introduced to influence a specific item, intrinsically means that public authorities and politicians feel the item to be under stress. Second, most civil servants did not feel comfortable enough (by principle or with regard to their knowledge) to judge the degree of stress of their colleagues' policy domains.

## 4. *Public Involvement in SIA*<sup>64</sup>

### 4.1 Introduction

The need for participation of stakeholders in decision-making is enshrined in both international obligations and national laws concerned with sustainable development. Given the broadly acknowledged significance of public involvement, the participation aspect is a crucial institutional theme to be considered when developing a framework for Sustainable Impact Assessment in Belgium. After all, the degree and intensity of public involvement can vary from one end to the other on a scale of influence on the decision making process. Contrary to the theoretical importance of participation, in most existing frameworks for integrated impact assessments the involvement of public or stakeholders is only vaguely defined. Consequently an enormous variety can be found as regards the issues concerned, the objectives, the participants, scope, time-lines and degree of linkage into formal decision-making.

### 4.2 The participation spectrum and the participants

‘Public involvement’ is a generic term which can have several meanings. In fact ‘public involvement’ encompasses the full spectrum of interaction between ‘the public’ and the decision process. Several classifications of public involvement can be found, of which the participation ladder developed by Sherry Arnstein<sup>65</sup> is one of the most prominent. Most of those classification exercises however can be situated on the scale of influence on the decision making process with varying degrees and intensities of interaction and can be simplified and represented in three levels of involvement, according to the objective of the process<sup>66</sup>:

- transmitting information (unidirectional);
- consultation (bi-directional, but the consulted party frames the issue);
- active participation: based on a partnership in which citizens, stakeholders, experts and/or politicians actively engage in (policy) debate.

It should be clear that within a sustainability context, the first level of transmitting information in one-direction is not satisfying. Although informing the public is an important aspect of good governance and an indispensable requirement for sustainable development policies, it cannot be classified under the participation principle as defined during the UN Conference on Environment and Development (UNCED) and as meant in consequent international and national legislation. Important policy decisions aiming for a sustainable development should be based on the consensual support of society, demanding at least some form of bi-directional consultation.

Furthermore ‘the public’ referred to in the term ‘public involvement’ or ‘public participation’ is in fact a heterogeneous collection of interests, forming a constantly changing constellation of alliances and conflicts. Consequently, involving the public in the policy-making process is an enormous issue, demanding serious time and money engagements. It is neither possible, nor desirable to include everyone in decision-making processes. Therefore public participation is often specified as stakeholder participation, stakeholders being representatives of all parties (individual or organized) with a ‘stake’ in the decision. Hemmati<sup>67</sup> defines stakeholders as “*those who have an interest in a particular decision, either as individuals or representatives of a group. This includes people who influence a decision, or can influence it, as well as those affected by it*”. However stakeholders are affected by a decision in varying degrees.

<sup>64</sup> This section is based on Heyerick, A., PAredis, E. (2005), *Integration of the participation principle in the Belgian SIA process*. Working Paper, September 2005, CDO-UGent.

<sup>65</sup> Arnstein S.R., 1969, ‘A Ladder of Citizen Participation’, in *Journal of the American Institute of Planners*, 8(3), p. 217-224. Arnstein’s ladder and variations on it have since appeared in thousands of publications and discussions on participation.

<sup>66</sup> Slocum, N. (2003). *Participatory Methods Toolkit: A practitioner’s manual*. UNU/CRIS.

<sup>67</sup> Hemmati, M. (2000). *Multi-stakeholder Processes for Governance and Sustainability. Beyond Deadlock and Conflict*. London: Earthscan Publications.

According to Stagl<sup>68</sup> the stakeholders can be categorized in 5 groups: citizens, stakeholders with special interests (NGO's, industry, local communities, ad hoc groups, ...), researchers, facilitators and decision makers. Each of these groups has a specific role to play in the participatory process: Citizens are not selected according to any group membership. They can provide relevant subjective, value-based and grass-roots level information. Stakeholders with specific interests include all organized and ad hoc groups who feel affected by the issue at hand. Their main responsibility is to represent value positions and indicate how the problem impacts on their concerns. Researchers are trained in analyzing the actual and potential impacts of given policies and in designing methodologically and theoretically sound policy recommendations. Facilitators have process competence, which they use to design and run the process in a fair and effective manner. The role of decision makers depends on the division of decision power in the process, ranging from holding full decision power to following a decision made by other stakeholders, ranging from holding full decision power to following a decision made by other stakeholders.

However these groups represent the different actors that can be involved in a participation process, rather than real stakeholders. Decision-makers and facilitators are mostly not considered as stakeholders. Very often the term stakeholders has a more restricted connotation, referring to the different groups from civil society such as environmental organizations, development organizations, consumers' unions, trade unions, employers' federations, energy producers and the world of science. Also groups representing the interests of youth, women, elderly, disabled persons, poor people, immigrants, ... can be identified as stakeholders in a specific context.

For important policy decisions broad participation and a representative selection of stakeholders should be aimed at. In an inclusive participatory process the widest possible range of stakeholders is involved, aiming to increase to a maximum the sense of ownership, the legitimacy of the outcomes and the extension of valid knowledge. Inclusiveness generates legitimacy and credibility, while exclusion of any kind can cause resistance and conflict. Such an inclusive approach however is not always possible and might not be desirable for practical reasons. When designing a multi-stakeholder process the challenge is to find a balance between a representative participation of the diversity of views on the issue in question and the practical feasibility and effectiveness of bringing those representatives together.

### **4.3 Costs and benefits of participation**

Engaging a participation process potentially entails significant benefits. The main goal of stakeholder involvement in decision-making is to improve the decision-making process and the decisions taken as a result. Sustainable development implies far-reaching societal changes which require support from the population. Involving stakeholders and population in analyzing problems and formulating policy measures will broaden public support. Secondly, and as a consequence, it strengthens the legitimacy and democratic content of government (federal, regional, local) by securing greater transparency and accountability. Thirdly, it broadens the basis of expertise and experience on which policy can be build and may thus allow for a more balanced formulation of policies. However participation processes also involve considerable costs for those who seek participation as well as for the participants (resources, time, know-how, ...). First of all the initiator has to take on the monetary cost for organizing and managing the process (research, communication, logistic provisions, ...). Moreover once a participation process has been initiated, the exact course cannot be anticipated. Conflicts may arise, causing delays and unexpected dead-locks. Also the participants have to engage the necessary time, know-how and resources to participate in a stakeholder process. These investment requirements can instigate stakeholders to withhold from participating. It can be considered to make arrangements to compensate the costs for participation. Moreover the relevance of participation should be clear for the stakeholder groups. If a consultation process is perceived to be pointless or initiated for the wrong

---

<sup>68</sup> Stagl, S. (2003). Multicriteria evaluation and public participation: in search for theoretical foundations. <http://www.euroecolecon.org/old/frontiers/Contributions/F2papers/PL2-FPaper.pdf>

reasons, stakeholders will pull out and the process, as well as the decision maker will lose its credibility. A participation process should only be initiated if the decision-maker has real participatory objectives and really wants to have the stakeholders involved. After all, no participation process should be preferred above a failed one. The initiator of the process as well as the stakeholders involved should consider all costs and benefits for organizing a participation process and they should be in balance with the importance of the policy decision concerned.

Therefore, a participation process should only be initiated if participation is taken seriously. The decision-maker should have real participatory objectives, being prepared to actually involve the stakeholders in the decision-making process. No participation process should be preferred above a failed one, since a badly managed participation process might generate resentment and aversion instead of a broader public support for the policy-making process. A serious participation process therefore requires the engagement of sufficient resources and institutional capital.

#### 4.4 Participation in SIA

Contrary to the theoretical importance of participation, most existing frameworks for integrated impact assessments lack a clearly defined framework for involving the public or stakeholders. Some general guidelines and options for participation methods are often mentioned, but the decisions on the actual implementation of participation and the modalities of the participation procedure are left to the initiators of the assessment process.

Existing practices demonstrate that participation is often restricted to information and controlled consultation. The internet is a cost-effective and often used medium for involvement of the public, despite of the difficulties this brings along (digital divide). A huge range of methodological possibilities to involve ‘the public’ is available. Michael K. Ewing<sup>69</sup> provides a list of the most widely used tools in public participation, arranged in groups based on their general purpose and according to four levels of participation:

- Level 1: education and information provision: printed materials (fact sheets, newsletters, brochures, issue papers), advertisements, press releases, public displays, newspaper inserts, newsletters, bill stuffers, information repositories, site visits, video, independent technical documents and expertise.
- Level 2: information feedback: public meetings, public hearings, the internet, free-phone telephone lines, interviews, surveys (face-to-face, telephone, internet), response sheets, deliberative polling, teleconferencing, presentations to community groups, expert panels, field offices, informal small groups meetings.
- Level 3: involvement and consultation: workshops, focus groups, open house, Delphi method.
- Level 4: extended involvement: citizen juries, advisory groups, task forces, planning for real, community visioning.

When dissecting the SIA-process in light of the participation procedure, a distinction can be made between the meta-level and the process-level. On the meta-level, participation is needed for the elaboration of a SIA-practice for which all stakeholders recognize the relevance and significance. On this meta-level, a second stake for participation is the monitoring of SIA-practice over time: considering the relative inexperience with SIA-type evaluations in Belgium, it will certainly be necessary to consider some evaluation moments of the SIA-process in itself, combined with periodical adaptations<sup>70</sup> of the SIA-scheme. On the process-level, participation is an important element of the SIA-procedure, which can be split up in several sub-processes (screening, scoping, impact analysis, impact evaluation, reporting). During each of these phases stakeholders can be involved; however costs and benefits need to be considered. Consequently for each phase it has to be decided if and how the participation will be organized.

---

<sup>69</sup> Ewing, M.K. (2003). Public Participation in environmental decision-making. (<http://www.gdrc.org/decision/participation-edm.html>)

<sup>70</sup> European practice shows that SIA- and IA-type evaluation processes need to be adapted extensively during the first years of their implementations.

#### 4.4.1 Meta-level

The *meta-level* includes the processes of defining SIA, determining its different components, formulating criteria for evaluation, formulating procedures, and – once SIA is established – evaluating this SIA process at regular moments. For making a Belgian SIA effectively work, broad political and public support for this tool should be sought for. The decisions made at meta-level concerning what, how, why and who of a federal SIA-process are critical for the future credibility and assimilation of the tool.

First of all the decision-makers at all levels have to back the process and be willing to cooperate in its implementation. Therefore a far-reaching form of horizontal integration and inter-departmental participation is an important step to build administrative and political support for the tool. Moreover participation of stakeholders during this first phase is desirable. In this context it might be less preferable to engage individual citizens, because of the complexity and technical level of the subject. A certain amount of prior knowledge on the policy context and on evaluation practices is needed for understanding the issues at hand. The potential users of SIA have confirmed during the interviews that they do not see a lot of possibilities to involve the public in general. At this level the involvement of organised stakeholder groups, familiar with federal consultation practices is to be preferred. Probably the most appropriate option for realizing public involvement during this meta-phase is implicating institutionalized advisory bodies such as the Federal Council on Sustainable Development (FCSD)<sup>71</sup>. The FCSD integrates two important aspects for being a relevant institution to be engaged during this meta-phase. First of all the FCSD represents a variety of societal interests and concerns in one well-organized and established body. Secondly this institution is familiar with the federal policy-making process in general and the policy concerning sustainable development in particular. However, not all relevant stakeholders are represented in the FCSD. Therefore societal actors involved at this meta-level should exceed the Council's configuration. Furthermore, it should be considered if other less SD-oriented consultative councils should not be concerned too with participating to forge the SIA-process. More specifically, the Central Economic Council, the National Labour Council and the Consumption Council might be further involved at this level of consultation.

The most realistic option would be probably to ask the FCSD to give a detailed advice on a draft proposal for a Belgian SIA framework, as elaborated by a working group of political and administrative actors. The advice of the FCSD has to be intensively discussed by the working group while developing a definite proposal, extensively arguing the adoption or rejection of the recommendations.

A last group of stakeholders to be considered is the scientific world. Researchers can be involved to bring in theoretical and practical know-how about evaluation practices, integrated assessment experiences, sustainable development policies.

#### 4.4.2 Process level

On the *process-level*, the connotation of the 'public nature'-concept and the importance of participation can vary according to the objectives of the SIA-process (cfr. Chapter 6). Participation of stakeholders will be maximized in the discursive perspective, in which SIA is considered a framework for a collective learning process. In the rational perspective SIA is rather interpreted as a tool and not as much a process. This requires a maximization of objective information input from experts, where the importance of stakeholder participation will be minimized. Accordingly, the different plausible scenarios for a federal SIA scheme (cfr. Part 3), have different consequences for the involvement of public and stakeholders. However irrespective of the interpretation chosen for the development of a Belgian federal SIA-practice, for each stage of the SIA process (screening, scoping, impact analysis,

<sup>71</sup> Implication of other consultative organs might also be considered (f.e. Socio-Economic Council, National Labour Council)

impact evaluation, reporting) participation issues have to be considered. Firstly the desirability and feasibility of participation in the different stages has to be decided upon. This should be considered during the meta-phase. If participation is considered relevant for the stage under consideration, decisions have to be made about the organization of the specific participation process.

#### **a) Screening phase**

The general objective for the screening-phase is to determine the necessity to pursue with an impact evaluation for different policy PPP's. Participation in this phase can bring the necessary additional information about (perceptions on) estimated impacts and consequently the need for a SIA. The selection of policy proposals to be subjected to SIA is a process in which mainly political and administrative criteria are of importance. Therefore the main actors to be involved are political and administrative actors.

The screening process in itself is quite an extensive task, also without stakeholders being involved in the discussion. For each political competence (federal service or ministerial cabinet) a considerable amount of policy proposals is supposed to be subjected to the screening tool, rising up to an extensive total of proposals to be individually assessed for the desirability of an extended assessment. Since participation is a time- and energy consuming activity, both for the participants as for the initiator of the participation process, it can be assumed that participation of stakeholders in all the individual screening exercises might be considered as too burdensome by both sides. Realizing a qualitative screening for each proposal will demand a great deal of good-will and time-investment from the responsible actors, disregarding any stakeholder input. Furthermore, a participation task in the screening phase might prove to be too intensive to engage in for the potential stakeholders. Stakeholders don't have the time and resources to analyze in detail each of the policy proposals and decide upon their need for a SIA. Consequently it can be assumed that the involvement of stakeholders in the screening of policy proposals might be practically very difficult and even provoke resentment to the whole process.

However, transparency of the screening phase should be assured. This could be realized by introducing an easy accessible website on which all screening actions are published, giving a clear overview of the screening process in general and the state of the art at the moment of consulting. Consequently, all interested parties are able to follow which proposals have been screened, which have been rejected and selected, and for what reasons.

Moreover the availability of a Regulatory Agenda on the website, presenting a detailed overview of the intended regulations, might increase the transparency of the screening process.

#### **b) Scoping phase**

The general objective for the scoping phase is to determine the extent or the 'terms of reference' of the subsequent impact assessment. During this phase decisions are made for the succeeding phases (impact analysis, impact evaluation, reporting). Consequently, also the extent and the modalities of the participation processes in the proceeding SIA-stages have to be determined and the stakeholders to be involved throughout the further course of the assessment have to be defined. At this moment the desirability of participation during the scoping phase as well as during the subsequent phases will have to be considered. In this context the question arises if participation about the participation process is relevant. Since participation is a time and energy consuming activity, both for the participants as for the initiator of the participation process, it can be argued that participation during the scoping phase is not imperative. The task of defining the extent of the individual SIA in question and the stakeholders to be involved could be left to the initiator of the process. However, it can also be argued that the design of a stakeholder process should be a multi-stakeholder process in itself. According to

Hemmati<sup>72</sup> *“Involving stakeholders in ... the design process is crucial to achieve the best design, commitment to the process, credibility, legitimacy and trust”*.

When a policy proposal has been selected for further assessment during the screening phase, the respective proposal is likely to have significant sustainability impacts. Because of the importance (from a sustainability point of view) of the selected proposals, intense involvement of stakeholders is desirable for the further SIA-process, beginning as early as possible in the process and thus preferably during the scoping phase. However for practical reasons it might be advisable to start off the SIA-process only with a restricted group of people, directly concerned with the proposal, to be extended in the further course of the process. A relatively small group of stakeholders can be involved from the very beginning of a SIA to participate in the definition of the modalities of the specific SIA, among which the definition of the upcoming stakeholder process and the identification of other relevant stakeholders.

One possible scenario for the concrete implementation of this suggestion is to compose a working group for each policy proposal selected during the screening phase. This working group will be involved in all further stages of the SIA-process and could consist of a combination of political-administrative actors and a restricted selection of stakeholders.

During the next stages of the SIA this group can be extended with other stakeholders according to the general orientation chosen for SIA (cfr. chapter 6), the demands of the phase in question and the decisions of the working group. Again it seems not desirable for practical and efficiency reasons to involve citizens during the scoping phase and during the latter stages of the SIA-process. However, the depth of participation and the concrete way of organizing it should be judged on a case-by-case base. Specific circumstances (for example extreme uncertainties, insurmountable trade-offs, ...) require specific participation methods (for example citizens jury, workshops, ...). Moreover the possibility for political control should be left open. Parliament can be assigned a role in this context.

### **c) Impact assessment (identification, analysis and evaluation of impacts)**

After the scoping phase the time has come to actually analyze the social, environmental and economic impacts of the policy proposal. During the scoping phase the course of the actual impact assessment of the policy proposal has been defined, including the modalities of the participation process.

In practice a steering group can be installed, consisting of the original working group and extended with all relevant experts and stakeholders. This steering group will provide the input for the impact identification and evaluation of the policy alternatives.

The participation process during the assessment phase will most probably be structured in more or less subsequent and guided meetings. The extended stakeholder group should therefore be complemented with facilitators, guiding the stakeholder process according to the expected outcomes. The availability of the necessary guiding expertise however is very small. Therefore the development of sound participation procedures will need to be built on empirical experience.

It has to be taken into account that the assessment phase can be of a very high technical level, for which background knowledge is a necessity. The nature and the scope of the topics to be discussed determine the knowledge needed for participation. The capacity needed for participation should be defined as well as the existing capacity within the stakeholder groups. A disparity between these two should be taken into account. The participation process can for example be accompanied with a parallel learning process concerning the technicalities or contents. However this might burden the already demanding SIA-process.

---

<sup>72</sup> Hemmati, M. (2000). Multi-stakeholder Processes for Governance and Sustainability. Beyond Deadlock and Conflict. London: Earthscan Publications.

#### **d) Reporting**

One of the main objectives of introducing a SIA procedure in the decision-making context is to increase the transparency of the policy-making. Therefore the public nature of the SIA-process is an important issue to be discussed during the elaboration of the meta-level. The Federal Plan for Sustainable Development mentions that SIA will always be public. Possible options to ensure the public accessibility of SIA-reports is by inserting them in the Regulative Dossier, publicizing them in the FPS' Annual Reports or integrating them in the ICSD Reports. However these options mainly ensure the availability of completed SIA's for political and administrative actors. This is of course a very important aspect to guarantee the effective use of the results of SIA's within the policy-making context, however also other stakeholders should be able to consult the completed SIA's. Therefore, introducing a website specifically dedicated to the Belgian SIA-process might be relevant. The idea of a website has already been mentioned for the screening phase. This possibility could be extended towards the entire SIA-process, publicizing all interim and final documents of the individual SIA-exercises.



## 5. *Institutional and policy context for SIA*

As has been remarked above, one of the main challenges is to design and implement SIA in such a way that it approaches its theoretical value added. It is clear that the utility and effectiveness of SIA will be influenced by the policy context within which it has to function. SIA will get more chances in a context where e.g. policies are framed within a sustainable development discourse and guidelines, where experience exists with integration of policies over policy domains, where policy evaluation is an institutionalized practice etcetera. In this chapter the main findings of the research on the political and institutional context for the Belgian federal level are presented.

### 5.1 Institutional and legal building blocks for SIA at federal level

Over the last decade, a solid institutional framework for a federal policy on Sustainable Development has been created. Several legislative and/or governmental documents concerning Sustainable Development have been agreed upon, outlining the legal building blocks that can serve as a point of departure for developing a SIA process in the federal policy-making context.

- The Act of May 5<sup>th</sup> 1997 regarding the coordination of the federal policy on Sustainable Development lays the foundation of the federal SD-policy as a cyclic learning process. This law introduces 2 instruments - the federal Plan on Sustainable Development (FPSD) and the Federal Report on Sustainable Development (FRSD) - and three actors – the Federal Planning Bureau (FPB), the Federal Council on Sustainable Development (FCSD) and the Interdepartmental Commission on Sustainable Development (ICSD) - to coordinate all federal policy initiatives on Sustainable Development. The ICSD is the permanent consultation body to mediate between the different public departments and public agencies. Every four years a federal plan on Sustainable Development is drafted by the ICSD and consequently approved by the Federal Government. Although the Federal Plan on SD is established through a Royal Decree, it is not binding for the Government and does not create any enforceable rights towards the citizens. It has no regulatory power, instead it expresses the policy lines the Government wishes to follow on Sustainable Development. The FPB is in charge of the secretary of ICSD and has to formulate a Federal Report every two years to evaluate the progress Belgium makes in the context of Agenda 21 and to prospect on futur evolutions. The federal reports are meant to serve as imput for the Federal Plans. The FCSD advices the Federal Government on its SD-policy.
- In addition to these basic coordinating structures, a new Programmatory Public Service on Sustainable Development has been established by the Royal Decree of February 25<sup>th</sup> 2002. This PPS-SD has three main tasks: the preparation of the policy on Sustainable Development, the coordination of the execution of this policy and the provision of the required expertise, all within the context of the law of May 5<sup>th</sup> 1997. Consequently this Service closely collaborates with the previously mentioned actors.
- The most recent policy initiative shaping the current institutional framework for a federal policy on Sustainable Development is the Royal Decree of 22 September 2004 creating the Cells for Sustainable Development within the Federal Public Services, the Programmatory Public Services and the Ministry of Defence. Those cells have to promote the implementation and follow-up of the current FPSD in all Public Services.

It is within this general institutional background of the federal SD-policy that a potential SIA-procedure needs to be situated. The idea of introducing a Sustainability Impact Assessment in the Belgian federal policy context has been maturing for some years now. SIA was explicitly mentioned for the first time in the Federal Coalition Agreement of 1999. The development of a SIA methodology has also been extensively referred to in the first Federal Plan on Sustainable Development (2000 – 2004), including an action plan with strategic objectives for the introduction of SIA and the policy measures needed for the realization of its implementation. Also the second Federal Plan on SD has resumed this issue. Furthermore the need for a SIA-practice has been repeated in the Federal Coalition

Agreement of July 2003, stating that “all important Governmental decisions” will be assessed on their effects concerning Sustainable Development, but without creating “extra delays in the policymaking process”.

The most important legal document on which the introduction of SIA can currently be based, is the Royal Decree of September 22<sup>nd</sup> 2004 creating the Cells for Sustainable Development. This decree explicitly defines some competences and responsibilities concerning the introduction of a federal SIA-process. Nonetheless, it appears to be a very weak basis for implementation. It only stipulates that the PPS-SD is responsible for making the SIA methodology operational, for inserting it into the Public Services and for the quality monitoring of its implementation. The Cells for Sustainable Development are assigned the responsibility of indicating in their yearly action plan on which types of decisions SIA will be executed. They are also made responsible for executing or coordinating the execution of SIA. Consequently, the implementation of SIA in the federal policy context could be based upon the stipulations of the Royal Decree, however, according to several political and administrative actors interviewed, these stipulations should not be dealt with too rigorously.

## 5.2 The influence of the general policy context on SIA

The effectiveness of SIA will be enhanced or weakened by the general policy context in which it functions. This can be demonstrated by analysing some of the characteristics of SIA and comparing them with the characteristics of the general political and institutional context.

Since SIA is meant to help orienting policies towards sustainable development, its acceptability and utility will be greatly enhanced when all or most federal policies are framed within a sustainable development discourse and guidelines. Notwithstanding the existence of an elaborated institutional framework for SD-policy in which vertical and horizontal integration is aimed at (see 5.1), it remains far from mainstream to take sustainability issues into account in other federal policy fields. Thus, the *general* policy context at federal level is not in all aspects favourable for SIA. SD-policy represents a minor ‘branch’ within the general policy context, not (yet) well connected to other policy fields. The recent Report of the Belgian Court of Audit on “The Coordination of the Federal Policy on Sustainable Development” addressed to the Federal Parliament (June 2005)<sup>73</sup> articulates the major obstacles for attaining the Belgian federal objectives concerning sustainable development, such as a lack of financial resources, enforcement mechanisms, structured cooperation between the actors concerned, etc: “*The actors and the procedures are situated in the margin of the decision process of the State.*” (Court of Audit 2005, 3).

A second point is that sustainable development in general depends on integration of policies. But what is true for most modern states is also true for the Belgian federal level: policy-making structures are developed along the lines of policy domains and function largely independent from each other. Integration of policies is the exception rather than the rule, while introducing SIA requires more policy coherence and horizontal integration. Furthermore coordination of the SIA-practice at the highest level is needed for enhancing commitment in the individual Ministries and thus creating ownership. It will also be necessary to think about more vertical integration when developing SIA. For a lot of policy proposals it will be difficult to avoid talking about influences on and competences of other levels (local, regional, federal, European, international). Despite the attempts of SD policy in Belgium to realise more vertical and horizontal integration of policies, this remains the exception rather than the rule.

Thirdly, systematic evaluation of policies and in particular systematic ex ante evaluation such as is necessary for SIA, is lacking in the current policy-making procedures. The limited experience which exists does not follow a strict methodological framework, nor can it rely on a formal evaluation process. Closely related to this problem is the need for openness and willingness to formulate,

---

<sup>73</sup> [http://www.courdescomptes.be/docs/Reports/2005/2005\\_14\\_Duurzame\\_Ontwikkeling.pdf](http://www.courdescomptes.be/docs/Reports/2005/2005_14_Duurzame_Ontwikkeling.pdf)

compare and weigh policy alternatives during policy preparation. Interviews during the research taught that the much politicized policy-making processes in Belgium are not fertilizing the ground for evaluations which would engage further liability of political actors. Additionally, recurrent budgetary cuts in most policy sectors diminish the availability of resources for evaluation, with civil servants concentrating on implementation of policies (not preparation or ex ante evaluation) and ministerial cabinets taking the role of developer of policies.

Finally, SIA also relies on transparent processes of decision-making. The opinions of stakeholders are actively looked for and SIA results are meant to be public. Stakeholder involvement, in particular for the traditional social partners (employers, trade unions), is not unusual at federal level, but systematic involvement of other actors during policy preparation and openness about the results of consultations is unfamiliar.

In general, the conclusion can be drawn that the Belgian federal policy level presents a rather contradictory context for introducing SIA. On the one hand, Belgium has developed a sound institutional structure for *sustainable development* policies which compares very favourable to other countries. On the other hand several characteristics of the *general* policy context are not favourable for introducing SIA and turning it into an effective tool for guiding federal policy towards sustainable development. At first sight, it appears as if in many ways SIA implies a rupture with the customary way of policy formulation at federal level. However, moving toward sustainability is often comprehended as a learning-process. Taking account of the different organs that have been institutionalised for the development and coordination of federal SD-policies, SIA can also be interpreted as a next step in this process. Albeit a step which demands a lot of new capacity building, suited institutions and a clear will to orient policies towards integration and sustainable development.

### **5.3 The federal policy preparation process: current state of affairs**

The federal policy preparation process is characterised by its complexity and lack of clarity, also after the Copernicus Reforms. In theory, policy proposals are developed both by the Cells on Policy Preparation (= in se Cabinets) and the administrations as the former ones create the basic ideas and structures and the latter ones execute the translation of the policy proposals into a more precise juridical document (Royal Decree, Government Bills, etc). In addition to the existing know-how in the administrations, the required know-how and experience for preparing policy proposals can be engaged through outsourcing. Universities or other think tanks can be asked to explore certain issues. SIA is supposed to take place during this phase of policy preparation, when the proposals are being drafted and the know-how is being applied.

In practice however, it is impossible to create a sound flowchart of policy making in the federal context. Policy preparation is mainly managed by pragmatism. Certain dossiers are prepared at the FPS, some by both the Cells on Policy Preparation (Cabinets) and the FPS but some are solely prepared at the Cabinets. If time is insufficient or the know-how is missing in the FPS, Cabinets will act independently.

An overview of the planned policy initiatives is made public through:

- the federal coalition agreement, which is drafted at the start of every legislature giving an abstract outline of the planned policy;
- annual policy declarations ( a.k.a. State of the Union or September declaration), which do the same on an annual basis;
- Strategic Plans, which are annual Ministerial policy declarations presented to the Parliament.

However, usually these documents remain very vague, not permitting the composition of a detailed overview of planned policy proposals. Moreover, not all proposals will or can be planned ahead. For example, an unexpected crisis can trigger the need for new and urgent policy initiatives.

During the policy preparation phase several assessment procedures can take place, some of which are compulsory, others are optional.

- **Financial Inspection** (*Royal Decree of 16 November 1994 on the administrative and budgetary control*). To every FPS, one or more Financial Inspector(s) have been accredited from the Inter-Federal Corps of the Financial Inspection. The Financial Inspector advises on the financial and budgetary efficiency and effectiveness of this FPS and its proposals. Furthermore he controls all proposals, which have budgetary repercussions or repercussions on the General Administration. An interesting element on their function can be found in the Report to the King, which stipulates that: “the control of the Financial Inspectors comprehends besides their legality, the availability of credits and the conformity with former decisions, the opportunity of the proposal, its effectiveness / efficiency, the alternatives, the correctness of the investments that will be needed on the short and long term”. At present, the possibility to control the opportunity, effectiveness, etc. of certain proposals is hardly being used.
- The **Kafka-test** has been introduced in October 2004 to avoid new administrative burdens. It is a simple checklist that needs to instigate the policy-makers in the policy-cells or administrations to think about the administrative burdens they might cause by adopting new regulation and to think about alternatives that cause fewer burdens. The instructions for performing the Kafka-test tend to be very easy-going and little formalised. The only compulsory prescription is that the test has to accompany the proposal when it is presented to the Council of Ministers.  
It is interesting to note that there have been plans within the Division of Administrative Simplification (DAS), which potentially could have consequences for the development of SIA. The DAS has started to prepare some kind of assessment method, which would extend the current Kafka test towards a ‘light RIA’. This is meant to be some kind of questionnaire that would accompany a broad spectrum of policy proposals, comparable with the Flemish ‘light RIA’, and would have a broader scope than just the avoidance of new administrative burdens.
- The **Court of Audit of Belgium** plays an important role in the budgetary control of the Government’s policy initiatives. The Court of auditors performs ex-post reviews to check if the budget that is allocated to the different Belgian Governments is being spent effectively, efficiently and economically sound. In the margin of the tasks to control the Government’s financial accounts and the ex post compliance audits, the Court of Audit has been performing more and more efficiency-studies, in which they take account of the policy-preparation process. As the Court is eligible to check upon the effectiveness and efficiency of a policy proposal, the analysis of the quality of the preparation is more and more considered indispensable. A list of criteria for assessing the policy preparation process has been developed.
- The **Division of Legal Evaluation / Legal Service**, which is part of every FPS, gives all kinds of legal support / advice concerning among others certain policy proposals.
- If a certain proposal has an influence on issues that concerns other Public Services, it will need to be discussed through inter-cabinet taskforces. The Directors of the FPS can be involved or the proposal can be treated in the “**inner cabinet**” if stalemates might occur.
- The compartmentalization<sup>74</sup> along socio-political lines in Belgium was one of the main reasons to organize structured socio-economical **consultations/negotiations**. In this regard, consultative bodies have been installed like the Central Economic Council<sup>75</sup> or the National Council on Labour<sup>76</sup> and other more specific councils like the Federal Council on Sustainable Development. These councils have an advisory role in the policy preparation process.

---

<sup>74</sup> verzuiling / pillarisation

<sup>75</sup> Conseil Central de l’Economie / Centrale Raad voor het Bedrijfsleven

<sup>76</sup> Conseil National du Travail / Nationale Arbeidsraad

- In execution of a European Directive, the Council of Ministers of June 24<sup>th</sup> 2005 has approved a draft proposal of law concerning the introduction of a **strategic Environmental Impact Assessment**. The goal of this strategic EIA is “to assess the impact of certain plans and programs on the environment” and is to be compared with the Flemish EIA.
- The **Council of State** finally gives advice on the drafts of Bills and regulatory orders. This advice takes place at the end of their drafting, after all the informal political debate and influence of other advisory organs. This advice is purely legal and juridical; the expediency is not assessed.

SIA will have to position itself towards these more or less embedded procedures. More in particular it could be considered to search for possibilities of relating the SIA-process to the Kafka test, especially when the plans to expand this test to a form of light RIA would be further elaborated. It might also be necessary to think about the relation with the Financial Inspection. Furthermore the integration of the strategic EIA should be considered.

## 5.4 The elaboration of SIA

The first step to be taken for introducing SIA in the Belgian policy-making process is the elaboration of a proposal on how to actually implement SIA in the federal policy-making process. This involves a lot of political choices and decisions to be taken, starting from which overall orientation a federal SIA scheme will take (see chapter 6), over which structures are best suited to implement this scheme, which capacity building and resources are needed, which juridical form SIA will eventually take (will it be mandatory for some kind of policies? Will it be introduced by law?... ) etcetera. These kind of decisions can be called ‘meta decisions’ since they trace out the whole scenario for SIA. Currently, the only formal document instituting SIA in the federal policy-making context is the Royal Decree of 22 September 2004 regarding the creation of Cells on Sustainable Development in the Federal and Programmatory Public services. However, this Decree leaves numerous obscurities and possibilities. Several institutional scenarios for embedding SIA in the policy-making process can be imagined based on this decree. Therefore, the first thing to do is to define a preferred scenario, outlining the political choices for SIA.

The final decisions on meta-level - and thus the way SIA will be institutionalized - are important for the future credibility and assimilation of the tool. Therefore it will have to be thoroughly discussed how these decisions will be taken, based on what kind of input and from whom. An interdepartmental working group could be introduced for the elaboration of a proposal. In addition to this main group of political and administrative actors, other stakeholders have to be given the opportunity to contribute to the institutionalisation of a Belgian SIA-process.

## 5.5 The selection of policy proposals for SIA

### 5.5.1 Selection criteria

According to the Federal Coalition Agreement (2003), “*all important Governmental decisions*” will be assessed on their effects concerning Sustainable Development.” But what makes a policy proposal important enough to be subjected to SIA? This vague indication has to be translated into applicable criteria. Therefore, one of the first challenges for an operational SIA-process is to develop a selection mechanism for identifying those proposals which should be subjected to an extended SIA. As discussed in detail in chapter 2 we propose a triple procedural structure comprising a prescriptive exclusion of some types of policy proposals (e.g. with a negative list of policy types, which are deemed not relevant in any case for SIA) followed by a discretionary phase which filters policy proposals on the basis of their expected impacts on sustainable development (e.g. with a standardized impact determination- and impact reporting-tool such as the tested combination *impact matrix / argumentative form*). The final selection of the policy proposals to undergo an extended SIA could be

performed by political actors on the basis of information generated during the discretionary phase while considering political opportunities as well as evaluative capacity within administration.

### 5.5.2 Selecting institution

In addition to the question of *how* policy proposals can be selected, the question arises of *who* has the power and capacity to decide which proposals will eventually be subject to SIA. The Royal Decree on the Cells stipulates that the Cells make up a list of proposals which will undergo a SIA. In this view, it is primarily on the level of individual FPS's and PPS's that proposals will be selected (although a member of the cabinet is member of the Cells). In that case, the Cells would need an exhaustive overview of the policy initiatives that will be developed. However, typical for the way the Belgian policy-making system has evolved, is that in political practice new policy proposals are drafted at two different levels. The important and/or urgent dossiers are drafted at the level of Ministerial Cabinets; the more technical and less urgent ones are drafted at the level of FPS's and PPS's. This has important implications for the selection of proposals to be subjected to SIA. As part of the administration, the Cells may not be aware of certain proposals being developed or are not allowed to interfere in the process of policy preparation. In this view, it becomes necessary that the Ministerial Cabinets or even the Council of Ministers are somehow involved in the selection of policy proposals. If not it becomes extremely difficult to have a more or less complete coverage of proposals on which the selection can be based. In particular the more important policy proposals could elude the selection process.

Other setups are imaginable as well. The option of outsourcing should be avoided as this would prevent capacity building in the Federal policy making process and would create a huge financial burden. Based on experiences in other countries, one could think of an internal, coordinating institution which is responsible for collecting policy proposals and formulating advice on which proposals should be further assessed. A possible role for the ICSD, the PPS-SD or an integrated institution could be considered. These institutions have the advantage that the screening of the proposals would be centred at one place and continuity in the screening process would be assured. A possible disadvantage of these organs is that they might lack the required authority towards other public services.

### 5.5.3 Regulatory Agenda

The selection of policy measures to be subjected to SIA is necessarily a matter of trade-off between the evaluability of the policy proposal, the means and capacities available, the potential (positive or negative) impacts of the policy proposal, the lever to adapt the policy proposal, the will to open and re-engineer policy, the awaited benefits from inter-service consultation and stakeholder dialogue, the flexibility of the policy agenda's timing...

Some of these factors, such as the potential future impacts of a policy proposal, can be explored in a sufficiently objective way on the basis of robust methodologies and tested assessment tools (e.g. such as impact matrixes, quick scan tools...). However, many of the above-mentioned factors cannot be set on an absolute scale, but remain a matter of relative weighting and comparing between a number of policy proposals on a number of factors. This, however, calls for a relatively precise positioning of the screening moment into an operational and existing policy-making agenda (e.g. such as it is the case with the annual working program at the level of the European Commission) in order to have at hand a sufficient pool of policy proposals for comparison and choice. Currently, this necessary condition for a performing SIA is far from met at federal level in Belgium, as there exists neither a clear policy calendar, nor a very far-reaching obligation for informing on the government's future policy intentions. The screening phase in the SIA process thus requires the existence of what is called a Regulatory Agenda; A Regulatory Agenda collects and spreads information on the newly planned (adaptation of) regulation. In 2000, such regulatory agenda existed in more than 80 % of OECD Member States, a majority of which made this agenda publicly. This list, often called "unified regulatory agenda", contains the intended regulation for the coming year, and is often actualized twice every year.

### 5.5.4 Transparency

The success and impact of SIA will be largely dependent on its credibility in the midst of stakeholders, civil society, but also civil servants and politicians themselves. Therefore a high degree of transparency should be aimed for. The inevitable trade-offs when selecting proposals for SIA need to be explained and made accessible to the wider public. This condition ideally includes opening the selection process to the consultation of stakeholders (e.g. consultative forums, parliamentary debates, public or expert hearings...), however, as argued in chapter 4, it seems nor possible, nor desirable to organize an extensive participation process. We suggest though, making the screening phase transparent by introducing a website on which all interested parties can consult the evolution of the screening process.

## 5.6 The execution of SIA

The actual execution of SIA's will be a discipline in itself. Currently, the Royal Decree on the Cells only stipulates that the PPS-SD is responsible for making a methodology operational, while the Cells execute or coordinate the execution of SIAs. In the case of coordination, an additional question is whether the execution will be done internally, or whether it will be (partially) outsourced. The advantage of keeping it internal is clearly that capacity building becomes possible. However, it has already been referred to above that the expertise available in the administration on ex ante evaluation for sustainable development is momentarily almost non-existent. But neither is it easily available from institutions outside of government.

If the ambition is to make SIA a permanent feature of federal policy, it seems logical to start building internal expertise. This will require amongst others profiling of the capacities needed to perform SIAs, development of reference manuals, study and development of methodologies, training materials and training sessions. The potential role of specialised institutions such as the Federal Planning Bureau, the Financial Inspection, the Educational Institute of the Federal Government<sup>77</sup> in capacity building and executing SIAs will also have to be discussed. More detailed scenario's for possible actors to be involved during the execution of SIA can be found in the Working Paper on the institutional/juridical integration of SIA in the Belgian federal governmental structures.

SIA is not meant to be an exercise completely internal to the administration. Depending on the general orientation of the SIA-process (see chapter 6), outside actors such as experts or stakeholders from civil society will be informed, consulted and/or demanded to participate actively.

## 5.7 Coordination of the SIA-process

As already mentioned, executing SIA requires the development of know-how and experience. It would be counterproductive to develop this kind of expertise in different departments independent of each other. There will be a need for coordination, exchange of experiences and good and bad practices, mutual learning, and this as well on the level of individual departments as on the interdepartmental level. On the departmental level it is probably necessary to have one or more specifically trained SIA coordinators. On interdepartmental level, the PPS-SD is an obvious candidate for taking on a coordinating role, since the Royal Decree of 22 September 2004 already assigns to it the task of quality monitoring of SIA in the different FPS's. As a horizontal Public Service, the PPS-SD seems well positioned for this coordinating task. However its temporary and thematic nature might make it less acceptable as coordinating institution. Another possible candidate is the ICSD. Whether one of these or yet another institution takes on the coordinating role, it will almost certainly be necessary to strengthen the institution concerned and give it a clear mandate and enough resources (bearing in mind e.g. the remarks made by the Court of Audit on the different existing institutions).

<sup>77</sup> L'Institut de Formation de l'Administration Fédérale (IFA) / Opleidingsinstituut van de Federale Overheid (OFO). <http://campus.ifoifa.be>

## **5.8 Evaluation of the SIA-process**

Evaluation is essential for assuring adequate quality of the SIA-process. Timely evaluations along the road will be necessary, where several points of entry are possible. It is remarkable though, that a lot of countries or institutions who work with forms of impact assessment, have no or only an informal evaluation system. Certainly during the starting phase of impact assessment, nobody is eager to install a strict sanctioning system towards the executing civil servants or responsible Directors/Ministers. Concerns are more with creating goodwill, know-how and experience among those involved, rather than threatening them with sanctioning mechanisms, which might neutralise all goodwill. In fact, evaluation can be thought of on two different levels: first the level of methodologies used and results reached, second the processes and procedures followed. An internal evaluation will probably be necessary, certainly during the first years. An important question is of course who will be responsible for evaluation. According to the Royal Decree of 22 September 2004, the PPS-SD is responsible for the quality monitoring of the implementation of SIA in the FPS. Other potential internal actors in evaluation are the Taskforce Sustainable Development of the Federal Planning Bureau (it already has this task for the sustainable development policy), the Court of Audit or even the Financial Inspection. For an external evaluation, one can of course think of external consultancy, but there might also be a role for the Federal Council on Sustainable Development. Keeping in mind the remarks about creating goodwill and building capacity, these kind of evaluations should be considered as part of a learning process.

## **5.9 The juridical implementation of SIA**

Because of the vast amount of political choices that have to be made concerning the institutional framework for SIA, it is impossible in this stage to formulate a detailed draft on the juridical implementation of SIA.

Currently, the only legal basis for SIA is the Royal Decree of 22 September 2004 creating the Cells for Sustainable Development. According to this Royal Decree the PPS-SD is responsible for making the SIA methodology operational, for inserting it into the Public Services and for the quality monitoring of its implementation. The Cells for Sustainable Development are assigned the responsibility of indicating which types of decisions SIA will be executed and for (coordinating) the execution of SIA.

First of all the suitability of these few existing stipulations for a federal SIA-process have to be evaluated.

Secondly it can be considered to include SIA in the Act of 5 May 1997 regarding the coordination of the federal policy on Sustainable Development, anchoring it in our federal policy making process.

Thirdly, a detailed elaboration of the SIA process will have to be formulated in a more flexible legislative instrument like a Royal Decree, a Ministerial Decree or a Circular.

A Circular has the advantage that it is easy to draft and to send out towards the different FPS. This would be the most appropriate way if one would decide to implement the SIA through different phases. During an experimental phase, the responsible Governmental institution (e.g. the PPS-SD) can autonomously adapt the procedure / scope / etc. of the SIA without too many formal obligations. On the other side, a circular letter remains free of obligations and is not enforceable.

SIA can also be instituted through a Royal or Ministerial Decree. The advantage of this system is that the procedures will be stronger legally embedded. This is less advisable during an experimental or non-definitive phase of SIA, because of the burdensome procedures for adapting a decree. However, it would be highly recommendable to embed a definite SIA into a Royal Decree / Ministerial Decree to ensure compliance.



## 6. *The double value-added of SIA*

SIA is expected to deliver its value-added on two different accounts: first as an *ex ante* impact assessment whatever the qualifier, second as sustainable development oriented assessment. On the first account it should deliver better decisions, more coherence between policies, more efficiency in policy-making, in other words, better governance. This is what is expected from any impact assessment exercise. On the second account, its main value-added would lie in contributing at the least to get sustainable development permanently on the political agenda and, of course, in helping to translate it in actual policies.

One should be aware that SIA could succeed in delivering better governance while failing to help us contributing to sustainable development, or the other way round. The challenge is to make sure that the better governance benefit will not be gained at the expense of the sustainable development one and vice versa for what we want to achieve is better governance towards sustainable development.

In order to make both kind of value-added not just potential but actual, it is indispensable to shape and implement SIA in accordance with the institutional and policy-making context in which it will take place.

Basically, one can distinguish two competing conception of policy-making:

- 1° Policymaking as rational problem solving;
- 2° Policymaking as discursive practices

The first conception has dominated policy analysis and policy science for more than decades. It is deeply rooted in social choice theory and in neoclassical welfare economics. It sees policymaking as a kind of problem-solving where clearly defined and agreed upon objectives can be optimized with respect to budgetary and informational constraints.

Such a vision is criticized by many scholars<sup>78</sup> who find it unrealistic and even misleading. On the contrary, they see policy-making more as a struggle between social discourses and practices and as the construction, through deliberation, of a common discourse on values, ends and means. In such a process, metaphors, analogies and rhetoric are often more relevant and effective than logical reasoning and calculus.

These two different visions of policy-making have also very different conceptions of the nature and the role of knowledge in the whole process. For the rational model, knowledge is above all about facts. It can be value free and politically neutral and of use in identifying and predicting impacts of alternative policies. Values have their place in the decision making process but only at the end when evaluating and selecting alternatives. On the contrary, advocates of the discursive model see knowledge as deeply framed in values and the role of data as something more than neutral, objective information about the possible consequences of alternative actions. Actually, it even denies that facts and values can ever be separated.

The two models have different implications for SIA. In a purely rational problem-solving perspective, SIA would naturally be conceived as a *toolbox*, a package of concepts, methods and techniques helping in dealing with long-term and global impacts, uncertainties, multidisciplinary, etc.

In a more discursive perspective, SIA would more naturally be seen as a framework for a collective deliberative *process*, as a set of procedures inducing actors to integrate sustainable development in the way they consider and frame problems, solutions, decisions and actions.

In other words whilst in a purely rational decision-making perspective SIA would above all be “outcome-oriented” (what matters is the outcome), in a discursive perspective, it would probably be more process-oriented. The differences between a pure outcome-oriented and a pure process-oriented SIA are numerous and far ranging. For instance, criteria such as effectiveness, efficiency and fairness

---

<sup>78</sup> Amongst many, one can cite F. Fisher, J. Forester, D.A. Schön, D. Stone

of the assessment (not necessarily of the assessed policies) will mean very different things. The following table summarizes the main difference between the two models.

*Table 7: Two different visions of policy-making*

	<b>Discursive – deliberative. Policy as discourse</b>	<b>Rational problem solving. Policy as calculus</b>
<b>SIA</b>	SIA as framing a process of deliberation on ends and means	SIA as a toolbox for selecting the best alternative (means) from a SD point of view
<b>What matters</b>	Values	Facts
<b>Kind of rationality</b>	Procedural	Substantive
<b>What is maximized</b>	Participation	Rigor, exactness, accuracy
<b>Leading actors</b>	The legislature Stakeholders Citizens Experts facilitators	The government Civil officers Experts Academics
<b>Effective if....</b>	The decision is collectively endorsed, i.e. a political community (a public) has been created around an issue. Some people have changed their mind.	The “optimal” alternative has been identified.
<b>Efficient if ....</b>	An agreement has been reached within a reasonable delay.	Technological efficiency: the most efficient tools have been used.
<b>Fair if....</b>	Every standpoint has been heard. Nobody feels deprived or powerless.	No relevant alternative, hypothesis or information has been left aside without justification
<b>Methods and tools</b>	Collaborative decision making tools. Deliberative methods (citizens juries, deliberative polls, etc.)	Mathematical models Cost-benefit analysis
<b>SWO(R)T analysis from a SD point of view</b>		
<b>Strengths</b>	SD has a chance to become a collective concern	Incontestability
<b>Weakness</b>	No guarantee that interest of non represented parties will be cared for	Data and expertise requirements
<b>Opportunities</b>	Existing participation mechanisms (but see threats)	Existing know-how at Federal Plan Bureau Universities....
<b>Risks</b>	New corporatism Demagogy Unrealism	Technocracy (SD as a technical matter to be left to those “who know”) Bureaucracy
<b>Threats</b>	Not much experience with methods and tools Existing participation mechanisms Bad will of politicians	Lack of SD culture among civil officers and government experts

Of course, these are pure “ideal-typical” models. However, as such, they can help in stating the problem we are facing. Are we going to favour a discursive kind of SIA or a scientific-rational one? Admittedly, the choice is not between an idealistic pushed-too-far procedural SIA and an idealistic pushed-too-far scientific-rational one. It is between a realistic well-balanced deliberative model and a

well-balanced scientific-rational one. But we should be aware that both would more or less exhibit – albeit in a smoothed way – the characteristics of the pure model from which it inherits.

Anyway, in order to choose adequately we must first consider reality as it goes and make a thorough analysis of the existing policy context and institutional settings. But knowing the real policy-making context doesn't dictate the solution. Indeed, from the existence of obvious affinities between a rationalist-positivist policy-making conception and an outcome-oriented SIA, as well as between a discursive conception and a process-oriented one, it does not follow that the best way to get the most value-added of SIA is to lean on these affinities. The question is: assuming that the real policy-making context in which SIA has to be implemented corresponds more or less to one or the other of the two ideal-typical models identified here above, should we want SIA to reinforce the dominant model (but of course in a sustainable development direction) or, on the contrary, to balance it and play a counterweighting role? In other words should we necessarily implement an "outcome-oriented" SIA in a "policy as calculus" context and a more "process-oriented" in a "policy as discourse" context or rather the other way round?

The trade-off is clearly between the easiness of implementation and acceptability of SIA and its marginal utility. For instance, if the risks associated with a problem-solving conception of policy are those of bureaucracy and technocracy, it is most likely that an outcome-oriented SIA, instead of mitigating them, would on the contrary contribute to make them more plausible. SIA as a toolbox would probably be easier to implement in a rationalist-positivist context and therefore have more chances of success but it is not sure that it would deliver all its potential value-added. The same reasoning holds for the risks of corporatism and unrealism in the policy as discourse model with a too much "process-oriented" SIA.

This discussion is not without relevance for the double value-added question. The better-governance value-added would probably be best guaranteed with a SIA model closest to actual habits and practices of policy-makers. But if one believes that taking sustainable development seriously – the expected sustainability value-added – asks for something like an electric shock, one should favour the SIA model aptest to bring it about whilst keeping some reasonable chances of success. It should however be kept in mind that SIA will be successful only if it succeeds in combining the requirements of two kind of reasoning: analytical and practical.

## Part 2:

### Integrating the research results in the federal decision process

This second part tackles the integration of SIA in Belgium's federal policy. In the course of the research, it became clear that the 'ultimate' form of SIA does not exist, but that depending on choices made, several conceptions of SIA are possible. Building on the results of part 1, several possible scenarios for SIA at Belgian federal level and the choices which they imply are depicted. Furthermore the policy implications of introducing SIA are described and several flow charts for setting up an SIA framework at federal level and for executing SIA for selected policy proposals are proposed, as well as a simplified methodological framework for executing SIA.

#### 7. *Scenarios for a federal SIA*

Selecting, sequencing and adapting an adequate SIA-scheme is definitely a matter of interpreting which objectives SIA should pursue, from the more process- and network-enhancing interpretations of SIA to a more substantive and evaluative SIA-scheme. Apart from this fundamental distinction "discursive – rational", the configuration of a SIA-scheme follows several other sets of criteria or objectives:

- Targeted value added: 'creation of public support for SD-policies', 'coordination of policies towards SD', 'better governance', 'evidence-based decision-making', 'enhancement of the quality of the decision-making process'.
- Nature of integration: 'policy integration', 'institutional integration', 'cognitive integration', 'evaluative integration'.
- Lever for SD-policy change: 'policy change guided by inter-institutional dynamics', 'policy change guided by intra-institutional dynamics', 'policy change guided by external dynamics'.
- Degree of using different perspectives: 'transdisciplinary', 'multidisciplinary', 'interdisciplinary'.

Proposing a range of SIA-scenarios is thus not a matter, for instance, of more or less participation, but a decision on the *type* of participation deemed more effective to fulfil the main objective of SIA (itself a matter of interpretation). In the following table, we sketch different forms of SIA in terms of their *principal maximization objective*, i.e. in terms of the most important objective to achieve with the specific form of SIA.

However, while all 5 SIA-scenarios presented (see table 8) are desirable in terms of SIA-principles, not all of them are plausible given the constraints and configuration of policy-making at the federal level. In effect, two of the presented scenarios ("Transparency" and "Regulatory Performance") would hurt either given conventions, or would pose serious challenge to public authorities' traditions in decision-making, or would not correspond to the authorities current interpretation of SIA. Given the need to stick primarily to plausible scenarios, neither of these two scenarios has been further developed. All the same, but for a slightly different reason, was the "Adaptability" scenario excluded from the following in-depth analysis. Maximizing "Adaptability" of each SIA-process to the policy proposal's specificities would necessitate for public authorities to have already a serious experience with SIA, notably in order to be able to decide on a case-by-case basis which form of SIA is best.

Both plausible scenarios (i.e. "Institutional Integration" and "Impact Objectivation") are further developed in some detail hereafter. First by explaining the general objective and justification of the scenario in terms of enhancing SD. Second we sketch some of the components of an SIA-scheme such as the design of screening and of scoping, or the type of participation. Finally, the scenarios are

qualified in a synthesis-table regarding their “performance” in terms of credibility<sup>79</sup>, salience<sup>80</sup>, legitimacy<sup>81</sup> and efficiency<sup>82</sup>.

---

<sup>79</sup> Credibility is used here as a shortcut to qualify the perception of the actors (civil servants, stakeholders, civil society, politicians...) of the overall potential of the SIA-scheme to achieve a sufficient level of technical and scientific quality.

<sup>80</sup> Salience is used to qualify the degree of relevance the different actors attach to the SIA-scenario's main characteristic.

<sup>81</sup> Legitimacy is a qualifier of the perceived potential of fairness of the evaluation process.

<sup>82</sup> Efficiency is used to qualify the potential of the SIA-scheme to render useable evaluation results within a given resource framework.

*Table 8: A range of SIA orientations for public authorities*

<i>SIA Scenario title</i>	<i>SIA Scenario description</i>
MAX “Transparency”	SIA as an open-end process implying to consult multiple stakeholders (and citizens) on the policy orientations to pursue. The most discursive form of SIA, based on the principles of deliberative democracy and calling for a full-scale participation to the different phases of the decision-making process, including the policy formulation process. Tools to be deployed include citizens' juries, deliberative mappings...
MAX “Institutional Integration”	SIA scheme which puts emphasis on the integrative (horizontal and vertical) character of SD, by largely favouring inter-departmental and inter-institutional collaborations. The aim is to achieve in the mid-term an integration of SD-perspectives into everyday policy-making processes, much the same as is currently pursued in many countries with ‘environmental policy integration’. Mostly internal to administration and stressing interaction with and between different institutions (e.g. Parliament, Federal SD Council, ICSD...), the SIA-scheme will be kept sufficiently transparent as to allow a soft form of control of the administrations by stakeholders. Mechanisms to be installed include networking facilitation, informal collaborations, animators...
MAX “Adaptability”	SIA as an entirely flexible mechanism, where each evaluation exercise is adapted by a central controlling process (or unit) according to the challenges, threads, opportunities raised by each specific policy proposal. Meandering on a case-by-case basis between, for instance, a stakeholder-participation process or a closed expert-driven cost-benefit study. Representing a perfectly procedural SIA, it limits itself to a series of <i>meta-procedures</i> on issues such as: who and how to decide on the individual form which SIA takes in front of a specific policy decision.
MAX “Impact Objectivation”	SIA as a tool which allows to compare in an objectified manner a series of policy alternatives, predict their positive and negative impacts, foresee their indirect and multi-dimensional impacts, test a series of mitigation measures. Limited openness of the evaluation process is used to gather non-technical knowledge or source-knowledge from different stakeholders, but also for interpretation of evaluation results. Tools include to rely mostly on modelling, and expert-knowledge becomes of crucial importance.
MAX “Regulatory Performance”	SIA as a largely administrative and internal exercise. The aim is to enhance the performance of regulation by insuring the best possible ‘return’ on public decisions, as well as the highest possible degree of coherence between policies and policy levels, while minimizing negative, unwanted impacts. In the age of scarce public budgets, keywords include efficiency, effectiveness and productivity. Tools to be used are enhanced cost-benefit and cost-effectiveness analyses.

## 7.1. Scenario 1: The Maximization of “Institutional Integration” for SD

Among the overarching and generic objectives of SIA is the integration of SD as a common referent into policy-making in a way that principles of SD are respected and promoted at the level of each policy initiative. In parallel to top-down, programmatic coordination of SD (for instance with the development of SD-strategies and plans), SIA can be configured in a way as to prioritize this integration into everyday policy-making. These vertical (i.e. programmatic) and horizontal integrations of SD are among those developments which SD-policy shares with environmental policy. “Environmental Policy Integration” has reached since some years high priority in many administrations at many different institutional levels. In the case of SD, and considering its specificities - as well as some deceptions from earlier attempts to focus mainly on programmatic, vertical integration - expectations are nourished that horizontal integration might become a major pillar to promote and anchor successfully SD in the near future.

SIA, as many other evaluation processes, can be oriented in a way as to participate largely to the development of cross-sectoral, horizontal integration reflexes in public administrations. Such *institutional learning* seems to occur if (at least) 3 basic conditions are met. First, administrative actors have to perceive the usefulness and impact of their personal engagement into the evaluation process (which is in most cases adding supplementary charges to their functions). Second, the evaluative setting should allow for sufficient feedback to be generated and shared in order to let the necessary information input for the learning process develop. Third, a number of support mechanisms and coordination facilities need to be developed in parallel to the actual evaluation process.

On top of these adaptations within administrations, which will favour the development of inter-departmental evaluation culture, the current scenario participates to integrate SD further, namely by actively using inter-institutional collaborations. Federal administrations are but one specific type and level of institutions, which are concerned with SD. In the overall learning process, the current evaluation scenario would seek to involve in a privileged manner also other public (or semi-public) institutions, such as the Federal Council for SD, Parliament and/or Senate, independent institutions such as the Federal Planning Bureau or the Court of Audit. Furthermore, the spatial characteristics of SD call for the implementation of an inter-institutional dialogue across the borders of federal policy competence, notably by including systematically regional and European level institutions when required by the evaluation object.

### ***Implementation***

The eventual implementation will organize SIA as a largely internal evaluation exercise to administration and political actors. The overall aim of such an SIA is to share knowledge and to develop SD as a common referent in policy-making. The internally executed evaluation processes will thus be largely performed by inter-departmental working groups, with the initiators of the policy proposals acting as animators of the groups. Foreign and international experience shows that these working groups should at best be composed specifically for each policy proposal’s evaluation, and not be permanent working groups with permanent representatives. Permanent working groups appear to become too much specialized in the longer term, not giving access to the evaluation processes to a large number of civil servants, hence undermining the horizontal promotion of SD through evaluation processes.

Obviously, the relative inexperience and “volatility” of these working groups with SD-evaluations (and to some extent, even with evaluations) calls for the establishment of a clear reference framework that the working groups can follow. The necessary harmonization of the individual policy proposal evaluations will be attained through accompanying measures such as the elaboration of Guidelines and Handbooks, the active support and quality-control by a central evaluation unit, the construction of common data-bases with reference data, the configuration of intranet-based billboards and places for the exchange of information, the development of a training course...

Furthermore, the integration of other types of public institutions should be organized in a structural manner, for instance through the appointment of a specific parliamentary working group involved in the screening phase, and/or by the obligation to submit the screening and scoping decisions to the Federal Council for SD.

In order to enhance the perceived usefulness and impact of the SIA-experiences, SIA-reports (or their syntheses) should be made accessible to a larger public. A further measure for support is to oblige policy-makers to annex the evaluation reports to the policy proposals during the decision-process (e.g. when being submitted to the council of ministers and/or inter-cabinet meetings). Not the least, such measures allow civil servants to have a clear ‘mandate’, and to justify their time invested into SIA by the obligatory nature of the evaluation outcome.

### ***Screening and scoping issues***

The feasibility of performing an SIA-exercise internally as an inter-departmental exercise should largely guide the selection of policy proposals that will be submitted to SIA. At least in the initial and more experimental phase of the introduction of SIA, it will be necessary to focus on policy proposals which appear ‘evaluable’ by the actors concerned with the evaluation. Two additional criteria intervene thus strongly at this level: capacity and experience with evaluations by civil servants, and the availability of the necessary means (budgetary, temporal...) to pursue the evaluation in sufficiently satisfactory conditions. The decision to submit a policy proposal to SIA needs to be collegial and consensually supported by the entire administration.

The largely internal configuration of the evaluation should be equilibrated with a quite high degree of transparency, and possibly of wider participation, at the level of screening and scoping. As the execution of the main parts of the evaluation remains internal to administration, and can thus not directly be followed or influenced by stakeholders, the decision to engage the process and the way to perform it should be somehow opened to the wider public, and thoroughly motivated. Eventually, one could initiate a right for external actors and stakeholders to appeal against screening and scoping decisions of administration and/or, in exceptional cases, to ‘force’ administration to evaluate specific policy proposals. At least, and in order to favour inter-institutional dialogue, should screening and scoping decisions be submitted to stakeholder consultation, such as being operationalized within the Federal Council for SD. ‘External’, non-federal institutions (such as regional public authorities) should also be consulted in this scheme on the level of screening and scoping.

### ***Participatory issues***

Participation of the wider public will remain quite restricted in this scenario, and concentrate for instance, 1) on the screening and scoping phase of the process; 2) on aspects of consultation and transparency of the evaluation reports. Participation of the stakeholders to the core of the evaluation, might only be feasible for individual, specific policy proposals (for instance, for long term planning exercises). Participation (eventually even co-decision) of stakeholders, for instance via stakeholder councils, should be considered at the level of screening and scoping (see above). Furthermore, the strive for accountability of public authorities demands to organize a very active transparency policy of the evaluation process (who participates? which experts? period of evaluation?... ) and of the outcome of the evaluation. Consultation of and public presentation to stakeholders and civil society of the evaluation reports should be implemented. The principle should be to have the evaluation process develop in a glasshouse, even if the actual interference of non-administrative actors to the core phases of the evaluation (i.e. impact prediction and impact evaluation) remains limited.

On the other hand, inter-departmental and inter-institutional participation is absolutely necessary and to be promoted structurally (see above for a series of measures to support inter-service working groups). Considering the current level of evaluative capacity of the federal administration, especially with SD-evaluations, it will be necessary during the first exercises to organize technical and organizational assistance through a central, horizontal unit which could also act as a moderator and source of information (i.e. as a common memory) to the ongoing SIA-exercises. Considering further



the current non-existence of an experienced central support unit, it will probably be necessary to list a pool of external experts which can be appointed to intervene on demand in order to support administrative efforts on specific evaluative questions. In this scheme of ‘on-demand’ external expertise, existing public institutions (such as the Federal Planning Bureau, the Financial Inspectorates’ corps...) with their fragmentary experience with evaluations and/or SD-type evaluations should play a large, accompanying role in the processes. The existing regional capacities in evaluation (i.e. IWEPS<sup>83</sup>, viWTA<sup>84</sup>, Kenniscel Wetmatiging...) should be included into this ‘on-demand’ institutional expertise.

### ***Methodological issues***

The methodological expertise and culture existing within administration should be exploited as far as possible, and be actively improved to engage progressively into the use of more innovative and adequate methodologies. Currently, methodological experience with ex ante evaluations and with multi-dimensional evaluations, as well as with participatory processes, is rather limited within federal authorities. SD-evaluations remain all over the world extremely innovative enterprises. However, the current inexperience with ex ante evaluations within federal administrations, and the logically large number of civil servants being appointed temporarily as ‘evaluators’ if this SIA-scenario is implemented, works against a quick improvement of methodological expertise or the creation of methodological ‘hot-spots’ within federal administrations. This vulnerability should be considered as a serious flaw of this SIA-scenario, as it might well induce the production over a rather long period of time of rather unskilled and low-quality evaluation reports, unless strong periodical support is ensured from external expertise.

Initially, rather ‘traditional’, qualitative and intuitively comprehensible evaluation methodologies should be used for SIA, including methodologies such as multi-criteria mapping, cognitive mapping, causal-chain analyses, cross impact matrixes... The rather central place attributed to a support unit could favour to develop in the mid-term some centralized data-warehouse, eventually supported by a common modelling effort, and products such as Input-Output matrixes and Social Accounting Matrixes. The latter could then be used ‘on-demand’ for the evaluative efforts within SIA by the different working groups. At a later stage, the development and use of more adequate (because more integrative) evaluation methodologies will need however structural support during their development phase, notably by financing further research in SD-methodologies or by financing the adaptation of existing tools (for instance, some of the accounting and modelling efforts of the Federal Planning Bureau).

---

<sup>83</sup> Institut Wallon de l’Evaluation, de Prospective et de la Statistique.

<sup>84</sup> Vlaams Instituut voor Wetenschappelijk en Technologisch Aspectenonderzoek.

*Table 9: Scores of scenario 1 on different criteria*

<b>Scenario 1 : Maximization of Institutional Integration</b>		
<i>Credibility</i> (perceived technical, scientific quality)	-/+	Low in the beginning (considering the state of existing SD-evaluation culture), but steadily raising with gained experience.
<i>Saliency</i> (perceived relevance of the assessment)	+	Potentially high, but restricted to internal integration and promotion of SD into policy-making
<i>Legitimacy</i> (perceived fairness of the evaluation)	-	Potentially low, as SIA will be perceived essentially as an internal mechanism. Stakeholders might accuse SIA to pursue mainly a goal of <i>ad hoc</i> legitimization of already appointed policy choices. Hence, strong pressure to develop active communication and transparency, as well as participation on the level of screening and/or scoping.
<i>Efficiency</i>	++	Potentially very high. Costly and time-consuming external participation is restricted to the minimum. In the beginning however, the needed external expertise might use considerable financial and coordination resources.

## 7.2 Scenario 2: Maximization of “Impact Objectivation”

In the foreground, SIA is all about the prediction and evaluation of impacts of policy proposals. Whether positive, negative, unwanted, indirect or collateral effects, SIA should perform the identification and assessment of such policy impacts on a number of different sectors, dimensions, critical resources and vulnerable populations. The inherent objective of SIA is the elimination of negative and/or unwanted impacts with the development of the necessary mitigating measures, as well as the strengthening of positive policy effects. This presupposes however that the evaluation process focuses on constructing and rendering a sufficiently precise image of these impacts, hence that impacts are identified, objectified and assessed as far as possible. SIA being an *ex ante* and integrated evaluation process, impact objectivation and assessment trigger the use of considerable methodological instruments and resources, which have the capacities to cope with uncertainties, complexities, dynamics, inter-relationships, long term...

By allowing SIA to focus on impact objectivation, SIA takes the stance of the ‘hard facts’ community, following the argument that if SD wants to become a competitive societal and political objective and replace in the mid-term purely economic and traditional development objectives, then SD needs to invoke comparably robust mechanisms of policy evaluation. ‘Hard facts’ elaborated during economic evaluations need thus to be countered by ‘hard facts’ of SD-evaluation. In this SIA-scenario, major energy is thus invested in the phases of impact prediction and impact evaluation.

### **Implementation**

The implementation of an impact objectivation SIA is not fundamentally different in nature than processes such as Environmental Impact Assessment, Social Impact Assessment... The specificity which the SD-theme imposes on the assessment scheme is not necessarily to be found on the procedural and organizational orientation, but on the level of the assessment criteria and the configuration and choice of the assessment instruments.

This SIA-scenario develops thus around the definition, production, diffusion and discussion of an evaluation report, which becomes the central outcome towards which the entire SIA-evaluation is directed. Considering the unavoidable high technicality and complexity of the evaluation report, the assessment itself (i.e. impact prediction and impact evaluation) is necessarily expert-driven, be these experts internal or external to administration. Civil servants, and the working groups which steer the

SIA, are fulfilling the more classical role of an evaluation sponsor, who determine the extent of the evaluation, but leave the execution to specialists. In this setting, civil servants have an important role to play with regard to setting collaboratively, with their colleagues and the experts, the boundaries of the assessments. Inter-departmental and inter-institutional collaboration develops thus mainly on the level of determining the terms of reference of the evaluation.

Given the importance credited to the evaluators and the expertise they need to develop and assure, it should be considered to appoint a central evaluation unit which could “run” the evaluations centrally. If these evaluations were supported by the development and use of an integrated model, the central evaluation unit should have the expertise and know-how to adjust the model-runs according to the given evaluation. In this sense, the role of existing “modelers” within the federal administration (e.g. Federal Planning Bureau) becomes of importance, and their partial re-development into the central evaluation unit might be considered. The development of such a specific in-house evaluation capacity might even be a major competitive advantage in the mid-term in terms of R&D and should be actively supported by a branch of science policy in order to allow these capacities develop in the first place, and to constantly improve and develop in the course of use.

### ***Screening and Scoping***

With this SIA-scenario, the selection of policy proposals to be assessed should be based exclusively on the provisional importance of the potential policy impacts, and should be directed to identify mitigating measures and policy alternatives which contribute to reduce unwanted negative policy impacts. Again, the screening effort is outcome-oriented. At a later stage, once sufficient expertise is gained with SIA, it could become possible to determine “thresholds of impacts” which during screening would trigger SIA.

Scoping becomes of primary importance in this SIA-scenario: the determination of the expert-driven impact assessment, which includes the configuration of the assessment (e.g. boundary setting) and the selection of the evaluation instruments to be used, are among the main moments of influence which the inter-service working group has.

### ***Participatory issues***

As mentioned above, the nature of the assessment process implies that external participation and consultation remain fairly limited in this SIA-scenario. The setting itself is not oriented towards discursively determining impacts. However, there should be a larger implication of external actors to the discussion of the adequate impact determination methodologies. The influence of values and judgment cannot be banned in either SIA-scenario. In an outcome-oriented SIA-scenario such as the present one, value judgments might be more indirectly present, but remain important factors of influence, notably on the level of methodology choice and of the manipulation of the methodology instruments (e.g. weighing of impacts; setting of conversion factors...). Furthermore, even the most quantifying evaluation methodology needs to be followed by a thorough discussion on the interpretation of the evaluation results, especially in the case of modeling efforts.

Participation should thus be organized on different levels, and with different actors. A first participative moment is to be organized during the screening phase, and especially so to address the scoping questions. Here, apart from the necessary inter-service group, external experts of stakeholder organizations should gain access to the decisions, notably to participate into boundary setting and methodology choice. Second, a participative meeting should be organized with stakeholders (and/or ‘their’ experts) on the interpretation of the evaluation results. This discussion should be let before the evaluation report is finalized, and might not necessarily be open for the larger public. Third, a public presentation and discussion of the evaluation report should be organized for the wider public. On top of this, and considering the importance of the (eventual) central evaluation unit, a technical, independent and scientific committee could be appointed to control on a regular basis the underlying decisions made with regard to the evaluation instruments’ configuration (e.g. the development and refinement of the model).

### **Methodological Issues**

It was stated above, that an outcome-oriented SIA could be compared to other more usual evaluation procedures such as for instance, environmental impact assessment. If this is certainly true on the level of the organizational principles, a huge difference remains until today: no evaluation methodology or instrument is currently capable of coping entirely with the many complexities which SD imposes on them. It will thus remain impossible to determine an *ad hoc* evaluation methodology and develop a single evaluation instrument which could be used invariably for any policy proposal's evaluation. Rather does an outcome-oriented SIA become a matter of choosing the right evaluation methodology according to the specific evaluation questions raised by the policy proposal.

Furthermore, the currently available expertise and experience with outcome-oriented SIA-evaluations remains scarce in Belgium, and in federal administration. Some institutions (such as the Federal Planning Bureau) have gained some insights into integrated evaluation instruments, but even these were mainly gained at the level of exploratory research projects, and should not be mistaken as hands-on expertise with the development or manipulation of such instruments. This scarcity of experience and expertise imposes first to develop corresponding capacity, before being able to engage into an outcome-oriented SIA. These capacity-building efforts will certainly need some time and some additional resources in the first stages of an SIA-implementation, but should not be considered insurmountable (e.g. some foreign expertise and experiences could be actively used). Finally, the initial research efforts and their R&D investments, which can not be confined to public institutions alone, but will also touch academia, and thus might even be largely beneficial to the larger Belgian evaluation community, while potentially burgeoning towards the development of regional and local level SIA-efforts.

*Table 10: Scores of Scenario 2 on different criteria*

<b>Scenario 2 : Maximization of "Impact Objectivation"</b>		
<i>Credibility</i> (perceived technical, scientific quality)	++	Potentially very high. Careful consideration should be given to the inherent difficulties, which are raised if SD is used as the evaluative referent. Credibility might suffer a lot if the impact objectivation is pushed beyond the limits of what is deemed acceptable with SD-evaluations (e.g. monetizing non-marketable goods and services).
<i>Saliency</i> (perceived relevance of the assessment)	?	Potential polarization. Depending on the perspective of the observer. For some stakeholders and actors, SD calls also for a revolution of evaluation methodologies, not only for the improvement of existing ones.
<i>Legitimacy</i> (perceived fairness of the evaluation)	?	Potential polarization. Depending on the perspective of the observer. The strong technicality and complexity of the evaluation will not necessarily be accessible to many stakeholders.
<i>Efficiency</i>	--/+	In the beginning very low, notably because of the necessary resources to finance the improvement of impact prediction and -evaluation tools. However, in the mid-term, the fine-tuning of regulation and the mitigation of negative, unwanted effects of policy proposals will help to render regulation much more efficient, hence saving public investments, hence allowing a positive return on initial R&D investments.

### 7.3 Federal policy actors and their interpretation of SIA-scenarios

The two above-sketched scenarios were submitted to and discussed with a round-table of policy-makers and –actors in January 2006. In the following, we synthesize<sup>85</sup> some elements of the discussion.

Most participants did stress their initial preference for a scenario leaning on *Institutional Integration*, and this mainly for two different reasons:

- Evolutionary character of SIA: in the short run, and especially during the introduction phase of SIA at federal level, it seemed more feasible to concentrate the evaluations inside administration, notably in order to favor capacity-building. In the longer run, the Institutional Integration configuration could be better adapted to include more thorough Impact Objectivation elements, higher degree of participation...
- Collaborative learning with SIA: one of the arguments judged critical to introduce SIA is the unavoidable confrontation of a large audience of policy-actors with principles of SD, which should favor over the time the emergence of a more adapted and equilibrated policy-making. The strong collaborative character of the Institutional Integration scenario was felt to be more favorable to such an integration of SD into policy-making.

However, during the discussions, a general feeling developed among the participants that a combination of both presented scenarios could become the most desirable design for SIA at federal level. Institutional Integration would be the blueprint for the organizational and procedural design of SIA, whereas the phases of quantification/qualification of impacts would rely on rather strong impact evaluation methodologies. Such an intermediary scenario, combining the ‘best of two’, was felt to combine the procedural specificity of SD with the need to concourse with economic and social ‘hard-facts’-evaluations. In order to construct credibility for SIA and enhance the legitimacy of policy-making in itself, it was repeated to be of crucial importance to construct SIA-outcomes which can compete on the level of their robustness with classical financial, economic and social evaluations. Participants stressed also that both scenarios should not be understood as being antagonistic. An evolutionary understanding of SIA would mean that during the first years of its implementation, SIA could be structured along the Institutional Integration scenario. Only slowly, and on specifically promising policy proposals, could one introduce progressively the elements of an Impact Objectivation scenario. The configuration of SIA would thus shift over the years from a more procedural understanding to a more outcome-oriented experience. How this shift could be operationalized smoothly without overstressing the initially gained levels of confidence, legitimacy and salience was not the participants’ main matter of consideration.

As seen above, one could argue in favor of developing an SIA-scheme which implements what was called the ‘maximization of adaptability’, e.g. to develop an SIA-meta-scheme which allows on a case-by-case basis to decide - on the level of each policy proposals’ specificities and the constraints weighing on each evaluation exercise - to engage either into a more procedural-participative or a more outcome-oriented SIA. As with the other proposed SIA-scenarios, the adaptability-SIA-scenario has a clear identity, in this case at the level of its meta-processes.

However, deliberately shifting the identity of SIA from one scenario to another over time, as it was implicitly proposed by the participants of the round-table, could induce a series of negative consequences for the political and administrative support to SIA itself:

- Each SIA-scenario relies on a profile of specific support measures (e.g. creation of a central evaluation unit, development of in-house training...), which is configured to the needs of the scenario. Shifting from one scenario to another will induce to shift also the configuration of the support mechanisms, rendering thus the initial efforts and investments inefficient, and the capacities developed partially useless.

<sup>85</sup> The report and minutes of the policy-makers and –actors meeting can be obtained upon request.

- SIA relies very much on the development of a specific evaluation culture which concords with the profile of the SIA-scenario. Shifting scenarios over time will need to shift the reflexes acquired and thus the configuration of the evaluation culture too. Such on-track modifications of the SIA-objectives might confront themselves to (political and administrative) inertia and thus generate some form of opposition at the level of the civil servants and at the level of stakeholders.
- SIA needs to gain political support, and should strive to become used as a bargaining tool within the usual political processes. Being complex and potentially technocratic by nature, thus less prone to be used at the level of politicians and decision-makers, the SIA-process needs to be very clear with regard to the pursued objectives, hence develop along a well-defined pathway into a specific identity.

This argumentation in favor of developing and implementing SIA along a single, well-defined scenario should not be understood as an opposition to the ‘natural’ adaptation of SIA-practice over time. In effect, the multiple constraints and potential oppositions which weigh on the implementation of SIA will necessarily induce to adapt the profile of SIA to practice. However, the objectives pursued with SIA and the consequential procedural settings should be invariably configured as a coherent and unique SIA-scenario

## 8. *Institutional and policy implications*

The introduction of SIA in the federal policy making context has several implications on policy and institutional level. First of all, establishing SIA implies a definite choice for introducing sustainable development as guiding principle in the federal policy. Despite the fact that a sound institutional framework for sustainable development policy has been developed throughout the last decade, the persistence of sustainable development issues in the general federal policy remains lacking. The average policy maker is not at all familiar with sustainability principles. As stated in a Report of the Belgian Court of Audit on “The Coordination of the Federal Policy on Sustainable Development”<sup>86</sup>, the organs established for coordinating the federal policy on sustainable development remain in the margin of the federal decision-making process. However, introducing SIA requires sustainability principles to find their way throughout all federal policy fields, thus generating more horizontal integration.

In addition to this horizontal integration, more vertical integration should be aimed for as well. The Belgian federal context does not leave much room for consultation and cooperation between the different policy levels. However, all authority levels affected in one way or another by a policy proposal should be implied in the SIA-process. The need for significant adjustments in the present mainly sectorally organized governments is also highlighted in a benchmark study of the EEAC<sup>87</sup> Working Group on Sustainable Development<sup>88</sup>. This report emphasizes that “... *the need of mechanisms for coordination and improving policy coherence must not be underestimated ... This also applies to vertical linkages to the regional and local level.*”

Furthermore, SIA has among its primal objectives an opening of the decision-making process to stakeholders, at least by allowing for an increased transparency of decision moments. Involving stakeholders and/or citizens in the decision-making will broaden public support and strengthen the legitimacy and democratic content of government’s decisions by securing greater accountability. The introduction of SIA therefore calls for a reorientation of the policy-making process towards more open, transparent and evidence-based decision-making.

Introducing a credible and effective SIA-process inevitably calls for serious institutional and financial provisions. Introducing a complex SIA-process without providing adequate resources would downgrade the policy process instead of contributing to a more coherent and supported policy-making procedure. Consequently, an inventory should be made of all the responsibilities and tasks created by introducing a SIA-procedure. Subsequently, these have to be assigned to appropriate existing or new institutional organs. Obviously, sufficient authority of these organs is indispensable to get a credible SIA-process going. The decisions concerning the allocation of institutional responsibilities have to be judged valuable and should be supported as broadly as possible. In addition, proportionate budgetary and human resources have to be provided to enable the selected institutions to adequately fulfil their new tasks.

Furthermore, in particular during the first years of SIA, several supporting initiatives are required, such as the creation of a SIA manual, training courses for responsible civil servants, efforts to enhance data collection and accessibility. It will also be necessary to create a pool of internal and external experts. In particular for internal experts (within the administrations), it will be necessary to network with experts and initiatives on other levels (European, ...) and in different countries.

<sup>86</sup> [http://www.courdescomptes.be/docs/Reports/2005/2005\\_14\\_Duurzame\\_Ontwikkeling.pdf](http://www.courdescomptes.be/docs/Reports/2005/2005_14_Duurzame_Ontwikkeling.pdf)

<sup>87</sup> Network of European Environment and Sustainable Development Advisory Councils

<sup>88</sup> Benchmark study Sustaining Sustainability. [http://www.eeac-net.org/workgroups/sustdev\\_SDBenchmark.htm](http://www.eeac-net.org/workgroups/sustdev_SDBenchmark.htm)

## **9. Proposing an institutional flow chart for SIA**

Based on the results of the research, several institutional elements can be brought together in a graphic representation of the institutional framework for the introduction of SIA in the federal policy making context. For this representation, a distinction was made between three different sub-components of the institutional context for SIA: 1) the meta-process of defining SIA; 2) the screening process, which can be considered as an evaluation process in itself; and 3) the individual assessment process. For all three sub-processes a flow chart can be proposed. However the following representations have to be considered as a preliminary sketch on how SIA could look like in the Belgian context. Depending on the political orientations, preferences and choices, these graphs will have to be adjusted and specified. Especially for the individual assessment process, the institutional aspects will vary according to the general scenario chosen for SIA. As explained in detail in the previous chapter, the “maximization of institutional integration”-scenario (called scenario 1 further on), puts the emphasis on the integrative character of SIA, stressing interdepartmental and inter-institutional integration, while the “maximization of Impact Objectivation”-scenario (called scenario 2 further on) puts its accent on the objective identification and evaluation of future impacts of a policy proposal.

### **9.1 The meta-process**

In concreto, introducing a SIA-procedure in the federal policy-making context, calls for the establishment of the institutional setting for SIA. A proposition will have to be elaborated, outlining what the actual implementation of SIA will look like. This proposal on the institutional framework is situated on the meta-level, including the definition of SIA, determining its different components and responsibilities, formulating procedures and criteria for evaluation. This meta-process involves a lot of political choices and decisions, starting from which overall orientation a federal SIA-scheme will take, over which structures are best suited to implement this scheme, which capacity building and resources are needed, which juridical form SIA will eventually take, etc.

An interdepartmental working group could be introduced for the elaboration of a preliminary draft of this political proposal. This working group could consist of representatives of all political and administrative actors which will be concerned with the implementation of SIA and could be chaired by the initiating actor (for example FPS SD). Theoretical and practical know-how about evaluation practices, integrated assessment experiences, sustainable development policies, ... should serve as input for the elaboration of this proposal and can be found in national and international experiences and scientific research. In addition to the administrative and political actors involved, also the main stakeholder groups should be implicated in the process of designing SIA for the federal context. A possible approach to realize this is involving the Federal Council on Sustainable Development. The FCSD could be asked to give detailed advice on the draft proposal, based on which a second draft could be elaborated by the interdepartmental working group. However, the adoption or rejection of the recommendations of the Federal Council should be extensively argued. While the involvement of the FCSD is a clear option, it might also be considered to involve other consultative councils such as the Central Economic Council or the National Council on Labour. Furthermore, the possibility of political control should be provided. Political control can be exerted by parliament, which could be given the opportunity to intervene before the final approval by the Council of Ministers is achieved.

The final choices on what the SIA-process will look like remain with the federal decision-makers. Final decisions will be taken by the inter-cabinet meeting and the Council of Ministers. In figure 5 a graphical representation of how the meta-process of designing an SIA could look like, is portrayed.



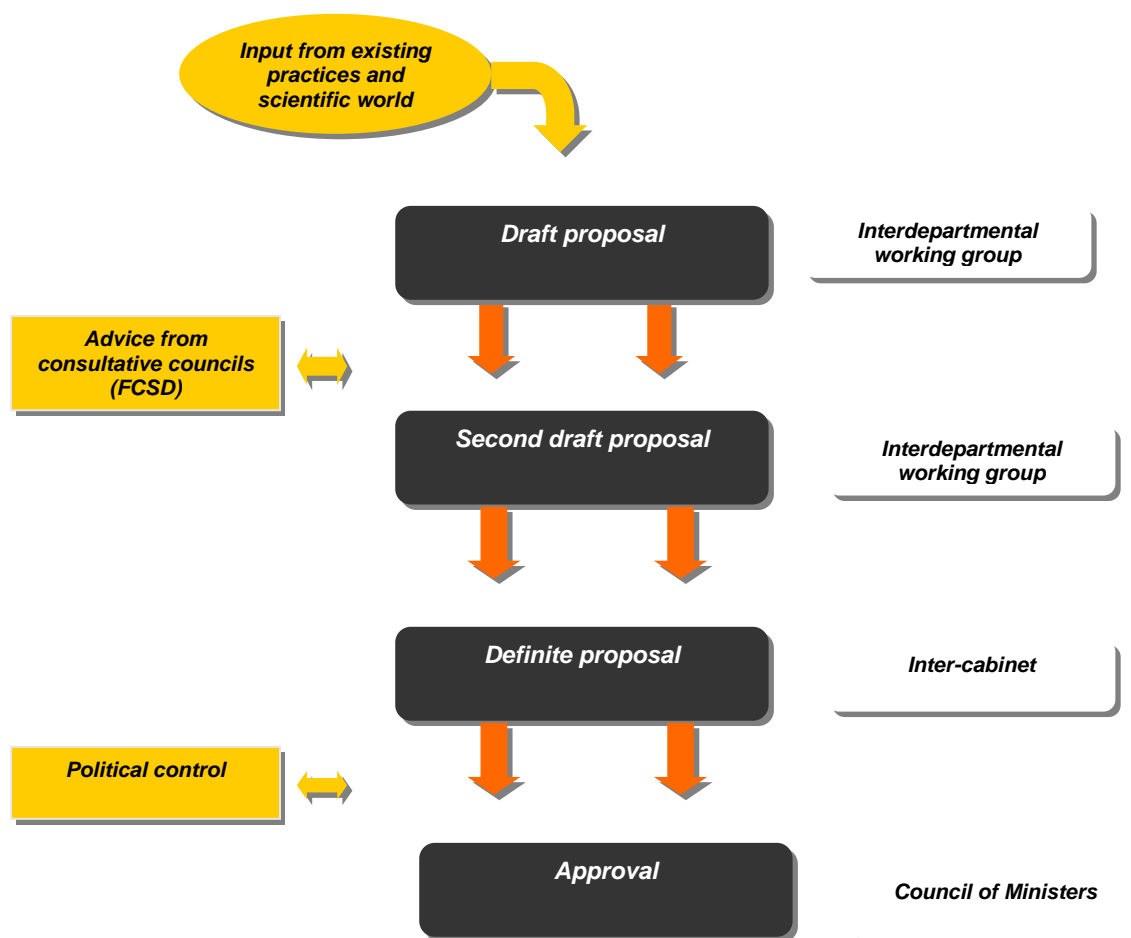


Figure 5: graphical representation of designing a SIA-process

## 9.2 The screening process

The general objective of the screening process is to determine the necessity to pursue with an impact evaluation for each policy proposal, thus selecting a realistic amount of policy proposals to undergo an extended assessment. This selection will be the result of several objective and subjective considerations (means and capacities available, potential impacts, policy agenda's timing, perceived relevance, ...) However, at the end, the decision to submit a policy proposal to extended SIA is a political choice. However, the motivations for the selection should be rendered as transparent as possible. With this in mind, figure 6 depicts what the institutional framework for the screening process might look like. It should be noted that we assume the screening process to be an ongoing process. This means that a screening can be effectuated at any point in time whenever a proposal is being prepared. Another option would be to insert one or more screening moments a year. In the latter case all policy proposals which emerged during the previous period could then be screened collectively and compared to each other in a collection and ranking phase. However this option is left aside because it seems less realistic in the Belgian context where a Regulatory Agenda is non-existent.

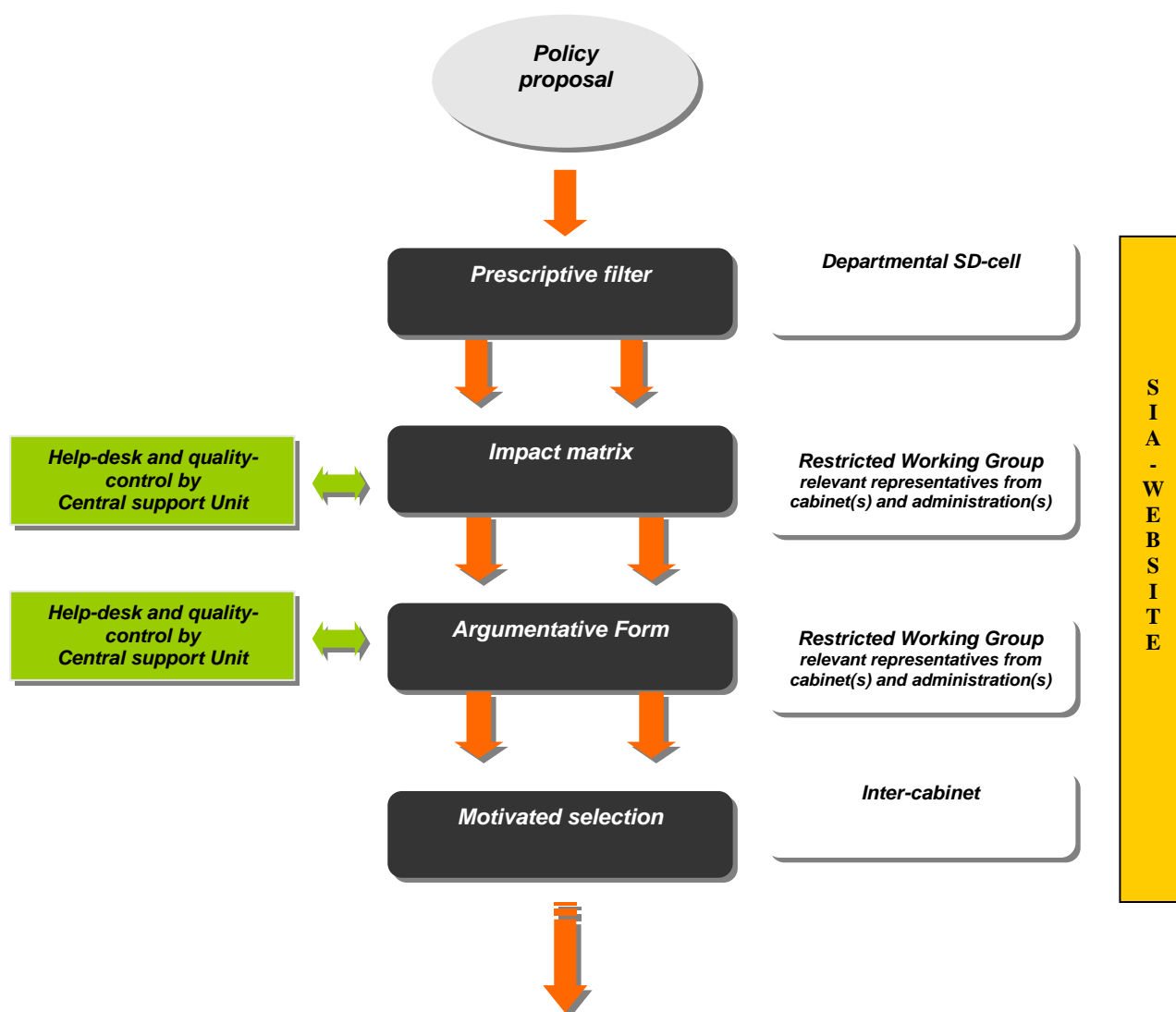


Figure 6: graphical representation of the screening phase in a SIA-process

**1• Policy Proposal.** An important question for determining the institutional framework for the screening phase is which policy proposals should be eligible for entering the screening process. As already illustrated in detail in Chapter 5 federal policy proposals can be initiated at the levels of Ministerial cabinets or at administrative level. In order to have a complete coverage of policy proposals, it is assumed that both kinds of proposals enter the screening process.

**2• Prescriptive Filter.** A series of policy proposals can be excluded from the screening right from the start, as it is not supposed that these types of policies will develop in any case any impacts on SD. While the definitive list of policy types to be excluded can only be determined politically, it could encompass policies such as auto-regulation of administration, formal measures without real policy character (e.g. nominations, errata...) as well as purely budgetary policy measures. The departmental cells on Sustainable Development would be a convenient institution for effectuating this first formal selection on all proposals within their respective service.

**3• Impact Matrix.** In order to allow a first rough determination of potential economic, social and environmental impacts of the policy proposals, an impact matrix can be used, decomposing the proposal into its direct and indirect impacts, considering both their temporal and spatial scale (see

chapter 2 and 3). The filling in of this matrix is supposed to be realized as a group exercise. For each policy proposal a Restricted Working Group should be composed, consisting of the civil servant(s) in charge of the proposal, the member(s) of the ministerial cabinet in charge of the proposal, a representative of the SD-cell of the administration and (if judged necessary, and if the policy proposal is a cross-cutting issue) civil servants from other administrations or members of cabinets of other ministers. A Central Support Unit should be established to provide assistance and act as help-desk for methodological questions. Further more this Central Support Unit can periodically assure a review of the matrixes in order to control the performance of the tool and ensure its quality.

**4• Argumentative Form.** Based on the previous exercise, the Restricted Working Group will develop an argumentation for or against an extended SIA for the policy proposal at hand, structured in a preconfigured form (see chapter 2). When an extended SIA is recommended, this form will encompass a rudimentary sketch of the subsequent SIA, stating for instance the different policy options and alternatives which are recommended to undergo analysis, the issues which seem particularly impacted by the policy proposal, the stakeholders which are proposed to be integrated into the exercise, the extend of consultancy needed to construct the necessary quantitative or qualitative information on impacts... Again, the Central Support Unit can act here as a help-desk, and insure in the longer run a certain harmonization of the practice.

**5• Selection.** The final selection of proposals which will undergo an extended SIA will be done at the level of political actors and should be decided upon by the inter-cabinet. This selection remains a matter of trade-offs between opportunities, capacities and constraints weighing on the policy proposals. However, in this constellation, the final selection should be guided by objective elements as indicated by the impact matrix and argumentative form for each policy proposal.

**6• Transparency.** It proved to be practically unfeasible and even undesirable to involve stakeholders in each and every individual screening process. However, a high degree of transparency of the screening process has to be aimed for. All interested parties should be able to gain insight into the selection process and have the opportunity to follow which proposals have been screened, which have been rejected and selected, and for what reasons. Transparency of the screening phase could be assured by introducing an easy accessible website on which all screening actions are published, giving a clear overview of the screening process in general and the state of the art at the moment of consulting.

### **9.3 The assessment process**

The institutional constellation of the individual assessment process itself will vary according to the general scenario chosen for SIA. In the scenario “maximising Institutional learning” inter-departmental and inter-institutional collaborations are encouraged, highlighting the integrative (horizontal and vertical) character of SD. In this scenario, the assessment remains mostly internal to administration, although a certain degree of transparency is aimed for by allowing soft forms of public and political control. In the scenario “maximising objectivation of impacts” policy alternatives are compared in an objectified manner, predicting their positive and negative impacts, anticipating their indirect and multi-dimensional impacts, and testing a series of mitigation measures. Expert-knowledge during the assessment is of crucial importance in this scenario. Similarly to the other scenario possibilities for public and political control should be provided. Figure 7 represents the institutional framework for the core assessment process.

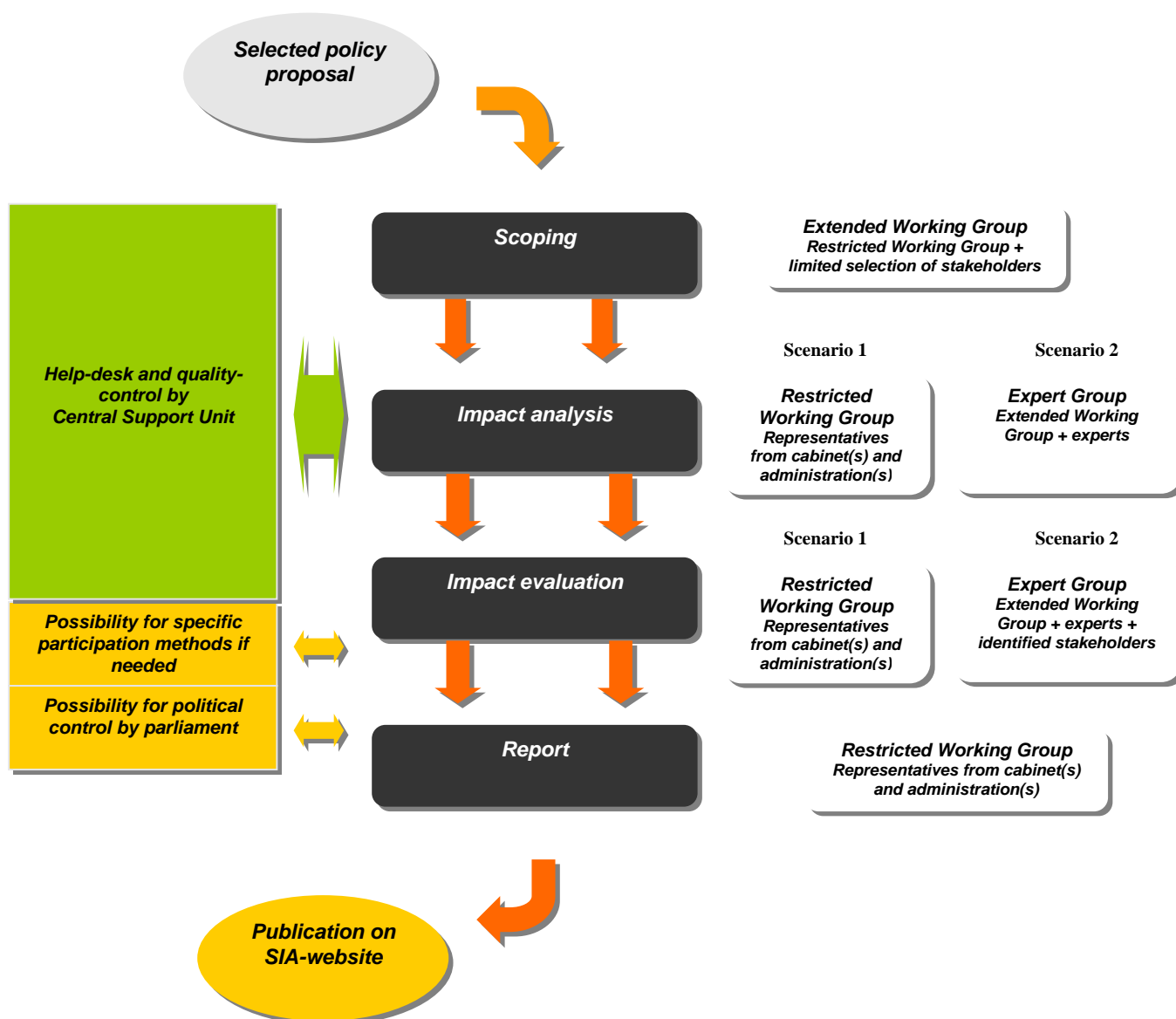


Figure 7: graphical representation of the impact assessment phase in a SIA-process

**1• Scoping.** Once a policy proposal has been selected for further assessment, an Extended Working Group should be compounded to outline the terms of reference for the specific SIA as well as the experts and stakeholders to be involved during the rest of the process. The Extended working Group should in fact consist of the original Restricted Working Group of representatives from administration(s) and cabinet(s), extended with other actors concerned with the respective policy proposal. Both scenarios leave little room for stakeholder involvement during the assessment process itself (impact analysis and impact evaluation), however, a selection of affected parties should be involved during the scoping process, determining how the subsequent SIA-process will look like. Also representatives of other policy levels which are affected by the proposal could be invited to the Extended Working Group. The argumentative form as elaborated during the screening phase by the Restricted Working Group can serve as starting point for the scoping process.

**2• Impact Analysis and Impact Evaluation.** In a SIA-scenario aiming to maximise institutional learning, the impact analysis and evaluation will be largely effectuated by the Restricted (inter)departmental Working Group, which has previously been composed for the screening of the proposal. Involvement of stakeholders is kept at a minimum, emphasising SIA as a learning-process for the administrations. In a SIA-scenario aiming to maximise the objective identification of impacts on the other hand, input from experts is essential. In that case, the analysis and evaluation processes will be performed by an Expert Group, again consisting of the Extended Working Group, however

broadened with relevant experts. In the analysis phase limited stakeholders involvement can be introduced by considering some stakeholders as experts and including them in the Expert Group, to gather non-technical or source-knowledge. During the evaluation phase however, broader stakeholder involvement should be aimed for.

In both scenarios, the Central Support Unit will have a crucial role for providing technical and organisational support. Due to the current lack of internal expertise within the federal administrations, external experts will need to be attracted by this support unit to deliver on-demand know-how.

**3• Public involvement and transparency.** In case of specific circumstances (such as extreme trade-offs, insurmountable conflicts ...) specific participation possibilities should be provided. Furthermore, the possibility for parliamentary contributions and comments should be offered. Transparency of the assessment process can also be guaranteed by making the final report - describing the course and the results and conclusions of the SIA-process - available for the wider public. As already mentioned several times, the development of a SIA-website would be a suitable vehicle for organising the required transparency. However, the quality of the reports will have to be veiled at. Again the Central Support Unit could be assigned an important role, making sure all aspects of the process are clearly and sufficiently addressed in the report of the assessment process.

## 10. Proposing a simple integrative framework for SIA

### 10.1 Introduction

The framework we propose to use for SIA is derived from the means-ends or “Attributes – Consequences-Values” (ACV) graphical framework first introduced by Gutman (1982)<sup>89</sup> in a consumers’ research context. It consists in a representation of the way consumers establish relations between product’s attributes and their own values in a a-cyclical graph with the product’s attributes at the bottom, the consumers values at the top and the consequences for values of the attributes in-between. Attributes, consequences and values constitute the graph’s nodes which are linked by edges expressing the relations between attributes and consequences and between consequences and values. Figure 8 shows a means-end picture of an imaginary example of a consumer’s perception of a freezer.<sup>90</sup>

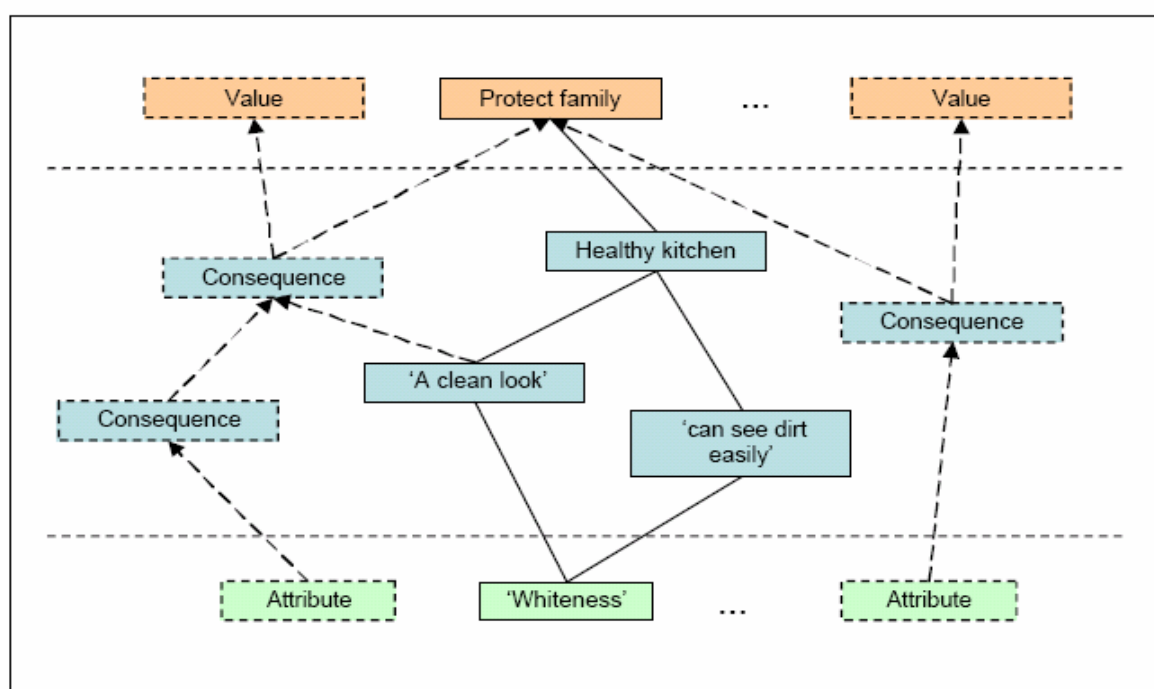


Figure 8: example of a means-ends analysis of consumer perception.

Hitherto, as far as we know, the attributes-consequences-values structure hasn’t been applied to public policies. However, with only a few minor changes, we think it can be useful in describing and analyzing them. Indeed, it suffice to replace “attributes” with “actions” and “values” with “objectives” or “ends”, in other words, to mutate the “Attributes-Consequences-Values” (ACV) model into a “Actions-Consequences-Objectives” (ACO) one.

Figure 9 shows an ACO description of the federal policy proposal to promote biomass fuels’ use in transportation in Belgium, as described in section 3.3.

<sup>89</sup> Gutman J. (1982) “ A means-end chain model based on consumer categorization process”. *Journal of Marketing* 46: 60-72.

<sup>90</sup> The example comes from T. Jackson, 2005, *Motivating Sustainable Consumption*. A Report to the Sustainable Development Research Network. Centre For Environmental Strategy. University of Surrey.

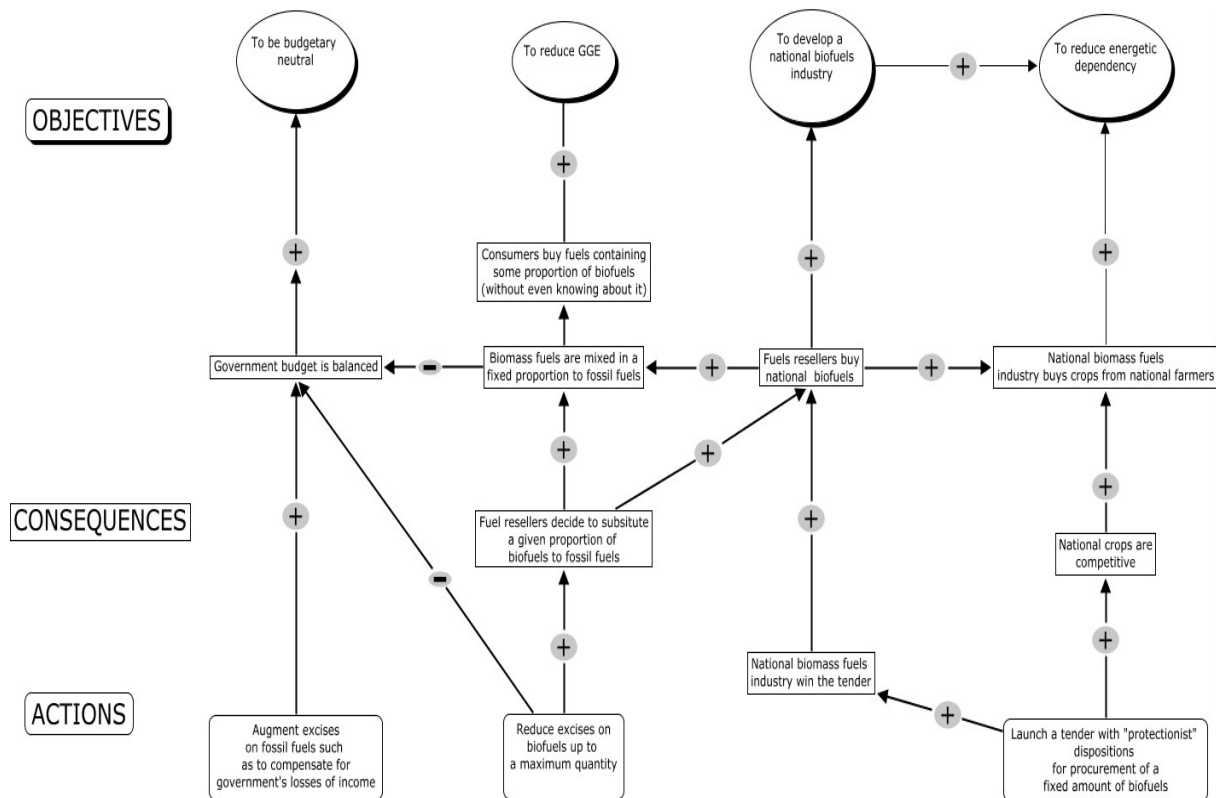


Figure 9: An 'Actions-Consequences-Objectives' (ACO) description of the federal policy for promoting biomass fuels in transportation

Just like any means-ends model, the figure is made of nodes and edges. Nodes are used for describing the actions, consequences and objectives, whilst the edges describe the causal or influence relations between them.

### The Nodes

- **Actions** are portrayed at the bottom as rounded boxes. Sentences that express them are at the imperative mode: "Reduce excises...", "Launch a tender", etc.
- **Consequences** are portrayed as rectangular boxes. Sentences that describe them are at the present mode: "Resellers want to substitute...", "National producers win the tender," etc.
- **Objectives** are portrayed at the top as circles. Sentences describing them are at the infinitive mode and begin with the preposition 'to': "To reduce GGE", "To open new opportunities", etc.

### The Edges

There are four kinds of relationships in the figure 9:

1. Relationships between actions and consequences;
2. Relationships between consequences;
3. Relationships between consequences and objectives;
4. Relationships between objectives themselves.

Indeed, first order consequences can entail second order consequences (intended or not, as we will see later) and so on. The more comprehensive and detailed the description, the more it is likely to decompose the path between actions and objectives in several layers of cascading consequences. Likewise, some objectives can be valuable in themselves whilst being instrumental for other objectives. For example, in figure 9, "To develop a national biomass fuels industry" is considered by the promoters of the policy as an end in itself whilst being necessary to bring about the objective of

fostering energetic independence. Thus, it is also possible to take into account a whole laddering of objectives, as will be the case in figure 12.

Although means-ends graphs are usually not signed (positive or negative), it can be useful in policy analysis to distinguish between negative and positive influences. For instance, in the policy proposal for fostering the use of biomass fuels, some fiscal measure such as the reduction of excises on biomass fuels will threaten public finances' balance. Therefore, the link between the action-node "Reduce excises on biomass fuels..." and the consequence-node "Government budget is balanced" is negative. However, this will be true only if another relations holds, namely between the node "Biomass fuels are mixed in a given proportion to fossils fuels" and the same node "Government budget is balanced". However, the final effect will also depend on the influence of a action-node "Augment excises on fossil fuels". Conjunctive relations such as these could also be expressed by first making the different nodes converge towards an intermediary multiplicative node (with the symbol "\*\*") this one being then tied to the ultimate consequent node.

## **10.2 Identifying concerned stakeholders and systems**

As a by-product of making all expected consequences clear, the ACO model helps also at identifying stakeholders. In the example discussed here the stakeholders are: the government, the fuel resellers, the consumers, the biomass fuels industry, and the farmers. They are all named explicitly in the figure. Because it is useful to express all the consequences in a very concrete way, we recommended to name explicitly in each consequence's box the actor or the system concerned. Indeed, policy actions can target systems (natural, institutional, legal) as well as human actors. Even if through targeting a system, the measure aims at modifying actors' behaviours by acting on their decisional environment.

It is one of the strengths of ACO models compared to system dynamics models for instance, to be able to take into account actors as well as systems in the same framework. In fact, for ACO models it does not matter if the actions change something to the state of systems or to the behaviour or situation of actors.

In short, ACO models allow communicating easily on the principal elements of any policy:

- Its objectives;
- The instruments put to work (actions, measures);
- The actors (stakeholders) and systems affected;
- The hypotheses concerning the relations between actions and their effects (consequences), as well as between effects and objectives or values.

## **10.3 Testing for effectiveness and long term efficiency**

Hitherto, we have considered the ACO model as a simple description of the policy, as objective and neutral as possible. As such, it still goes further than most policy's formulations insofar as it makes explicit the underlying logic of action, the assumptions concerning the causal links between the planned actions and measures, the expected changes in the state of the targets systems (i.e. consequences) and the subsequent achievement of its objectives. Indeed, every policy, plan, program or project is based, explicitly or not, on a causal model that links together the policy and its expected outcomes and impacts. Moreover, the policy derives from a pre-existent mental model of the causes of what is seen as a collective problem in need of a political solution (Stone, 2002). However, it is rarely the case that this causal model is made explicit in the policy-making process. Most often it remains implicit, pre-reflexive and, therefore, possibly incomplete and/or inconsistent. Therefore, a formulation of a policy in terms of actions, consequences and objectives can be considered as more than a simple description. It is a first step towards a more reflexive analysis and critical *ex-ante* assessment of the proposal. By making explicit the underlying "theory" of the proposal, it opens the way to a critic of its assumptions and to a possible confrontation with alternative theories.



Indeed:

- Many links between actions and consequences and therefore between actions and objectives are mere conjectures or hypothesis, and, as such, just more or less plausible.
- Usually, promoters of a policy or project have a tendency to omit its shortcomings and drawbacks. Therefore, some direct or indirect undesirable consequences can have been overlooked.

The core business of *ex-ante* impact assessment consists precisely in looking for possible unanticipated, direct or indirect, close or remote, impacts of a proposed policy, trying to estimate their magnitude and significance and, if necessary, in suggesting either more advantageous ways to reach the same objectives either accompanying measures for mitigating the possible harmful consequences of the policy.

We will argue that ACO models can be a helpful and inexpensive way to do so, or at least, to achieve an important part of the task. This is illustrated by the ACO model of figure 3, whose purpose is to help in assessing the policy proposal described in Figure 2 from a sustainable development point of view. If one compares Figure 9 and Figure 10, several differences can be observed:

1. First of all, while consequences and objectives are undifferentiated in Figure 9, they are classified as economical, social, environmental and political in Figure 10. Concerning the latter: it is often argued that Sustainable Development has a political and institutional dimension that constitutes an additional pillar to the “three pillars” or “Triple Bottom Line” conception of sustainable development. It is especially justified in this context insofar as fostering national energetic independence (which is more a political than an economic or social concern) is claimed to be one of the objectives of the biomass fuels policy.
2. Political, economic, social and environmental consequences and objectives are identified by the colour of the outline of the different nodes. It is yellow for political consequences or objectives, blue for economic, orange for social and green (of course) for environmental ones
3. Second, edges can be either black or red. If red, it means that a causal or influence relation is acting against the very objective of the policy. For example, an increase in cultivated land attributable to a raising demand for fuel crops entail additional greenhouses gases emissions from agriculture, which is contradictory with the policy’s environmental objective.
4. Third, the model considers not only anticipated, expected consequences but also possible unforeseen, unexpected ones. They can be identified by the use of an italic font. For examples: “*Food prices increase*” or “*More local pollution, eutrophication, less biodiversity, etc.*”
5. Fourth, edges can be positive and negative as in Figure 9 but also indeterminate. This is signaled by a “?” along their line drawing.
6. Fifth, the relation between an action and its consequences can be disjunctive. As mentioned above, causal or influence links between action and consequences or between consequences and objectives are often pure conjectures. What policy’s promoters present as automatic and non-controversial can be sometimes quite disputable. Therefore, one has to take into account the possibility that the action fails to bring about the expected consequence but, on the contrary, has unintended and possibly harmful effects. More generally, a political measure can have very different – perhaps even opposite - consequences that the ones expected by the promoter. A careful assessment must take this into account. This is expressed in Figure 10 with patterns such as the one in Figure 11.

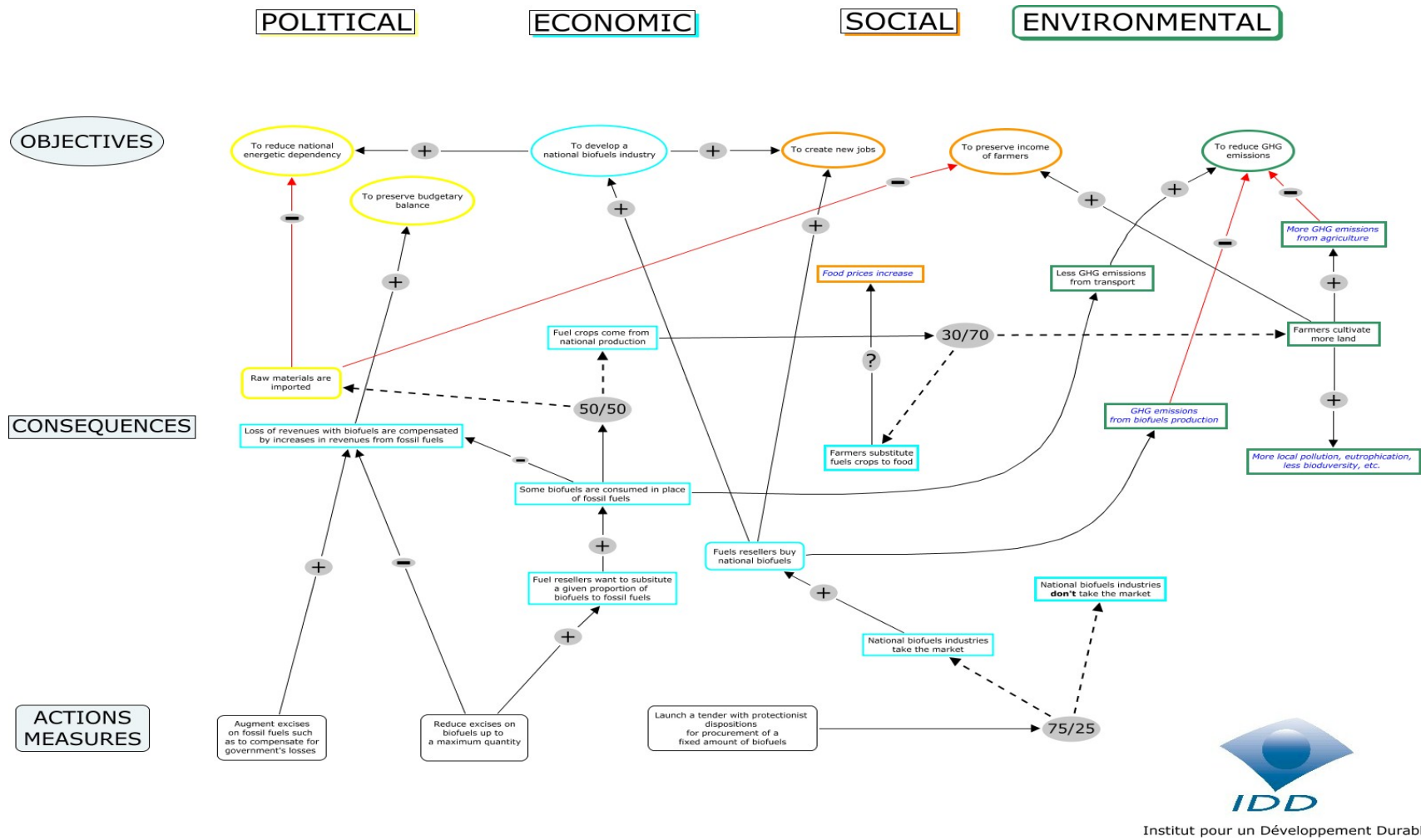


Figure 10: An “Action-Consequences-Objectives” sustainability assessment of the federal policy for promoting biomass fuels Looking for unexpected consequences and uncertainties.

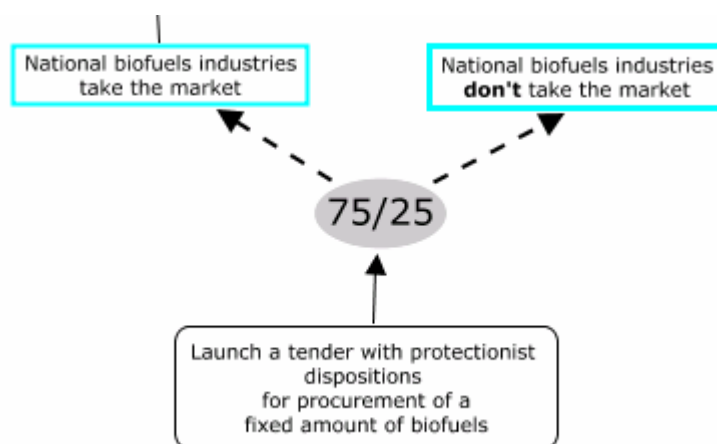


Figure 11: Example of disjunctive pattern

What figure 11 shows is that the relations between the action “Launch a tender” and its possible consequences are probabilistic (it is not at all evident that national biomass fuels industries will take the market). Note that these probabilities will affect the whole path starting from the concerned node to the final objectives. In the example of figure 3, it means that we estimate the objective of reducing energetic dependency has having at most 75% chances of being achieved with the intended measure.

More precisely, the expected degree of realization of any objective will depend on the net effect of the various positive and negative influences that affect it. For instance, in Figure 10, the goal of reducing greenhouse gases emissions will be attained if and only if the reduction of emissions from transport times its probability is greater than the increase of emissions from agriculture and from biofuels industry times their probability. Therefore, to have an (even rough) estimate of the net effect on an end-value of the different paths that influence it, we must give them at least an ordinal value. There are many ways to add numbers to graphical models and to perform mathematical or logical operations on them. The most recent and promising way to add numbers to ACO and manipulate them order to help decision-making comes from Montibeller, Belton, Ackermann and Ensslin (2005)<sup>91</sup>. The proposed methodology is briefly described in Boulanger (2006).<sup>92</sup>

Highlighting the uncertainties surrounding the causal effect of the planned actions with respect to its expected consequences is a preliminary way to assess the policy against effectiveness. Indeed, if it appears dubious that the measures put to work could actually bring about the expected effects, the policy would hardly be considered effective. Furthermore, its effectiveness is also challenged if, independently of its expected consequences, it is likely that it will have additional, unexpected and counterproductive side effects.

Finally, by highlighting its long-term environmental impacts, the ACO model can help in assessing the long-term efficiency of the policy as defined in section 2.1.3.

## 10.4 Testing for relevance

In the analysis behind Figure 12 the emphasis lies on consistency between the objectives of the proposal and already taken commitments, that is on the relevance of the proposal from a sustainable development point of view. We called this “objectives-led” or “vertical integration” in section 2.2.1. The commitments we refer to are those of the 2<sup>nd</sup> Federal Plan for Sustainable Development. It sets overarching goals and second order objectives in several domains such as:

- Transportation policy:

<sup>91</sup> Montibeller G., V. Belton, F. Ackerman and L. Ensslin. (2005). “Reasoning Maps for Decision Aid: An Integrated Approach for Problem-Structuring and Multi-Criteria Evaluation”. To appear in *Management Science*.

<sup>92</sup> Boulanger, P.-M. (2006) “The ‘Actions-Consequences-Objectives’ model: an integrative framework for SIA?”, Ottignies: Institut pour un Développement Durable.

- To increase supply of mass transportation systems;
- To promote less polluting vehicles;
- To promote another model of mobility than the “all car model”
- Poverty and exclusion:
  - To foster the creation of high quality jobs;
  - To promote entrepreneurship and sustain small business and farmers;
  - To protect consumers
- Climate policy and natural resources uses:
  - To reduce greenhouse gases emissions;
  - To foster renewable energies;
  - To use less natural resources;
  - To protect biodiversity;
  - To work out a sustainable development label.

Figure 12 is almost identical to Figure 10, except that these objectives have been added at the top and that, for readability, the bottom section with actions have been removed. Likewise, some relations between actions, consequences and objectives have been simplified or just taken out. On the other hand, other relations have been added, namely between consequences and SD strategy objectives. For instance, whilst the biomass fuels promotion policy aims at reducing greenhouse gases emissions in transportation, it is patent that the policy takes no account of the 2<sup>nd</sup> SD Plan’s goals regarding transportation in general. Indeed, just substituting a limited amount of biomass fuels to fossil fuels, while certainly contributing to the SD objectives regarding climate change and natural resources uses, will have no impact - and if any, possibly adverse one – on the supply of mass transportation system, the promotion of more efficient and less polluting vehicles and the shift to another model of mobility. Especially concerning the latter, it could even be argued that the proposal will more probably hinder it. The same could be said for promoting less polluting cars. Burning biomass fuels instead of fossil fuels could dampen motivations to buy hybrid vehicles...

Thus, taking 2<sup>nd</sup> SD Plan objectives for transportation into account would certainly entail a thorough revision of the proposal, for instance in targeting public transportation systems (buses, taxis) more than private cars.

The situation is similar with other SD objectives. For example, it doesn’t suffice to create new jobs. The SD Plan’ chapter on fighting poverty and exclusions asks for “high quality” jobs. It doesn’t seem that the policy proposal cares much about quality of jobs. Besides, if the policy is rightly concerned with farmers’ income, we can wonder if it cares with the right farmers. That is, are the producers of sugar beet, wheat or colza (rape) the most in need of support amongst the farmers or could we suspect that they just have more bargaining power or more effective lobbying? Whilst it is certainly with SD strategy’s environmental goals that the proposed policy is the more in line, it is perhaps possible to be still more relevant. For instance, if one can fear that raising more crops for biomass fuels will lead to more local pollution of water, soils and air and less biodiversity, why not create a SD label for crops and/or biomass fuels<sup>93</sup> and include in the tender’s disposition the possibility to give a preference to SD labeled products?

---

<sup>93</sup> We just learned recently that some environmental NGO’s demand such a measure.

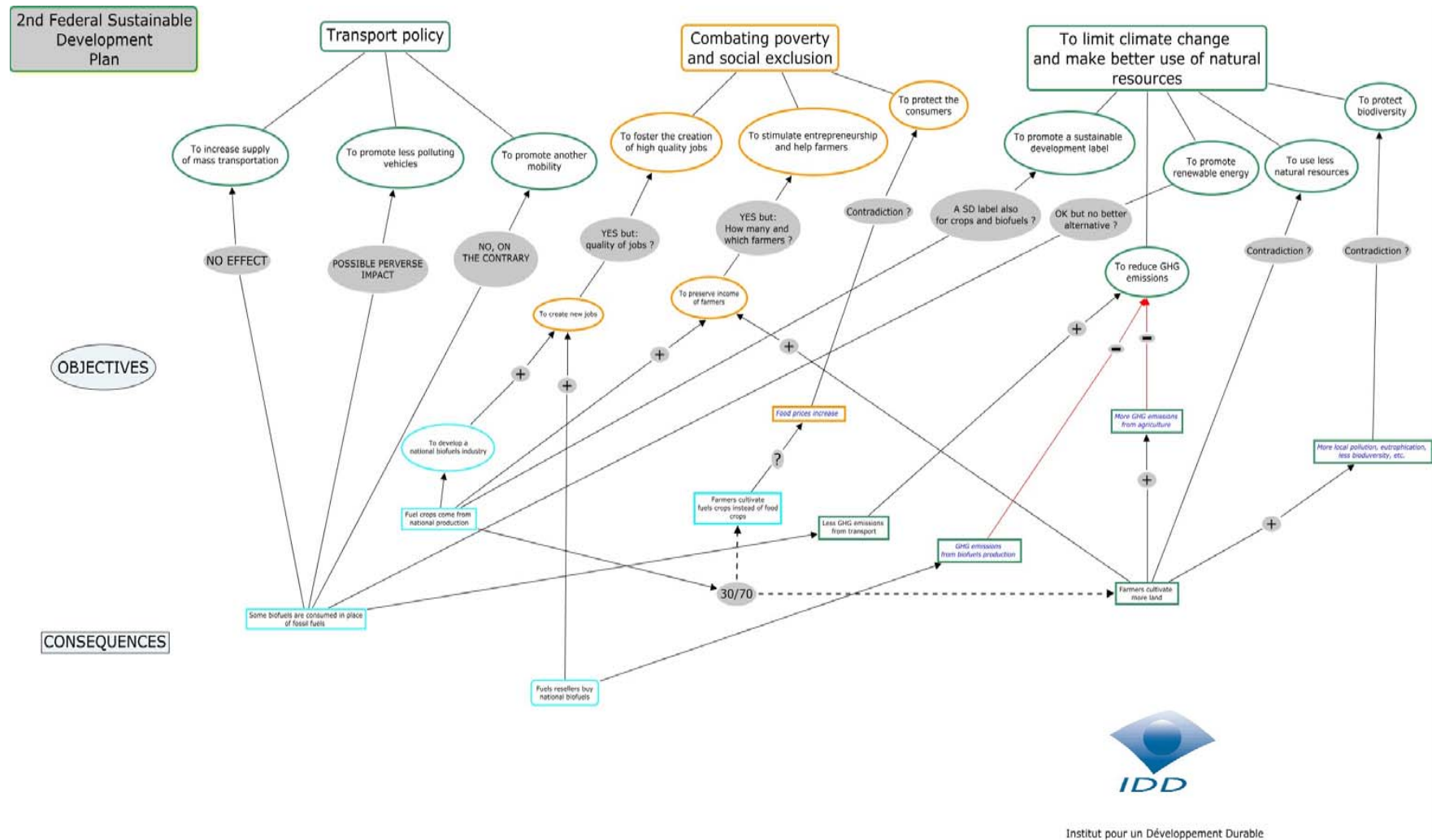


Figure 12: An 'Actions-Consequences-Objectives' sustainability assessment of the federal policy on biomass fuels. Looking for consistency with higher-level commitments to SD.

## 10.5 Conclusions

What the ACO framework offers is a cheap but effective way to frame a participative assessment based on the different assessment criteria discussed in section 2.1.3. Indeed, it allows to:

- Integrate in the same visual frame social, environmental, economic and political consequences (effects and impacts) of policies in order to assess its **effectiveness** (consistency between the planned actions and the policy's claimed goals);
- Highlight the possible uncertainties about the relations between actions and consequences or consequences and objectives and, by doing so, question its overall effectiveness;
- Check for the consistency of these consequences with higher-levels SD objectives or commitments in order to assess its **relevance**;
- Frame the discussion on its **long-term efficiency** on basis of the identified long-term environmental impacts (uses of critical natural resources);
- Provide a entry point for discussing its **ethical** dimensions by showing winners and losers amongst identified stakeholders;
- Help in identifying unwanted impacts and possible mitigating actions in order to control them,
- Compare alternative policies with respect to a common set of overarching objectives.

The short-term financial efficiency is the criterion that fits less well in the framework. It has to be assessed with the usual cost-efficiency or cost-benefit methods keeping in mind that the information they bring, while indispensable, can never be the last word when SD is at stake.

## ***11. Future research and study questions***

The present 18months-project was configured as an exploratory research project touching upon many research issues raised within the field of “Science for Sustainable Development”. Projects working on the operationalization of SD-evaluation mechanisms, and in a wider sense of decision-aiding tools, inherit a considerable amount of research questions from the upstream research fields, ranging as far as from the handling of multi-scale uncertainties to the efficiency of reflexive governance as a general blueprint for public management. It is thus not surprising that at the end of the research period, a considerable amount of future research questions could be exposed. Among the more prominent ones, are issues such as the linkages between SIA and the forthcoming National Indicators for Sustainable Development, or the linkages between SIA and a more general ex post evaluation scheme which would allow to gain temporal insights into the effectiveness and efficiency of policy implementation.

However, instead of reiterating such up-stream research questions, we focus hereafter on the more pragmatic issues, which we acknowledge to need further developments before an SIA-mechanism could be implemented (even imperfectly) at the federal level. We acknowledge also that some of the issues raised could be best addressed at the level of a *study*, rather than with the deployment of a further research *project*: the issues raised here focus on the potential translation of the proposals of the current project to the level of the operationalization of SIA.

Consequently, at the light of the experience gained during the research project, some priority should be given to the *conduct of a series of “real-time” case studies*. As stated above (section 2.5), the case studies carried out during the present project presented some structural flaws ranging from the restricted active support by policy-actors (lack of a clear mandate) to the impossibility to mobilize a major policy proposal under development as a case study (lack of political commitment). However, a number of procedural, methodological and institutional questions can only be resolved sufficiently by conducting real-time case studies.

Furthermore, before implementing SIA and in parallel to the case studies, authorities should consider investing *into the organisational issues needed as support to the development of SIA* at federal level. As stated above, the feasibility to develop SIA into an institutional evaluation reflex will depend partially on the existence of a series of accompanying measures and tools such as a the elaboration of a handbook, the organisation of training courses, the construction of internal and external websites... While we acknowledge that each of the developed SIA-scenarios (see section 3.1) will place emphasis and priority on a specific set of accompanying mechanisms, their overall necessity should not be jeopardized, and the difficulties to develop these instruments not underestimated.

Besides these two matters of implementation, which basically rely on the conduct of short-term studies, there are issues which strongly depend on the *public authorities’ choice of the fundamental orientation they want to attribute to SIA at federal level*, and thus on the policy-objectives they want SIA to participate to. Considering the reactions of the policy-actors during the round-table (see section 3.1), which revealed some preferences for an intermediary SIA-scenario, it appears necessary to conduct some further investigations on the desirability and the general orientation to be given to SIA at federal level. Among the most crucial questions are issues with regard to screening&scoping (e.g. screening as an on-going process or as a periodical pooling of policy proposals), participation and transparency (e.g. conditions to achieve the active participation of stakeholders), inter-institutional and intra-institutional organisation (e.g. place to be given to parliament; inclusion of regional policy-makers).

While these could be operated at the level of small focused workshops with the main decision-makers, a larger feasibility study might be conducted in parallel to further explore the potential of a federal SIA mechanism on the basis of the “adaptability”-scenario. This scenario had been excluded from the present study because of the evident lack of experience and expertise with ex ante SD-evaluations at

federal level (which was identified as a basic condition for a successful implementation). However, considering the popularity of this type of SIA-scenario with the consulted policy-actors, it should be further explored how the basic conditions for the implementation of a successful adaptability-scenario could be met. Explorations into these questions should encompass also the phasing-in of such a scenario, which could be particularly crucial for the future success of an adaptability-SIA.

Finally, as stressed before (see sections 3.1 and 3.3), the eventual *conduct of the core of SIA (i.e. impact determination and impact evaluation)* raises some methodological questions. These range from the exploration of methodologies to centralize data-processes, to the development of frameworks to assess the consistency and coherence of policies, to the operationalization of impact evaluation instruments (such as the ACO-framework developed in section 3.3). The extent and nature of these methodological questions is such that they call for the implementation of a study programme (i.e. a pool of financial means to be invested in the development of the needed expertise), which would participate during the first years of SIA to strengthen the methodological knowledge-base. The implementation of such accompanying research programmes has been identified also in other contexts as being crucial during the initial implementation of SIA (e.g. at EU-level).





## Literature

Abaza H., Baranzini A. (eds) (2002), *Implementing sustainable development : integrated assessment and participatory decision-making processes*. (published for the UN-Environmental Programme) Edward Elgar. Cheltenham, UK

Abaza H., Hamwey R. (2001), Integrated assessment as a tool for achieving sustainable trade policies, *Environmental Impact Assessment Review* 21 (2001) p.481-510.

Anderson, E. (1988). "Values, Risks, and Market Norms", *Philosophy and Public Affairs*, **17**: 54-65.

André, P., C.E. Delisle, J.-P. Revéret et A. Sène (1999). *L'évaluation des impacts sur l'environnement: Processus, acteurs et pratique*. Montréal, Presses internationales Polytechniques, 416 p.

Arnstein S.R. (1969). "A Ladder of Citizen Participation", *Journal of the American Institute of Planners*, **8**(3), p. 217-224.

Bocher C., Spaltenberger T. (2003), *SIA: the way ahead?* Geographisches Institut, Universität Tübingen. Germany. (unpublished)

Chichilnisky, G. (1998). "The Costs and Benefits of Benefit-Cost Analysis" Policy Forum, (ed. C. Perry) *Environment and Development Economics*, University of York, UK, 202-207.

Cloutier, M. (2001). *Tri préliminaire et cadrage en évaluation environnementale stratégique: État de la situation et proposition pour le Québec, document de travail réalisé dans le cadre d'un stage à la maîtrise en sciences de l'environnement de l'Université du Québec à Montréal sous la supervision de Michel Crowley Ph.D.*, Ministère de l'Environnement du Québec, Direction des évaluations environnementales.

COWI, ECO, Scott Wilson, (2004), *Evaluation of approaches to integrating sustainability into community policies*, Final summary report (2004), CEC - Secretariat General, Brussels.

Dalal-Clayton B., Sadler B., (2004). *Strategic environmental assessment : an international review*. Final draft. London: International Institute for Environment and Development (IIED), London.

Dalkmann, H; Herrera, R.J.; Bongardt, D. (2003), Analytical strategic environmental assessment (ANSEA) developing a new approach to SEA. *Environmental Impact Assessment review*, 24(4), 385-402.

Devuyst D., Hens L., De Lannoy W., (2001), *How green is the city? Sustainability assessment and the management of urban environments*. Columbia University Press, NY.

Devuyst, D. (2001). *Sustainability Assessment: The application of a methodological framework*. VUB, Human Ecology Departement.

Draaijers, G.; Verheem, R.; Morel, S. (2004). *Developing a general framework for sustainability assessment*. The Netherlands.

Eckley N. (2001), Designing effective assessments: the role of participation, science and governance and focus. *Environmental Issues Report*, vol. 26. Copenhagen: European Environment Agency; 2001.

Elwell, C. (2002). *Sustainability Impact assessment of the Earth Summit 10: A Canadian perspective*. Canadian Institute for Environmental law and policy.

Ewing, M.K. (2003). *Public Participation in environmental decision-making*. (<http://www.gdrc.org/decision/participation-edm.html>)

Federal Office for Spatial Development, Department of Environment, Transport, Energy and Communications. (2004). *Sustainability assessment: Conceptual framework and basic methodology*. Switzerland.

Fisher, F. and J. Forester, eds. (1993) *The Argumentative Turn in Policy Analysis and Planning*.

Fondazione Eni Enrico Mattei (2002). *Towards An Analytical Strategic Environmental Assessment – ANSEA - Towards Better Decision Making: New concepts in Strategic Environmental Assessment*. April 2002.

George C., 2002, *Environmental Assessment and Management*, in Kirkpatrick C., Clarke R., Polidano C. (eds), 2002, “Handbook on Development Policy and Management”, Edward Elgar.

George, C. & Kirkpatrick, C. (2003). *Sustainability Impact Assessment of World Trade Negotiations: Current Practice and Lessons for Further Development*. Prepared for Conference on ‘New directions in Impact Assessment for Development’ University of Manchester 24-25<sup>th</sup> November, 2003

George, C. (2002), *Applications of Sustainability Evaluation at the National and International Strategic Policy Level*. EASY-ECO1, European Workshop on Sustainability Assessment, Vienna.

George, C.; Kirkpatrick, C.; Mosedale, S. (2003). *Participation in European governance reform: the role of sustainability impact assessment*. Paper prepared for the Conference on ‘Participation: From Tyranny to Transformation? Exploring new Approaches to Participation in Development’ January 2003, University of Manchester.

Gibson, R. (2001). *Specification of sustainability-based environmental assessment decision criteria and implications for determining “significance” in environmental assessment*. Prepared under a contribution agreement with the Canadian Environmental Assessment Agency Research and Development Programme. Revised version 10 September 2001.

Glicken, J. (2000) ‘Getting stakeholder participation ‘right’: a discussion of participatory processes and possible pitfalls’. *Environmental Science and Policy*. 3 , 305-310.

Godard O. (2003), *Sustainability Impact Assessment and integrated modeling in controversial universes: a background*. Paper presented at the SUSTRA workshop “Sustainability impact Assessment of Trade Agreements and New approaches to Governance”, Université Catholique de Louvain, March 2003, Louvain, Belgium

Gowdy, J. (2004) “The revolution in welfare economics and its implications for environmental valuation and policy”, *Land Economics*, **80**: 239-257.

Gutman J. (1982) “ A means-end chain model based on consumer categorization process”. *Journal of Marketing* **46**: 60-72.

Hanley, N. (1999). “Cost-benefit analysis of environmental policy and management”, in Jeroen C.J.M. van den Bergh, (ed), *Handbook of Environmental and Resource Economics*, Cheltenham UK, Northampton MA USA: Edward Elgar, pp.824-837.

Hemmati, M. (2000). *Multi-stakeholder Processes for Governance and Sustainability. Beyond Deadlock and Conflict*. London: Earthscan Publications.

Jacob S. and Varone F. (2003), *Evaluer l'action publique: état des lieux et perspectives en Belgique*. Gent, Academia Press. 243pp.

Jackson, T. (2005), *Motivating Sustainable Consumption*. A Report to the Sustainable Development Research Network. Centre For Environmental Strategy. University of Surrey.

Kirkpatrick, C. and Lee, N (2002), assisted by Curran, J., Franklin, J. George, C. and Nomura, H. *Further development of the methodology for a sustainability impact assessment of proposed WTO negotiations*, Mid-term report to the European Commission. Institute for Development Policy and Management, University of Manchester.

Knigge, M.; Leipprand, A. (2003). *The role of Public Participation in SIA's*. Paper for the SUSTRA workshop "Sustainability impact Assessment of Trade Agreements and New approaches to Governance". Université Catholique de Louvain, March 2003, Louvain, Belgium

Lee N., (2004) *Bridging the gap between theory and practice in integrated assessment*, Working paper series N°7 (2004), September, Institute for Development Policy and Management, University of Manchester.

Milner, S.J., Bailey, C., Deans, J., Pettigrew, D. (2004). Integrated impact assessment in the UK – use, efficacy and future development. *Environmental Impact Assessment Review* 25 (2005). 47-61.

Montibeller G., V. Belton, F. Ackerman and L. Ensslin. (2005). "Reasoning Maps for Decision Aid: An Integrated Approach for Problem-Structuring and Multi-Criteria Evaluation". To appear in *Management Science*.

Munda, G. (1996). "Cost-benefit analysis in integrated environmental assessment: some methodological issues", *Ecological Economics*, 19: 157-168.

Munda, G. (2004): Social multi-criteria evaluation: Methodological foundations and operational consequences. *European Journal of Operational Research*, 158(3): 662-677

Noble, F.N. (2003). Strategic Environmental Assessment quality assurance: evaluating and improving the consistency of judgments in assessment panels. *Environmental Impact Assessment Review*. 24(1), 3-25.

Nooteboom S, Teisman G. (2003), Sustainable development : impact assessment in the age of networking, *Journal of environmental policy and planning* 5 (3, 2003) : 285-309

OECD, (2001), *Sustainable Development – Critical Issues*. Paris.

O'Hara, S. (1996) "Discursive ethics in ecosystems valuation and environmental policy", *Ecological Economics*, 16:95-107.

O'Neill, J. (1993). *Ecology, Policy and Politics: Human Well-Being and the Natural World*. London: Routledge.

Opoku C., Jordan A., "Impact assessment in the EU: a global sustainable development perspective", CSERGE, University of East Anglia, United Kingdom, Paper presented at the conference 'Human Dimensions of Global Environmental Change' (2004), 3-4 December, Berlin.

Organisation for Economic Co-operation and Development (2002). *Sustainable Development Strategies, A Resource Book*, p. 180. London: Earthscan Publications.

- Pope, J. (2003). *Sustainability Assessment: What is it and how do we do it?* Paper for the Institute for Sustainability and Technology Policy, Murdoch University.
- Pope, J.; Annandale, D.; Morrison-Saunders, A. (2004). Conceptualizing Sustainability Assessment. *Environmental Impact Assessment Review*. 24, 595-616.
- Ravetz J. (2000). Integrated assessment for sustainability appraisal in cities and regions. *Environmental Impact Assessment Review* 20 (2000), 31 – 64.
- Richardson, H. (2000). “The Stupidity of the Cost-Benefit Standard”, *Journal of Legal Studies*, 29: 971-1003.
- Saaty T.L. (1980), *The Analytic Hierarchy Process*, McGraw-Hill, New York.
- Sagoff, M. (1988). *The Economy of the Earth*. Cambridge: Cambridge University Press.
- Scrase JI, Sheate WR. (2002) Integration and integrated approaches to assessment: what do the mean for the environment? *Journal of Environmental Policy and Planning* 4 (2002), 275 – 94.
- Sheate, W., Dagg S., Richardson J., Palerm J. Steen U. (2001). SEA and integration of the environment into decision-making. European Commission Contract, No. B4-3040/99/136634/MAR/B4. Available at [http://europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea\\_integration\\_main.pdf](http://europa.eu.int/comm/environment/eia/sea-studies-and-reports/sea_integration_main.pdf).
- Slocum, N. (2003). *Participatory Methods Toolkit: A practitioner’s manual*. UNU/CRIS.
- Stagl, S. (2003). *Multicriteria evaluation and public participation: in search for theoretical foundations*. Available at <http://www.euroecolecon.org/old/frontiers/Contributions/F2papers/PL2-FPaper.pdf>
- Stone, D. (2002, 1988), *Policy Paradox. The Art of Political Decision Making*. New York, London: W.W.Norton & Company.
- Sutter,C. (2003), *Sustainability Check-Up for CDM Projects. How to assess the sustainability of international projects under the Kyoto Protocol*, WVB, Wissenschaftlicher Verlag Berlin, Berlin.
- Therivel R. (2004). *Strategic Environmental Assessment in Action*. London, Sterling VA: Earthscan
- Van Asselt M., Rotmans J., “*Uncertainty in Integrated Assessment: a bridge over troubled water.*” Working paper (2000), International Center for Integrative Studies – ICIS, University of Maastricht, The Netherlands.
- Wilkinson D., Fergusson M., Bowyer C., Brown J., Ladefoged A., Monkhouse C., Zdanowicz A., (2004), *Sustainable Development in the European Commission’s Integrated Assessments for 2003*. Final Report. IEEP, London.
- Williams, K., de Laat B., Stern E. (2002), *The Use of Evaluation in the Commission Services*. Final Report. Technopolis, France. The Tavistock Institute.

## Methodological annex

### *1. Context and objectives of the research project*

Policy is developed in a complex and uncertain societal environment, where an increasing number of concerns have to be taken into account. Configuring sustainability policies is confronted with evaluation problems and the demand for an early indication of whether criteria for sustainable development are met. Generating, integrating and communicating information for decision-making is an important need for policy strategies aiming at sustainable development. Apart from the ongoing refinement of specific assessment tools, worldwide different scientists are developing ‘Sustainability Impact Assessment’ (SIA). SIA can be considered as an integrated instrument which combines interdisciplinary evaluations with processes of multi-stakeholder policy-making.

More specifically, SIA can be described 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 (...)” (Arbter, 2003).

Also in Belgium, the idea of introducing SIA in the federal policy context has been on the political agenda for some years. SIA was explicitly mentioned for the first time in the Federal Coalition Agreement of 1999. The development of a SIA methodology has also been extensively referred to in the first Federal Plan on Sustainable Development (2000 – 2004), including an action plan with strategic objectives for introducing SIA along with the measures needed for the realization of its implementation. Moreover, the need for a Belgian SIA-practice has been repeated in the second Federal Plan on SD (2004-2008) and in the Federal Coalition Agreement of July 2003. The Royal Decree of 22 September 2004 creating the Cells for Sustainable Development is the most concrete document confirming the political willingness to introduce some form of Sustainability Impact Assessment.

This research project aims at contributing the scientific insights to be taken into account when elaborating a methodological and institutional framework for the implementation of SIA in the Belgian federal context. The project has four main goals:

- 1) research on the limits and potentials of ex ante evaluation methodologies and SIA in particular
- 2) research into the possibilities of the technical development of a ‘learning aid’ or ‘tool’ for SIA
- 3) research on the institutional integration of SIA at Belgian federal level
- 4) definition of needs and supporting capacities of policy-makers and stakeholders in using SIA.

As an important step towards the development of a regulatory SIA for strategic decisions, the project outcome will be focused on determining the feasibility and the value-added of SIA.

### *2. Structure of the research project*

The research network for this project consisted of five research teams:

- Coordination: Centrum voor Duurzame Ontwikkeling (CDO - UGent), Poel 16, B-9000 Gent. Tel: +32 (0)9 264.82.08; Fax : +32 (0)9 264.83.90; Email : [Erik.Paredis@UGent.be](mailto:Erik.Paredis@UGent.be) ; Website: <http://cdonet.ugent.be>.
- Centre d'Etudes du Développement durable (ULB – IGEAT – CEDD), 50 avenue F. Roosevelt, B-1050 Bruxelles. Tel : +32 (0)2 650 43 32 of 49 24; Fax : +32 (0)2 650.43.12; Email: [ezaccai@ulb.ac.be](mailto:ezaccai@ulb.ac.be) or [tbauler@ulb.ac.be](mailto:tbauler@ulb.ac.be) ; Website: <http://www.ulb.ac.be/igeat/cedd>.

- Institut pour un Développement Durable (IDD), Tel : +32 (0)10 41.73.01 ; Fax : +32 (0)10 41.36.49 ; Email : [idd@euronet.be](mailto:idd@euronet.be). Website: <http://users.skynet.be/idd/>
- Research Association on Public Action (UCL - AURAP), Place Montesquieu 1, bte 8, B-1348 Louvain-la-Neuve. Tel : + 32 (0)10 47 42 74; Fax : + 32 (0) 10 47 46 03; Email : [varone@spri.ucl.ac.be](mailto:varone@spri.ucl.ac.be). Website: <http://www.aurap.ucl.ac.be>
- Centre for Environmental Law (Centrum voor Milieurecht - UGent), Universiteitstraat 4, B-9000 Gent. Tel. +32 (0) 9 264 69 27; Fax +32 (9) 264 69 85, E-mail: [Luc.Lavrysen@UGent.be](mailto:Luc.Lavrysen@UGent.be) . Website: <http://www.law.ugent.be/pub/br/centrummr.htm>

The project ran from July 2004 until February 2006. Disregarding the fact that the learning process of the project necessitated the abandonment of a linear step-by-step outline in favour of a more adapted iterative structure (characteristic of Development Research), the project structure can be represented as consisting of three phases, each with different components (see figure 1):

- (1) The exploration phase: gathering knowledge and unifying existing expertise both on the demand and the supply-side of SIA.
- (2) The integration and testing phase: integrating methodologies and processes into a coherent SIA scheme. Testing the feasibility on content and procedural level.
- (3) The enhancement phase: using experience gained in the test cases of the project phases to facilitate the applicability of a specific form of SIA.

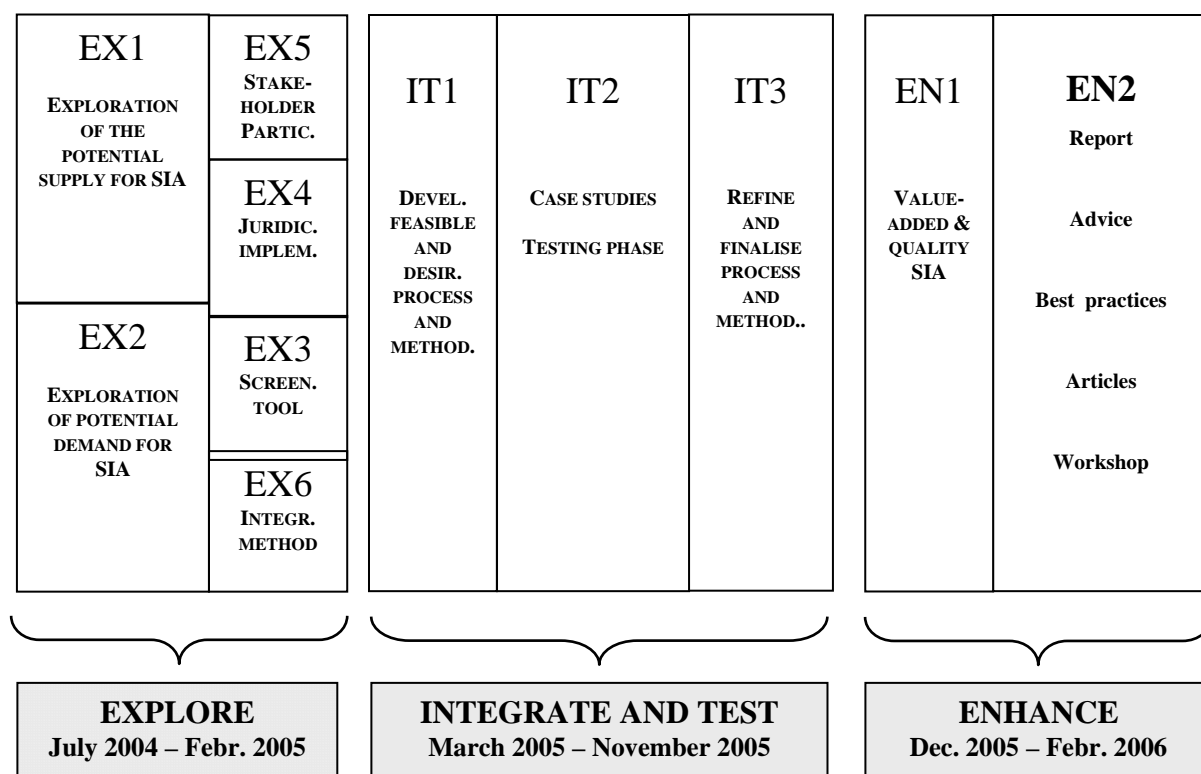


Figure 13: Structure and timing of the research project

The three main phases of the project entailed different tasks for which the responsibility was divided over the research teams. The partner ‘Law-UGent’ was in charge of EX4. The other four partners worked together on EX1 and EX2 during the exploration phase. EX3 was taken up by ULB-IGEAT-CEDD, EX5 was the task of CDO-UG, EX6 was taken on by IDD. During the integration and testing phase, the four partners worked together on IT1 and IT2. Keeping in mind the different specialisations, CDO-UG, IDD and CEDD each took the lead in guiding a case-study. IDD was responsible for

refining and finalising the SIA process and method in IT3. During the enhancement phase, all partners worked together for tasks EN1 and EN2.

### 3. *Output of the research project*

The different tasks of the research project resulted in the following output<sup>94</sup>:

- **EX 1:**
  - Working Paper: Overview of methodological, institutional and scientific questions
  - Working Paper: Revue de littérature et synthèse de l'état de l'art en évaluation environnementale stratégique
  - Working Paper: L'Analyse d'Impacts de la Commission Européenne. Revue de la littérature et analyse de cas
  - Working Paper: EU Extended impact assessment review
  - Working Paper: Overview of economic assessment models available at the Belgian Federal Policy level and at the EU Commission
- **EX 2:**
  - Questionnaire
  - List of Interviewed persons
- **EX 3:**
  - Working Paper: Towards a screening mechanism for SIA: process and content issues related to the federal Belgian case
- **EX 4:**
  - Working Paper: Report on the institutional/juridical integration of SIA in the Belgian federal governmental structures
- **EX 5:**
  - Working Paper: Integration of the participation principle in the Belgian SIA process
- **EX 6:**
  - Working Paper: Integration in SIA: meaning, patterns and tools
- **IT 2:**
  - Case study report Ethical Public Purchasing
  - Working paper: L'impact environnemental des biocarburants"
  - Working paper: Données et enjeux économiques des biocarburants
- **EN 1 – EN 2:**
  - Working paper: The Actions-Consequences-Objectives Framework. An integrative tool for SIA?"
  - Working Paper: SIA at federal level: an overview of (provisional) conclusions, policy implications and scenario's for implementation

A users committee was organized on regular times for discussion of the interim findings and working papers and the preparation of the subsequent steps of the project (see administrative reports for more details).

- Moreover, in February an **interim report** was presented to the users committee and to the jury of foreign experts for evaluation (March 17<sup>th</sup> 2005). The progress of the research project was generally positively evaluated. However the experts pointed out the fact that it is an enormous task to be accomplished in only two years time. Furthermore they remarked two major difficulties for the further course of the project, namely the choice and integration of methodologies and the

---

<sup>94</sup> These documents can be found as appendixes on the website of Federal Science Policy, and on the websites of the research teams



institutional integration. This analysis was shared by the research team and a short memo was formulated addressing the indicated issues.

- With a presentation on “Exploring the Feasibility of a SIA Procedure for Federal Policies in Belgium”, some interim findings were presented during the international **EASY-ECO Conference** in Manchester on “Impact assessment for a new Europe and Beyond” (June 2005)<sup>95</sup>
- On January 26<sup>th</sup> an **expert’s workshop** was organized, bringing together all persons involved with the Belgian federal sustainable development policy. The seminar’s objective was to thoroughly discuss the provisional conclusions and the possible scenarios for introducing SIA in the Belgian federal policy context. More specifically, the bottlenecks and obstacles identified during the research were looked at in detail and possible solutions were discussed.

## 4. *Scientific methodologies used*

### 4.1. **Secondary analysis of literature and practice with regard to SIA**

During the exploratory phase, considerable effort was consented to an extensive literature study. While the research partners draw from their previous expertise on the relevant aspects touched by SIA, we complemented our common knowledge base by exploring and synthesising the most relevant literature. This literature study (see also the bibliography) included peer-reviewed scientific publications<sup>96</sup>, as well as working documents and reports elaborated by institutional actors and stakeholder organisations. A further source for the literature study was provided by project reports and working documents elaborated by identified international experts<sup>97</sup>. For the most interesting and relevant literature, the research partners elaborated reading cards, facilitating the exchange of information among the partners. In addition, some of the research partners attended international conferences<sup>98</sup> with specific panel sessions on Impact assessment (as understood by the current project). Simultaneously, research partners redraw more thoroughly the existing practice of Impact Assessment as it occurs in different countries and international institutions (see Part 1 and working papers in Annex for results of these explorations).

### 4.2. **Interviews and questionnaire**

Two specific methods were applied in order to define the needs and supporting capacities of policy-makers and stakeholders for using SIA and to preliminary assess the institutional integration of SIA at the Belgian federal level. As a matter of fact, the SIA instrument could be integrated into existing decision-making processes; therefore it is crucial to know how policy-makers and experts evaluate the institutional, methodological and financial feasibility of SIA.

On the one hand, we conducted 23 interviews with potential users and providers of SIA. These users are both experts (academic and private consultants, public agencies) competing on the supply side of

---

<sup>95</sup> Bauler Tom, Bonifazi Alessandro, Boulanger Paul-Marie, Heyerick An, Lussis Benoît, Paredis Erik, Varone Frédéric, Wäktare Marco, *Exploring the feasibility of a Sustainability Impact Assessment procedure for the federal Belgian level*.

<sup>96</sup> Including some of the most relevant journals such as ‘Environmental Impact Assessment Review’, ‘Impact Assessment and Project Appraisal’, ‘Journal of Environmental Assessment Policy and Management’, ‘Journal of Environmental Policy and Planning’, ‘Ecological Economics’, ‘Integrated Assessment’...

<sup>97</sup> It is impossible here to list an extensive overview of the most relevant experts. Among the many, here are some we collected information from: B. Dallal-Clayton, Sadler, Kirkpatrick, Wilkinson,

<sup>98</sup> Bonifazi A. : 6th biennial conference of the European Evaluation Society : Governance, Democracy and Evaluation. Berlin, Oct2004. Bauler T.: IHDP annual conference on the Human Dimensions of Global Environmental Change : Greening of Policies – Interlinkages and Policy Integration. Dec2004. Paredis E., Bauler T.: 6th International Conference of the European Society for Ecological Economics: Science and Governance – The Ecological Economics Perspective, Lisbon 14-17 June 2005

the “SIA market” and political and administrative actors in charge of formally undertaking a SIA (demand side).

The main topics that were addressed during these interviews focused on:

1. the previous experiences - of the consulted organisation - with “impacts assessments” in general,
2. their expectations and fears regarding the development of SIA as a new policy tool,
3. the identification of the policy domains and/or programmes that should be submitted to a SIA, as well as the evaluation criteria underlying a SIA,
4. the major methodological issues of a SIA (integrated assessment, ex ante evaluation and participatory process) and, last but not least,
5. the institutional challenges linked to the integration of the SIA instruments into the actual decision-making process.

This material was used to identify, on a comparative basis, commonalities and differences among the points of view of the potential SIA users.

On the other hand, a questionnaire was developed on the “State of the art in Impacts Assessments at the federal level” (see questionnaire in Annex 6). The 31 questions of this survey focussed on two main topics, namely:

1. the previous practices of “impact assessment” (ideal-typical IA, success factors and barrier to the quality of IA, political utility of IA) and,
2. the future of SIA at the federal level (need to institutionalise SIA, agencies in charge of SIA, methodological challenges of SIA, etc.).

This questionnaire was sent to the interviewed persons and to all members of the Interdepartmental Commission on Sustainable Development (ICDO/CIDD). However, only few questionnaires returned, mainly from persons interviewed. The data from the survey were therefore only used as additional qualitative information.

### **4.3 Case-studies**

As part of the Integration and Testing Phase of the research project, a preliminary proposal for a Belgian SIA was applied to a selection of case-studies. The aim of this exercise was to draw lessons for the elaboration of an improved version of a SIA for the Belgian federal context. However the research team encountered some problems for selecting appropriate cases. About ten proposals for case studies were suggested by the responsible administrative actors, however several of them were not usable because they involved ex-post evaluations, some others were less relevant for SIA. Finally, three case-studies were selected.

- The first case concerns the introduction of ethical criteria within government purchases. At the time of the case study, a law was being prepared for the transposition of the European Directive on public orders. This new law covers all aspects of public orders, including some limited possibilities to introduce ethical criteria in public contracts within the free market context. This case was directed to the different implementation possibilities for taking ethical criteria into account in public contracts within the European context.
- The second case concerns the policy proposal to decrease the excise taxes on biofuels in order to make them competitive regarding to other (fossil) fuels. The European Directive 2003/30/EC offers indicative objectives in terms of percentage of biofuels available on the fuel market for transportation. Despite the fact that the political decisions were more or less taken when the case study was carried out, this case was interesting for analysing the possible alternatives with their respective impacts.
- In the third case study the screening instrument was tested for a selection of policy proposals.

For the first two case studies a simulation of a real SIA was carried out. As far as possible in this simulation context, all phases of SIA were dealt with (screening, scoping, impact identification, impact prediction, impact evaluation, reporting) in close cooperation with a group of civil servants involved with the subject. More concrete this means that the policy measure concerned was analyzed and alternatives for the measure were sought. The potential economic, ecologic and social impacts of the alternatives were described, based on the impact matrix as developed for task EX 3. Furthermore the policy alternatives were compared and the possibility of stakeholder participation in the process was discussed. To conclude a report of this exercise was made and presented to the people involved. The case on the screening methodology was conducted in a different way. The screening methodology was tested with a series of restricted working groups for a selection of policy proposals. During these group exercises, it was assessed how far and how fluid civil servants could use the Impact matrix for policy proposals they were in charge of. Particular attention was given to understanding what type of assistance would be needed by the working groups to realize the task. Secondly, the robustness of the selection mechanics of the Impact matrix was assessed by introducing the supposed effects of a higher number of policies (random selection; filled in by researchers on the basis of desk-work) into the matrix and to analyze the obtained ranking.

#### **4.4 Policy dialogue**

SIA can be comprehended to be primarily either a process or an instrument (cfr. part 3). While a SIA-scheme necessarily has to integrate both visions, the present project gave more room to SIA as an institutional evaluation process, than SIA as an integrated assessment tool. Necessarily thus, and even more so as the project is concerned with the assessment of the value-added and feasibility of SIA at federal Belgian level, a constructive dialogue with the relevant policy actors had to be sought for.

Generally speaking, a policy-dialogue on SIA can follow 2 different - but not necessarily antagonistic strategies - i.e. develop foremost the knowledge-base of a broad number of policy-actors on issues of SIA, or focus on the construction of information exchange with a limited selection of policy-actors on the development of critical (reference) capacity. Evidently, each strategy corresponds to 2 different moments in the development and institutionalization of mechanisms such as SIA. During the development phase, policy-dialogue needs to remain focused, whereas a broader discussion with stakeholders and a larger dissemination of information are more appropriate at the moment of considering implementation.

Consequently, the dialogue with policy-makers could serve 3 general objectives:

- collecting policy-makers knowledge on decision-making cycles at the federal level;
- raise their support for the eventual implementation of SIA;
- facilitate an exchange of information on SIA.

Obviously, these conceptions of policy dialogue influenced the organization of interaction with civil servants during the project. Considering that SIA is at a very early stage of development in Belgium, policy dialogue was constructed in a focused way with a limited number of central policy actors at different stages of the project. This was largely sustained by the organization of the “users’ committee”, an obligation for projects participating to the research program. The project’s users’ committee, composed foremost of experts of the most central federal institutions concerned with SD-policies, helped us to gain some direct feedback at crucial phases (see table below) of the project.

<i>Dates and purposes of the Users' committee</i>	
5 <sup>th</sup> October 2004	Introductory meeting: - presentation of the literature study - discussion of the interview phase - expectations of users w/r to the research outcomes
21 <sup>st</sup> February 2005	Intermediary meeting: - feedback on intermediary report - discussion and selection of case-studies - proposal for a draft version of SIA
13 <sup>th</sup> June 2005	Intermediary meeting: - interim state-of-affairs on the case-studies - discussion on institutional aspects of SIA
24 <sup>th</sup> October 2005	Intermediary meeting: - discussion of case-studies - presentation of working papers on institutional aspects, participative issues and screening processes
25 <sup>th</sup> April 2006	Final meeting: - discussion of the final report - follow-up of SIA-project

However, such an interaction between experts - even if the respective civil servants liaised very actively with their hierarchy - was not felt to be sufficient: opinions and attitudes of high-level civil servants and of representatives from the relevant SD-institutions in Belgium appeared to be also of crucial importance, for instance in order to get a deeper insight into political constraints weighing on the policy-making cycle at federal level. Such an interaction with chronically overloaded high-level civil servants could only be organized at very precise moments of the project, namely at the beginning of the project to scope SIA with relevant actors (see intermediary report, February 2005), and at the very end of the project to present and discuss pertinent options (see section 7 for an insight into the presented options) of implementation for SIA (see annex 16).

If an operational scenario for SIA is meant to be further developed and detailed, then the triggered focused policy dialogue needs to be continued very actively beyond the current project. And if SIA is meant to be implemented on a relatively short timeline at the federal level, then the second, broader phase of policy dialogue needs to be prepared and started at very short notice.

## **5. *Encountered problems***

During the course of the project, the research group was confronted with two sorts of problems. The first sort could be labelled 'internal' to the project and the research group. These are often related to financial and time constraints. The researchers as well as the international evaluators acknowledge that the financial scope and time horizon of the project are insufficient for tackling all issues related to SIA in detail. The field of study on SIA is very wide and presents many ramifications into adjacent disciplines and research issues (e.g. participatory issues, methodological issues, procedural issues, impact evaluation issues...). During the course of the research project interesting progress was made on these issues, however, the interim results raised a number of additional questions, which could not be further explored.

Moreover there was a persistent tension between an idealistic and a pragmatic conception of SIA. The initial aim was to create a scientifically sound tool for evaluating the social, economical and environmental impacts of policy options and thus contributing to evidence-based policy-making. It was clear from the start that the institutional context had to be taken into account, originally representing a minor part of the research proposal (task EX 4). During the course of the project however it became apparent that this institutional context was far more determining than originally anticipated. Consequently, the emphasis of the research project shifted from regarding SIA as a tool

towards regarding SIA as a tool and as a process. This shift in emphasis also meant a permanent reflection on what is desirable from a scientific point of view versus what is feasible in practice, taking into account the current institutional context with its political agenda's.

The international jury rightly pointed out during the intermediary evaluation that one of the main difficulties in elaborating a SIA process would be the question of choosing methodologies for predicting and assessing impacts. Indeed, most institutions working with SIA do not give guidelines for choosing the right methodologies for different policies to be assessed. One of the ambitions of the SIA project was to shed more light on this question. The existing methodologies for integration in impact assessments were closely examined. However it proved to be impossible to elaborate guidelines on which kind of methodology is useful in which kind of situation, the main reason being the already mentioned shift in focus from SIA as an instrument towards SIA as a learning-process, resulting in a parallel transfer of research investment from methodological issues towards process-related issues.

A second sort of problems could be labelled 'external' to the research group. These are related to the political-administrative context within which the project had to be developed. During the last years, several adjustments and reorganizations have happened at federal political-administrative level (e.g. the Copernicus plan). Within these reformed structures, several entities were specifically created for purposes of developing sustainability policies, e.g. through integration of policies. The functions of and (power) relations between these actors were not always clear, but are subject of strategic behaviour of people. This became evident during some interviews and other contacts. It may also explain part of the problem with the questionnaires, although other factors such as timing, communication, work load and perceived importance of the subject play a role here as well. Similar factors played a role in the search for case studies. It took almost half a year to find proposals for case studies, even with involvement of relevant federal services. Even then, several cases were not usable because they involved ex-post evaluations, some others were less relevant for SIA. In general though, all proposed cases concern small-scale initiatives. This means that the case studies may give an inaccurate image of the complexity evoked by SIA (methodological, organizational and institutional).

## Annexes

The following Annexes are an integral part of the research report and can be found on the website of Federal Science Policy and on the individual websites of the research partners.

### **Annex 1:**

Heyerick, A.; Paredis, E. (2005). “Sustainability Impact Assessment: Overview of methodological, institutional and scientific questions”. Preparatory document for users committee of 5 october 2005.

### **Annex 2:**

Risse, N. (2004). “Revue de littérature et synthèse de l'état de l'art en évaluation environnementale stratégique”. Working Paper. SMG-ULB. 62p.

### **Annex 3:**

Wäktare M. (2005), “L'Analyse d'Impacts de la Commission Européenne. Revue de la littérature et analyse de cas”. Working paper, ULB-IGEAT. 49p.

### **Annex 4:**

Lussis, B. (2004). “EU extended impact assessments review”. Working paper, Institut pour un Développement Durable.

### **Annex 5:**

Lussis, B. (2005). “Overview of economic assessment models available at the Belgian Federal Policy level and at the EU Commission” Working paper, Institut pour un Développement Durable.

### **Annex 6:**

Questionnaire

### **Annex 7:**

List of Interviewed persons

### **Annex 8:**

Bauler T., Wäktare M. (2006). “Towards a screening mechanism for SIA: process and content issues related to the federal Belgian case”. Working Paper, February 2006, ULB-IGEAT. 77p.

### **Annex 9:**

Thomaes, P.; Paredis, E. (2005). “Report on the institutional/judicial integration of SIA in the Belgian federal governmental structures”. Working Paper, August 2005, CDO-UGent / CEL-UGent, 63p.

**Annex 10:**

Heyerick, A.; Paredis, E. (2005). “Integration of the participation principle in the Belgian SIA process”. Working Paper, September 2005, CDO- UGent, 35p.

**Annex 11:**

Boulanger, P.-M. (2005): "Integration in Sustainability Impact Assessment: Meanings, Patterns and Tools". Working paper, Institut pour un Développement Durable.

**Annex 12:**

Heyerick, A; Paredis, E. (2005). “Report of the case study on Ethical Public Purchasing”. Working Paper. CDO – Ugent.

**Annex 13:**

Lussis, B. (2005). “L’impact environnemental des biocarburants”. Working paper, Institut pour un Développement Durable.

**Annex 14:**

Defeyt, P. (2005). “Données et enjeux économiques des biocarburants”. Working paper, Institut pour un Développement Durable.

**Annex 15:**

Boulanger P.-M. (2006). “The Actions-Consequences-Objectives Framework. An integrative tool for SIA?”. Working paper, Institut pour un Développement Durable.

**Annex 16:**

Bauler, T; Boulanger, P.-M.; Heyerick, A; Paredis, E. (2006). “Sustainability Impact Assessment at federal level: an overview of (provisional) conclusions, policy implications and scenario’s for implementation”. Preparatory document for expert seminar on 26 January 2006.

**The annexes of the report are available at the website of the Belgian Science Policy :**

**[www.belspo.be /FEDRA/](http://www.belspo.be/FEDRA/) research action CP, CP-46**