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A review of strategic environmental assessment in 12 selected countries

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Abstract

Strategic Environmental Assessment (SEA) is acknowledged to be an important decision support tool. The increased application of its principles in countries worldwide, the introduction of SEA procedures in planning and decision-making processes of international aid and cooperation organisations, as well as the recent endorsement of two relevant legal documents in the international arena only serve to emphasise the acclaimed significance of the process. In light of the scarcity of literature exploring the practical implementation of SEA, this paper attempts to provide a comparative overview of SEA systems in 12 selected countries from their legal, institutional and procedural perspectives in order to unveil potential implementation pitfalls, obstacles and lessons learnt as well as uncertainties and lack of data for future research, replication and customisation elsewhere or refining of existing systems.

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1. Introduction

The development and consequent adoption of Strategic Environmental Assessment (SEA) procedures have gained momentum in recent years. Not only have more countries revised their approaches vis-à-vis the integration of environmental assessment at different tiers of the decision-making process, but the international arena has also played a vital role in re-emphasising the importance of SEA through the endorsement of two important legal documents, namely, the European SEA Directive (2001/42/EC) and the United Nations Economic Commission for Europe (UNECE) 2003 SEA Protocol. Moreover, international financing institutions and cooperation organisations are introducing more and more their own SEA procedures and requiring beneficiary countries to adopt and potentially mainstream these procedures into their planning and decision-making processes. A quick overview of the SEA concept and its different application models,⁵ as well as milestone international initiatives are briefly described prior to the comparative evaluation of SEA experience in 12 selected countries, which aims to unveiling potential implementation pitfalls, obstacles and lessons learnt, as well as uncertainties and lack of data for future research, replication and customisation elsewhere or refining of existing systems.

2. Brief overview of SEA

SEA is recognised as an important decision support tool for integrating environmental considerations along with social and economic considerations into proposed policies, plans and programmes (PPPs). In essence, the process attempts to mainstream environment into policy and decision-making processes. The concept has been defined as (Sadler and Verheem, 1996):

“A systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision-making on par with economic and social considerations.”

Moreover, it is often considered as a complement to project-based Environmental Impact Assessment (EIA) so that environmental assessments are conducted at all levels of decision-making; from policy/plan/programme formulation to project management and implementation.

In light of the evolving nature of environmental assessment, SEA is currently perceived as a second-generation paradigm moving EIA principles ‘upstream’ in the decision-making process (Table 1). It has been reported (Dalal-Clayton and Sadler, 1999, 2003) that most SEA experience occurred at the level of plans and programmes where EIA procedures and approaches were applied fairly readily (most commonly for the energy, transport, waste and water sectors and on spatial or land use plans). However, recent controversy has surfaced with regard to the nature and scope of SEA. One school of

⁵ Due to the abundance of literature concerning the evolution and intricacies of the process, the next sections are restricted to issues of concern to this paper.

Table 1

The evolving paradigm—from EIA to SEA and toward (E)SA (Dalal-Clayton and Sadler, 2003)

Paradigm/level/stage	Key characteristics
1st Generation—Project EIA	Includes social, health and other impacts, cumulative effects and biodiversity
2nd Generation—SEA	Applies to PPPs and legislation
3rd Generation—towards environmental sustainability assurance (ESA)	Use of EIA and SEA to safeguard critical resource and ecological functions and offset residual damage; plus environmental accounting and auditing of natural capital loss and change
Next generation—towards sustainability appraisal (SA)	Integrated or full cost assessment of the economic, environmental and social impacts of proposals

thought maintains that the process must largely centre on environmental issues while the other holds that SEA must provide a sustainability focus encompassing social and economic aspects alongside environmental ones. In addition, it is argued that SEA at the policy level requires a different methodological approach than that used in lower tier plans and programmes. However, there is widespread consensus regarding the lack of a ‘blueprint’ approach to SEA, as the process will need to be tailored to the particularities of individual countries (Dalal-Clayton and Sadler, 1999, 2003; Partidario, 2000, 2003a,b; von Seht, 1999). Fewer applications at the policy level are a result of constraints related to (adapted from Dalal-Clayton and Sadler, 1999):

- Securing the political and institutional will so that SEA has a ‘seat at the policy table’, i.e. decision-makers and policy-makers accept its legitimacy and acknowledge that SEA has a key and constructive role to play;
- Discerning the key leverage points in the policy making cycles to ensure that SEA is considered in all important stages throughout the process;
- Overcoming the high level of abstraction and uncertainty often associated with policy development; and
- Securing the adequate level of transparency and culture of democracy necessary for public access to information and decision-making particularly at early stages (or higher tiers).

3. International SEA systems

There are two legal documents that specifically set the international regulatory framework for SEA, namely, the European SEA Directive and the Kiev SEA Protocol.

The European SEA Directive 2001/42 was adopted on the 27th of June 2001⁶; it establishes a basic framework for assessing the effects of certain plans and programmes on the environment. It is worth highlighting that the directive precludes policies that usually set the framework for lower tiers; i.e. plans and programmes. Its scope includes in general

⁶ Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. OJ L 197, 21.7.2001, p. 30.

plans and programmes prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use, as well as those setting the framework for future development consents for projects covered by the European EIA directive⁷ and the Conservation of Natural Habitats and Wild Flora and Fauna⁸ directive. Exclusions include plans and programmes dedicated to serve national defence or civil emergencies as well as those pertaining to financial initiatives or budget. The responsibility of developing a detailed procedure is left to the Member States, who are required to harmonise the directive with their own national legislation by 21 July 2004. The Commission is required to prepare the first report on the application and effectiveness of the Directive 5 years after its entry into force, and subsequently at 7-year intervals.

The SEA Protocol was developed to supplement the Convention on EIA in a Transboundary Context⁹ (also known as the 1991 Espoo Convention). Once ratified, the Protocol requires the Parties to evaluate the environmental and health impacts of their draft plans and programmes; it also addresses policies and legislation proposals. Its scope and requirements are quite similar to those of the European SEA directive except for the emphasis placed on the consideration of health impacts, which reflects the active participation of the World Health Organisation (WHO) in its elaboration, as well as the explicit requirement for addressing transboundary effects. The protocol puts more weight than the European directive on the need for undertaking and defining clear and transparent arrangements for public participation; it clearly provides for public consultation as early as the scoping step if possible. This slight variation in emphasis from the European directive is a clear indication of its link with the Aarhus¹⁰ Convention. The SEA Protocol was recently opened to all United Nations member states at the Fifth Ministerial ‘Environment for Europe’ Conference, on the 21st of May 2003. Accession by non-European countries is possible following approval by the Meeting of the Parties to the Protocol (personal communication, UNECE, ESPOO Convention Secretariat).

4. SEA in financial and development assistance organisations

Table 2 outlines several initiatives by international financing institutions and cooperation organisations that have devised SEA-type instruments and requirements in order to enhance environmentally sound lending and development initiatives. The list is by no means exhaustive but it presents a wide array of approaches and initiatives.

⁷ Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment. OJ L 175, 5.7.1985, p. 40. Directive as last amended by Directive 97/11/EC (O.J. L 73, 14.3.1997, p. 5).

⁸ Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Flora and Fauna. OJ L 206, 22.7.1992, P.7. Directive as last amended by Directive 97/62/EC (O.J. L 305, 8.11.1997, p. 42).

⁹ The ESPOO, also known as the Convention on Environmental Impact Assessment in a Transboundary Context (25 February 1991) [Online]. Available: <http://www.unece.org/env/eia/documents/conventionenglish.pdf>.

¹⁰ The Aarhus Convention, also known as the Convention on Access to Information, Public Participation in Decision Making and Access to Justice on Environmental Matters (25 June 1998) [Online]. Available: <http://www.unece.org/env/pp/documents/cep43e.pdf>.

Table 2
SEA procedures in selected international organisations

Agency	Procedure	Description
AIDEnvironment in cooperation with the Netherlands Development Organisation ¹	Strategic Environmental Analysis	<ul style="list-style-type: none"> ■ Integrates environmental concerns into policies and strategic plans ■ Applied mainly to support Governmental institutions and NGOs in carrying out an environmental analysis and planning for defining a sustainable development policy or strategic plan
Development Assistance Committee (DAC) ²	SEA	<ul style="list-style-type: none"> ■ In November 2002, the DAC Working Party on Development Cooperation and the Environment established a Task Force to advance the role of SEA in development cooperation ■ The Task Force focuses on demonstrating the added value of SEA in development cooperation decision-making, as well as potential synergies and cross linkages among different approaches used by development cooperation and aid agencies
European Commission (EC) ³	Structural Funds	<ul style="list-style-type: none"> ■ Aims to promote the development and structural adjustment of regions whose development is lagging behind and contribute to the harmonious, balanced and sustainable development of economic activities, the development of employment and human resources, the protection and improvement of the environment, the elimination of inequalities, the promotion of equality between men and women by supporting the adaptation and modernisation of policies and systems of education, training and employment ■ Stages: <ul style="list-style-type: none"> – Assessment of the existing environmental situation – Setting objectives, targets and priorities – Drafting the development proposal and identifying alternatives – Environmental assessment of the draft proposal – Setting environmental indicators – Integrating the results of the assessment into the final decision on plans and programmes
Canadian Department of Foreign Affairs and International Trade (DFAIT) ^{4,5}	Environmental Review Strategic Environmental Assessment	<ul style="list-style-type: none"> ■ Environmental Review of the North American Free Trade Agreement (NAFTA) <ul style="list-style-type: none"> – First trade agreement to undergo environmental review. Each country was responsible for undertaking its own assessment

(continued on next page)

Table 2 (continued)

Agency	Procedure	Description
UK Department For International Development (DFID) ⁶	Strategic Environmental Assessment	<ul style="list-style-type: none"> – Applied to ensure that environmental considerations were taken into account during the negotiation process and to document the potential environmental effects of NAFTA – Led to the conclusion of a side agreement on environmental cooperation, which provided for the establishment of a North American Commission on Environmental Co-operation. ■ Three distinct phases for the assessment of the World Trade Organization (WTO) Multilateral Negotiations^a <ul style="list-style-type: none"> – The first phase (ended in 1999) involved a retrospective analysis of the 1994 Environmental Review of the Uruguay Round. The Retrospective Analysis is intended to help formulate the methodology for assessing the new round. – The second phase (from Dec. 1999 to Mar. 2000) focused on the formulation of that methodology once the agenda for the new round is delineated at the Seattle Ministerial. Comments received on the Retrospective Analysis will be incorporated into the development of this methodology. – The third phase of the SEA (from Mar. 2000 onward) involves the detailed review of environmental issues according to parameters established in the methodology, and will be undertaken concurrently with the negotiations over the course of the next few years.
		<ul style="list-style-type: none"> ■ Guides policy development and initiatives for regional and/or sectoral development, applied to: <ul style="list-style-type: none"> – Activities which do not have discrete project-based outputs (agricultural subsidy reform, trade policy or economic reform) – Sectoral investment or support programmes (water resources or waste management, tourism, transport planning, the energy sector, and minerals extraction) – Regional strategic planning and policy formulation (coastal zone management planning, urban/industrial development plans, catchment management or regional development plans) – Situations prone to cumulative effects – Projects or activities that may induce development beyond the control of the project developer (industrial estates, urban development programmes and road projects)

Table 2 (continued)

Agency	Procedure	Description
UNDP ⁷	Environmental Overview of Programmes/Projects	<ul style="list-style-type: none"> – Projects which are part of programmes made up of a large numbers of small-scale developments or community-based projects that are too small or numerous to appraise individually. ■ Targets project staff, key decision-making and other stakeholders ■ Methodology consists of: <ul style="list-style-type: none"> – Determining baseline conditions for the programme/project (bio-physical environment, social environment, economic forces operating in the vicinity of the plan/programme, management practices and capabilities) – Studying the major natural and socio-economic impacts and opportunities – Examining (through suitable modifications/alternatives) how the draft project/program can be redrafted in an operational strategy to take these, and the baseline conditions, into account ■ Assisted in the design of other strategic tools including integrated programming and assessment tool (IPAT) and revised environmental management guidelines (EMG)
United Nations Environment Programme (UNEP) ⁸	Strategic Integrated Assessment of Trade Policies	<ul style="list-style-type: none"> ■ Targets environment policy makers, trade policy makers, environmental economists, and EIA practitioners ■ Outlines a framework for analysing the economic, environmental and social impacts of trade liberalisation ■ Anticipated methodology <ul style="list-style-type: none"> – Acquiring baseline information on environmental, social, and economic aspects – Integration of forecast modelling, valuation techniques and cost benefit analysis
USAID ⁹	Country Programming	<ul style="list-style-type: none"> ■ Focuses aid management on the objective of sustainable development from the policy level down to the specific project level and monitor progress achieved at all levels ■ Requires that all country strategic plans represent an integrated agenda of sustainable development activities, exploiting, where possible, synergies that exist across substantive programme areas ■ Country strategic plans are developed through a collaborative process between Headquarters and field missions; partners from both the host country and the USA are involved

(continued on next page)

Table 2 (continued)

Agency	Procedure	Description
World Bank ^{2,10,11}	Environmental Assessment (EA) <ul style="list-style-type: none"> ■ Regional and Sector Assessments ■ Country Environmental Analysis ■ Energy and Environment Reviews ■ Poverty and Social Impact Analysis 	<ul style="list-style-type: none"> ■ EA is one of the 10 Safeguard Policies of the Bank, and is used to examine the environmental risks and benefits associated with Bank lending operations. It is applied at the strategy, plan, programme and sector levels (Mercier, 2002). For example, sectoral EAs address sector wide issues and programmatic loans; while regional EAs take a spatial, area-wide approach to development planning ■ The 2001 Environment Strategy provides for the application of SEA in Bank operations to mainstream environment in all the Bank's operations and undertakings. This is made possible by influencing planning and decision-making processes at an early stage ■ A Structured Learning Program was launched in 2001 to expand effective application of SEA ■ The process involves client governments and specialists, development partners, and the broader sustainable development community

References: ¹Kjorven and Lindhjem, 2002; ²OECD, 2002; ³Official Journal L 161, 1999; Partidario, 2003b; ⁴Nierynck, 1997; ⁵DFAIT, 2003; ⁶DFID, 1999; Dalal-Clayton and Sadler, 2003; ⁷Brown, 1997; Kjorven and Lindhjem, 2002; Dalal-Clayton and Sadler, 2003; ⁸Abaza and Hamway, 2001; Dalal-Clayton and Sadler, 2003; ⁹OECD, 2001; ¹⁰Dalal-Clayton and Sadler, 1999; World Bank 2003a,b; ¹¹Mercier, 2002.

^a The United States, the European Union and a number of international non-governmental bodies are also undertaking SEA of the WTO agreements (DFAIT, 2003).

It is worth noting that the focus of certain procedures varies between those maintaining an environmental perspective and those encompassing the three pillars of sustainable development.

5. Approaches and models of SEA application

While the UNECE Protocol and the European Directive on SEA set out the general requirements for implementing SEA within member states, the actual mode of application differs widely from one country to the other. Numerous approaches for establishing SEA requirements have evolved to cater to the political, cultural, legal, institutional and planning context of the concerned country. In general, however, these provisions for SEA can be grouped under three general approaches (Dalal-Clayton and Sadler, 2003), namely those:

- Introducing SEA as a relatively separate, distinct process—typically as an extension of EIA;

- Establishing SEA as a two-tier system with separate requirements for specific sectoral plans and programmes and others for strategic policies;
- Incorporating SEA into more integrated forms of environmental policy appraisal and regional and land use planning.

The evolution of these approaches, considered from two broad perspectives, commonly exhibit methodological and procedural elements learned after policy or plan evaluation practices (top-down approaches) or after project EIA practices (bottom-up approaches) (Fig. 1) (Partidario, 2000; Dalal-Clayton and Sadler, 2003):

- Top-down perspective: the impetus for SEA stems from policy analysis and planning whereby the process is driven by sustainable development concerns. The formulation of policies and plans incorporates principles of environmental assessment, in which the needs and options for development are first identified and then systematically assessed.
- Bottom-up perspective: SEA is applied to plans, programmes and, sometimes, using existing EIA procedures and requirements, as an extension of EIA. The process has been driven by concerns regarding the EIA limited, project-specific focus and the lack of coverage with respect to higher-level decisions.

Considering the former three approaches and the possible alternatives along the continuum depicted in Fig. 1, several hybrid SEA models have emerged (Sadler, 2001; Dalal-Clayton and Sadler, 2003; Partidario, 2003a,b). A recent classification attempted by Partidario (2003a,b) identified the following SEA models (Table 3):

- EIA-based: SEA is often carried out under the requirements of EIA legislation. It follows the EIA approach and uses similar tools.
- Dual Track: The SEA process and its procedures run in parallel but independently from the policy-making and planning process

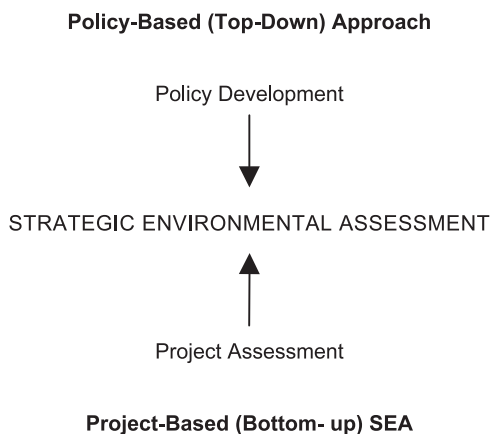


Fig. 1. Top-down versus bottom-up.

Table 3

Examples of SEA models (modified from Partidario, 2003a,b)

Model	Advantages	Disadvantages	Particular Feature	Case Example
EIA-based (<i>same approach used for EIA</i>)	<ul style="list-style-type: none"> ■ Straightforward: stages are clearly defined as they are the same as those used in EIA 	<ul style="list-style-type: none"> ■ Not flexible: Limited to EIA-based procedures ■ Integration into decision-making process not straightforward ■ Sometimes loses strategic value ■ Very limited added value to decision-making process, may be inconsistent with decision-making process 	<ul style="list-style-type: none"> ■ Most commonly applied at the levels of programmes and plans ■ Usually adopted when requirements for SEA develop in detail under the EIA legislation 	USA Netherlands
Dual track (<i>SEA runs in parallel but independently from planning and policy making</i>)	<ul style="list-style-type: none"> ■ Procedures for the SEA process are clearly identified ■ Good articulation with a strong and well structured planning process may enable successful outcomes 	<ul style="list-style-type: none"> ■ For less structured planning processes, this model risks to miss the dynamics of planning ■ Integration into the decision-making process is crucial ■ Limited added value resulting from SEA application as it is not fully integrated into the decision-making process 	<ul style="list-style-type: none"> ■ Quite common where the planning process is well structured and possesses a strong environmental component 	UK: Sustainability appraisal
Integrated (<i>SEA is an integral part of planning and decision-making</i>)	<ul style="list-style-type: none"> ■ Provides flexibility: no defined procedures 	<ul style="list-style-type: none"> ■ Cannot measure or assess the effectiveness of SEA as there is no distinction between SEA and the planning process in addition to the lack of separate SEA reporting requirements 	<ul style="list-style-type: none"> ■ No defined SEA procedure; part of 'effect-based' policy making 	New Zealand

<p>Decision-centred (SEA adapted to planning and policy making)</p>	<ul style="list-style-type: none"> ■ Depending on the need, procedural impact assessment elements are engrained into existing procedures for the formulation of PPP ■ Focuses on value added to existing procedures for the formulation of PPPs and on avoiding any duplication of work ■ Minimises requirements for additional human and financial resources ■ Provides flexibility: the planning process “drives” the SEA framework (SEA is customised to the decision-making system in a given country or sector) ■ Adopts a more transparent approach through its reporting output at critical stages of the decision-making ■ It is increasingly being adopted ■ Requires only minor legislative definition 	<ul style="list-style-type: none"> ■ Flexibility can be a two-sided weapon in less structured and clear planning processes. ■ To date, this model has not been extensively tested yet and misses to demonstrate effectiveness 	<ul style="list-style-type: none"> ■ Currently, information on the actual application of this model is somewhat limited, as it is an emerging concept and is not yet widely described in the literature 	<p>Portugal South Africa Canada UK: Policy appraisal</p>
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- Integrated: SEA is part of policy-making and planning
- Decision-centred: The planning and policy-making process determines the SEA framework, which is adapted and customised accordingly to insure a close fit with the requirements of strategic decision-making.

Although countries may be grouped under a single model, their SEA frameworks are not similar due to national particularities in legal and institutional structures, and procedural arrangements. Furthermore, it is important to stress that there is a fine line differentiating between the characteristics of each model. The authors acknowledge these differences only as they ultimately reflect on and determine:

- Whether SEA procedures dictate a sustainability-led or strictly environmental approach;
- The extent to which SEA caters to the existing characteristics of local planning and decision-making processes (as opposed to being imposed as a discrete process), and hence the degree to which it will be accepted, adopted and implemented;
- The consistency between different tiers of strategic actions, and the suitability of the process to the high level of abstraction observed in higher tiers;
- The prominence of public participation and its effectiveness in increasing the transparency of public planning and decision-making;
- The objectivity of the SEA process and the possibility for independent review, quality control and overall process assessment; and
- Its effectiveness in shaping public decision-making.

However, due to the controversial nature, and weak consensus among practitioners with respect to the categorisation of SEA models, this subject will not be elaborated any further.

6. Methodology

The methodology consists of a comparative assessment of SEA application in 12 selected countries through the evaluation of their respective legal, institutional and procedural frameworks. The countries were selected so as to cover a wide range of geographical locations and economic conditions, i.e. developed/developing countries and economies in transition, as well as different SEA systems and approaches pending data availability. It is worth noting that some changes to the SEA systems quoted from Europe may be introduced in compliance with the requirements of the European SEA Directive. Nevertheless, as noted above, the evaluation seeks to explore different modes of mainstreaming SEA into planning and decision-making processes, enhancing public access to decision-making, as well as establishing relevant clear, transparent and effective procedures. The information presented has been compiled from articles, reports, papers and books identified from computer-based searches, in addition to personal contacts with SEA practitioners and professionals. The ensuing sections discuss the finding of the comparative assessment. Please note that the countries are presented in alphabetical order throughout (Tables 4–6), and do not reflect any preference or hierarchy.

Table 4

Comparative matrix of SEA application in 12 selected countries (references provided in Annex A)

Country	Legal basis (legislation/provision/guidelines)	SEA application (policy Plan and/or Programme)	Coverage (sectors)	Administrative Scale (local/national/regional)
Canada	Cabinet Directive 1990, amended in 1999 ¹	PPPs ^{1,2,4}	<p>Specific sectors are not mentioned in the Directive. However, PPPs excluded from SEA are:</p> <ol style="list-style-type: none"> 1. Proposals prepared in response to a clear and immediate emergency where time is insufficient to undertake an SEA (ministers are responsible for determining the existence of an emergency); 2. Where the matter is of such urgency, for example, for the economy or a particular industrial sector, that the normal process of Cabinet consideration is abridged so that even a simplified SEA cannot be presented 3. Issues that have previously been assessed for their environmental impacts, for example, an initiative that is a subset of a PPP that was previously assessed, or Treasury Board submissions on matters already assessed under a previous proposal to Cabinet or assessed as a project under the <i>Canadian Environmental Assessment Act</i> 	Regional and national

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Table 4 (continued)

Country	Legal basis (legislation/provision/guidelines)	SEA application (policy and/or PP)	Coverage (sectors)	Administrative Scale (local/national/regional)
Czech Republic	Environmental Impact Assessment Act No. 244/1992 ^{1,2}	“Concepts” ¹ : strategic proposals submitted and approved by the central authorities of state administration	Energy, transport, agriculture, waste treatment, mining and processing of minerals, recreation, tourism, territorial planning, water management ^{1,2}	Central authorities of State Administration ²
Denmark	Prime Minister’s Office Circular of 1993 (amended in 1995 and 1999 when requirement became legally binding) ^{1,2}	Bills, proposals ¹ and ministry budgets ⁴	<ul style="list-style-type: none"> ■ Sector environmental policy objectives (energy, transport and agriculture) ■ Action plans under the responsibility of the Ministry of Energy and Environment (MEE) (energy, aquatic environment, cleaner technology, waste and recycling)³ 	Regional and municipal ¹
Hong Kong SAR	The 1998 EIA Directive calls for the evaluation of some plans and programmes and the 1999 Chief Executive’s Policy Address necessitates sustainability assessments effective as of 2002 ⁴	Strategic policies ² and proposals of legislation ⁴	Sectors covered by environmental protection: territorial development and land use, transport development, sewage disposal, waste to energy incineration, power generation ¹	National and regional
Netherlands	<ul style="list-style-type: none"> ■ EIA Decree of 1987 (amended in 1994 and 1999) includes a statutory SEA requirement for specified land use and sectoral plans and programmes^{1,2} ■ Cabinet Order of 1995 on the implementation of the Environmental Test^{1,2} 	<ul style="list-style-type: none"> ■ SEA: listed plans and programmes^{1,2} ■ E-test: draft regulations and policy intentions^{1,2} 	<ul style="list-style-type: none"> ■ SEA: Waste management, electricity generation, water supply, land development, regional plans involving site selection of major housing, industrial and recreational areas^{1,2} ■ E-test: All sectors¹ 	<ul style="list-style-type: none"> ■ SEA: regional, national, local³ ■ E-test: national³

New Zealand	<p>As noted in the text, European countries are expected to conform to the European SEA Directive by mid 2004—accordingly procedures may be reviewed/updated Resource Management Act 1991¹ and Amendments²</p>	Plans and policies ⁴	All ^{2,5}	Local, national and regional ²
Portugal	<ul style="list-style-type: none"> ■ Harmonisation of the EC SEA Directive ■ Guidelines for Strategic Impact Assessment² have been prepared as specified by the Spatial Planning Act and Regulations (Law no. 48/98 and Decree Law no. 380/99) 	Spatial plans ¹	Land use and spatial planning ^{1,2}	Regional, inter-municipal, municipal ^{1,2}
Slovenia	<p>Environmental Protection Act of 1993 stipulates that strategic environmental evaluations are undertaken within the framework of spatial planning¹ (specific SEA regulations not yet adopted)^{1,2}</p>	Spatial and related sectoral PPPs ¹	Spatial and related sectors (land use planning) ¹	Regional and local
South Africa	<p>There are no legislative requirements specifically for SEA although the National Environmental Management Act of 1998^{1,2} and its amendments³, make provision for assessment procedures to ensure that the environmental consequences of PPPs are considered⁴</p>	PPPs ^{2,3}	Not specified, performed on a voluntary basis	Regional and national

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Table 4 (continued)

Country	Legal basis (legislation/provision/guidelines)	SEA application (policy and/or PP)	Coverage (sectors)	Administrative Scale (local/national/regional)
Sweden	A bill was published in 2004 for adopting necessary amendments for the implementation of the European SEA Directive. Amendments to the 1999 Environment Code ³ , the 1987 Planning and Building Act ⁴ (and its amendments) and the 1977 Act on Local Authority Energy Planning took note of a “special EIS” adapted to the planning process. A more detailed ordinance is underway in order to accommodate for the requirements of the European SEA Directive and the UNECE SEA Protocol ⁵	Expected to cover plans and programmes ^{5,6}	No specific provision on which plans/programmes will fall under the new requirements. Expected to cover those specified by the European SEA Directive ⁵	Regional, national or local ⁶
UK*	Practical Guidance on Applying European SEA Directive 2001/42/EC ¹	SEA Directive: plans and programmes ¹	Local plans, unitary development plans, structure plans, mineral local plans, waste local plans, regional planning guidance, spatial development strategy for London, local development documents, and regional spatial strategies ¹	Local and regional ¹

	Draft Planning Policy Statement 12 ²	Policy appraisal: plans and strategies ²	Development plans and regional spatial strategies in addition to matters that may be implemented through the planning system (regeneration, economic development, education, housing, health, waste, energy, biodiversity, recycling, protection of the environment, transport, culture and social issues) ²	Local and regional ²
	Planning Policy Guidance 11: Regional Planning (2000) ^{3,4}	Sustainability appraisal: PPPs developed by planning agencies ⁴	During the formulation of the spatial strategy and the development of a draft Regional Planning Guidance (RPG) strategy ⁴	Regional
USA	The National Environmental Policy Act of 1969 ^{1,2} and amendments ²	Major Federal actions such as policies, regulations and public laws ^{1,2}	All proposals for legislation and other major Federal actions significantly affecting the quality of the human environment ^{1,2}	Federal

*Please note the following:

- The new draft guidance for SEA (ODPM, 2004) is under consultation (deadline for feedback is set at the end of October); it contents, however, have not been included in this paper.
- The draft Planning Policy Statement 2 replaces the Planning Policy Guidance Note 12 Development Plans issued by the Department of the Environment, Transport and the Regions in December 1999 (ODPM, 2003b). Moreover, local planning authorities must comply with Directive 2001/42/EC when preparing the development documents.
- Sustainability appraisal is an integral part of developing Regional Planning Guidance, and regardless of techniques used to evaluate options, it is important that they meet the four sustainable development objectives set out by the Government's new national sustainable development strategy (ODPM, 2000a):
 - Maintenance of high and stable levels of economic growth and employment;
 - Social progress which recognises the needs of everyone;
 - Effective protection of the environment; and
 - Prudent use of natural resources.

Table 5
Review of the SEA institutional framework in 12 selected countries^a (references provided in Annex A)

Country	Authority for environmental issues	Authority responsible for initiating SEA	Authority responsible for conducting SEA	Authority responsible for reviewing SEA
Canada	Minister of Environment ² In addition, the Commissioner for the Environment and Sustainable Development, as per the <i>Auditor General Act</i> , is responsible for overseeing the government's efforts to protect the environment and promote sustainable development	Minister of Environment Canadian Environmental Assessment Agency (CEAA) ²	Proponent department and agency ²	Provisions for review were not found in the consulted literature; however, the guidelines for implementing the Directive note ² : <ul style="list-style-type: none"> ■ When a PPP is submitted to Cabinet, ministers are collectively responsible for ensuring that decisions fully reflect the environmental implications of the initiative ■ The Minister of Environment is responsible for advising on environmentally appropriate courses of action ■ The Commissioner for the Environment and Sustainable Development will hold government accountable for greening its policy, operations and programmes and will review progress in the different departments and agencies
Czech Republic	Ministry of Environment ²	Proponent Authority ²	Proponent authority ^{1,2}	Ministry of Environment ²
Denmark	Ministry of Energy and the Environment (MEE) ^{2,4}	MEE identifies proposed bills that might have a significant effect on the environment ⁴	Proponent authority ^{1,4} or consultants ²	SEA review is not performed as it is noted that MEE “does not comment on SEA, but prepares an annual monitoring report” ⁴

Hong Kong SAR	Environmental Protection Department (EPD)	EPD	Could not be determined from consulted literature— speculated to be the proponent	The EPD Director decides whether or not the SEA report meets the requirements ⁵
Netherlands	Ministry of Spatial Planning, Housing and the Environment ¹	<ul style="list-style-type: none"> ■ SEA: proponent authority³ ■ E-test: inter-ministerial working group² 	<ul style="list-style-type: none"> ■ SEA: consulting firms, proponent³ ■ E-test: Proponent authority² 	<ul style="list-style-type: none"> ■ SEA: advice of independent expert committee (EIA Commission) sought during scoping and review^{1,3} ■ E-test: Joint Support Centre (environment and economic ministries) and Ministry of Justice^{1,2}
New Zealand	Ministry of Environment ^{1,2}	Proponent authority	<ul style="list-style-type: none"> ■ Minister of Environment→National policy statement ■ Minister of Conservation→Coastal policy statement ■ Local authority→policy statement or plan ■ Relevant Minister before issuing a national policy statement⁴ 	Procedures for review are not specified in legal documents ^{1,2} (Schedule 1, entitled “Preparation, Change, and Review of Policy Statement Plans” only specifies who takes decisions)
Portugal	Ministry of Environment ¹ (Possibility for decentralisation government authorities responsible for land use planning and the environment would have duty and responsibility to oversee SEA in their respective regions ¹)	Proponent authority although SEA can be outsourced to consultants as per case studies noted in the literature ¹	Proponent authority (SEA is part of the spatial planning process)	Independent third party review including national authorities responsible for the approval and/or adoption of spatial plans ²
Slovenia	Ministry of Environment, Spatial Planning and Energy ¹	Ministry of Environment, Spatial Planning and Energy ¹	<p>Either:</p> <ul style="list-style-type: none"> ■ Proponent authority^{1,2} ■ A licensed institution on behalf of the authority¹ 	Peer review panel appointed by Ministry of Environment, Spatial Planning and Energy ¹

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Table 5 (continued)

Country	Authority for environmental issues	Authority responsible for initiating SEA	Authority responsible for conducting SEA	Authority responsible for reviewing SEA
South Africa	Department of Environmental Affairs and Tourism ^{2,3}	Proponent ⁴	A pre-qualified environmental assessment practitioner registered in accordance with specific procedures (to be established) ³	Although review is required, there are no legislated responsibilities identifying which government authorities are to perform the review; reviewers could include relevant authorities, specialists and affected parties ⁴
Sweden	Ministry of Environment ¹ Swedish Environmental Protection Agency ²	Could not be determined/ identified from consulted references	Not yet determined as SEA procedures are still being developed	Not yet determined
UK	Department of the Environment, Transport and the Regions (DETR)	Performed by proponent as part of the planning process	■ Applying EC SEA Directive: Proponent authority that produces the plan ¹	■ Applying European SEA Directive: The Guidance does not elaborate on review requirements although a quality assurance checklist is provided ¹

USA	Environmental Protection Agency	Proponent authority (Agencies of the Federal Government)	<ul style="list-style-type: none"> ■ Policy appraisal: local planning authority² ■ Sustainability appraisal: independent team⁴: • Team of people from Regional Planning Body not involved in strategy and policy development with involvement, as appropriate, of other regional stakeholders • An academic institution • A consulting firm 	<ul style="list-style-type: none"> ■ Policy appraisal: Independent examination by the Planning Inspectorate² ■ Sustainability appraisal: Could not be determined from consulted literature, although it is speculated to be the same as above
			Proponent agency of the Federal Government	Council on Environmental Quality ²

Table 6
SEA process components in the 12 selected countries (references provided in Annex A)

Country	Screening	Scoping	Types of impacts considered	Public participation (stage and method as per available data)	Alternatives	Submittal of a report	Impact mitigation	SEA review
Canada	SEA is determined on a case by case basis and is expected when ^{1,2} : 1. A proposal is submitted to an individual Minister or Cabinet for approval, and 2. Implementation of the proposal may result in important environmental effects, positive and negative Note that there are exclusion criteria for PPPs that do not require an SEA (see Table 4)	The Directive states that 'the level of effort in conducting the analysis should be commensurate with the level of anticipated environmental effects' ² Furthermore, it notes that the guidelines for SEA are advisory whereby proponents have discretion for determining how they conduct SEAs	Environmental ² (SEA should contribute to the development of PPPs taking into consideration environmental impacts on an equal basis with economic or social analysis. Furthermore, an environmental effect refers to any change on health and socio-economic conditions)	Yes-to the extent possible ² The analysis should identify the concerns of those likely to be affected, stakeholders and the general public about environmental effects ² Sources of information on public concerns include ² : 1. Economic and social analysis underway on the proposal 2. Ongoing public consultation mechanisms in the department (Responsible authorities help provide opportunities for public participation ³) 3. Expert departments 4. Outside experts and organisations	Yes ² Guidance on the Directive notes that the environmental effects of alternatives must be evaluated and compared to help identify how modifications or changes to the PPP can reduce environmental risk	No separate SEA report is required ⁴ ; findings should be included in the relevant decision document ¹ However, proponent departments and agencies need to prepare a public statement on environmental effects if a detailed assessment on environmental effects has been conducted through SEA ⁴	Yes ²	Provisions for review were not found in the consulted literature
Czech Republic	All concepts defined as strategic proposals submitted and approved by the central authorities of state administration ^{1,2}	Scope defined in Annex 3 of the EIA Act ¹	Environmental, economic, social and health ¹	Yes ^{1,2} Method jointly determined by the proponent and Ministry of Environment on an ad hoc basis ¹ , however stage not specified	Could not be determined from the consulted literature	Yes, SEA document ¹	Could not be determined from the consulted literature	Yes (performed by Ministry of Environment; competent authority) ²

Denmark	<p>Checklists^{2,3,4}</p> <ul style="list-style-type: none"> ■ MEE screens the catalogue issued at the beginning of October of proposed bills that will be presented to Parliament. MEE contacts proponents to inform them that an SEA is required⁴ ■ Also, MEE issued a Guidance on SEA procedures that includes a checklist for screening potential environmental effects of proposals¹ <p>All PPP proposals submitted to the Executive Council⁴</p>	<p>Environmental, health, security, welfare³ and cultural heritage²</p>	<p>Yes¹, preferable to occur during scoping</p> <p>Method not specified</p>	<p>Yes⁴</p>	<ul style="list-style-type: none"> ■ Proponent authority determines scope on a case by case basis⁴ ■ Scoping is also addressed in MEE Guidance^{1,4} ■ It is noted that the assessment is carried out to the extent possible given administrative and data limitations¹ <p>Could not be determined from consulted literature</p>	<ul style="list-style-type: none"> ■ No separate report required^{3,4}, results presented as a section within commentary on bill or proposal (these should be presented as an easily understood non-technical statement¹) ■ Background assessment statement should be made accessible for the Parliament and the public as soon as the Bill is proposed³ <p>Yes³, SEA report</p>	<p>Yes⁴ (Also includes monitoring and follow-up programmes)</p>	<p>No⁴ (MEE only prepares a monitoring report)</p>
Hong Kong SAR	<p>All PPP proposals submitted to the Executive Council⁴</p>	<p>Environmental²</p>	<p>Yes⁵ The Director advises the proponent when the report can be submitted for public inspection following its review</p>	<p>Yes²</p>	<p>Could not be determined from consulted literature</p>	<p>Yes⁵</p>	<p>Could not be determined from consulted literature</p>	<p>Yes⁵</p>
Netherlands SEA	<p>Screening list⁴</p>	<p>Environmental</p>	<p>Yes¹, public involved during scoping and review¹</p>	<p>Yes¹</p>	<p>SEA report¹</p>	<p>Yes¹</p>	<p>There is no indication of mitigation requirements in the consulted literature</p>	<p>Yes¹</p>
E-test	<p>Inter-ministerial Committee identifies the issues to be examined²</p>	<p>Environmental and sustainability¹</p>	<p>E-test: No³</p>	<p>E-test: No³</p>	<p>Environmental report¹</p>	<p>Yes^{1,2}</p>	<p>There is no explicit explanation on review procedures in the legal document^{1,2} (Please note that Schedule 1, entitled "Preparation, Change, and Review of Policy Statement Plans" only specifies who takes a decision)</p>	<p>Yes^{1,2}</p>
New Zealand	<p>All draft regulations and policy intentions sent to the Cabinet</p> <p>All plans and policy statements⁴</p>	<p>Environmental, socio-economic and cultural impacts as well as effects on resources having historical, aesthetic, recreational values</p>	<p>Yes³</p>	<p>Yes^{3,5}</p>	<p>Yes^{3,4}</p>	<p>Yes³</p>	<p>Yes³</p>	<p>There is no explicit explanation on review procedures in the legal document^{1,2} (Please note that Schedule 1, entitled "Preparation, Change, and Review of Policy Statement Plans" only specifies who takes a decision)</p>

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Table 6 (continued)

Country	Screening	Scoping	Types of impacts considered	Public participation (stage and method as per available data)	Alternatives	Submission of a report	Impact mitigation	SEA review
New Zealand		Schedule 4 is entitled Assessment of the Effect on the Environment ³		The SEA report must identify interested or affected persons, the type of consultation undertaken and the response of the proponent to the collected views ³				
Portugal	Spatial plans defined in the Spatial Planning Act and Regulations ^{7,2}	Process has been described in the Guidance ²	Environmental, economic and social ²	Yes ² during scoping although method not specified	Yes ²	Yes ² , Strategic Impact Assessment Report (SIA) and a post-evaluation report	Yes ²	Yes ²
Slovenia	Either: – screening list – case-by-case decision based on a consultative process	Competent authority which may be assisted by an experienced professional ¹	Environmental ¹	Yes ¹ , during scoping and review of the SEA study. Methods include: public hearings, surveys and discussions	Yes ¹	Yes ¹ , SEA study	Yes ¹	Yes ¹
South Africa	Performed on a voluntary basis, although it is noted that screening is performed using a list (depending on type of PPP and geographical location) ^{2,3} or during the application for environmental authorisations ³	Description provided in Guidance prepared by DEAT ¹	Environmental, bio-physical, socio-economic and cultural heritage ⁴	Yes ^{2,3} , methods and stage not specified	Yes ^{2,3}	Yes ^{2,3} , SEA report	Yes ^{2,3}	Yes ^{2,3,4}
Sweden	Anticipated to be as stipulated in the European SEA Directive ⁵	Not yet determined as SEA procedures are still being developed	Not yet determined as SEA procedures are still being developed	Yes, anticipated as per the European Directive ⁵	Yes, as per the European Directive ⁵	Not yet determined as SEA procedures are still being developed	Not yet determined as SEA procedures are still being developed	Not yet determined as SEA procedures are still being developed

Note however that as of 1996 the Swedish Planning and Building Act, required that impacts on the environment, as well as social and economical impacts are considered as part of municipal comprehensive planning²

<p>UK Applying European SEA Directive</p>	<p>Screening list¹</p>	<p>Determined by plan-making authority¹</p>	<p>Environmental, economic and social¹</p>	<p>Yes¹ The Environmental Report is 'made available' online before the adoption of the plan¹</p>	<p>Yes¹</p>	<p>Yes¹, Environmental Report</p>	<p>Yes¹ (Monitoring of impacts after implementation is also required)</p>	<p>Review requirements are not elaborated in the Guidance¹ (A quality assurance checklist is provided for use by all those involved in SEA)</p>
<p>Policy appraisal</p>	<p>All matters implemented through development plans and spatial strategies</p>	<p>Guidance to be published by the ODPM</p>	<p>Economic, social and environmental</p>	<p>Yes²</p>	<p>Yes²</p>	<p>Yes², as part of the local development document</p>	<p>No (It is stated on page 31 of the Draft Planning Policy Statement 12 that "review and monitoring are key aspects of the Government 'Plan, monitor and manage' approach of the planning system")²</p>	<p>Policies are appraised by assessing them against selected sustainability objectives and targets⁴</p>

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Table 6 (continued)

Country	Screening	Scoping	Types of impacts considered	Public participation (stage and method as per available data)	Alternatives	Submitted of a report	Impact mitigation	SEA review
Policy appraisal				Local planning authorities consult with the public during preparation and revision, prior to submission of a development document to the Secretary of State—when the assessment of options is undertaken ²				
Sustainability appraisal	All PPPs	Performed by the body conducting the appraisal (Guidance provides a framework ³)	Environmental, social and economic ^{3,4}	No requirement ⁴ (It is not undertaken as part of the appraisal, but occurs when the draft Regional Planning Guidance (RPG) is submitted to the Secretary of State ³)	Yes ³	Yes ³ Sustainability appraisal report ^{3,4}	Yes ³	Policies are appraised by assessing them against selected sustainability objectives and targets ³
USA	Federal action with demonstrable environmental impact ¹	Proponent in consultation with CEQ ²	Environmental ²	Not clear, although it is specified that copies of the report and the comments and views of appropriate Federal agencies should be “made available” to the public ²	Yes ^{1,2}	Yes ^{1,2} , programmatic environmental impact statement	Yes ²	Yes ²

7. A comparative assessment of SEA application

7.1. Legal provisions

Table 4 outlines the legal bases for SEA implementation in 12 selected countries. The studied sample can be divided into two main groups: countries possessing legal provisions for SEA, and those currently drafting their national SEA provisions. Furthermore, countries with formal procedures can be further subdivided into three categories as follows:

- (1) Those possessing legal/formal provisions that are exclusive for SEA:
 - Canada: Cabinet Directive 1990, amended in 1999
 - Denmark: Prime Minister's Office Circular of 1993 (amended in 1995 and 1999)
 - United Kingdom: Draft Planning Policy Statement 11 (Sustainability Appraisal) and Planning and Policy Guidance 12 (Policy Appraisal)
- (2) Those possessing legal/formal provisions integrated within EIA legislation:
 - Czech Republic: Environmental Impact Assessment Act No. 244/1992
 - Hong Kong SAR: 1998 EIA Ordinance. It was reported by Partidario (2003b) that the Chief Executive Policy Address 1999-SIA will become effective in 2002. However, it has been argued that the territory still lacks a comprehensive environmental policy (Briffett et al., 2003).
 - Netherlands: EIA Decree of 1987 (Amended in 1994 and 1999); however, it is important to note that the country is in the process of developing SEA specific regulations as required by the European SEA Directive
 - United States: National Environmental Policy Act of 1969 and its amendments.
- (3) Those possessing legal/formal requirements within other sectoral legislation:
 - New Zealand: Resource Management Act of 1991 and its amendments
 - Slovenia: Environmental Protection Act of 1993¹¹
 - South Africa: National Environmental Management Act of 1998 and amendments¹²; please note that there are no legislative requirements specifically for SEA (DEAT, 2000).

¹¹ Although Slovenia adopted a new Environmental Protection Act in 2004, the English version is not available at the website of Ministry of Environment, Spatial Planning and Energy (August 2004). Information on Slovenia is based on Kotic's findings (2001) regarding a pilot project on developing an SEA methodology for the country.

¹² The National Environmental Management Act (NEMA) (No. 107 of 1998) makes provisions for the development of assessment procedures that aim to ensure that the environmental consequences of PPPs are considered. However, SEA is not yet explicitly required in most countries within South Africa (Dalal-Clayton and Sadler, 2003):

- Botswana, Seychelles, Tanzania and Zimbabwe: currently working on new EA legislation;
- Malawi: the Environmental Management Act (No. 23 of 1996) specifies that "major policy reforms" require an EIA;
- Mauritius: the Government is currently revising its 1991 Environmental Protection Act which will include provisions for SEA implementation;
- Mozambique: clause 1 of the appendix of EIA Regulations No.76 of 1998 stipulates a number of programme-level activities requiring an "environmental impact study";
- Namibia: the government has not yet approved the draft framework bill that explicitly requires the assessment of new legislation, regulations, policies, programmes or plans, which has been under discussion since 1995;
- Swaziland: the Environmental Management Bill (requiring SEA of new legislation, regulations, policies, programmes or plans) was given royal approval in November 2002.

The remaining two countries of the studied sample, Portugal and Sweden, are in the process of harmonising their legislative framework with the European SEA directive.

- Portugal: The need for mainstreaming SEA in development sectors such as spatial planning, urban development and transport and, to a lesser extent, energy and water has been acknowledged in Portugal for years now. However, some delays have impeded conceptualisation and implementation. A guidance document on the methodological approach to Strategic Impact Assessment (SIA) was prepared lately for application to spatial plans at regional, inter-municipal and municipal levels as defined in the 1998 Spatial Planning Act and its regulations (Partidario, 2003c).
- Sweden: The Government published in March 2004 a bill on the legal amendments necessary for the implementation of the European SEA Directive. The bill was adopted by the Parliament on May 26 and entered into force on July 21. Most of the provisions of the European SEA Directive were introduced in the amended version of the 1999 Environmental Code (SMOE, 1999), which aims to promote sustainable and ecological development, just after the EIA provisions in Chapter 6. Moreover, amendments corresponding to the new requirements in the Code have also been introduced in the 1987 Planning and Building Act (updated in 2002 as Building Regulations, SMOE, 2002) and the 1977 Act on Local Authority Energy Planning (ECJRC, 2001). The Government is currently developing a more detailed Implementation Ordinance; a draft has been circulated for comments. The Ordinance will probably enter into force in early autumn (SMOE, 2004).

Based on the above, one can deduce that some countries have established formal legal requirements for SEA, while others adopted SEA guidance documents. There is no single optimal way to implement SEA. Indeed, this discussion on current SEA systems is to assist new emerging initiatives for identifying the adequate legal basis for SEA application and adopting the most suitable alternative as per their respective legal and regulatory context, history and means of legal enforcement, and governance approach.

7.2. Scope of application and coverage of SEA

Table 4 indicates that there is great variability in the scope or tiers of strategic decisions as well as the coverage or sectoral proposals requiring SEA prior to decision-making. Almost all studied SEA systems consider spatial planning as priority sector for SEA intervention. This might be due to the nature of the planning process itself and its close and multi-dimensional relationship with environmental management.

Half of the studied countries perform SEA for the three main tiers of strategic decision, namely PPPs (Canada, Netherlands, Slovenia, South Africa, UK and USA). In Canada, the 1999 Cabinet Directive on the environmental assessment of PPP proposals requires that all Ministers perform an SEA when (1) the proposal is submitted to an individual Minister or to the Cabinet for approval; and (2) the implementation of the proposal may result in important environmental effects, either positive or negative (Dalal-Clayton and Sadler, 2003; CEAA, 2003a). A Decree and a Cabinet Order stipulate the application of SEA and the environmental test (E-test), in the Netherlands. SEA is required for land use and

sectoral plans and programmes, while the E-test is for draft legislation established by Cabinet directive (Bregha, 2001). SEA provisions in Slovenia, South Africa and the USA are based on their EIA and environmental protection Acts. Guidance Notes in the UK determine the coverage and scope of policy and sustainability appraisals. Furthermore, a practical guidance on applying the European SEA Directive has been prepared by the Office of the Deputy Prime Minister for planning authorities to be read in conjunction with the European SEA Directive, prior to transposing legislation so as to familiarise the authorities with the legal documents technical and legal requirements (ODPM, 2003a). Finally, although initiatives have been performed on policies on an ad hoc basis in Hong Kong (EPD, 2003a,b), it is noted that SEA applies to all proposals of legislation (Partidario, 2003b).

Countries requiring assessments for at least two tiers of strategic decisions (i.e. any combination of PPPs) are:

- Denmark: Administrative Order No. 31 of 1993 requires all ministries to prepare a statement on the environmental consequences of bills and government proposals if they are likely to cause significant effects on the environment (MEE, 1995, 1997). Amendments were made in 1995 and 1998, respectively, requiring (a) that impacts on resources, buildings and cultural heritage as well as on health and security, flora and fauna, soil, water, air, climate and landscape are taken into account, and (b) environmental assessments for ministry budgets. A checklist is used to determine whether the proposed bill, proposal or budget will require an SEA (MEE, 1997).
- New Zealand: The Resource Management Act, and its amendments do not refer specifically to SEA but rather require that any policy statement or plan must undergo an EA (RMA, 1991b). Article 32, as amended in 2003, states that an evaluation “must be carried out” for any proposed plan, policy statement, national policy statement, coastal policy statement or a regulation, in addition to including where any changes or variations are intended (RMAA, 2003b).
- Sweden: Commitments to the European SEA Directive will require the assessment of plans and programmes at all administrative levels in the country.

The Czech Republic is the only country in the sample to require SEA solely for strategic proposals. NGOs have demanded, since late 1998, that a thorough SEA is undertaken for regional development plans (RDPs) as stipulated by the Czech EIA Act¹³. Similarly, the EU structural Funds provisions require an ex ante evaluation of programming documents for EU Structural Funds. These demands led to a formal agreement on the initiation of the SEA for RDPs between the Ministry of Environment and the Ministry of Regional Development, and subsequently initiated by the Czech Government Resolution No. 714/1999 (Dusik and Sulcova, 2001).

Although it has been reported previously that Portugal has not yet developed legislation for SEA (Dalal-Clayton and Sadler, 2003), it is worth noting that a guidance document has been prepared for application for spatial plans (Partidario, 2003c).

¹³ Article 14 Act refers to “development concepts” as being subject to SEA. Concepts have been defined as strategic proposals submitted and approved by the central authorities of state administration (Dusik et al., 2001).

8. Institutional framework

Table 5 shows that all the countries examined in this study possess an authority responsible for environmental issues, which is responsible in some instances for the initiation of the SEA process (Canada, Denmark, Hong Kong and Slovenia). However, it appears that SEA is generally initiated by the proponent authority (Czech Republic, Netherlands, New Zealand, Portugal, South Africa, UK and USA).

Regarding the party responsible for conducting the SEA, the majority of countries require that the proponent authority performs this task (Canada, Czech Republic, Denmark,¹⁴ Netherlands E-test, Portugal, Slovenia, the UK SEA/policy appraisal, and USA). Exceptions include New Zealand, South Africa and the UK sustainability appraisal:

- In New Zealand, Table 5 illustrates that the type of PPP determines which concerned Ministry (other than the proponent) will conduct the SEA. For example, the Ministry of Environment is required to prepare SEA for National Policy Statements, while the Ministry of Conservation prepares assessments for Coastal Policy Statements and local authorities for local policy statements or plans (RMAA, 2003b).
- Article 4(c) of the National Environmental Management Act in South Africa, as amended by the 2003 Bill, states that “environmental impact assessments, or other specified tasks performed in connection with an application for an environmental authorisation, may only be performed by a pre-qualified environmental assessment practitioner registered in accordance with the procedures to be established” (DEAT, 2003). The Bill further specifies registration requirements in Article 24(G)(2):
 - The constitution of the association;
 - A list of the members affiliated to the association;
 - A description of the criteria and process to be used to register environmental assessment practitioners;
 - A list of the qualifications of the members responsible for assessing new applicants for registration;
 - A code of conduct regulating the ethical and professional conduct of members of the association; and
 - Any other prescribed requirements.
- The “Good Practice Guide” for applying sustainability appraisal in the UK notes that it is “unlikely that the team formulating the Regional Planning Guidance (RPG) can provide the necessary objectivity in the appraisal process because it is drafting the emerging strategy”, and hence recommends that the appraisal is conducted by an independent team (OPDM, 2000b). In addition, the Guidance notes that although the composition of the team varies, as illustrated in Table 5, the prevalent working environment needs to ensure continuous communication between those performing the appraisal and those preparing the strategy.

¹⁴ Note that experts from universities, sectoral research institutions and consultants can contribute to the SEA if the concerned ministry does not possess the necessary environmental expertise (MEE, 1995).

Eight countries require the review of SEA results (Czech Republic, Hong Kong SAR, Netherlands, Portugal,¹⁵ Slovenia,¹⁶ South Africa,¹⁷ UK Policy Appraisal and USA) by an independent body with the exception of the E-test, which is reviewed by the Joint Support Centre (party in the assessment) in cooperation with the Ministry of Justice (Bregha, 2001). The legislation in Canada does not refer to any formal requirements for SEA review. However, there is a shared responsibility by the Cabinet Ministers for insuring that environmental implications are well taken into account. Indeed, the Commissioner for the Environment and Sustainable Development “will hold Government accountable for greening its policy, operations and programmes and will review progress in the implementation of the department and/or agency Sustainable Development Strategies” (CEAA, 2003a). Available literature for Denmark does not refer to any requirements for SEA review and there was a similar lack of review criteria. This also applied to New Zealand where the literature does not specify the review process in use. Finally, the on-going development of SEA procedures in Sweden accounts for the absence of any requirements for review for the time being. In addition, the competent authority for SEA review has not yet been determined (SMOE, 2004).

In the UK, reviews are only performed for policy appraisals whereby the plan is submitted to the Planning Inspectorate for examination. The criteria for assessing soundness are whether the development plan document (ODPM, 2003b):

- Is a spatial plan, i.e. it takes into account the various strategies which are necessary to meet the needs of the community in economic, environmental and social terms (sustainability-led) particularly where those strategies have an impact on the development and use of land;
- Conforms generally with national planning policy and the regional spatial strategy or spatial development strategy in London;
- Contains a coherent statement of core strategy (if the development plan document includes the core strategy) or is consistent with the core strategy or saved policies¹⁸ (if it is a development plan document which deals with site specific allocations or areas of change or conservation);

¹⁵ The SIA guidance proposes that quality review involves the verification of (Partidario, 2003c):

- Factors and impacts analyzed
- Technical consistency between spatial planning and SIA activities and outcomes
- Adequate consideration of the sustainability dimensions
- Extent to which the feedback of public and sectoral institutions during consultations was considered in the assessment and integrated in planning proposals

¹⁶ Although it is noted that a peer review report needs to accompany the final SEA study (Kontic, 2001), details as to the review criteria and report content were not provided.

¹⁷ DEAT, 2000 states that “the review process must be guided by a terms of reference as determined at the beginning of the SEA process”.

¹⁸ Refer to adopted structure, local plans, and unitary development plans that will retain development plan status for a period of three years from commencement of the SEA Act (ODPM, 2003b).

- Is founded on a robust and credible evidence base;
- Has clear mechanisms for implementation;
- Is realistic and can be implemented without compromising its objectives;
- Is robust and deals with changing circumstances;
- Is consistent with other development plan documents within the authority area and those elements of neighbouring authorities development plan documents where cross boundary issues are relevant;
- Has taken proper account of community feedback; and
- Has been prepared following proper procedures, including sustainability appraisal/strategic environment assessment.

The local planning authority is also expected to send a copy of the plan to the regional planning body, or to, the Mayor in the case of London to verify conformity with the regional spatial strategy/spatial development strategy. In addition, an annual monitoring report should compare actual plan progress to targets and milestones set out in the local development scheme. Finally, the draft also requires the development of monitoring systems by local planning authorities to assess the effectiveness of local development documents (ODPM, 2003b).

The sustainability appraisal itself is not subject to review as monitoring and evaluation processes serve to highlight areas where the RPG is not performing to expectations, and may lead to a selective or wholesale review of the plan (ODPM, 2000b). It is up to the Government Office (GO) to decide what further sustainability appraisal is required for draft RPGs. Moreover, the GO will manage any such appraisal work carried out by an independent team (i.e. members are not involved in RPG preparation) (ODPM, 2000a).

The significance of this discussion resides in highlighting the importance of setting the most appropriate institutional framework. Indeed, the latter will pre-determine the leverage points for SEA input in the planning and decision-making process, the focus of SEA (environment or sustainability) according to the respective jurisdictions of concerned institutions, the margin for coordination and consultation as well as the route map for procedural arrangements. Moreover, it also serves for assessing training and capacity building needs for SEA implementation. The institutional choice depends on the historical background of strategic decision-making, such as types of strategic decisions undertaken in the country, organisational structure of the public sector, means of deliberation and decision, and the nature of the planning process per se.

9. Procedural framework

9.1. Screening and scoping

Screening is often defined in legal requirements while scoping is case-specific and is often guided by generic guidelines. Screening and scoping are important steps for setting the foundations for subsequent analyses and discussions. They also serve in preventing idle work and unnecessary delays that might result during decision-making due to the lack

or inaccuracy of necessary information. Hence, it is critical to involve concerned stakeholders at an early stage particularly during scoping.

Screening is the starting point in all the 12 SEA systems reviewed (Table 6). Types and tiers of strategic decision proposals subject to an assessment prior to decision-making are identified (1) through the provision of screening lists (The Netherlands, Slovenia in some instances, and South Africa), (2) on a case-by-case basis (Denmark, Slovenia and USA), and/or (3) according to set exclusion or inclusion criteria (Canada, Czech Republic, Hong Kong SAR, the Netherlands E-test, New Zealand, Portugal, UK Policy/Sustainability Appraisal and USA).

With respect to scoping, although the proponent authority determines the content of the SEA in several countries (Canada, Denmark, the UK sustainability appraisal, and the USA), the majority of the countries in the studied sample leave this responsibility to the competent authority (Czech Republic, New Zealand, Portugal, Slovenia, as well as the UK policy appraisal and SEA procedure). Generally speaking, scoping is either based on advice by the competent authority or a third party (the Netherlands and USA) or issued in the form of guidance (Canada, Denmark, UK) or specific provisions in legislation (the Czech Republic, and New Zealand). In the USA, scoping is conducted by the proponent agency in consultation with the competent authority (the Council on Environmental Quality).

9.2. Impacts considered and reporting

Seven countries consider sustainability issues within the scope of SEA (Czech Republic, Denmark, Netherlands E-test, New Zealand, Portugal, South Africa, and the UK) (Table 6). Among these, the Czech Republic, Denmark, New Zealand, and South Africa also require the evaluation of strategic decisions impacts on health and cultural heritage. The remaining countries only require the evaluation of environmental impacts. The observed variation in the range of impacts considered is a reflection of the national definition of “Environment”; i.e. whether it is perceived only as the bio-physical and chemical surrounding or more thoroughly as anything that affects the natural surrounding of humans as well as the quality and sustainability of their livelihoods including socio-economic considerations (sustainability-led).

Documentation of SEA results is a crucial step for enhancing accountability through facilitating quality control of the presented information and keeping trace of decision-making criteria. It provides the basis for stakeholder consultation and eventual evaluation of SEA efficiency in influencing strategic decision-making in the country. Furthermore, it constitutes a clear commitment on the behalf of the proponent vis-à-vis proposed mitigation measures. As shown in Table 6, all the countries in the sample require some form of documentation of SEA findings either via the submission of a separate report or via direct integration in the proposed strategic document. Indeed, a separate report or document is required in almost all reviewed countries (Czech Republic, Hong Kong SAR, the Netherlands, New Zealand, Portugal, Slovenia, South Africa, the UK and the USA) with the exception of Canada and the UK policy appraisal, where findings are directly integrated in the relevant decision/development document. Nevertheless, it is worth noting that proponent departments and agencies in Canada need

to prepare a public statement on the environmental effects of a given proposal if a detailed environmental assessment has been undertaken. In Denmark, SEA results are presented as a non-technical summary in a section within the commentary on the bill or the proposal background assessment statement along with the submitted bill or proposal.

9.3. Public participation

In line with the three elements of Principle 10 of the 1992 Rio Declaration (UN, 1992) regarding the right of the public to access environmental information, decision-making and adequate judicial procedures for redressing any failure otherwise, public participation provisions often constitute an integral component of almost all SEA systems. With respect to the studied sample (Table 6), all countries have introduced some form of public participation. The only exception is the Netherlands E-tests due to the nature of the process.¹⁹ In the case of Sweden, public participation is anticipated as per the European SEA Directive.

Public consultation is undertaken mostly during the scoping stage (Denmark, Netherlands where applicable, Portugal, Slovenia and the UK policy appraisal), with the Netherlands and Slovenia allowing it during the review stage as well. Sustainability Analysis in the UK allows for public consultation upon the submission of the draft Regional Planning Guidance to the Secretary of State. It is worth noting that clear information on the timing and methods of public participation is often lacking in the literature. In Hong Kong SAR, public consultation occurs following the review of the draft proposal by the competent authority.

It is interesting to note that only three of the sampled countries have identified the methods through which the public is consulted:

- Four sources of public concern in Canada are delineated: (1) economic and social analysis underway on the proposal, (2) ongoing public consultation mechanisms in the concerned proponent department, (3) expert departments, and (4) outside experts and organisations
- Public hearings, surveys and discussions are undertaken in Slovenia
- The Environment Report, the output of SEA in the UK, is posted online prior to the adoption of the proposal.

¹⁹ The process for conducting the E-test proceeds as follows (Bregha, 2001):

- An inter-ministerial working group identifies the proposals to be E-tested and the issues to be examined;
- The responsible Ministry (1) carries out the test, using a standard list of sustainability criteria, with the help of a specially established helpdesk and Joint Support Centre set up by the environment and economic ministries and (2) documents the analysis in an Explanatory memorandum attached to the draft legislation;
- The Joint Support Centre, in cooperation with the Ministry of Justice, reviews the quality of the information in the explanatory memorandum and recommends whether to submit it to Cabinet;
- The Ministry of the Environment monitors the implementation of the identified mitigative measures identified.

9.4. *Alternatives, mitigation and review*

Almost all countries with the exception of the E-test in the Netherlands require the consideration of alternatives (Table 6). However, few details are provided on the type or hierarchy of alternatives (need/demand, mode/process, location and timing/implementation; Therival, 2004) and minimum requirements regarding scenario identification ('No action or business as usual' and 'best practicable environmental scenario'). The consideration of alternatives/scenarios reflects the on-going debate and priorities regarding sustainable development and/or environmental sustainability in the country. It is worth noting that relevant information was not found in the literature for the Czech Republic.

With respect to determining mitigation measures for reducing or alleviating the potential impacts of the proposed strategic action, and according to the consulted literature, nine countries have stipulated clear requirements (Canada, Denmark, Netherlands E-test, New Zealand, Portugal, Slovenia, South Africa, UK and USA). It is interesting to note that of the nine countries calling for mitigation, Denmark, the Netherlands SEA system and the UK policy appraisal are the only ones with monitoring requirements. These were explicitly formulated in the Danish system, whereas no precise information pertaining to the two other countries was found in the consulted literature. The same deficiency in data availability is noted for Hong Kong SAR and the Czech Republic. It is important to realise that impact mitigation measures are often associated with acceptable trade-offs and/or forsaken benefits resulting from the strategic choice taken.

Finally, SEA review is practised by almost all considered SEA systems with the exception of Canada, Denmark and New Zealand. As discussed in the previous section, review criteria have been reported for the UK policy appraisal. The review step is a means for controlling the quality of the presented information, which will constitute eventually the basis for decision-making, and pre-determine thereby the suitability, practical feasibility and sustainability of the resulting strategic action. It is worth noting that in addition to technical information, political power may also play a role in shaping the final decision. The influence of non-technical political considerations is expected to diminish gradually as the transparency and accountability of the decision-making process increases.

10. Conclusion

There are gaps and deficiencies in the literature documenting the practical implementation of SEA including the extent, means and timing of public participation. This also applies to the evaluation of SEA performance and efficiency in influencing strategic decision-making. Moreover, data regarding SEA procedures are insufficient and often incomplete for deducing lessons and capitalising on success stories. Indeed, there is little account and description of the obstacles and pitfalls that have been faced at the national level. Increased research on these issues as well as documentation of good-practice case studies and success stories are imperative as they assist in improving the

efficacy of national SEA systems. This is particularly important for developing countries, currently in the process of elaborating or updating their SEA systems, where there is an urgent need for capitalising on international experience due to limited resources and SEA expertise.

Based on the preceding discussion and the findings of this paper, the following conclusions may be drawn:

- Some countries have established formal legal requirements for SEA (as part of EIA, within other sectoral regulations or exclusively SEA), while others adopted SEA guidance documents. There is no single optimal way to implement SEA; the choice depends on the context, including the legal and regulatory framework, the history and means of legal enforcement, and the current governance approach.
- The majority of countries place the burden of conducting SEA on the proponent with various levels of involvement by the competent authority (Authority responsible for environmental issues). One cannot over-emphasise the importance of setting the most appropriate institutional framework. Indeed, the latter will pre-determine the leverage points for SEA input in the planning and decision-making process, the focus of SEA (environment or sustainability), the margin for coordination and consultation as well as the route map for procedural arrangements. Moreover, it also serves for assessing training and capacity building needs for SEA implementation. The institutional choice depends on the historical background of strategic decision-making, such as types of strategic decisions undertaken in the country, organisational structure of the public sector, means of deliberation and decision, and the nature of the planning process per se.
- Despite their variability, procedural arrangements possess common milestones:
 - *Screening and scoping*. Screening is often defined in legal requirements while scoping, though generic guidelines may be provided, is often case-specific. It is common practice to submit plans and programmes to SEA where EIA procedures and approaches are quite readily applied. However, it is argued that SEA at the policy level requires a different methodological approach than that necessary for lower tier plans and programmes. There is a widespread consensus regarding the lack of a ‘blueprint’ approach to SEA, as the process will need to be tailored to the particularities of individual countries (Dalal-Clayton and Sadler, 1999, 2003; Partidario, 2000, 2003a, b; von Seht, 1999). Screening and scoping are important steps for setting the ground for subsequent analyses and discussions. They also serve in preventing idle work and unnecessary delays that might result during decision-making due to the lack or inaccuracy of necessary information or because of social opposition. Hence, it is critical to involve concerned stakeholders at an early stage particularly during scoping.
 - *Coverage of SEA*. Most countries require the assessment of the environmental impacts of strategic proposals; others consider also potential socio-economic impacts. The Czech Republic, Denmark, New Zealand and South Africa go further to request the evaluation of health and cultural heritage impacts. The observed variability in the range of impacts considered is a reflection of the national definition of “Environment”; i.e. whether it is perceived only as the

bio-physical and chemical surrounding or more thoroughly as anything that affects the natural surrounding of humans as well as the quality and sustainability of their livelihoods including socio-economic considerations (sustainability-led).

- *SEA document*. All the countries in the sample require some form of documentation of SEA findings either via the submission of a separate report or via direct integration in the proposed strategic document. Documentation of SEA results is a crucial step for enhancing accountability through facilitating quality control of the presented information and keeping trace of decision-making criteria. It provides the basis for stakeholder consultation and eventual evaluation of SEA efficiency in influencing strategic decision-making in the country. Furthermore, it constitutes a clear commitment on the behalf of the proponent vis-à-vis proposed mitigation measures.
- *Consideration of alternatives*. Almost all of the studied countries with the exception of the E-test in the Netherlands require the consideration of alternatives. However, few details is provided as to the type or hierarchy of alternatives and the minimum requirements for scenario identification. The consideration of alternatives reflects the ongoing debate and priorities regarding sustainable development and/or environmental sustainability in the country.
- *Impact mitigation and monitoring*. Impact mitigation aims to minimise negative impacts, optimise positive ones and insure the sustainability of the proposed action. The majority of the countries call for impact mitigation. However, it is interesting to note that of the nine countries calling for mitigation, Denmark, the Netherlands SEA system and the UK policy appraisal are the only ones with monitoring requirements. Monitoring serves to ascertain that the adopted strategic action is well implemented and that no unforeseen impacts have ensued.
- *Public participation*. It is an integral component of almost all SEA systems. However, there is a lack of information in the literature with respect to timing, means and methods.
- *Quality assurance*. SEA review is practised by almost all considered SEA systems with the exception of Canada, Denmark and New Zealand. Peer review can be undertaken by an independent committee, a joint ministerial committee or the competent authority. SEA review is a means for controlling the quality of the presented information, which will constitute eventually the basis for decision-making, and pre-determine thereby the suitability, practical feasibility and sustainability of the resulting strategic action.

Finally, it is important to keep the main reasons behind developing an SEA system in perspective during the elaboration, review and evaluation of the process, namely:

- Early consideration of potential impacts (Precautionary and Preventive Action Principles), including cumulative and synergistic impacts that are often difficult to identify at low tiers/project level;
- Better consideration of alternatives;

- Enhancing the accountability and the efficiency of strategic decision-making (clear and verifiable procedures/independent review);
- Stakeholder involvement for more transparency and better governance.

The main challenges remain, however, the identification of the appropriate leverage points in the planning and decision-making process for SEA input, the integration of SEA findings into decision-making, and public participation at higher levels of public decisions.

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Annex A: Sources of Information for Tables 4–6

Canada

- (1) Dalal-Clayton and Sadler (2003).
- (2) CEAA (Canadian Environmental Assessment Authority) (2003a).
- (3) CEAA (Canadian Environmental Assessment Authority) (2003b).
- (4) CEAA (Canadian Environmental Assessment Authority) (2004).

Czech Republic

- (1) Dusik and Sulcova (2001).
- (2) Dusik et al. (2001).

Denmark

- (1) Dalal-Clayton and Sadler (2003).
- (2) MEE (Ministry of Environment and Energy) (1997).
- (3) MEE (Ministry of Environment and Energy) (1995).
- (4) Bregha (2001).

Hong Kong

- (1) Briffett et al. (2003).
- (2) EPD (Environmental Protection Department) (2003a).
- (3) EPD (Environmental Protection Department) (2003b).
- (4) Partidario (2003b).
- (5) EPD (Environmental Protection Department) (2003c).

Netherlands

- (1) Dalal-Clayton and Sadler (2003).
- (2) Bregha (2001).
- (3) EIA Commission (2004).

New Zealand

- (1) RMA (Resource Management Act) (1991a).
- (2) RMAA (Resource Management Amendment Act) (2003a).
- (3) RMA (Resource Management Act) (1991b).
- (4) RMAA (Resource Management Amendment Act) (2003b).
- (5) Kjørven and Lindhjem (2002).

Portugal

- (1) Dalal-Clayton and Sadler (2003).
- (2) Partidario (2003c).

Slovenia

- (1) Kontic (2001).
- (2) Dalal-Clayton and Sadler (2003).

South Africa

- (1) Dalal-Clayton and Sadler (2003).
- (2) DEAT (Department of Environmental Affairs and Tourism) (1998).
- (3) DEAT (Department of Environmental Affairs and Tourism) (2003).
- (4) DEAT (Department of Environmental Affairs and Tourism) (2000).

Sweden

- (1) ECJRC (European Commission Joint Research Centre) (2001).
- (2) NORDREGIO (Nordic Centre for Spatial Development) (2001).
- (3) EIA Commission (2004).
- (4) SMOE (Ministry of the Environment) (1999).
- (5) SMOE (Ministry of the Environment) (2002).
- (6) SMOE (Swedish Ministry of Environment) (2004).

United Kingdom

- (1) ODPM (Office of the Deputy Prime Minister) (2003a).
- (2) ODPM (Office of the Deputy Prime Minister) (2003b).
- (3) ODPM (Office of the Deputy Prime Minister) (2000a).
- (4) ODPM (Office of the Deputy Prime Minister) (2000b).

USA

- (1) Dalal-Clayton and Sadler (2003).
- (2) Department of Energy (1982).

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