

Chapter 3

SEA EXPERIENCE IN DEVELOPED COUNTRIES

Until recently, only a relatively small number of developed countries and state jurisdictions had made formal provision for SEA of policy, plans and programmes. But this group has almost doubled in size following the recent entering into legal force of the European SEA Directive (2001/42/EC) which requires European Union (EU) member states to transpose its requirements into domestic law. Some member states are introducing SEA for the first time (e.g. Austria, Greece and Portugal). Others have extended the scope or amended the arrangements of existing SEA systems (e.g. France, The Netherlands and the United Kingdom). Earlier experience suggests that it will take some time for these new SEA processes to be fully implemented, and even longer before the quality of practice and contribution to decision-making emerge into a coherent pattern.

This chapter focuses primarily on SEA experience in countries with well-established, operational systems, which were instituted during the 1990s or earlier in the case of the USA (see Chapter 2). These SEA frameworks predate the EU SEA Directive and, in many cases, the decision to enter into its negotiation taken in 1996. As such, they illustrate the range and types of institutional arrangements and applications that are in place internationally and are generally accepted as leading examples of SEA innovation and development. Experience gained under these SEA systems has featured prominently in framing current notions of good practice. However, it also should be recognised that other jurisdictions have comparable levels of SEA experience including certain international organisations and countries in transition (their experience is reviewed in detail in chapters 4 and 5 respectively).

This review of SEA experience in developed countries is organised in three parts. Section 3.1 provides a comparative analysis of the different SEA frameworks and institutional arrangements that are in force and attempts to delineate the main elements of their anatomy and approach. Section 3.2 examines SEA experience in the European Union while the individualised processes and experience of individual developed countries are presented in Section 3.3. Specific guidance on the use of tools and procedures for carrying out the steps and activities of the SEA process can be found in Appendix 11.

3.1 Brief overview of SEA institutional arrangements in developed countries

Prior to the introduction of the EU SEA Directive in 2001, approximately 20 countries or jurisdictions are estimated to have had operating SEA systems in place¹. Their mandate, institutional arrangements and scope of application vary, in some cases significantly. Table 3.1

¹ See footnote 9, Chapter 2, for examples.

Table 3.1: SEA institutional frameworks and their scope of application in selected countries (Source: Sadler 2003b)

Country/ Organisation	Provision	Scope and relationship to decision-making	Elements of process and procedure
Australia	Environment Protection and Biodiversity Conservation Act (1999)	s 146 provides for ministerial discretion to assess effects of actions under a policy, plan or programme; s 147- 154 provide for specific application to fisheries management	SEA activated by an agreement with proponent; s 146(2) describes its content and basic procedure
Canada	Cabinet Directive 1990, (amended 1999)	Policy, plan and programme proposals submitted to Cabinet or issued under ministerial authority	Informal, two-stage procedure; guidelines encourage flexible application
Denmark	Prime Minister's Office circular (1993, amended 1995 & 1998)	Bills and other Government proposals sent to Parliament or on which Parliament must be consulted	Minimum procedure; guidelines encourage flexible application
Finland	Act on Environmental Impact Assessment Procedure (1994) Guidelines on EIA of Legislative Proposals (1998)	Policies, plans and programmes (will be amended to comply with SEA Directive) Laws, decrees and resolutions	Formal procedure consistent with Directive 2001/42/EC Minimum procedure, flexible application
The Netherlands	Environmental Impact Assessment Decree (1987, amended 1994) Cabinet Order (1995)	Listed plans and programmes (will be amended to comply with SEA Directive) Draft regulations and other policy intentions sent to Cabinet (Environmental Test)	EIA procedure applied in full under Decree; may not apply in new legislation Minimum procedure, coordinated with business and regulatory tests
New Zealand	Resource Management Act (1991, various amendments)	Except for s32, generic rather than specific provision for SEA of policy and plans	No definable procedure, other than s32, which refers to evaluation of the objectives and policies in meeting the purposes of the Act
United Kingdom	Better Policy Making: A Guide to Regulatory Impact Assessment (2003),	All substantial policies and proposals developed by central Government departments and	Sets out a standard format for undertaking

	<p>The Environmental Assessment of Plans and Programmes Regulations 2004 (for England, separate regulations exist for Scotland, Wales and Northern Ireland)</p> <p>Strategic Environmental Assessment: Guidance for Planning Authorities (2003)</p>	<p>agencies which will have an impact on the public and private sectors</p> <p>Plans and programmes as stipulated in the 'SEA Directive'</p> <p>Spatial and land use plans developed by English Local Planning Authorities (separate guidance being developed in Wales and Scotland). Guidance for applying SEA to transport plans and programmes is also being prepared</p>	<p>Regulatory Impact Assessment (RIA)</p> <p>Transposes the requirements of the SEA Directive into national law</p> <p>Advice on applying the SEA Directive and wider sustainability appraisal</p>
USA	National Environmental Policy Act (1969) and Regulations (1978)	Legislation and programmes or actions that can be grouped geographically, generically or by technology	NEPA process applies; specific guidance on preparing generic and programmatic EISs
European Community	Council Directive on the assessment of certain plans and programmes (2001/42/EC); entered into force on 21 July 2004	Plans and programmes in defined sectors and areas which set a framework for consent of projects subject to [EIA] Directive 85/337/EEC or which require an assessment subject to [Habitat] Directive 92/43/EEC	Framework law based on EIA Directive; specifies common procedure to be adopted by member states
UNECE	SEA Protocol (2003) to the Convention on EIA in a Transboundary Context (1991)	Mandatory application to plans and programmes; discretionary application to policy and legislation (Article 13)	Based on EC Directive for plans and programmes; no reference to procedure for policy or legislation

summarises main the characteristics of the SEA frameworks of selected countries. Of particular note are SEA systems that apply to or include coverage of policy and legal acts or which differ procedurally from the regime imposed by the EU SEA Directive, eg Australia, Canada, New Zealand, the USA and certain European countries. Other than SEA of plans and programmes in EU member states, the systems listed in Table 3.1 are likely to continue to function in their present form.

A number of key features characterise the SEA arrangements in the countries reviewed:

(1) Provision for SEA is established through both legal and administrative means.

In each case, a mix of specific instruments is employed. Non-statutory provision for SEA has been made by separate administrative order or policy directive (e.g. Canada) or by guidelines on policy appraisal and plan evaluation (e.g. UK). Statutory provision for SEA is made through EIA-specific (e.g. Finland), general environmental (e.g. USA) or resource management laws (e.g. New Zealand). The EU SEA Directive is a framework law that establishes a minimum common procedure for certain official plans and programmes, although it is not the first Community legislation in this area. Under Article 6(3) of Directive 92/43/EEC, plans likely to significantly affect a Special Protection Area or a Special Conservation Area must be subject to 'appropriate assessment' (Feldmann *et al.* 2001) – which the SEA Directive now defines.

There is an on-going discussion about the appropriate basis for SEA systems, particularly with reference to proposed policies and legal acts. At this level, the arguments for flexibility of non-statutory arrangements are stronger than at the level of plans and programmes. In principle, executive instructions, such as those issued by the Prime Minister's Office in Denmark or the Cabinet in Canada, establish a duty to comply (but see also point 3 below). In practice, however, administrative instruments lack the powers to ensure that agencies fulfil their responsibilities or to enforce consistency in SEA application. This is especially the case with regard to advisory guidelines, such as those issued in the UK. Given that the EU SEA Directive (2001/42/EC) does not cover policy, there is no reason, *prima facie*, to expect changes to the separate SEA systems at this level now implemented by individual EU member states (e.g. Denmark, Finland, Netherlands and UK).

(2) The scope of coverage and application of SEA remains partial and limited in relation to levels and types of strategic decision-making that are likely to have a potentially significant impact on the environment

Despite the pioneering intent of the 1969 National Environmental Protection Act (NEPA) in the USA, which applies to 'all major federal actions' likely to have a significant effect on the environment, progress toward full inclusion of strategic decisions has been slow with different emphases among current SEA systems. Some countries have established SEA arrangements that apply uniformly, but not universally, to policy, plans and programmes (e.g. Canada, Finland, Hong Kong SAR). For example, in Canada, the SEA process applies to strategic proposals submitted to Cabinet or authorised by individual Ministers of State and can include draft legislation (although regulatory impact assessment also can be used also to satisfy this requirement). In Finland, Denmark and Norway, the environmental effects of draft laws, regulations and other proposals submitted to Parliament are subject to SEA in a separate process from that applied to policies or plans. A similar approach is followed in the Netherlands except that the E-test of regulations is linked to executive or Cabinet decision-making. Finally, since 1991, the UK has maintained dual processes of environmental appraisal of policy and plans at the central and local government levels, although both systems are undergoing considerable modification (see below).

A new regime for SEA of plans and programmes will emerge in EU member states with the transposition of the EU SEA Directive into national legislation - either by integrating the requirements into existing procedures or incorporated into new procedures (as described in Article 4.2 of the Directive). The plans and programmes that are subject to an assessment are described in Article 2(a). The scope of application of SEA is defined in Article 3, notably by reference to plans and programmes that are prepared for listed sectors and activities and which set

the framework for consent of projects subject to the EIA Directive. Further discussion of the scope of activities that fall within SEA Directive can be found in section 3.2. For comparative purposes, the most notable point is that the basic approach corresponds to that taken in the Netherlands EIA Decree (which itself will need to undergo certain amendments to comply fully with the Directive). It may be contrasted with the approach taken in NEPA Regulations which, inter alia, specify the use of programmatic EIA for activities that can be grouped geographically, generically or by stage of technology.

(3) SEA is implemented through a self assessment process undertaken by the 'proponent' of the proposed policy, plan or programme

In this context, the proponent is the government agency responsible for preparing or authorizing the proposed action. Generally, this process will be carried out in accordance with existing statutory and policy obligations of the agency and in conformity with specific requirements set out in the SEA provision and supplementary regulations or guidance. However, such an alignment appears to be far from complete in the implementation of the SEA processes of many countries, with inconsistencies in compliance evident across statutory and non-statutory arrangements. Even under NEPA, which explicitly obligated federal agencies to identify deficiencies that prohibited full compliance with the purposes and provisions of the Act (s.103), application at the policy level has been circumvented and is now constrained by case law. Under the EU SEA Directive, the obligation is placed on member states to determine the detailed arrangements and accountabilities to implement the requirements and to ensure compliance with them (Article 13).

Although it provides a key means of instilling accountability among government agencies for their policies and plans, self assessment can be effective only in association with appropriate measures for quality assurance and control. These measures are based on the steps and elements built into the SEA process (see below) and on the overseeing role of specialist and administrative bodies. Typically, the responsibility for SEA administration (including process development, guidance and monitoring compliance) is vested in the Ministry of Environment or an equivalent special purpose body (e.g. Canadian Environmental Assessment Agency, US Council on Environmental Quality). Some countries have also established a provision for independent review of the quality of SEA reports at the level of individual applications and of the effectiveness of process implementation at the systems level. In the Netherlands, the EIA Commission has performed this first role for specified plans and programmes, although it appears likely to have a more limited function under pending legislation to transpose the EU SEA Directive into a national instrument. In addition, advice on the application of the Netherlands E-test (Environmental test) of draft regulations (which is separately administered) is provided by the Joint Support Centre established by the environment, economic and justice ministries. At the systems level in Canada, the Parliamentary Commissioner for the Environment and Sustainable Development has undertaken audits of the SEA performance of federal agencies (see section on Canada below).

(4) With varying degrees of modification, SEA process and procedural elements correspond to those in place in EIA systems

In broad, comparative terms, there are important differences between SEA processes and procedures applied to policy or legislation on the one hand, and to plans and programmes on the other. But, in some systems, the same legally prescribed elements of procedure apply to all

proposals, from project-specific ones to those concerning plans and programmes (e.g. NEPA, see also Chapter 5). At the level of plans and programmes, SEA processes are usually based on EIA steps and elements, such as screening, impact identification and report preparation. For policy-level application of SEA, EIA procedures are still recognisable but often in minimum form, although not all SEA systems conform unambiguously with this model (see below).

In many ways, the EU SEA Directive establishes a new procedural benchmark for SEA of plans and programmes, not only within the European Union but also internationally. It is modelled very closely on the EIA Directive (97/11/EC) and thus mandates a transparent and open process (e.g. certain articles of the SEA Directive relate to public consultation and information on the decision made). SEA is equated with the preparation of an environmental report and the information to be provided (see below) and the process is oriented to identifying and off-setting effects of implementing a plan or programme. It is open to question whether this procedural model is appropriate to meeting the basic objectives of the SEA Directive, i.e to provide for a high-level of environmental protection and to contribute to the integration of environmental considerations into plan preparation. The test will be in the way this process is transposed into national systems and implemented by member states. But the concern is that the provisions of the Directive are likely to entrench the approach to the SEA of plans and programmes at a relatively late stage in the decision-making process. We shall see.

EIA steps or elements have been amended and combined in certain SEA processes that apply to policy and legislative proposals. This is the case particularly in SEA processes that apply only at this level, as exemplified by the Danish, Dutch and Finnish systems. In the Netherlands, for example, the E-test has been re-organised into two main phases: a quick scan and, if necessary, a more detailed appraisal of proposed legislation. A similar procedure is followed in Canada for policies, plans or programmes, although the assessment phase may also include further steps. In New Zealand, under the Resource Management Act, SEA is generic rather than a separate procedure and is threaded into policy and plan-making (e.g. preparation of regional policy statements). A more distinguishable form of policy evaluation or options appraisal is triggered under Section 32 (e.g. with regard to proposed national environmental standards). These process elements are described more fully in the national reviews in section 3.3.

(5) The preparation of a report or statement on the environmental effects of a proposal is widely acknowledged to be one of the cornerstones of the SEA process

This element was enshrined in the pioneering NEPA statute and the subsequent regulations, which describe the preparation of an environmental impact statement (EIS) as an “action-forcing device to insure the policies and goals of the Act are infused into the actions of the Federal Government” (CEQ, 1986, 10). The parts dealing with EIS preparation include requirements related to: page limits (even for proposals of ‘unusual scope’); plain language writing; issuing draft, final and, if necessary, supplemental statements; and following a standard format including for the preparation of a programmatic EIS. At this level, agencies also are encouraged to tier any subsequent project EIS to the findings of a programmatic statement, concentrating only on issues specific to the subsequent proposal. Tiering also helps to meet general purpose NEPA requirements, including reducing delay and excessive paperwork.

The production of a report occupies a central position in the EU SEA Directive which stipulates that “environmental assessment shall mean the preparation of an environmental statement” (Article 2(b)). The types of information to be included in an environmental report are described in Annex 1 of the Directive (see Box 3.5). The report must also include information that may

reasonably be required, taking into account “current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at other levels (Article 5(2)). Finally, there is a requirement to consult with authorities (to be designated by member states “when deciding on the scope and level of detail of the information to be included (Article 6(3))”.

In the EU SEA Directive, as in some other SEA regulations, there is no formal requirement for a separate report on environmental effects - one of the procedural ‘sacred cows’ of the prescriptive literature. Rather “environmental report shall mean the part of the plan or programme documentation containing the information required” (Article 2c). Until recently, similar provisions were included in the Canadian *Guidelines for Implementing the Cabinet Directive on SEA* state that “separate reporting is not required” but should be “integrated into existing mechanisms to the fullest extent possible” (CEAA, 2000). Additional requirements now apply (see below). Under the Danish Circular, a statement on environment impacts is included in the observations on the Bills and other government proposals submitted to Parliament and subjected to SEA (Danish Ministry of Energy and Environment, 1995a. In the UK process for the environmental appraisal of policy, the preparation and publication of a report or statement is left to the discretion of departments (DETR 1998, 7.1).

(6) New international legal instruments have been established that apply partly or primarily to SEA procedure and practice

In addition to the EU SEA Directive (defined strictly, this is supra-national in its scope), two UNECE legal instruments have been adopted that bind signatory countries to a particular approach to SEA approach. They also have potential application outside the UNECE region. These comprise:

- The *Aarhus Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters* (1998).

Inter alia, the Convention establishes obligations on Parties with regard to the aspects of strategic decision-making. Article 7 covers public participation with regard to plans, programmes and policies. It does not specifically require SEA but this process is widely recognised as one the means of giving expression to its provisions (Stec and Casey-Lefkowitz, 2000). Similarly, SEA also may be seen as an ‘implementing’ mechanism for Article 8, which deals with the preparation of laws and ‘normative instruments.’ Equally importantly, the provisions of Articles 7 and 8 set international standards for public participation, which apply, inter alia, to Parties with SEA processes that operate on these levels. These standards are also reflected in the SEA Protocol (Box 3.1).

- The *SEA Protocol to the Convention on EIA in a Transboundary Context* (2003)

This is a self-standing, international legal instrument that will be binding on Parties and promises to be influential beyond the boundaries of the UNECE region (see Box 3.1).

Box 3.1: Protocol on Strategic Environmental Assessment (SEA) to the UNECE Convention on EIA in a Transboundary Context

After a two-year process of negotiation, the Protocol on Strategic Environmental Assessment (SEA) to the UNECE Convention on EIA in a Transboundary Context was adopted formally and signed by 35 countries at the 'Environment for Europe' Ministerial Conference' in Kiev, Ukraine, on 23 May 2003. It has not yet come into legal force (it requires ratification by at least sixteen countries), but this is expected to occur soon. Moreover, there are a large number of potential Parties to the SEA Protocol, including the countries of Central Asia.

The SEA Protocol is about far more than trans-boundary impacts. It is a comprehensive legal instrument that follows the broad thrust of the SEA Directive and extends elements of this framework beyond the boundaries of the European Union. Also, the Protocol will be open to all members of the United Nations. This means that, eventually, it could have wider uptake in other regions. However, it is likely that this process will be uneven, even within the UNECE region, since Canada and the USA were not party to the negotiation process and are unlikely to ratify the Protocol.

Articles 4 to 12 (inclusive) of the Protocol set out mandatory procedures for applying SEA to plans and programmes. There is also a provision relating to non-mandatory application to policies and legal acts. However, this provision is self-standing and no implementing procedures are set out. Nevertheless, in the future, this provision could be interpreted as a 'soft law' precedent that establishes obligations on the Parties.

The Protocol also provides for the public to be informed about plans and programmes subject to SEA, to comment, to have their comments taken into account in decision-making, and be told of the reasons for final decision. These provisions build on relevant Articles the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, which applies to strategic decision-making.

Besides requiring assessment of the typical environmental effects of plans and programmes, the Protocol places a special emphasis on considering human health, going beyond existing European legislation. This reflects the involvement of the World Health Organization in the negotiations as well as the political commitments made at the 1999 London Ministerial Conference on Environment and Health.

The Protocol was drafted and finalised with the participation of a wide range of countries, including EU member states and then accession countries, other transitional countries of Central and Eastern Europe and Newly Independent States of the former Soviet Union. It is intended to provide for a high level of protection for the environment and human health. It provides for the mandatory application of SEA to plans and programmes (excluding budget and fiscal ones). In this regard, the Protocol closely follows the provisions of the EU SEA Directive, for example, with regard to screening, scoping, the information to be included in an environmental report, public participation and decision-making. Only one article specifically applies to transboundary consultations. Article 14 of the SEA Protocol extends it beyond the scope of the EU SEA, providing for discretionary application of SEA to policies and legislation. While, initially, this provision is unlikely to be implemented widely, over time it may establish 'soft law' precedents for the Parties.

(7) There are several different but overlapping institutional models or types of procedural approach for SEA

The various models and approaches listed in Table 3.2 are also reflected in Table 3.1. They are grouped to correspond with the generic typology of SEA types introduced in Chapter 1: formal, near equivalent and para-SEA – to which we also add integrated approaches.

3.2 SEA experience in the European Union (EU)

The EU encompasses a single market made up of a significant proportion of the developed countries, including four members of the G8 group, and is a major force internationally, in its own right. Specifically, the Union's legal and policy framework on the environment and sustainable development has Europe-wide and global dimensions, as well having direct application to member states and accession countries. The adoption of the EU SEA Directive should be seen in this larger context and in relation to other legal and policy instruments for achieving the same purpose.

In the preamble to the Directive, for example, key references are made to the 'environmental' Articles (6 and 174) of the Consolidated EU Treaty, the Fifth Environment Action Programme (Toward Sustainability) - now replaced by the Sixth Programme to 2010, and the Convention on Biological Diversity. Article 1 of the Directive sets out two broad objectives: "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development...". Other than possibly in their order of listing, no priority is implied between these dual objectives, which typically are assumed to be complementary. However, Sheate *et al.* (2001) provide a trenchant analysis of the evolution of EU policy for environmental integration and sustainable development. They argue that there is a potential divergence of these two fundamental principles, which is manifested, *inter alia*, in the recent adoption of the SEA Directive and the EC Communication on Impact Assessment for policy making (COM (2002) 276 final). In that context, the stated objective of the SEA Directive 'to provide a high level of protection' may be interpreted as establishing a basis for strong environmental integration in accordance with Article 6 of the EU Treaty²; especially when allied with the reference in the preamble to Article 174, which, *inter alia*, provides that Community policy on the environment is to be based on the precautionary principle³. In contrast, the EC internal procedure for impact assessment arguably calls for a weaker version of environmental integration, i.e. in which the level of protection is lower (see Sheate 2003).

² As stated in the preamble to the Directive: "Article 6 of the Treaty provides that environmental protection requirements are to be integrated into the definition of Community policies and activities, in particular with a view to promoting sustainable development".

³ As stated in the preamble to the Directive: "Article 174 of the Treaty provides that Community policy on the environment is to contribute to, *inter alia*, the preservation, protection and improvement of the quality of the environment, the protection of human health and the prudent and rational utilisation of natural resources and that it is to be based on the precautionary principle".

Table 3.2: SEA models and approaches

Institutional model or procedural approach	Description
Formal	
EIA-based	SEA is modelled closely on or applied under and in accordance with the requirements of EIA legislation (e.g. USA, EU SEA Directive)
EIA-modified	SEA is carried out as a separate or parallel process to EIA, often as an administrative procedure with modified elements and characteristics (e.g. Canada, Denmark)
Dual or two-track systems	Examples include: <ul style="list-style-type: none"> the Dutch E-test of regulations and SEA of plans and programmes, previously as specified under the EIA Decree and now being aligned with the EU SEA Directive; Finnish EIA-based process for policies, plans and programmes and SEA of Bills and other government proposals.
Near-equivalent	
Environmental appraisal	SEA is not applied formally but is covered by a near-equivalent overall process of environmental appraisal of policy or plans (e.g. in the UK, this approach is being phased, respectively, into integrated policy appraisal at the central government level, and into SEA of plans and programmes at the local authority level in accordance with the EU SEA Directive)
Regional assessment.	SEA applied to regional or sector development strategies for a particular geographic area (e.g. in Australia under the Regional Forests Policy, and recently introduced in Canada under reforms to the Environmental Assessment Act)
Sustainability appraisal	SEA elements are part of or linked to integrated assessment of the environmental, economic and social effects of resource policy or regional plans (e.g. assessments carried out by the former Resource Assessment Commission, Australia and for UK regional plans as described below)
Integrated	
Procedural integration	No separate SEA procedure; this function is integrated into policy or planning process (e.g. as in New Zealand Resource Management Act)
Substantive integration	No separate SEA procedure; this function is replaced by integrated assessment (e.g. EC impact assessment for policy-making, and as carried out by former Australian Resource Assessment Commission)
Integrated assessment and planning	No separate SEA procedure; this function is replaced by a system that is procedural and substantively integrated, ie integrated assessment is structurally integrated into the planning system (e.g. UK regional planning system)
Para SEA	
Elements of SEA	Approaches or procedures that have some but not all of the features or characteristics of SEA and have the same overall purpose. Examples include a variety of progressive land use planning approaches and assessments undertaken within sustainability-based development strategy processes.

3.2.1 EU legal and policy frameworks

The above distinction made by Sheate (2003) is a matter of emphasis and interpretation. There is both convergence and ambivalence in the relevant EU policy documents, especially in the *Sixth Environment Action Programme 2001-2010*, and also in the *European Union Strategy for Sustainable Development* (2002). Both documents add a much-needed environmental dimension to the so-called Lisbon process of economic and social reform, which called for the EU 'to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable growth'. In both agendas, there are a number of common themes and elements, encompassing (see Box 3.2):

- Major environmental challenges to sustainable development for Europe;
- Priority areas for environmental policy development and action; and
- The need for improved policy coherence and consistency to deliver on new goals and targets.

Box 3.2: The EU Environment Action Programme and Strategy for Sustainable Development

Section 1.2 of the Sixth Environment Action Programme underlines the environmental basis of sustainable development as follows:

"A prudent use of the world's natural resources and the protection of the global eco-system are a condition for sustainable development, together with economic prosperity and a balanced social development... This Programme identifies the environmental issues that have to be addressed if sustainable development is to come about – climate change, the over-use of renewable and non-renewable natural resources, the loss of bio-diversity, and the accumulation of persistent toxic chemicals in the environment. It sets out the environmental objectives and targets that need to be met and describes how the instruments of Community environmental policy will be used to tackle these issues while pointing to the need for further action in other policy fields... This requires the integration of environmental protection requirements into other policy areas and a need for the Community to examine its current systems of governance and find ways of changing them to ensure consistency between our social, economic and environmental objectives and between the ways of meeting them".

According to the Communication setting out the European Union Strategy for Sustainable Development (CEC 2001, p23), it "*should focus on a small number of problems which pose severe or irreversible threats to the future well being of European Society*" [original emphasis]. The issue areas encompass environmental, economic and social dimensions and comprise: global warming; loss of biodiversity and natural resource management; public health risks from anti-biotic resistant strains, hazardous chemicals and food safety; poverty and social exclusion; ageing of the population and its economic repercussions; and transport congestion, urban structure and regional imbalances. To meet these problems, the Commission proposes an EU strategy in three parts:

- 1) A set of *cross-cutting proposals and recommendations* to improve policy and make sustainable development happen. This means making sure that different policies reinforce each other
- 2) A set of *headline objectives and specific measures* at EU level to tackle the issues which pose the biggest challenges to sustainable development in Europe.
- 3) Steps to *implement the strategy and review its progress* [original emphases].

Source: CEC (2001, 2002)

Specifically, the EU Sustainable Development Strategy calls for “a new policy agenda” and “a new approach to policy-making” (CEC 2001, p24). This means, *inter alia*, that “careful assessment of the full effects of a policy proposal must include estimates of its economic, environmental and social impacts inside and outside the EU.” Within the EU, there is an important distinction between the application of SEA and related instruments by institutions of the Commission and by member states. In the former case, under the European Union Treaty, the EC must integrate environmental protection requirements into the definition and implementation of its own policies and activities, particularly in order to promote sustainable development (Box 3.3).

Box 3.3: Integration of the environment in European Commission policy-making

The European Commission has established a number of internal administrative processes to promote the integration of environment considerations. Horizontal measures include reporting, green house-keeping and environmental appraisal of the Commission’s policy proposals (the so-called “Green Stars” system for legislative proposals that may have a significant impact on the environment). In practice, the implementation of such measures has proven difficult. In 1999, the Commission concluded that these measures were insufficient and reviewed other options for integration of the environment as its contribution to the Cardiff process on improving environmental integration (agreed at the European Council meeting in Cardiff in 1998) and the implementation of Article 6 of the Amsterdam Treaty (Cologne Report to the European Council, June 1999).

In outlining its strategic objectives for 2000-2005, the Commission noted that the degradation of the environment is taking place at an accelerating rate and that the continuation of current development patterns is unsustainable. The Commission itself is responding on a number of different fronts to integrate the environment into its major policy areas and to promote sustainable development. The 6th Environmental Action Programme (6EAP, 2001) sets out environmental objectives and targets in a 10 year perspective for EU policy and identifies the means to achieve them. Closely linked is the EU sustainable development strategy (CEC 2001), which requires the integration of social, economic and environmental considerations in policy-making. Other practical measures taken include the review of the Green Stars system and improvements to policy assessment, supported by guidance on tools and methods inspired by SEA. The Commission also launched a study to investigate in more detail how SEA and the integration of the environment into strategic decision-making are interrelated (see Sheate *et al.* 2001).

Source: adapted from Feldmann *et al.* (2001)

As part of the integration agenda outlined in the EU *Strategy for Sustainable Development*, the Communication from the Commission on Impact Assessment (COM (2002) 276 final) has laid down the procedure to be applied to its own policy proposals. While representing an important step forward, the approach has been criticised as a potentially weak form of environmental integration (Sheate, 2003; see Box 3.4).

3.2.2 New areas of application

In 1999, the European Commission commissioned the Institute for Development Policy and Management (IDPM) at the University of Manchester to undertake an independent assessment of the impact that WTO multilateral trade negotiations may have on sustainable development. The

Box 3.4 Impact assessment in EC policy-making

In its Communication on Impact Assessment (COM (2002) 276 final), the European Commission sets out an impact assessment procedure that is to be integrated into its Strategic Policy and Programme/Activity Based Management programming cycle. This procedure is organised into two stages:

Preliminary assessment, resulting in a short statement and focusing on the identification of the issue/objectives and desired outcome, main policy options available and need for further assessment;
Extended impact assessment, where necessary, including detailed analysis, consultation with interested parties and summary of the results in a report.

The Communication also includes checklists and key questions that need to be answered when conducting the assessment.

Sheate (2003) describes this procedure and observes that it seems “on the face of it to be a positive move, but focuses very much on quantification – and where possible monetary quantification - of impacts, and explicitly recognises that trade-offs will be made (COM (2002)276 final, Annex 2, page 16, para.4.2).

The Commission has established a number of principles to guide it in assessing impacts:

“The economic, social and environmental impacts identified for the proposed option should be analysed and presented in a format that facilitates a better understanding of *the trade-offs between competing economic, social and environmental objectives*. To show the different impacts, make comparisons easier and identify trade-offs and win-win situations in a transparent way, *it is desirable to quantify the impacts in physical and, where appropriate, monetary terms (in addition to a qualitative appraisal)*. Impacts that cannot be expressed in quantitative or monetary terms should not, however, be seen as less important as they may contain aspects that are significant for the policy decision. Nor can final results always be expressed in one single figure reflecting the net benefit or cost of the option under consideration” (emphasis added by Sheate 2003).

There is no explicit requirement for public participation in this process; only consultation with interested parties and relevant experts as part of the extended impact assessment (not the preliminary assessment).

“Therefore, there is a risk that trade-offs will be made without sufficient scrutiny and transparency. This reflects very much a weak interpretation of sustainable development and contrasts with that in the Sixth Environmental Action Plan. But it is more consistent with that of the Sustainable Development Strategy, which provides the impetus for its development” (Sheate 2003).

main objectives are to develop a methodology for sustainability impact assessment (SIA) and to use it to make a broad qualitative assessment of the impact upon sustainability of the WTO trade negotiations. The work (on-going) is being conducted through a number of phases (Appendix 9). Recently, the EC has adopted the SIA approach with the intention to apply it to all its policy proposals.

3.2.3 The EU SEA Directive in perspective

Under the Directive, ‘environmental assessments’ are to be carried out for a specified list of plans and programmes (see below). Policies are exempt but this is likely to be an issue in implementation of the Directive since many of these plans and programmes are not likely to be

policy-neutral. In this respect, the Directive is also at odds with the EU's external strategy for Sustainable Development (CEC 2002) which gives priority to "ensur[ing] that an impact assessment is carried out for all major policy proposals, analysing their economic, social and environmental consequences in accordance with the conclusions of the Gothenburg European Council, June 2001". By comparison to the European Commission's internal EIA assessment procedure, the EU SEA Directive provides a potentially stronger basis for ensuring that environmental protection is an integral part of certain plans and programmes that are adopted by member states.

The foundations of the Directive rest on two core pillars:

First, the Directive is reasonably encompassing in its coverage and scope of application, although there are legal question marks about the type of plans and programmes that will be subject to its requirements in different member states.

The certain plans and programmes referred to in the formal title of the Directive include those "which are subject to preparation and/or adoption by an authority at national, regional or local level"⁴ and "are likely to have significant environmental effects" (Article 3.1).

The scope of application is limited in Article 3.2 to plans and programmes which are prepared for "agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development of projects listed in Annexes I and II to [EIA] Directive 85/337/EEC, or which, in view of the likely effects on sites, have been determined to require an assessment pursuant to Article 6 or 7 of [Habitat] Directive 92/43/EEC."

Article 3.8 defines the plans and programmes that are not subject to the Directive; it excludes proposals that address financial or budgetary and (solely) national defence and civil emergency matters. In addition, the SEA Directive does not apply to plans and programmes co-financed under the current programming period for structural funds or rural development provided for in Regulations (EC) No.1260/1999 and (EC) No.1257/1999, respectively (Article 3.9). The Commission is required to report on the relationship between the Directive and the Regulations well ahead of the expiry of the programming period with a view to ensuring a coherent approach to their subsequent relationship (Article 12(4)).

Second, the requirements of the Directive incorporate a number of procedural 'safeguards' for appropriate implementation by member states, although, inevitably, much will depend on the discretion exercised by member states in their transposition and implementation.

In this regard, as noted earlier, a key requirement centres on the preparation of an environmental report and the specification of the detailed information to be provided in the statement. The information must include, inter alia, relevant aspects of the current state of the environment, environmental protection objectives that are relevant to the plan or programme, the likely significant effects on the environment and the measures to mitigate these, and an outline of the reasons for selecting the alternatives dealt with (see Box 3.5).

Although others may see matters differently, the last requirement, which lies at the heart of the creative application of SEA, is narrowly framed and unlikely to encourage real generation and consideration of alternatives. There are minimum procedures for statutory authorities (referred to in Article 6.3) and for the public to be consulted and the member states are to make detailed arrangements for this purpose (Article 6.5). Both the information included in the environmental statement (Article 5) and the results of the views

⁴ Article 2(a) of the EU SEA Directive defines plans and programmes to mean those:

- "which are subject to the preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and
- which are required by legislative, regulatory or administrative provisions..."

expressed by the statutory authorities and the public (Article 6) - including any transboundary consultations (Article 7) - must be taken into account during the preparation of plans and programmes and before their adoption (Article 8). A statement must be made summarising how these aspects have been taken into account which encourages transparency.

Finally, member states must “monitor the significant effects of the implementation of plans and programmes, in order, inter alia, to identify unforeseen effects at an early stage and to be able to undertake appropriate remedial measures (Article 10). Moreover, they are required to ensure that “environmental reports are of sufficient quality to meet the requirements of the Directive” and to communicate to the Commission the measures taken in that regard (Article 12.2). Before 21 July 2006, the Commission must submit a first report to the European Parliament and Council on the application and effectiveness of the SEA Directive (Article 12). Collectively, these obligations represent a potentially important mechanism for quality assurance and control of SEA implementation. However, in practice, much will depend on the attitudes and actions of member states.

**Box 3.5: Information to be provided in an Environment Report
(as specified in Annex 1 of the EU SEA Directive)**

- (a) An outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes;
- (b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;
- (c) The environmental characteristics of areas likely to be significantly affected;
- (d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance,
- (e) The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation;
- (f) The likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;
- (g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;
- (h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;
- (i) A description of the measures envisaged concerning monitoring;
- (j) A non-technical summary of the information provided under the above headings.

Source: Official Journal of the European Communities (21.7.2001, L197/36)

3.2.4 Toward implementation

The SEA Directive is widely regarded as a milestone in the evolution of the SEA field, but there will be considerable challenges associated with its implementation. Two initiatives may provide some pointers to the way forward:

First, a review by Sheate *et al.* (2001) looked at a range of assessment-type mechanisms that have been used to promote environmental integration in the EU. It placed SEA in the broader strategic context of processes, institutions, arrangements and instruments and looked at integration practice

in all member states. Drawing from this review, Appendix 10 summarises key examples of strategic approaches in ten selected EU member states, and also the status of SEA at the time of finalisation of the SEA Directive in 2001. These examples illustrate the larger framework and potential for SEA integration in the EU.

Second, the theoretical and methodological basis for the SEA Directive has been examined through a collaborative research programme (Analytical Strategic Environmental Assessment, ANSEA), although its practical application remains in question. ANSEA was funded by the EU Fifth Framework Research Programme and was an ambitious attempt to establish a framework for assisting the implementation of the SEA Directive (Appendix 13).

As suggested above, the real test of the SEA Directive will lie in its implementation, a point that is often overlooked in the rush to judgement on its procedural pros and cons. In the interim, we offer two broad observations:

First, the SEA Directive is not the first or only Community piece of legislation to establish obligations on member states to carry out a systematic assessment of the environmental effects of plans and programmes. Such a requirement also applies through Council Directive 79/409/EEC on the conservation of wild birds, Directive 92/43/EEC on the conservation of natural habitats and Directive 2000/60/EC establishing a framework for Community action on water policy. Where an obligation to carry out an assessment arises simultaneously from the SEA Directive and other community legislation, member states may provide for coordinated or joint procedures in order to avoid duplication (Article 11.2). To date, however, SEA experience with associated these other instruments appears to be limited and it is probably safe to say that implementation of the SEA Directive will be more extensive and it will be the cornerstone for meeting the requirements of Community legislation. Over time, we also expect it to reshape the way plans and programmes are made in Europe and, ideally, to infuse the environment into all aspects of their preparation and implementation. However, we accept that this will be a tall order and a long term goal.

Second, it is important to remember that the SEA Directive was more than a decade in the making, from the time serious discussion began within the Commission to its coming into force in 2004. This process was far longer if we date it from the initial commitment to prepare a Directive in 1987 when the stated intention was to include policies. There was considerable debate on various drafts and five years elapsed from the release of the Draft Directive on SEA in 1997 to its finalisation in 2001. Furthermore, there was considerable opposition from various member states until the negotiation process ended. Member states had to be in compliance before 21 July 2004 and only plans and programmes that are formally initiated after that date will be subject to the requirements of the Directive. Plans and programmes commenced before then have a 24 month period for completion, after which the Directive applies retroactively “unless member states decide on a case-by-case basis that this is not feasible” (Article 13.3). In short, it is unlikely that the first batch of SEAs will be rolled out until 2005 and possibly it will be much longer before the SEA systems of the member states are fully operational.

3.3 National experience with SEA

3.3.1 Australia⁵

The Australia Environment Protection and Biodiversity Conservation Act (the EPBC Act, 1999) replaced a number of Federal statutes including the Environment Protection (Impact of Proposals) Act (the EPIP Act, 1974). EIA provision and procedure constitute an important part of the new Act and provide for a strengthened role for the Federal government in matters of national environmental significance such as world and national heritage places, nationally threatened plants and animals, migratory species and internationally important wetlands (see Early 2004). Part 10 of the EPBC Act provides for SEA of policies, plans and programmes, triggered by agreement with the Federal Minister for the Environment. In addition, it requires strategic assessment of all fisheries managed by the Federal government and all fisheries involved in the export industry (paragraphs 147-154).

Marsden (2002) has evaluated the provisions of paragraphs 146 and 147 against principles of international best practice in SEA, as defined by Sadler and Verheem (1996), and identifies a number of procedural shortcomings. These include the relatively restricted scope of application of the Act - it excludes matters of national environmental significance (such as forests – see below) which, arguably, should be included. In his view, paragraph 146 also leaves too much discretion to the Minister and thereby lacks much of the certainty and transparency that a legal framework should bring. With regard to paragraph 147, as applied specifically to fisheries management, Marsden (2002) finds a closer correspondence with principles of international best practice and concludes that the SEA of the Heard Island and McDonald Islands Fishery represents a positive introduction to the implementation of the requirements of paragraphs 147-154. So far, a major SEA of Australia's offshore oil and gas exploration is being undertaken and some 90 strategic assessments of fisheries are complete or underway.

Under the National Forest Policy Statement (NFPS)⁶, endorsed by the federal Government and all States and Territories, there is provision for the conduct of comprehensive regional assessment (CRA), which has many of the characteristics of SEA (Ashe 2002). This process is a basis for the conclusion of regional forest agreements (RFA), which the Federal and State governments pursued from the mid-1990s as a means of resolving jurisdictional and fundamental conflicts over land use and management. CRA is undertaken through two parallel streams of assessment. One comprises an environmental and heritage assessment relating to the national estate and world heritage, indigenous heritage, endangered species, bio-diversity, old growth and wilderness values and to ecologically sustainable forest management. The other comprises economic and social assessment of resource use and development opportunities and consequences of exploiting them. To date, CRA has been applied to eleven regional forest agreements (Box 3.6).

⁵ With contribution from Gerard Early, Department of the Environment and Heritage, Canberra; and John Ashe (consultant).

⁶ Commonwealth of Australia, *National Forest Policy Statement: A New Focus for Australia's Forests* (1992). The NFPS sets out policies and objectives for Australia's public and private forests. It identifies eleven broad national goals for land use, which are to be pursued within a regional planning framework that integrates environmental and commercial objectives.

Box 3.6: The Central Highlands RFA/CRA Process, Australia

Regional forest agreements (RFA) centre on regions in which commercial timber production is a major forest use, with boundaries determined by political and economic rather than bio-geographic criteria. This process is an attempt to find a lasting solution to the fundamental conflict between conservation and wood production in Australian forests and to settle jurisdictional disputes arising from intervention by the Commonwealth in State management of these lands. An integral component of the RFA process is a wide-ranging programme of environmental, economic and social assessments known as comprehensive regional assessments (CRA).

With certain variation as to detail, the RFA process comprises four phases: scoping, assessment, integration and agreement. This process and the role of CRA, in particular, are illustrated by the Central Highlands RFA in Victoria. Located north and east of Melbourne, the region comprises 1.1 million hectares, with public lands occupying 56 per cent of this area.

In January 1996, an interim agreement was signed to provide for the protection for forests that might be required for a 'comprehensive, adequate and representative (CAR) reserve system pending completion of the RFA. A scoping agreement set out the arrangements for conduct of the RFA and, in broad terms, the matters to be assessed.

During the next 17 months, a CRA of the environmental, cultural, economic and social issues in the region was carried out. This included assessments relating to biodiversity, old-growth forest, wilderness, national estate, world heritage and ecologically sustainable forest management (ESFM). A CRA report was issued for public consultation in July 1997. The report may be compared in scope and scale to a conventional EIS. It drew heavily on existing studies and was accompanied by technical reports.

Following the public consultation phase, the process entered the 'integration' phase, initiated by the release, in September 1997, of the Central Highlands RFA Directions Report. This set out proposals for the CAR reserve system, ESFM in the region and forestry industry issues. The report was released for an eight-week period and provided the basis for negotiations between the Commonwealth and Victoria governments. The Central Highlands RFA was signed in March 1998 and is to remain in force for 20 years, with provision for amendment by mutual agreement, for dispute resolution and for 5 yearly reviews. Principal elements of the Agreement include:

- Confirmation by the Commonwealth that its obligations under the Australian Heritage Commission Act 1975, the Environment Protection (Impact of Proposals) Act 1974 and the Endangered Species Act 1992 have been met;
- Provisions concerning world heritage nomination of areas in the region;
- Establishment of a CAR reserve system for the region;
- Commonwealth accreditation of Victoria's ESFM system and processes, and industry development initiatives.

Under the Agreement, the conservation reserve system for the region increased by 116,000 ha (64 per cent) and nearly half the public land in the region is now in national parks or other reserves. The CAR reserve system meets the nationally agreed criteria for biodiversity, old growth and wilderness. Benefits for industry include certainty of access to forest resources and financial incentive for industry development. Social benefits include prospects for the creation of 300 new jobs.

Source: Ashe (2001, 2002)

An earlier SEA-equivalent process was introduced under the Australia Resource Assessment Commission (RAC) Act 1989, which established an independent body to conduct inquiries on resource policy issues referred to it by the Prime Minister. Section 7 of the Act requires the Commission to take an integrated approach and to have regard to considerations of efficiency, equity and ecological integrity (i.e. explicitly address sustainability). The first inquiry on the future use and management of Australia's forest and timber resources (1989-1992) was part of the policy development process that led to the RFA and CRA process (above). The RAC approach also had an evident influence on this process and is referenced internationally because of its scope and comprehensiveness (see Box 3.7). The Commission as a standing body was disbanded in 1993 after conducting only three inquiries, although the legislation remains on the statute books.

Box 3.7: Forest and Timber Inquiry, Australia

The Forest and Timber Inquiry conducted by the Australian Resource Assessment Commission was completed in 1992. Although now more than 10 years old, the Inquiry remains one of the reference points for integrated, strategic environmental and sustainability assessment. Its mandate was to identify and evaluate policy options for the use and management of Australian forest and timber resources. The Inquiry combined industry and government submissions, public hearings and independent technical analysis.

Major study components included:

- Resource capability, tenure and use inventories;
- Evaluation of forest management strategies and institutional arrangements;
- Wood supply and demand projections;
- Review of the environmental effects of logging, including soil productivity, aquatic systems, flora and fauna, nutrient recycling, and carbon sequestering;
- Survey of social values of forests and attitudes to management;
- Identification of five strategies of forest use and management, from maximisation of timber production to no further logging of native species; and
- Clarification of the choices and trade-offs at stake (although the inquiry did not provide specific advice to the government).

Source: Resource Assessment Commission (1992); summarised in Sadler and Verheem (1996)

At the state level, recent changes to the Western Australia Environmental Protection Act (1986, amended 2003) enable the Environmental Protection Authority (EPA) to formally assess 'strategic proposals' likely to have a significant effect on the environment (www.epa.wa.gov.au). Previously, paragraph 16(e) of the Act, which gives the EPA an advisory function, was used to undertake informal strategic assessments on a range of proposals; for example, approximately 40 were completed between the beginning of 1995 and mid-2001 (Malcolm, 2002). The latest amendment to the Act allows proponents to refer their strategic proposals voluntarily. In subjecting them to SEA, the advantage to the proponent is that future "derived proposals" will not require further assessment (referral of environmentally significant projects is compulsory under the Act).

During 2002 and 2003, an integrated, strategic level assessment of the Gorgon Gas Development off the Pilbara Coast of Western Australia was undertaken by the State Government which considered social, economic and environmental issues, as well as the strategic implications of the proposal for Western Australia. In the absence of a formal SEA or sustainability assessment process at the time, a unique process was developed for the Gorgon case. It was managed through a whole-of-government approach with a high degree of interaction between relevant agencies at both Chief Executive Officer (CEO), and officer level. The process was modelled on the EIA process used in Western Australia. Scoping guidelines were prepared and the proponent subsequently provided an Environmental, Social and Economic Review document (ChevronTexaco Australia 2003) which was made publicly available. The proponent was required to respond to issues raised in the public submissions. In addition, three other assessment documents were prepared and submitted for Cabinet consideration:

- An environmental review undertaken by the Western Australian Environmental Protection Authority (EPA 2003);
- Advice on biodiversity conservation values by the Conservation Commission of Western Australia (2003) which is the vesting authority for Barrow Island; and
- Advice on social, economic and strategic considerations to the Department of Industry and Resources (DoIR) (Allen Consulting Group 2003).

These documents also were made publicly available along with a separate summary/overview document (Government of Western Australia 2003). Once public submissions were received, the Chief Executives of the relevant government agencies briefed the Cabinet on the proposal.

In September 2003, the Cabinet decided to grant the Gorgon Joint Venture access to Barrow Island for the purposes of gas processing. Currently the proponent is undertaking a formal EIA process (under Part IV of the *Environmental Protection Act 1986*) which will detail the environmental impacts and mitigation strategies associated with constructing the gas processing plant on Barrow Island. A detailed analysis of the Gorgon case study is in progress (Pope *et al.*, submitted) which examines the project in light of the three concepts of sustainability assessment put forward by Pope *et al.* (2004).

A number of other Australian States also take a strategic approach to development proposals and variously incorporate elements of SEA. For example, in New South Wales, the formulation of regional and local plans must take into account environmental studies of land likely to be affected. In Victoria, planning authorities must take account of significant effects that a development scheme may have on the environment and, according to Harvey (2002), ad hoc forms of SEA of plans are exemplified in the approach to site nomination and zoning for coastal marinas. A similar approach can be recognised in South Australia although, here, informal SEA takes place within coastal planning to integrate environmental criteria into the marina site selection process (Harvey, 2002). There are a number of other planning and policy-making processes at the state and federal levels that are analogous to SEA but have yet to be evaluated from this perspective (Marsden and Dovers, 2002).

3.3.2 Austria⁸

To date, SEA has been required formally in only a few cases. However there has been progress in that direction at the federal and provincial levels. Firstly, a range of policy and planning mechanisms for integrating environmental issues into decision-making have been developed (see Appendix 10). Secondly, there are various initiatives underway to transpose and implement the EU SEA Directive, including amending existing and enacting new legislation:

- The federal government has amended the Water Management Act (Federal Law Gazette I 82, 2003; Aug 29, 2003);
- Salzburg province has amended its Spatial Planning Act (Law Gazette of Salzburg Province, No. 13/2004, Feb 27, 2004);
- The provinces of Lower Austria and Styria have drafted similar amendments⁹;
- Carinthia province has drafted a “Carinthian Environmental Planning Act”, covering all plans and programmes in its competences to which the Directive applies.

In addition, SEA pilot studies have been undertaken covering different geographical areas and planning sectors (Box 3.8). All of these applications have improved the planning process, e.g. through considering alternatives, analyzing environmental consequences and documenting the likely environmental effects. Some of the pilots, particularly the most recent ones, also contributed to the adoption of better quality plans and programmes in which environmental concerns were taken into account in decision-making. Not all of the measures recommended have been implemented and the effectiveness of SEA remains to be seen. Although some of these pilots are still being evaluated, the Viennese Waste Management Plan shows the most progress in implementing proposed measures (Box 3.9). In this case, a round table process was used to facilitate effective stakeholder involvement (Box 3.10). For more details on the pilot studies see Aschemann (2004).

SEA activities in Austria also include reviews of international and national approaches and experience, for example in relation to policies and legislation, plans and programmes that will be subject to the EU SEA Directive and screening procedure and criteria (see www.lebensministerium.at/umwelt). In addition, SEA training workshops and meetings have been organised, and SEA working groups meet regularly (e.g. a federal group on SEA and transport, and a provincial group on SEA implementation). A handbook has been prepared illustrating different aspects of the diverse Austrian SEA activities (Arbter *et al.* 2000). Finally, the Ministry of Environment has commissioned a study to explore the potential of sustainability impact assessment at the level of policies and legislation.

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⁸ With contributions from Kerstin Arbter (Arbter SEA Consulting and Research) and Ralf Aschemann (Austrian Institute for the Development of Environmental Assessment).

⁹ Mining, water management and forestry are the responsibility of the federal government whereas spatial planning and nature conservation are under the jurisdiction of the nine provinces. The main actors involved in SEA activities in Austria are:

- (a) The Federal Ministry of Agriculture and Forestry, Environment and Water Management (MoE), and the Federal Ministry of Transport, Innovation and Technology;
- (b) The relevant departments of the nine administrations of the provincial governments.

Box 3.8: Pilot applications of SEA in Austria

1995	Local Energy Plan for Graz city
1997	Land-use plan of Weiz (Styrian municipality with 9,300 inhabitants)
1997	Regional programme of Tennengau (an association of 13 municipalities in Salzburg province)
1997	Danube corridor demonstration study (part of the Trans-European Transport Net, TEN)
1998	Regional development plan for the Danube area in Lower Austria
1999	Vienna waste management plan
2001	Urban and transport development in North-East Vienna (part of the city and surrounding municipalities)
2003	Waste management plan for Salzburg province.

Box 3.9: Pilot SEA for Vienna's waste management plan

In recent years, Vienna has experienced growing volumes of waste, higher standards for waste disposal in landfill legislation, and bottlenecks in the city's waste treatment facilities. In response, the Environmental Commission of Vienna (a kind of environmental ombudsman) called for an SEA to help in preparing a waste management plan that would resolve these problems by 2010. The waste management authority decided to engage a wide range of stakeholders in the SEA process.

The Commission required that ecological, economic and social aspects be taken into account from the outset. Their key issues were:

- Which waste minimisation and waste recycling and treatment measures will solve the root problem?
- Does Vienna need additional waste treatment facilities to cope with the waste generated until 2010?
- Which treatment technologies are best suited to the specific local circumstances?
- How can the capacity of the existing facilities be optimised?
- What treatment capacities should newly built facilities comprise?

The SEA commenced in 1999 and adopted a participatory "round-table" stakeholder team approach (Box 3.10). A political decision on the plan was taken by City Council in December 2001, following the recommendations of the 'round table' team. By 2003, some of the proposed measures had already been implemented: establishment of a strategy group for waste avoidance; selection of sites for the recommended new incineration plant and the new fermentation plant; and initiation of project EIAs for these two new installations.

Box 3.10: Use of the SEA round table approach in Austria

The SEA team for the Vienna waste management plan (Box 3.9) adopted a round table approach. The team included representatives of local/national planning, environmental and other authorities, external waste management experts (planners) and interested environmental NGOs. In this approach, team members act as equal partners throughout the process, from defining objectives to preparing the report, and share responsibility for the results. The team tries to reach consensus on a plan/programme which integrates the environmental aspects, combining elements of SEA and mediation. In this study, consensus was reached on nearly all aspects on the proposed waste management plan.

The model was developed further for SEA of urban and transport development in the North-East of Vienna. Besides environmental NGOs, Chambers of Commerce, Labour and Agriculture & Forestry, and politicians were represented in the SEA team. Also the participation of the broader public was strengthened and a SEA web site was launched (www.wien.at/stadtentwicklung/supernow – which received some 4,000 hits). In addition, several public forums on SEA were organised (with about 1,000 participants) and continuous media information was provided. This model has been used again for the most recent Austrian SEA for the waste management plan of Salzburg.

The SEA round table approach goes beyond the requirements of the EU SEA Directive. It means more proactive participation than mere consultation and provision of information, and provides possibilities to contribute to the whole SEA process and to influence its results. The experiences to date have been promising, providing opportunities to reconcile the interests concerned and to strengthen the implementation of a final plan when supported by all interest groups concerned.

3.3.3 Canada

In Canada, SEA as a formal procedure is undertaken primarily at the federal level, although elements of this approach can be recognised in the EIA systems of certain of the provinces and territories. The federal SEA process was established by Cabinet Directive (1990), making it the first of the new generation of SEA systems that evolved in the 1990s (see section 2.6.2). It was established as a non-statutory procedure, separate from EIA legislation, and intended to be applied flexibly and pragmatically to integrate environmental considerations into policy and programme proposals submitted to Cabinet or considered by Ministers on their own authority. This is the highest level of political decision-making in Canada and, at the time, the application of SEA represented a major innovation. It was perceived as a challenge with respect to Cabinet secrecy and Ministerial discretion - key conventions of Westminster-style parliamentary democracy.

Early procedural guidance on SEA in Canada was contained in “The Environmental Assessment Process for Policy and Programme Proposals” (FEARO, 1993) - the so-called ‘blue book’. It comprised a basic and non-prescriptive outline of the scope of coverage, the responsibilities of federal officials and the requirements for documentation and disclosure. For Cabinet submissions, the SEA was part of the formal procedure of preparation of a memorandum setting out the proposal and the issues for consideration. Tellingly, the ‘blue book’ noted that public consultation, which normally would be expected to become a key component of SEA, was difficult in the policy context ‘because of the need for Cabinet confidentiality’.

In the initial phase, SEA implementation was ad hoc and uneven and limited by insufficient awareness on the part of the federal departments and agencies responsible for subjecting proposals to this process. Key principles were discretion and flexibility, i.e. agencies were encouraged to develop and use approaches and procedures suited to circumstances. During this period, SEA implementation was subject to nominal oversight and occasional review by the Federal Environmental Assessment Review Office (FEARO) - later the Canadian Environmental Assessment Agency (the Agency or CEAA). For example, a survey by LeBlanc and Fischer (1996) found an inconsistent pattern of SEA application, with some federal agencies failing to comply with the Cabinet Directive and others meeting only the bare minimum requirements.

Subsequently, the Commissioner for the Environment and Sustainable Development (1998, 1999) audited the SEA practices and performance of federal agencies. This review indicated that aspects of SEA practice remained inadequate and unsatisfactory across many branches of the Government of Canada. Under the Auditor General Act, the Commissioner has wide powers to oversee and hold the Government to account for its policies and activities to protect the environment and to implement sustainable development. The findings of the SEA audits thus registered much higher on the scale of political attention than the earlier procedural review of the Agency, which has a relatively low key role in SEA implementation (compared to its functions under the Canadian Environmental Assessment Act).

A revised Cabinet Directive on SEA (Government of Canada, 1999) was issued to strengthen the role of SEA in policy, plan and programme decision-making. It clarifies the obligations of federal departments and agencies in this regard and links SEA to their requirement to prepare and implement sustainable development strategies (introduced in 1997). Updated *guidelines* for implementing the SEA process were prepared by the Canadian Environmental Assessment Agency (CEAA 2000) and include principles and advice on issues of application (see Box 3.11). The guidelines are presented as flexible (applicable to a variety of policy settings), practical (not necessarily requiring specialist skills) and systematic (based on logical, transparent analysis and on current, proven good practices within federal departments and agencies). Some federal departments have prepared their own policy statements on SEA (eg Transport Canada, 2001).

Box 3.11: Aims, principles and roles for implementing SEA in Canada

The guidelines state that SEA will help federal departments and agencies to:

- Optimise positive environmental effects and minimise negative environmental effects;
- Consider potential cumulative environmental effects of proposals;
- Implement sustainable development strategies;
- Save time and money by identifying potential environmental liabilities and concerns;
- Streamline project level EA by eliminating the need to address some issues at this stage;
- Promote accountability and credibility among stakeholders and the public; and
- Contribute to broader government policy and commitments.

When implementing SEA, departments should be guided by seven principles:

- Early integration—beginning in the conceptual stages of policy or plan formulation
- Examine alternatives—evaluating and comparing their environmental effects;
- Flexibility—agencies have discretion in determining how to conduct a SEA;
- Self-assessment—each agency is responsible for SEA process application and decision-making;
- Appropriate scope of application—SEA should be commensurate with the level of anticipated effects;
- Accountability—SEA should be part of an open and accountable decision-making process; and
- Use of existing mechanisms—to analyse effects, involve the public and report the results.

The main decision-makers are the Cabinet (collective responsibility) and Ministers (individual responsibility for their department or agency). In addition, the Minister of the Environment has an advisory

role with regard to environmentally appropriate courses of action. Other major participants in the SEA process are:

- Line departments – officials are responsible for ensuring an appropriate SEA is completed;
- Environment Canada – provides expert scientific and technical advice to other agencies;
- Canadian Environmental Assessment Agency – provides guidance and training on SEA implementation; and
- Commissioner for the Environment and Sustainable Development -- may subject SEA compliance and performance by government agencies to periodic audit.

Source: Canadian Environmental Assessment Agency (2000); The Guidelines document is available on the Agency's web site (www.ceaa.acee.gc.ca/0011/0002/dir_e.htm#guidelines).

The SEA process covers policies, plans and programmes but there is no definition or differentiation of these levels of decision-making. Rather, SEA is triggered when proposals are submitted to an individual Minister or to Cabinet for approval and these may result in important environmental effects (positive or negative). In addition, departments are encouraged to subject other initiatives to SEA 'as circumstances warrant'. There are, however, certain special cases when SEA does not apply, such as national emergencies or issues requiring urgent response, where the normal consideration by Cabinet is shortened. Also excluded from SEA are projects that are subject to the Canadian Environmental Assessment Act. Also, for proposed regulations, the preparation of a Regulatory Impact Analysis Statement (RIAS)¹⁰ is deemed to satisfy SEA requirements, although, if an SEA has been conducted, the findings should be included.

Canadian *guidelines* emphasise that SEA is “*not an add-on process but one linked with the ongoing economic and social analyses on the proposal*” (CEAA, 2000, quote italicised for emphasis in original document). The guidance also notes that there is no single “best” methodology for conducting an SEA of a policy or plan proposal. Instead, departments and agencies are encouraged to “apply appropriate frameworks or techniques, and to develop approaches tailored to their particular needs and circumstances”. A general two-stage process is outlined, comprising a preliminary scan to determine if there are potentially important environmental considerations and followed, in such cases, by analysis of the environmental effects. The analysis should address their scope and nature, the need for mitigation, the residual effects and the need for follow up measures. It also “should identify for decision-makers, where appropriate, concerns about the environmental effects among those likely to be most affected and among other stakeholders and members of the public” (CEAA 2000).

The guidelines describe sources of information on public concerns such as including economic and social analyses of the proposal, direct consultation and use of expertise within and outside of government. Public involvement in the SEA process should be commensurate with that for the development of the proposal itself. According to the guidelines, “separate reporting of assessments is not required” but may be chosen “for some proposals, such as those involving significant adverse effects or serious public concerns” (CEAA, 2000). However, with effect from

¹⁰ A Regulatory Impact Analysis Statement (RIAS) is prepared for federal proposals to amend regulations or introduce new ones and also applies to statutes establishing new regulatory programmes. It is the means of demonstrating that the benefits of regulations are greater than their costs, and represent the best alternative when they address health, social, economic or environmental risks. The preparation of a RIAS is required under an administrative policy directive.

1st January 2004, federal departments and agencies are required to prepare a public statement of environmental effects when a detailed SEA of a proposal has been conducted. The statement is intended to assure stakeholders and the public that environmental factors have been appropriately considered in cases of policy and planning decisions with potentially significant environmental effects. In all cases, the findings of the SEA are to be incorporated into memoranda to Cabinet and other forms of documentation for decision-making.

The current pattern and status of SEA practice is difficult to determine objectively. First, there is no central registry of assessments underway or completed at the strategic level as there is for project-level proposals under CEAA. Second, an audit of the implementation of the 1999 Cabinet Directive by the Commissioner of the Environment and Sustainable Development is currently being undertaken, and is expected to be released in October 2004 (Connelly, 2004). What stands out from disparate sources is increasing evidence of more visible and better quality SEA practice than before. Recent examples include:

- Ongoing SEA in support of a several trade negotiations, beginning with a pilot ex-post review of the 1994 Uruguay Round of Multilateral Negotiations (1999) and the development of a generic framework for the conduct of SEA (Box 3.12);
- A series of SEAs conducted under the Canada – Nova Scotia Offshore Petroleum Board. The latest assessment of Eastern Sable Island Bank, Western Banquereau Bank, the Gully Trough and the Eastern Scotian Slope (August 2002) was the first to cover lands not currently under licence to petroleum companies or included in a Call for Bids (see: www.ensopb.ns.ca/Whatsnew/SEA0816.html);
- The SEA of the federal policy moratorium on offshore oil and gas development on the west coast of Canada, which has been in place since 1972 and was renewed in 1989 as a result of the Exxon Valdez oil spill off the Alaskan coast. This process is referred to as an ‘extended SEA’ (Natural Resources Canada, 2004) and, for the first time, it is being undertaken as a public review by an independent panel. As such, it can be expected to set an important precedent.

Box 3.12 : Generic framework for ex ante SEA for trade negotiations, Canada

In November 1999, the Canadian Department of Foreign Affairs and International Trade (DFAIT) released a Retrospective Analysis of the 1994 Canadian Environmental Review of the Uruguay Round of Multilateral Trade Negotiations and began work on a SEA framework for WTO negotiations. This approach was then broadened to establish a generic framework for SEA that could be applied to bilateral, regional or multilateral trade negotiations. This framework is to be applied flexibly and adapted on a case-by-case basis according to the policy context.

Rationale and objectives: SEA is presented as an instrument that can help ‘sensitise’ trade negotiators to environmental considerations and lead toward greater coherence of trade and environmental policy. The primary aim of SEA in this context is to provide information necessary to integrate environmental considerations into the decision-making process from the earliest stage (and to document for the public how this has been done). A caveat is that the preferred way to mitigate adverse effects is recognised as appropriate domestic policy rather than prescriptive measures within trade agreements. In addition, this approach may identify opportunities for capacity building for environmental protection.

Challenges: The framework recognises that assessing the environmental impacts of trade negotiations

is a complex and demanding task with a number of significant challenges:

- Methodologies for SEA of policy issues including trade negotiations are still evolving;
- Experience in their application is lacking since, to date, Canada has conducted *ex post* reviews of trade agreements rather than *ex ante* assessments of trade negotiations;
- Because trade negotiation is a dynamic process, the SEA process may have to focus on a 'moving target' as new and unanticipated issues arise;
- Environmental impacts of trade agreements are difficult to identify and isolate from other factors external to trade (and quantitative data are limited).

Four step SEA process: The main stages and elements comprise:

- Notice of intent to conduct an SEA issued when a trade negotiation is announced (with comments invited from key stakeholders on environmental matters);
- An initial SEA to scope out the main issues likely to result from the proposed negotiation;
- Preparation of a draft SEA to identify and inform negotiators of the main environmental concerns;
- Preparation of a final SEA report to document the anticipated environmental impacts (identifying any notable divergence from the draft SEA) and recommend any follow up and monitoring actions.

Analytical framework: Because of the dynamic quality of trade negotiations, analysis may be required at various times in the SEA process. The methodology comprises four analytical stages:

- Identification of the economic effects of the trade negotiation and its relevance to Canada;
- Identification of the likely environmental impacts of such changes (adverse and positive), noting their consistency with Canada's existing commitments under multilateral environmental agreements;
- Evaluation of the significance of the potential environmental impacts (using criteria similar to those used in the application of the *Canadian Environmental Assessment Act*);
- Identification of the options for policies or to mitigate adverse effects and enhance positive effects, including regulatory institutions and measures and abandoning or altering a negotiation position.

Public input and stakeholder engagement: The framework identifies the form and stages at which public input will be sought. The scope and timing of public input will vary, depending on the type of agreement assessed. Given the confidentiality of trade negotiations, any re-evaluations of the draft SEA report will not be made public although advice will be sought from key stakeholders including environmental NGOs.

Ongoing strategic environmental assessments:

- [Initial Environmental Assessment of the Canada-Singapore Free Trade Negotiations](#)
- [Initial Environmental Assessment of the Canada-CA-4 Free Trade Negotiations](#)
- [Environmental Assessment of Negotiations at the World Trade Organization](#)
- [Environmental Assessment of Free Trade Area of the Americas Negotiations](#)

Source: DFAIT (2001) for updates on ongoing assessments, see <http://www.dfait-maeci.gc.ca/tna-nac/social-e.asp#environmental>

3.3.4 Denmark

In 1993, SEA was established by Administrative Order of the Prime Minister's Office for bills and other governmental proposals submitted to the Danish Parliament. Other government proposals in a Danish context may be broadly understood as corresponding to national policies or general plans (Elling 1996, 1997; Elling and Neilsen, 1998). The Administrative Order was introduced to support the trend toward integration of environmental considerations in decision-making processes. It requires all ministries to prepare a statement on the environmental consequences for proposals that are likely to have significant environmental effects. An

assessment of these effects should be made by the proponent ministry ‘when administratively feasible and when the data are available’ and so as to ‘maintain the applicable legislation process’ (Danish Ministry of Energy and Environment, 1995a).

This last referenced work (first issued in Danish in 1993) provides basic guidance on procedures for SEA. It remains in force, although subsequent amendments have been made to the Administrative Order (in 1995 and 1998) to strengthen its scope and application. The 1993 Administrative Order provided for a flexible process and Danish policy was to ‘keep it simple to start,’ developing procedure and methodology gradually and building on the lessons of practice (Elling, 1996; Johansen, 1996). The environmental effects to be addressed in SEA are broadly defined in the Administrative Order (e.g. safety and health, flora and fauna, soil, water, air, climate, landscape) and further described in guidelines. A checklist is provided to help determine the need for and scope of SEA, modelled on that for EIA of projects¹¹ and the guidance notes that the principles and elements from this level can apply to strategic actions.

From the guidance on recommended Danish procedure, Elling (1996) identified four stages in the SEA of bills or other proposals, although he also notes that, in practice, the first two steps merge together:

1. *Screening* – the checklist (footnote 10) is used at the ‘heading level’ to identify proposals that are likely to have a potentially significant environmental impact and require further assessment. In addition, according to Johansen (1996), the Ministry of Environment also carries out preliminary screening of the legislative calendar to flag bills that might be environmentally important.
2. *Scoping* – the checklist is used at the ‘sub-heading level’ of specific questions to identify the nature and scope of the major or cumulative environmental effects of a bill or policy. In the guidance, reference is also made to the fact that the effects of national actions occur on different geographic scales - primarily local and regional, but in some cases extending to the global level.
3. *Assessment* – an analysis of the effects that are identified as potentially significant is carried out by the responsible Ministry and having regard to the data and administrative considerations noted above. Danish procedural guidance states that it is not possible to give an overall description of when environmental effects are considered to be significant; rather, it includes a list of factors for this purpose. For example, does the impact in question conflict or make it difficult to comply with environmental objectives or policies?
4. *Report* – A description of the environmental effects is included as a separate section in the commentary, which is attached to the bill or other government proposal when it is submitted to Parliament¹². It should be an easily understood, non-technical statement that is publicly accessible, together with other background assessment.

¹¹ The main topics listed in the checklist are: water including surface water and groundwater; air; climate; surface of the earth, soil and percolations; flora and Fauna including impact on habitats and biological diversity; landscape and land use; other resources including use of renewable and non-renewable resources; waste; historical buildings and monuments; population's health and welfare; and safety in connection with production, handling or transport of substances harmful to the environment.

¹² If the responsible ministry has determined that a proposal will have no significant effect on the environment, this opinion should also be stated in the commentary accompanying the bill or other government proposal.

More detailed, advisory guidance on the content and features of SEA of bills and other government proposals was issued in 1994 (in Danish) by the Danish Ministry of Energy and Environment (1995b, English version). This document is organised into three main sections (see Box 3.13):

- Step by step guidance on what SEA should ideally include (aspects of which clearly reflect the influence of the EIA Directive and thus anticipate the European SEA Directive);
- Case examples of eight assessments of bills and other government proposals to illustrate the application of the recommended methodology and checklist;
- An outline of the environmentally-related national plans (detailed in Annex 2 to the document) that can be used in connection with the checklist (Annex 1 of the document) to assess proposals against relevant objectives.

Box 3.13: Danish guidance on SEA of bills and other proposals: examples and experience

Although now more than ten years old, the publication on *SEA of bills and other proposals: examples and experience* (Danish Ministry of Energy and Environment (1995b)) is reportedly still current. New guidance on SEA was prepared in 2002 but never published due to a change of government (Elling, pers.com.). Danish guidance is also of some interest internationally since it addresses the implementation of SEA within the first system to be directed solely at the legislative process. This document is organised into three main parts:

First, there is information on what ideally SEA should include. A six-step procedure is outlined:

- Formulating the problem and describing the purpose of the proposal and the alternatives considered;
- Identifying the relevant environmental effects (completing the checklist);
- Describing the extent of the likely environmental effects (in relation to the null hypothesis, time and space aspects, and levels of uncertainty);
- Identifying measures to avoid environmental harm and for monitoring or follow up programmes;
- Assessing and weighing the environmental effects in relation to policy objectives;
- Statement and summary of the main findings.

Second, there is a review of a series of statements on proposals, comprised of six actual examples (5 Bills and one resolution) that were subject to the SEA process and two constructed examples of standing Acts or Orders. All of the examples have some form of environmental objectives or orientations. For example, five of the previous assessments relate to the protection of nature or species, energy efficiency, banning pesticides containing certain harmful ingredients and the periodic inspection of motor vehicles for safety and emissions control. The sixth case was an authorisation bill for three by-pass routes (which cites certain environmental benefits from reducing the burden of urban traffic). Generally, the documentation in cases that are aimed at environmental improvements is more detailed than for the normal run of legislation. It is also perhaps atypical in emphasising positive environmental effects.

Third, an outline is given of Denmark's most important national action plans in relation to the environment (in Annex 2). Reference is also made to international conventions and agreements to which Denmark is signatory, key environmental protection and planning acts and instruments and state of the environment reports and similar documents. The purpose is to indicate relevant objectives and targets of environmental policy when conducting SEA using the checklist identified in earlier guidance (reproduced in the document as Annex 1). Examples cited include:

- Action plan on cleaner technology, which aims to reduce total consumption of natural resources and

direct pollution from production and consumption of products;

- Action plan on the aquatic environment, which sets quantified targets for reducing nitrate and phosphate discharge to water bodies;
- Transport 2005 and Energy 2000 and follow up, which include objectives relating to air quality and greenhouse gas emissions;
- Strategies for biodiversity, natural forests and sustainable forest management, which are central to the conservation of flora and fauna and genetic resources.

Source: (Danish Ministry of Energy and Environment, 1995b)

SEA practice in the first phase of implementation was closely monitored (Elling 1996, Johansen, 1996). Approximately one eighth of all bills or other government proposals submitted to Parliament were found likely to have significant impacts on the environment and had a description of the impacts in the attached documentation. The large majority either had no reference to environmental impacts or stated that there were none in the attached documentation. When reviewing these figures, Elling (1996) reminds non-Danish reviewers that the majority of bills or government proposals concern administrative or procedural rules which have little or no environmental impact. However, both Elling (1996) and Johansen (1996) also note the scope and quality of the assessments actually carried out vary considerably and only in very few instances were environmental impacts described in a thorough way.

Government guidance documents cited earlier (Danish Ministry of Energy and Environment, 1995a,b) also called for improvements in these areas. Since then, no major changes have occurred, although the proportion of bills with a description of likely impacts in the attached documentation has increased and now represents about one-fifth of all bills submitted (Elling pers. com. 2004). A recent study of the contribution that SEA makes to the reading of bills in the Danish Parliament yielded some interesting conclusions (Elling 2000). When fully qualified assessments of the likely environmental impacts are appended to the documentation of bills, they result in a more effective political process, defined by Elling (2000) as one that is meaningful, understandable and focused on political priorities, including environmental ones, which become more transparent in the final decision.

Generally, the most comprehensive assessments are carried out for bills and proposals that are intended to protect or improve the environment. In other types of assessment, the environmental effects are described more briefly and in general terms (Danish Ministry of Energy and Environment, 1995b). The examples listed in Box 3.14 are used to illustrate SEA good practice in application of the impact checklist against policy objectives for the environment set out in national legislation and action plans. An in-depth analysis of SEA application by Elling and Neilsen (1998) is instructive for understanding how this process works in the context of Danish Parliamentary decision-making and for relating this experience to internationally recognised elements of approach. For example, they show that consideration of alternatives and involvement of the public can be accommodated within the Danish SEA system even though there is no requirement to do so (see case study 3.1).

Before the transposition of the Directive, there was no formal provision for SEA at other levels in Denmark, although EIA practice had a number of related features. Most notably, it is integrated into the land use planning system and (with certain exceptions) assessment and approval of specific projects take place within the context of regional development plans. This system was also widely recognised as an ideal mechanism for implementation of SEA along the lines of

experience in the UK and other countries (Elling and Neilsen, 1996). In the late 1990s, the Ministry of Environment and Energy asked the county authorities to undertake SEA in conjunction with revising their regional development plans, which implement national policy directives and establish the guidelines for land use and infrastructure outside the urban zones (Elling 1998a). A series of trial runs was undertaken, beginning with the Northern Jutland regional plan (Box 3.15) and using this as a starting model for integrating SEA into the planning process (Elling 1998b, 2000).

Further SEA pilots have been carried out on an experimental basis for some years at the regional level (Elling 2005) and, to a lesser extent, at the municipal level in Denmark (Hvidtfelt and Kørnøv 2001, 2003). The aim has been to achieve more sustainable spatial plans and to prepare for the EU Directive on SEA. It is expected that SEA at the regional level will become mandatory for the next round of land use plans in 2005. At the time of writing, Denmark is introducing legislation to comply with the European SEA Directive and make SEA of land use plans obligatory at the national, regional and municipal level (Act No. 316 was adopted by the Danish Parliament on the 5th of May, 2004).

Box 3.14: Pilot SEA in North Jutland, Denmark

Between 1995 and 1997, the Planning Administration in North Jutland, the Danish Ministry of Environment and Energy (DMEE) and the EIA Centre at Roskilde University collaborated on a pilot project financed by the former Ad Hoc Group for EIA under the Nordic Council of Ministers and the DMEE. The pilot project was a component of a research project to develop methods for SEA of regional plans and to test them through case studies.

The pilot project involved an assessment as part of the revision of the 1993 North Jutland Plan. Elling (2000) reports the conclusions of different actors, based on interviews:

- Planners said that whilst the SEA produced no new knowledge, the planning process became more clear;
- Politicians felt they got better information as a basis for choices;
- NGO's experience was that they should participate early in the process, preferably during scoping.

Overall, it was concluded that a better regional plan had been produced.

The Planning Department has tried to carry SEA a step further in the newest regional land use plan revision. The NGOs have been involved at an earlier stage. The county used existing groupings like the Green Panel, the Ground Water Committee, and the Cultural Heritage Committee, where different NGOs are represented. Also the findings of the SEA process were integrated in the plan itself and not placed in an appendix as in 1997. NGO groups have shown a major commitment to SEA and interest also appears to be increasing among the general public and elected county council politicians.

Source: Elling (2000)

3.3.5 Finland¹³

Before the implementation of the European SEA Directive, Finland had established two systems for SEA. First, a general requirement to assess the environmental impact of policies, plans and programmes is imposed on responsible authorities under the EIA Act. In addition, there is detailed provision for SEA of land use plans under the Building and Planning Act (1999) and brief reference to the assessment of environmental impact in the Act on Regional Development (1993). Secondly, the environmental impact of legislative proposals is subject to assessment under a decision-in-principle of the Finnish Government (11 June 1998). A general comparison of the two systems is given in Box 3.16.

Chapter 5 of the Finnish Act on EIA Procedure (468/1994) relates to general investigation duty and states (section 24) that policies, plans and programmes “that may have a significant impact effect on the environment shall be investigated and assessed to a sufficient degree”. This provision requires all spheres of government to assess their own actions at this level. A subsequent Decree on EIA Procedure (268/1999) sets out the functions of various Finnish environmental authorities at the project level, but does not specifically address the role of the responsible authority with regard to policy, plan or programme. The Council of State issued *Guidelines* for this purpose (Finnish Ministry of the Environment, 1998a).

After ten years, Finnish experience with SEA of policies, plans and programmes is relatively extensive. It is evaluated in Hildén and Jalonen (2003) as part of review of wider Nordic experience with SEA of plans and programmes (Hilding-Ryedvik, 2003). SEA practice is reported by Soverii (pers.com.) to be particularly well developed for land use plans, reflecting the detailed procedure laid down in the Building and Planning Act (1999), and in the transport sector (Jansson, 2000, provides an overview; and a case study is given in Kaljonen, 2000). However, SEA is by no means confined to these areas and examples of good practice are reported in other sectors: energy, resource management, and environment and nature protection (Hildén and Jalonen, 2003). In addition, there have been applications at the policy level, e.g. an SEA of national land use objectives and another of guidelines for road management and development to 2015.

This aspect of Finnish experience is of wider interest internationally because it highlights one of the challenges likely to be encountered in determining the scope of the SEA Directive at the member state level, as discussed in Hildén and Jalonen, 2003. Although policies are explicitly excluded from the European Directive, the dividing line between policies and plans/programmes is unclear. In some cases, Finnish policies are linked to plans and programmes in such a way that they may be subject to assessment *de facto*, e.g. policy documents that contain explicit reference to consent procedures. According to Hildén (2003), these include the National Climate Strategy, which is primarily a policy paper but contains an explicit prohibition on building new coal fired power plants, and the National Forestry Programme which (despite its name) comprises guiding general policies (see also Hildén *et al.* 2000). This analysis also raises questions about whether it may be useful to retain the broader requirements of the Finnish *EIA Act* to assess policies, plans and programmes.

A separate SEA process applies to the preparation of bills and other proposals, such as government resolutions and ministry decisions. This system was established in 1998 in response to the government’s programme to improve law-drafting. It requires all statutes to be appropriately assessed and monitored for their overall environmental impact. Guidelines for EIA

¹³ With contribution by Mikael Hildén, Finnish Environment Institute

of legislative proposals were issued by the Council of State (Finnish Ministry of the Environment, 1998b) and are intended to complement other guidelines relating to economic and business impacts. Specifically, they are intended “to promote and support comprehensive expert assessment of the environmental impact of all new legislation” and “shall apply immediately”. Each ministry is responsible for assessing its own legislation but, if necessary, may undertake a cooperative approach with other branches of the administration.

The Finnish guidelines are of interest internationally with respect to several principles and measures (although, as indicated in Box 3.15, SEA practice may not always meet them):

- Establishing the need for EIA by reference to the different functions of legislation and their potential environmental impacts¹⁴;
- Inclusion of a checklist to address the effects of a new law and a flow diagram illustrating the progression of EIA at different stages of the legislative process (Appendices 1 and 2 of the guidelines);
- Stipulation that ‘the various alternatives and their environmental impact shall be examined broadly and methodically’ including the zero alternative;
- Obligations related to early communication with groups of citizens and parties who may be affected by the law and the authorities responsible for implementing it;
- Requirement to present the information on the positive and adverse effects of the law in the government bill ‘concisely but comprehensively’;
- Plan to monitor environmental impact of a law after it enters into force.

At the time of writing (August 2003), a working group appointed by the Ministry of Environment has submitted a proposal for implementing the European SEA Directive. The proposed legislation retains the general requirements for the assessment of policies, plans and programmes of the Finnish EIA Act of 1994, but adds a formal procedure for the assessment of certain plans and programmes identified in the SEA Directive. In this context, the working group has listed more than 200 different types of assessments of plans and programmes potentially subject to SEA. Most of them cover land use plans, regional waste management plans and regional development plans. An integral part of the working group’s proposal is an assessment of the likely effects of implementing the course of action, including consideration of the main alternatives. The Bill aiming at an Act on SEA will be debated by Parliament in autumn 2004 (Hildén and Jalonen 2004).

Box 3.15: Finnish experience with the assessment of bills compared with the assessment of policies, plans and programmes

In Finland, all Bills submitted to the Parliament are required to include, whenever relevant, separate sub-chapters on environmental, economic and administrative effects. This is a clear checkpoint to determine whether or not an assessment has been completed. Except for land use plans, the assessment of policies, plans and programmes lacks a comparable procedure. In this regard, SEA of Bills is a more formalised process, although research indicates that often the procedural check is merely a formality. So far, no Bill has been returned from Parliament because of a lack of proper assessment. Recently, however, there has

¹⁴ Finnish guidelines state: “A law will probably have environmental impact if one or more questions on the checklist answers in the positive. A law will probably have environmental impact if it: influences land use, guides activities that have environmental impact [or] guides activities that involve environmental risk. A law may have environmental impact if it: governs income transfer, such as subsidies, taxes and fees [or] changes the structures or operation of administration (Finnish Ministry of the Environment 1998, 5, English version published in 2000).

been criticism of the quality of Bills and their assessment (Ervasti *et al.* 2000).

Another difference between the assessment of bills and of policies, plans and programmes concerns their format and content. The format of bills is strictly controlled and largely standardised, whereas policies, plans and programmes come in many forms. The standardised format of bills limits the presentation of assessment results. The bill and its justification, including the assessment, represent a synthesis of the preparatory work that precedes the bill itself. This work is frequently carried out by ministerial working groups or, on more sensitive issues, by committees or commissions, which include 'interested' organisations. The result is often an extensive report. If the assessment is taken seriously, it should be part of this report. The work of ministerial working groups, commissions and committees resemble more closely the preparatory work for policies, plans and programmes. The time constraints are usually less demanding and often, in their letter of appointment, they are asked to consider alternatives.

Frequently, there are links between the preparation of bills and policy documents. Policy documents may identify the need for more detailed legislative work. The National Climate Strategy is a case in point. Many of the measures envisaged in the strategy will require amendments to existing legislation or new laws. In these cases, SEA of policy can support the preparation of the legislative proposals. It can be argued that this is the real test of its usefulness and use. However, since a bill is practically always a modification of an original proposal of a working group or commission (due, amongst other things, to intervening hearing procedures), the assessment needs to be adjusted accordingly.

Source: Hildén (2003b)

3.3.6 France¹⁵

The Law of 10 July 1976 on protection of the natural environment (enacted by an Inter-ministerial Decree of 12 October 1977) made EIA compulsory for projects and stated that planning documents (i.e master and land use plans) "must take into account environmental considerations". For a number of reasons, including the reluctance of the Ministry of Planning and Public Works and lack of expertise, planning documents were not assessed on environmental grounds. In 1983, a Government Decree modified the Planning Code for Local Land Use Plans to require a preliminary report on the environment and the potential effects of planned actions upon it. A less clear requirement was that Spatial Master Plans should describe "the state of the environment and the measures taken to preserve it".

These requirements represented elements of progress towards integrating environmental concerns into the strategic level of decision-making. However, they were largely ineffective, as evidenced by several law suits in the Administrative Courts citing lack of substance. In practice, planners paid only lip service to environmental considerations and judicial checks were insufficient to cope with non-compliance and administrative inactivity.

Even at the project level, environmental and land-related considerations were not necessarily well integrated into the EIA process, given the deficiencies of a screening procedure that relied on strict listing based on financial and technical importance and resulted in numerous¹⁶ EIAs produced each year and many smaller projects subjected to mini EIAs (*notice d'impact*).

Other early SEA-type developments included the following (Falque 1995):

¹⁵ With contributions by Max Falque, Fabien Harel and Koassi d'Almeida and Pierre Andre.

¹⁶ Some 5000 EIA each year, too many for a comprehensive check.

- In 1990, the Assemblée Nationale (Parliament) introduced a new procedure in order to assess the environmental impact of draft legislative proposals, although it does not appear that it was ever implemented due to a lack of political will.
- In 1992, Electricité de France, in conjunction with the Ministry of the Environment, decided to establish a form of programmatic impact assessment for each of its regional electricity transportation networks.
- In 1993, a new EIA decree required proponents of projects linked to a single institutional decision (e.g. a general road programme split up for financial reasons) to carry out an EIA of the whole programme. This prevented deliberate splitting of projects in order to escape the need for an EIA report, and provided an opportunity to assess cumulative effects.

In 1993, the Ministry of Environment also took a first step towards legislating a form of SEA by issuing a Circular (30 September) to Regional Prefects (Chief Administrators) on the environmental assessment of State–Regions Planning Contracts (Contrats de plan État –Régions or CPER)¹⁷. This document set out the principal environmental issues and indicators (Bertrand 2001) and was followed by an Inter-Ministerial Circular (9 December 1993), which officially instituted a regional assessment system for CPER at three levels:

- *The political decision-making level/policy-making level:* Here, the committee piloting the assessment of the CPER (Comité de pilotage) defines the nature of the assessment to be conducted, approves the composition of the technical body which will produce the assessment, approves the terms of references proposed by the technical body, and receives conclusions of the assessment and decides on the follow-up;
- *Technical bodies:* for each programme or group of programmes to be evaluated, a specific technical body should be constituted to play the role of proponent (maitre d’ouvrage). It should include civil servants and experts with specific knowledge relevant to the matters concerned. The task of this body is to define terms of reference, to conduct the assessment, and to report their conclusions to the Comité de pilotage;
- *The operational implementation level:* the individuals who actually carry out the assessment. They may or may not be part of the public administration (private research consultancies, consulting firms or research laboratories).

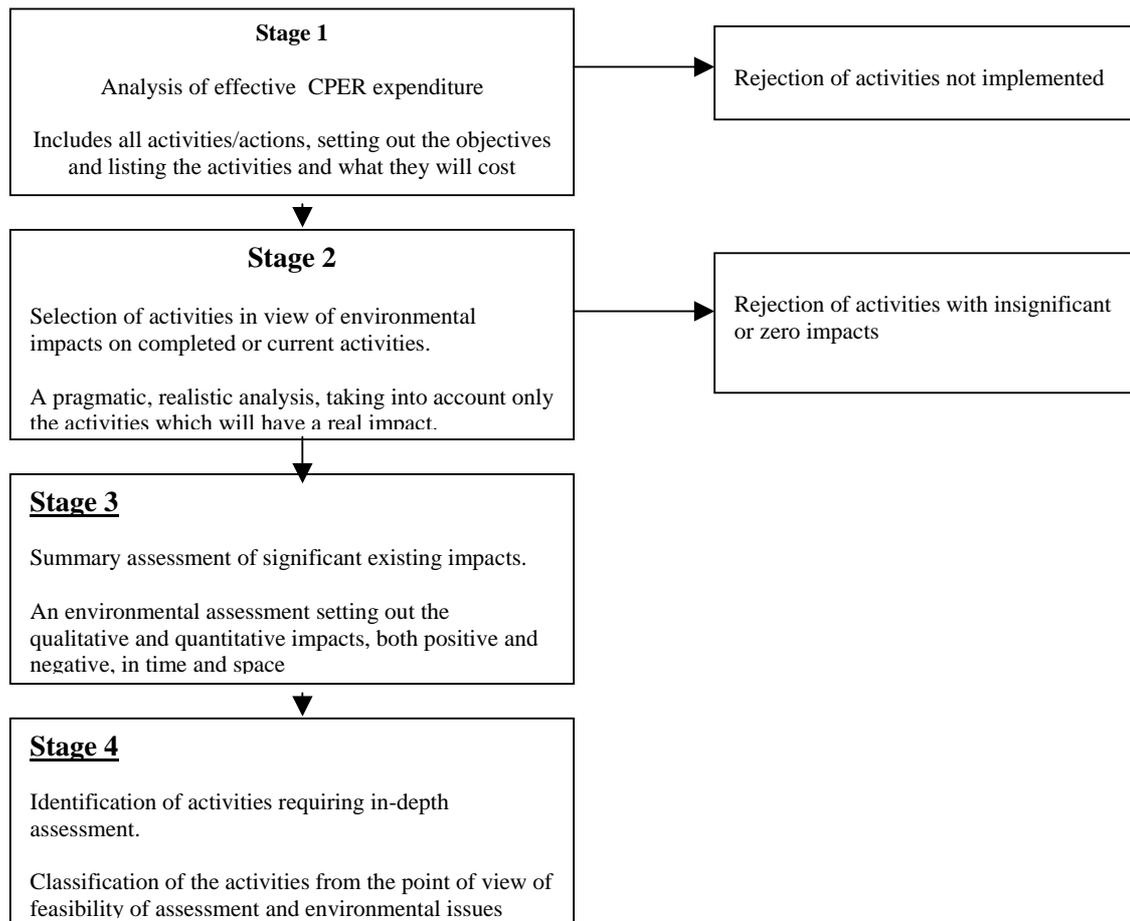
Three types of environmental assessment are provided for in the context of CPER (André *et al.* 2004, Lerond *et al.* 2003; Larrue and Lerrond 1998):

- An ex-ante assessment - a prior environmental assessment, to prepare for a decision, based on the precautionary principle;
- An accompanying assessment allowing for periodic review of the environmental effects of decisions following implementation;
- An ex-post assessment, offering the opportunity to take stock of the environmental consequences of implementing a plan or programme, and serving as a guide for future projects.

¹⁷ Contrats de plans are general agreements between the Central Government and each Regional Government on co funding certain facilities.

For ex-post evaluation, the Ministry of Regional Development and the Environment has proposed a six-step outline procedure capturing the main principles (Larrue and Lerond 1998) (Figure 3.1).

Figure 3.1: Stages in the environmental assessment process proposed for evaluating State –Regions planning contracts (CPERs) in France
(Source: modified from André *et al.* 2003)



A new Circular (25 August 2000) redefined the modalities regarding the assessment for CPER (Lerond *et al.* 2003). Its aim was to take into account the European Community and infra-regional assessment procedures. This Circular also considers the relationship between CPER and existing assessment procedures and specifies the content of the assessment.

The new French law on land use plans (Solidarité et Renouveau Urbain, SRU, December 13 2000) has also led to some progress toward SEA. Specifically:

- local urbanisation plans must now have a forward-looking focus which integrates sustainable development concerns and spatial planning, consistent with territorial coherence schemes (master plans);
- diagnosis and strategic planning must take account of the interactions between sectoral decisions; and
- the requirements of the EU SEA Directive are mentioned in the formal advice of Conseil Général des Ponts et Chaussées (Highways) on the so called "Rapport Chassande" (20 June 2000).

In 2000, France adopted an Environmental Code which seemed to harmonise previous laws (www.legifrance.gouv.fr) and requested that environmental assessments be undertaken for projects, programmes and plans, and particularly for planning documents (sections 122-1 and 122-4 of the Code). More recently, a number of steps have been taken in preparing to implement the EU Directive on SEA. For example, several pilot SEAs have been undertaken to develop methodologies and capabilities for implementing the European SEA Directive, particularly in the areas of transportation and regional planning. SEA-type approaches have been integrated into transport plans at the national and urban level and the French Ministry for Management of Land and Environment has published guidance on the major environmental effects associated with transport at the strategic level (Michel and Monier, 2001). This document is likely to be of wider interest (see Box 3.16). At the regional level, the preparation of spatial planning documents became a legal requirement in 1995 for particular areas of national concern, such as for transport or nature conservation or because of their economic importance (e.g. mountain regions, estuaries). Based on experience with the Paris-Brussels corridor, the Ministry of Public Works, Transport and Housing has undertaken an exploratory study of SEA methodology and criteria to be applied to multi-modal studies.

Box 3.16: French guidance on SEA of transport plans and programmes

Recent French guidance focuses on four larger scale environmental effects associated with transport at the strategic level:

Safeguarding biodiversity: The guidance proposes a method for measuring the effect (negative impacts) of the fragmentation of major infrastructure networks on ecosystems. Key aspects include:

- Identifying the main land-unit areas which are separated by the existing transport networks;
- Determining the proportion of land-unit areas showing a significant nature-conservation interest;
- Classifying the land-unit areas in relation to their nature conservation interest;
- Evaluating the induced land quality through the land-splitting effect of transport plans and programmes.

Preservation of tranquil zones: Noise is one of the most tangible and direct effects related to the use of transport infrastructure. Because noise levels depend upon local environmental and meteorological conditions as well as the traffic levels, forecasting is much less straightforward at national or regional scales. A proposed methodology for this purpose is:

- Identify quiet zones, defined as areas where noise emissions from existing transport infrastructure are less than LAeq 6 am-10 pm = 45 dB(A);
- Map and classify quiet zones according to their importance;
- Assess the impacts of transport plans and programmes by overlaying networks and quiet areas.

Protection of surface water and groundwater: Both the construction and use of transport infrastructure can affect water quality as a result of air pollution due from exhaust emissions, fuel spills and pollutants associated with transport of hazardous materials. Indicators to identify the quality of surface water areas and the fragility of groundwater resources in the vicinity of new infrastructure are proposed, but have yet to be tested.

Preservation of air quality: Concern with air quality relates to two major air pollutants:

- Nitrogen oxides (NO_x): produced by diesel-motor vehicles at much higher rates than petrol vehicles. Their contribution to ozone formation typifies global and local impacts of transportation on air quality.
- Carbon dioxide (CO₂): transportation is a major contributor to emissions of carbon dioxide, the most important greenhouse gas.

A third indicator, not directly related to pollutant emissions, is energy consumption. Reductions in fuel use slow down climate change, acidification and photochemical smog effects.

Source: Harel (2003)

The agricultural, energy and industrial sectors are likely to be important areas for France with regard to the plans and programmes listed in the Directive (Article 2(a)) but, so far, there has been no experimentation with SEA in these sectors. Other requirements of the Directive for which France reportedly is not well prepared include addressing the information to be provided in the environmental report. These specifically include (Harel *et al.* 2003):

- The relevant aspects of the environment including likely changes without plan or programme implementation (Annex 1(b));
- The likely significant effects on the environment and particularly the requirement to include secondary, cumulative and synergistic effects (Annex 1(f)).

The Ministry of Environment proposed to adopt the approach used in the UK for *environmental appraisals of development plans* in order to provide coherence between decisions. This SEA procedure follows four main steps:

- Environmental diagnosis (an environmental profile describing the state of the environment and listing political objectives at different scales – international conventions and protocols, European policies, national objectives, regional objectives, etc);
- Compatibility analysis (using a matrix) between the focus of the strategic action and the main reference objectives;
- Assessment of the importance of the potential impacts of the whole plan;
- Evaluation (ex post) of interactions between measures.

Ordonnance No 2004-489 was issued on 3 June 2004 introducing the European SEA Directive in the French Environmental Law.

¹⁸ Bertrand, F. (2001), l'évaluation environnementale stratégique de programmes de planification régionale: analyse du cadre réglementaire français et européen (strategic environmental assessment of regional planning : analysis of the French and European regulatory framework), presented to the 5th international colloquium of francophone specialists in impact assessment, Paris, 22 -24 May 2000.

3.3.7 Germany¹⁹

There has been extensive use of SEA-type approaches in Germany in a number of sectors, both domestically and in development co-operation, but, to date, there is no official legislation prescribing the application of SEA.

Requirements for environmental assessment at strategic levels of decision-making were first introduced in 1972, aimed at legislative procedures (Cupei, 1994). In 1975, 'principles for the environmental assessment of public measures by the Federal Government' were formulated for draft legislation and draft governmental regulations and activities which concern the environment.. However, in practice, these were seldom applied (see Cupei, 1994). New SEA legislation is being drafted together with an amendment to the building sector law.

Currently, SEA-type assessment is most widely applied in spatial/land use and transport planning. Over the past few years, there have been a number of SEA-related research projects, undertaken mainly by the Federal Environment Agency, particularly in the areas of federal transport planning and regional planning.

Spatial/land use planning

Essential elements of SEA can be found in formal spatial/land use plans, landscape plans and programmes prepared at all administrative levels of decision-making for the last 20 years. In the past, they served mainly as state-of-the-environment reports, pro-actively setting objectives for environmentally sustainable land use. But, more recently, in certain states (*Länder*), local land use plans have also started to deal explicitly with the potential impacts of those changes and developments they propose through landscape plans. In this context, Fischer (2002) suggests that they probably meet the requirements of the European SEA Directive to a greater extent than statutory and formally applied assessment types currently practised in other European countries. This is mainly due to the way in which baseline data are collected and presented, environmental objectives are set, professional consultation and participation is conducted, impacts are appraised and potential mitigation and compensation measures are set. But a particular shortcoming is that these local land use plans give insufficient consideration to different development alternatives.

There is increasing experience of assessment at the regional level with a number of authors examining the extent to which SEA Directive requirements are met in current regional planning practice. But here, current shortcomings include not only insufficient consideration of alternatives but also lack of public participation (Siemoneit and Fischer 2002; and UVP 2003). One positive example of an SEA type assessment is the regional management approach in "Westpfalz" region (Weik 2004) in which different individual and institutional actors cooperate in a participatory manner. Despite their different interests and problems, they follow the same defined objectives. In this case, regional management offers a suitable alternative to traditional regional planning.

In addition to landscape plans and programmes, since 1975, more than 200 local communities have introduced EIA in their local land use planning procedures (Hodek and Kleinschmidt, 1998), although the focus is on possible projects arising from such plans. Nevertheless, this fulfils one of the requirements of the SEA Directive - the consideration of environmental impacts at the level of local land use plans.

¹⁹ With contributions by Thomas Fischer (University of Liverpool) and Holger Dalkman (Wuppertal Institute).

Transport Planning

In Germany, a full SEA is not required for any of the relevant decision-making processes in the transport sector, but SEA-type assessments (or certain elements of an SEA) are applied at all administrative levels of decision-making in transport planning (Figure 2.2). Whilst assessment practice is rather widespread at the programme level, little is currently undertaken at policy and plan levels. At all three levels, shortcomings include a lack of public participation and insufficient transparency. However, through the introduction of the EU SEA Directive, not only will the adaptation of certain ideas and elements of SEA become necessary, but also a modification of the present decision-making processes. These modifications, for example, will have to provide adequate opportunities for the general public to participate.

Some significant steps have already been taken in preparing to implement the SEA Directive. In this regard, the transport sector is often regarded as one of the good-practice examples in Germany. During formulation of the new Federal Transport Infrastructure Plan (FTIP), the Federal Ministry for Transport, Building and Housing (Schaefer *et al.* 2003) undertook project-based, cost-benefit analyses, an estimation of the CO₂ impacts of the FTIP, an environmental and nature conservation appraisal, an ecological risk and Habitat Directive Assessment as well as spatial impact assessments. All of these assessments were considered in the relevant decision-making processes. The German FTIP was also used as an SEA case study for several research projects (such as ANSEA – see Box 3.6) and studies (see Lee and Hughes 1995, Fischer 2002, Dalkmann/Bongardt 2004, and Wende *et al.* 2004). However, whilst the FTIP is subject to review every five years, to date, a full SEA has not been required. Issues such as the net-effects of transport measures (e.g. habitat fragmentation) or alternative transport modes are not currently considered in planning practice in Germany.

The BMVWP and the German Federal Ministry for Environment (BMU) are currently discussing whether the FTIP will be regarded as a policy or a plan when the EU SEA Directive is implemented (UBA 2003). The Ministry for Transport considers itself responsible for preparing only policies, not plans or programmes; so that the EU-Directive would not be seen as applicable. However, there is strong consensus in Germany's SEA 'community' that the FTIP is actually a programme, and that SEA is necessary.

Corridor or 'area' transport studies are still undertaken only sporadically - examples include the SEA of the Danube corridor between the Vilshofen and Straubing (EC 2002) and the study of the 'North-East' area between Hamburg, Hanover and Berlin (MWSVLSA 1995). Furthermore, current practice in project EIA routinely considers different spatial options within defined transport corridors. However, these are usually uni-modal, rather than multi-modal.

At the "Laender" level, there are some interesting examples of applying elements of SEA, e.g. in Bundesleander Brandenburg and Northrhine-Westfalia. In the preparation procedure of the new road infrastructure plan for the *Land* Brandenburg, several essential SEA elements were integrated, e.g. formulation of environmental development objectives, an environmental report, assessment of development alternatives, implementation of the findings into planning and decision-making processes, consultation, participation and monitoring (Bockemüehl 2003).

In North-Rhine-Westphalia, transport planning has been carried out in an integrated manner since 2000. According to a law on "Integrated Transport Planning", from May 2000, transport planning has to be supported by the formulation of environmental development objectives as well as by

analyses of the current situation, future scenarios and development alternatives (<http://www.igvp.nrw.de>)

Other practice

There is also some SEA experience in other sectors in Germany, e.g. for wind farms (Kleinschmidt and Wagner, 1996) and waste and water management (UVP 2003). Since 1987, a pilot project in Bavaria has been assessing the environmental impact of agricultural practices. Furthermore, SEA is required for all development co-operation projects of the Federal Ministry of Research and Technology (Hodek and Kleinschmidt, 1998).

3.3.8 The Netherlands

As indicated in Table 3.2, the Netherlands has a dual or two-tier SEA system (for a comparison see Verheem and Tonk, 2000). The two processes are distinct in concept and approach, implemented separately and independently of each other, and both have been subject to evaluation recently with major changes made or pending. The environmental or E-test of laws and regulations was introduced in 1995 by decision of the Cabinet (Official Gazette 1995, No 15) and reformed in 2002. The EIA Decree (1987, as amended) applies to specified plans and programmes as well as projects and the same procedure is followed at both levels. At the time of writing, this process is being revised to in light of the requirements of the European SEA Directive and the proposed changes are the focus of major debate in the Netherlands (Husmann 2004, Verheem 2004).

The E-test for draft legislation

The E-test is one of four instruments that are used in the Netherlands to assess the potential effects of draft laws and regulations. It is applied in conjunction with tests of business effects, feasibility and enforcement and all follow a general procedure laid down in the Instructions for Regulations (No. 256, 1995)²⁰. The E-test is a qualitative appraisal, based on minimum steps and incorporates limited checks and balances. It is carried out using a short questionnaire and guidance from the Ministry of Housing, Spatial Planning and the Environment (VROM 1996). Specifically, draft legislation is tested for its consequences for energy consumption and mobility, for use of renewable and non-renewable resources, for waste and emissions to air, soil and water and for use of available physical space. The results of any application of the E-test must be included with other relevant information in the explanatory memorandum attached to draft legislation.

As originally envisaged, the E-test was to cover all policy and regulatory proposals with potentially significant effects on the environment and sustainable development (de Vries, 1996). However, the Ministry of Environment focused on draft legislation in the initial phase of implementation, although de Vries (1998) also reported that attention was given to “policy

²⁰ The other instruments comprise: the business effects test (BET) to identify the consequences for economic sectors; the feasibility and compliance test (FCT) to identify the consequences for implementing and upholding the legislation, and the cost-benefit analysis (CBA) to identify the economic consequences for society. The E-test is applied in conjunction with the BET and FCT, and CBA is undertaken when the side-effects have been established.

documents that set out the proposed structure of new legislation”. This process was introduced in a low key, flexible manner with a mix of incentives and penalties designed to encourage co-operation while ensuring relevant effects were addressed (de Vries and Tonk 1997). Key principles and characteristics of this approach are summarized in Box 3.17. These remain in force today, although the procedure now followed differs in certain respects from that in place from c.1996 to 2002.

In practice, only about 10% of draft regulations proposed annually were found to have environmental effects that warrant attention (de Vries 1998). Under the initial E-test procedure, these were listed in advance by an interdepartmental working committee, which also determined the particular questions to be answered. When assessing them, the responsible ministry could draw on the assistance of a ‘help desk’ in the Joint Support Centre for Draft Regulations²¹ which also reviewed the quality of the information prior to its submission to Cabinet (Verheem and Tonk 2000). The enabling role of the Joint Support Centre in providing information and advice is widely cited and credited in most accounts of the E-test referenced here. Modest progress also appears to have been made in documenting effects; for example, de Vries (1998) observes that explanatory notes “now often contain one or two paragraphs” detailing environmental effects (compared to the previous one-line statement of no or acceptable impact).

A review of the first five years of experience with the E-test procedure was undertaken in 2001. It evaluated the content and quality of the information in the light of other developments in the Netherlands including interest in sustainability assessment and the pending transposition of the European SEA Directive. The main conclusion was that the E-test procedure resulted in the preparation of environmental information that had little or no substantive influence on legislation or its adoption. Such a candid and critical a conclusion appears, *prima facie*, to undermines the rationale and purpose of the process, although some positive instrumental aspects were identified. These have provided a basis for reorganising the process and amending the arrangements for the E-test as part of a broader consolidation of legislative tests (van Dreumel 2003). Specific improvements include:

- The E-test is now implemented in two phases: a ‘quick scan’ of proposed legislation and an appraisal of significant effects when warranted (Box 3.17);
- The appraisal process and the preparation of an Explanatory Memorandum are guided by a written agreement, equivalent to terms of reference and subject to comment from the ministries of Environment and Justice;
- The proposed Legislation Desk (formerly the Joint Support Centre) has a stronger role in reviewing the quality of information in the explanatory note;
- The effectiveness of the new approach will be evaluated at the end of 2004.

Finally, the E-test review and reform took place against a wider background of preparing for the introduction of the European SEA Directive and an emerging interest in sustainability appraisal (Klassen 2002). Currently, around 30 overlapping policy and legislative tests and appraisals are applied across the Netherlands government (de Jong and Noteboom, 2001). A single sustainability test is seen as an attractive option to focus and streamline these tests and to improve their effectiveness and impact on law and policy-making. In this case, van Dreumel (2003) notes that the scope of environmental appraisal will need to be broadened to encompass other policy

²¹ The ‘Joint Support Centre’ is maintained by three ministries: Economic Affairs, the Environment and Justice. It is staffed by departmental representatives who work together to facilitate the application of the legislative tests (described in the previous footnote) and provide specialised advice as needed (e.g. on the E-test).

Box 3.17: Netherlands environmental test of draft regulations

Provision and mandate: Known as the E- test, this instrument assesses the potential environmental consequences of draft regulations sent to the Council of Ministers (Cabinet). It was established in 1994 as part of a wider Cabinet project to improve the quality of legislation and regulation and reduce their administrative and financial burden. The specific aim of the E-test is to integrate environmental considerations in the introduction of bills, general administrative orders or ministerial decrees and orders. In addition, departments can also test ‘other policy intentions, such as plans and notes’ (VROM 1996).

Principles of implementation: The E-test only applies to ‘draft regulations that have substantial consequences for the environment’. It was deliberately introduced in a low key manner and experimentally in the first year; and, thereafter, implemented flexibly in accordance with a number of underlying principles (de Vries 1996):

- The initiating ministry is responsible for applying the E-test;
- The use of the E-test should not delay decision-making;
- The scope and detail of application is geared to significance of issues;
- The test has minimum content and procedural requirements;
- There is efficient integration with the existing decision-making process;
- The test has a user or customer-focused approach with a helpdesk maintained by a Joint Support Centre.

Procedure: Between 1996 and 2001, the minimum procedural requirements for implementation of the E-test corresponded to three main stages in the SEA process: (i) screening and scooping; (ii) impact analysis and documentation; and (iii) review and submission (Verheem and Tonk 2000). A new E-test procedure was approved by the Council of Ministers in October 2002 and became obligatory on March 1 2003. It has been consolidated into two main phases (van Dreumel 2003):

- **Quick scan:** Used by the responsible ministry to substantiate the need for draft legislation, to identify potential significant effects and propose the tests to be carried out;
- **Appraisal and documentation:** E-test (and other appraisals) carried out in accordance with a written agreement on the information to be included in the Explanatory Memorandum, which is reviewed by the Proposed Legislation Desk and Ministry of Justice and directed for comment to the Ministry of Environment.

Experience to 2001: A five-year review of E-test experience in 2001 indicated that the instrument was applied on a pro-forma basis and had a negligible effect on decision-making. The E-test procedure was widely criticised as ‘unnecessary ballast’, particularly for laws that had a lot of regulations, and its positive aspects were considered to be largely instrumental. In that regard, the E-test needs to move beyond simply providing information in an Explanatory Memorandum and aim to integrate and internalise the results in laws and regulations. This will require, inter alia, the Joint Support Centre to take a more independent and critical approach to the content and quality of the information (Klassen 2002, van Dreumel 2003). Various changes have been made to the E-test procedure and practice to address these issues (as above).

Lessons for SEA practice: A wider implication of the relative ineffectiveness of the E-test of draft legislation concerns the nature and stage of decision-making. Environmental appraisal should apply to other policy documents and strategic proposals prior to and separate from the legislative process. In the specific case of the Netherlands, the E-test evaluation pointed toward combining various policy tests into sustainability appraisal (within the framework of the National Strategy for Sustainable Development and with due regard to the Dutch transposition of Directive 2001/41/EC).

documents and strategic proposals, and this course of action should be taken in parallel with new legislation to comply with the European SEA Directive. Such a common framework had not emerged at the time of writing - in large measure for reasons described below.

SEA of specified plans and programmes

Under the EIA Decree (1987), specified plans and programmes are subject to the procedure laid down in the EIA Act (1987). These include national plans for waste management, electricity generation and water supply and regional land use plans for the location of major new housing, industrial or recreational areas. Dutch policy and planning processes for this purpose are highly structured and facilitate the tiered application of SEA and EIA (as described in case study 3.2). This takes place against established policy objectives and facilitates a “distance to target” approach to sustainable development, e.g. as recommended in the National Environmental Policy Plan (NEPP). Now in its fourth version (VROM 2001), the NEPP provides an important reference framework for SEA of plans and programmes (see Sadler and Verheem 1996).

As for projects, so called strategic EIA (SEIA) for specified plans and programmes follows a mandatory process, including examination of alternatives, public involvement in the scoping and review phases and review of the quality of the information by the independent EIA Commission. This process is described in detail in ten Holder and Verheem (1996). It closely matches the planning procedure, which facilitates integration, and they have similar characteristics such as (Verheem and Tonk, 2000):

- Early notification and involvement of the public;
- Information is integrated into SEA and plan preparation throughout the process;
- Consultation with other government agencies and advice from independent experts;
- Identification of the best alternative (from an environmental perspective in the SEIA);
- Reasons for decision and justification of the adopted plan; and
- Monitoring and follow up to plan implementation.

There have been a number of reviews of overall and case experience with SEIA in the Netherlands at different periods in its evolution, including those cited above. Of particular importance are the five-year evaluations of the effectiveness of the Dutch EIA system. Although no distinction is made between project or strategic applications, the latest review underlined the value added by this overall process to decision-making. During the past 15 years, the EIA Commission (2003) reports that approximately 50 SEAs have been completed (90 if EIAs for rural development plans are included) and experience indicates the general positive evaluation of process effectiveness applies equally at this level (Verheem pers comm).

Specific examples of SEA applications in the Netherlands that illustrate elements of good practice include (Rob Verheem, pers.com.):

- *SEA of the National Structure Plan for Surface Minerals*, which identified the elements of the decision most relevant to the environment and its alternatives. The advice of the EIA Commission focused on alternatives for the use of the scarcest raw materials and the decision on locations for the extraction of construction sands.
- *SEA of the Space for Rivers' Policy Plan*, which provided information on the combined environmental consequences of many measures in the plan, such as the lowering of the

endyked floodplain²², excavating side channels and re-routing dykes.

- *SEA for the Delta Metropolis* (the urban region of the west of the Netherlands), which established a basis for sound decision-making on whether to build a magnetic levitation railway or a high-speed railway and identified the best locations for new housing and industrial areas in relation to the infrastructure decision.
- *The SEA of the National Waste Management Plan*, which compared alternative technologies for waste processing, including the best option from an environmental perspective. It also developed a method to assess the environmental effects of waste treatment processes that can be used in subsequent EIA of projects, e.g. quantitative life cycle assessments (see case study 3.2).
- *The SEA of the Policy Rules on Active Soil Management*, which contributed to the development of guidance on dealing with polluted sludge in future river-widening projects along the Meuse and Rhine rivers.

Given the acknowledged strengths of the SEIA process, the transposition of European SEA Directive into national legislation will be of wider interest. In particular, there appear to be differences of opinion between the Ministry of the Environment and the EIA Commission. The Ministry recognises the SEIA process has made a substantial contribution to more ‘environment-inclusive’ decision making. But it considers that mission to be nearly completed and argues that requirements should not now go beyond what is required by the European EIA Directive - in effect, downsizing the mandatory procedure by some 60% (Husmann 2004). By contrast, the argument of the EIA Commission is to simplify SEA where possible, but to keep the core values in place for sector and spatial plans (Verheem 2004). The outcome of this debate will be of wider interest internationally given the past leadership role of the Netherlands in EIA and SEA (eg as described by Wood 1996). For a personal view on the issues at stake, see Box 3.18.

Box 3.18: The challenge of implementing the European SEA Directive in the Netherlands: A personal reflection

Rob Verheem

As with all European countries, The Netherlands is now struggling with implementing the new European SEA Directive. Unlike many other countries, however, The Netherlands is in the interesting situation that it already has two SEA systems, which have been in place for some time. Strategic EIA is mandatory for certain spatial and sectoral plans. It has been shown to be highly effective in safeguarding the proper consideration of environmental issues in decision-making but is unpopular with decision-makers as too heavy a burden. The ‘E-test’ applies to new legislation with significant environmental consequences. It has

²² In the Dutch approach to flood prevention, dykes are not built directly adjacent to river channels. Instead they are set back, creating a ‘floodplain’ between the channel and the dyke. At low water levels, the river flows in its natural bed and floodplains effectively are meadows (cows graze on them). At high water levels (e.g. in winter), water inundates the floodplain up to the dykes. In other words, the floodplains increase the capacity of the river when needed. To date, the capacity of the floodplains has been sufficient. But because of the increasing river water levels, it has become necessary to lower the floodplains by excavation. This is positive from the perspectives of both safety (less flooding) and mining (sand and clay production), but negative from an ecological perspective (loss of natural value of the existing flood plains). Hence SEA is needed to find the best alternatives and the least cost.

been shown to be insufficiently effective in strengthening the role of environmental goals in law-making but is very popular with most decision-makers because of its minimum approach.

This leads to an interesting dilemma in the current discussion on how to best implement the SEA Directive. Should we aim for a minimum approach, e.g. by simply implementing the SEA Directive as it is without adding extra safeguards? This may be liked by decision-makers but runs the risk of ineffectiveness. Or should we keep the current strategic EIA process because it is effective, but run the risk of being unpopular with decision-makers because we do more than 'Europe' requires? Or can we keep the effectiveness and still get rid of unnecessary rules and requirements?

In practice, the discussion is not as complex as it seems. When compared to Directive 2001/42/EC, the current strategic EIA process is not that much different. The most important additions are:

- publication of a starting note, so that everybody knows early in plan preparation that something is going on, and can start preparing to get involved
- public participation on the required content of the environmental report
- mandatory independent expert advice on the scope and the quality of the report, and
- obligation to explain the best alternative from an environmental perspective.

The question, therefore, is whether or not to keep all or some of these four requirements.

The current proposal of the Ministry of Environment is to adopt a new instrument, because SEIA is regarded as too unpopular and the E-test does not seem to work. The new instrument is given a new name (although in English it still would translate as strategic environmental assessment). More importantly, the Ministry considers that SEIA practice has now advanced in The Netherlands to the point where most of the four 'extra' obligatory requirements can be removed, recognizing that responsible government bodies will include them as and where necessary. The only exceptions are the early announcement of plan preparation and independent review by the EIA Commission if a plan or programme will affect an area protected under the EC Habitat or Birds Directive.

Not all parties agree with this proposal. The EIA Commission, for example, considers the Ministry's approach to be correct for the majority of plans and programmes but not for complex, controversial cases that involve choice of location, technology or use of resources. Such plans directly affect interests and lead to much debate and protest. Political pressure could then possibly lead to sub-optimal choices that could weaken the quality and the credibility of the finally adopted plan. As an alternative, a short list of these plans and programmes should be prepared and existing requirements should stay mandatory for these.

The current proposal is now in the political arena. At the time of writing, the outcome is hard to predict. But it is clear that, to some extent, the discussion has a 'religious or ideological character'. Do we (or not) have sufficient faith in the environmental awareness or commitment of planners and decision-makers? If so, does this apply uniformly or are their limits of what we may expect when faced with short-term, economic advantages and long-term environmental disadvantages? And what kind of SEA will help us to then act sustainably?

²³ In the Netherlands the same process is followed for projects and plans and programmes. The evaluation took place of the effectiveness of this process. In reporting the results no distinction was made as to effectiveness at project and plan level. The results were that in 50% of all cases the final decision was different as it would have been without EIA; in 70% of the cases people's attitudes had become more environmentally minded and overall, in 80% of the cases one or both of these effects took place.

3.3.9 New Zealand²⁴

In New Zealand, SEA is not formally instituted as a separate, dedicated procedure. Rather, its characteristics are reflected in a number of laws and policies. The Resource Management Act (RMA), 1991, is the major environmental statute and emphasises an integrated approach to policy, planning and assessment of issues concerning the use of land and resources (see Table 3.2). SEA principles and features in this framework are widely recognised, but are somewhat differently characterised by international and New Zealand commentators (e.g. Dixon 1994, 2002, Gow 1996, 1998, Sadler and Verheem 1996, Veart, 1997, Ward et al 2002). They can be seen, arguably, both as generally ‘threaded into’ RMA policy and planning functions and as specifically represented in certain requirements of the Act (Sadler 2001b). In addition, diverse other SEA-type processes operate beyond the remit of the RMA. These require a relatively broad account to be made of the policy and institutional framework for environmental protection and sustainable development.

The RMA was not intended to provide a general mandate for SEA. But this potential has been perceived and promoted since its implementation (Dixon 2002). SEA process and practice under this legislative framework is more diffuse or ad hoc than in many of the countries described in this section. But it displays environmental and sustainability dimensions that are of interest internationally. From this perspective, the RMA has three defining cornerstones (Sadler 2001b):

- a single purpose of promoting sustainable resource management and a supporting objective of safeguarding the capacity of critical life support systems;
- a tiered hierarchy of policies and plans that incorporates an effects-based approach - this corresponds to, and includes elements of, SEA and sets a framework for EIA of actions and approval of resource consent²⁵; and
- specific requirements that are analogous to the SEA approaches in other countries (see below).

Taken together, these three elements appear to give the RMA the same intent and scope of SEA processes undertaken elsewhere, ie to anticipate and address adverse and positive effects on the environment and integrate these considerations into policy and plan formulation. However, many New Zealand practitioners take a more cautious and narrower view of the SEA profile of the RMA. They see the Act as an implicit mandate that provides ‘possibilities’ to use this approach and ‘opportunities for policy learning’ (Dixon 2002; Ericksen et al 2001).

Key points of reference for delineating the role of SEA in this regime include (Ward *et al.*, 2002) (see also Box 3.19):

- the preparation of national environmental standards and national and regional policy statements which give strategic direction to regional and district-level planning; and
- the requirement (s 32 of the Act) to consider alternatives and analyse benefits and costs as part of policy or plan-making. This can be interpreted as a SEA-equivalent instrument, especially when combined with the monitoring provisions of s 35.

²⁴ With contribution by Jenny Dixon.

²⁵ There is no reference to SEA or EIA as such in the RMA rather specific provisions is made for the assessment of environmental effects (AEE) in s 88 and the Fourth Schedule of the Act. As defined in regulations and implemented, AEE in New Zealand corresponds to EIA as understood and applied internationally (for a comparison see Sadler 2001b).

Box 3.19: SEA dimensions of the New Zealand Resource Management Act (RMA)

Three dimensions of the RMA embody or reflect the key characteristics of SEA as applied internationally (Sadler 2003):

- general principles, functions and duties that have the single purpose of promoting sustainable resource management - this approximates to, but is not exactly the same as, environmental sustainability;
- an effects-based framework and approach to policy-making, planning and approval of resource consents which, at the higher levels, corresponds to or incorporates elements of SEA and, at the lower level, is synonymous with EIA; and
- specified requirements for analysis of policies and plans that are analogous to an SEA of a policy, plan or strategic document (particularly as required by s32 of the Act).

Mandate for sustainable resource management: The sustainability mandate of the RMA is set out in broad, encompassing terms in the statement of purpose in section 5. Some people consider that this is not sufficiently clear because it allows an overly wide interpretation by regional and district planners that results in unfocused plans (Erickson *et al.* 2001). Yet there is little doubt that the mandate itself remains 'entirely appropriate'. It is frequently referenced in international literature as a statement of purpose and philosophy as follows (s 5):

"The purpose of this Act is to promote the sustainable management of natural and physical resources. In this Act, "sustainable management" means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while:

- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;
- (b) safeguarding the life supporting capacity of air, water, soil and ecosystems; and
- (c) avoiding, remedying or mitigating any adverse effects of activities on the environment"

Effects based approach and framework: The RMA provides for an environmentally-focused, effects-based approach (s5 (b) (c) above) that is given strategic expression through a tiered hierarchy of policies and plans comprising:

- national environmental standards and national policy statements;
- regional policy statements and plans, and
- district plans that govern the granting of resource consents.

The central government has discretion to prepare national environmental standards (s 43 and s 44) and national policy statements (s 24), except for the National Coastal Policy Statement (1994) which is mandatory under s57. But when completed, such instruments must be implemented by agencies and authorities with formal responsibilities under the RMA. No standards or statements were issued during the first 12 years of RMA implementation, apparently because of the cumbersome and time-consuming process to be followed and the reluctance of previous governments to do so. This has been widely criticized as compromising the coherence of the integrated approach which lies at the heart of the RMA (Erickson *et al.* 2001). But, recently, the government has released, *inter alia*, proposed National Environmental Standards for Air Quality and a National Policy Statement on Indigenous Biodiversity.

In contrast, the preparation of regional policy statements is a mandatory duty for regional and unitary (major urban) councils. All of them have completed regional policy statements which provide the framework for integrated planning and resource management. Except for mandatory regional coastal plans, regional plans may be prepared on topics considered to be appropriate (e.g air, water and land, dairy discharges, and erosion and sediment control in the Auckland region). Finally, every territorial authority is

required (by s 31) to prepare a district plan that 'cannot be inconsistent' with regional policies or any regional plans that have been prepared. District plans are focused primarily on land use. They include rules for zoning (e.g. for industrial, commercial or residential housing) or to designate land for specific uses that can have significant effects on the environment (e.g. landfills).

SEA equivalent instrument: Section 32 of the RMA prescribes the duties of a Minister or local authority to evaluate the objectives and policies of any proposed standards, policy statement or plans and to prepare a report on the findings.

An evaluation must examine (s 32 (3):

- (a) the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and
- (b) whether, having regard to their efficiency and effectiveness, the policies, rules or other methods are the most appropriate for achieving the objectives.

An evaluation must take into account (s 32 (4):

- (a) the benefits and costs of policies, rules or other methods; and
- (b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules or other methods.

There are two main aspects to the test of appropriateness according to a recent s 32 analysis undertaken by the Ministry for the Environment (2004):

weighing up alternative objectives to determine which one will provide environmental outcomes that will best meet the purpose of the Act; and
being satisfied that the objective chosen can best be achieved through the Act, rather than through some other mechanism.

In practice, as a strategic framework for sustainable resource management, the RMA remains incomplete and less integrated than might be expected after more than 12 years of implementation. Two key observations can be made. First, few national environmental standards and policy statements (which are discretionary) have been drafted, and then only recently. Second, regional policy statements (which are mandatory) have been rated as being of generally inferior quality and insufficient to promote good plan-making (Ericksen *et al.* 2001).

Inevitably, these weaknesses raise questions about the extent to which a tiered approach to policy and plan preparation is really in place; and about what value is added at each stage of devolved responsibility, from the national level downward. Ultimately, there is a heavy reliance on 78 territorial authorities to develop district or land use plans that achieve RMA objectives and principles. These plans must be supported by an assessment of the state of the environment. Ericksen *et al.* (2001) report that there is scope for considerable improvement in this component and the overall interpretation of the RMA mandate by local authorities.

Section 32 of the RMA requires an evaluation to be carried out of the appropriateness, effectiveness and efficiency of the objectives and policies of any proposed standards, policy statements or plans. As indicated in Box 3.19, a number of features of a s32 analysis underline its near equivalence with SEA, particularly if combined with the monitoring provisions of s35: consideration of alternatives; analysis of the benefits and costs of proposed policies, rules or other methods; and preparation of a report. Bailey and Dixon (1999) characterise such analysis as a form of policy environmental assessment. Fookes (2000) reports that, in practice, the prevailing view amongst practitioners is that s32 reports contain little that indicates any systematic

analysis²⁶. In particular, with occasional exceptions, they lack rigour in evaluating options and issues, despite government guidance on these matters (New Zealand Ministry for the Environment, 2000). Recent amendments to the Act and 32 case examples of analyses of national environmental standards and policy statements suggest that improvements are being made on this front (Martin Ward, pers.com.).

Beyond the RMA, SEA is not formally applied to policy and plan-making, although elements of this approach can be found in a variety of arrangements and instruments that require environmental matters to be addressed strategically. Notable examples include the following (see also Dixon 2002, Ward et al 2002, Sadler et al 2004):

- *The government's policy framework for environment and sustainable development* comprises a suite of strategies, action plans and new initiatives. Collectively, these fashion a mandate for SEA, broadly interpreted as a form of appraisal or integrated methodology (Dalziel and Ward 2004). At their core is the government's *Sustainable Development for New Zealand Programme of Action*. This focuses on four areas: water, energy, sustainable cities, and child and youth development. It also sets out principles for taking account of the social, economic, environmental and cultural consequences of the government's policy decisions (see Department of Prime Minister and Cabinet 2003). Other related instruments are the Biodiversity Strategy, Climate Change Programme, Energy Efficiency and Conservation Strategy, and the Health Strategy. The latter is accompanied by guidance on health impact assessment (HIA) as a policy tool (Public Health Advisory Committee 2003).
- *A number of inquiries carried out by the Parliamentary Commissioner for the Environment* (and the Select Committee of Parliament²⁷) may be interpreted as SEA-type approaches or examples of para-SEA.

Under the Environment Act (1986), the Parliamentary Commissioner for the Environment functions as an independent ombudsman with wide powers of investigation in respect of environmental policies and administration (including RMA performance). Recent reviews have focused on bio-security risks, hazardous waste, urban water issues and progress toward sustainable development with particular reference to New Zealand's environmental management performance. The latter draws on many previous reports (see Parliamentary Commissioner for the Environment 2002b).

²⁶ Fookes (2000) explains the basis for this view as follows: "In their Section 32 reports some councils seem to have described procedure as opposed to presenting a formal test of preferred options against alternatives. Sometimes these documents also double as an extended explanation of the meaning of selected objectives, policies and methods, rather than an analysis of them."

²⁷ As an example, the Parliamentary Transport and Environment Select Committee inquiry into the environmental effects of road transport in 1998 in light of some major transport policy decisions that were pending in relation to possible changes to the ownership (public to private) and extensive user charging. In an interim report, the Committee, inter alia, concluded that "environmental sustainability has been largely removed from consideration of the road reform process." It went on to note that many aspects of the management of environmental effects of road transport lay outside the Resource Management Act, were not addressed in strategic planning by government agencies and the absence of an integrated legislative and policy framework for this purpose presented risks to the environment. This example is described further in Ward et al 2002.

- *Certain ad hoc regional and sector planning exercises* appear to meet or approximate to international understanding of SEA. But they do not represent any systematic implementation of statutory or administrative responsibilities.

At the regional level, a widely cited case is the approach taken in the Auckland Regional Growth Strategy 2050. This was developed as a voluntary and cooperative initiative among several local authorities councils through a special purpose body (see Box 3.20). It was undertaken to address pressures of urban sprawl and divided planning responsibilities, and corresponds closely to SEA principles and methodology (Fookes 2002).

At the sector level, the Land Transport Management Act (2003) and New Zealand Transport Strategy (2002) have introduced new environmental and social objectives, and requirements for taking them into account in planning and decision-making. Para-SEA approaches are evident in the procedural steps and content requirements for strategies prepared by Regional Land Transport Committees²⁸; and also in the integrated methodology for evaluating investment and funding allocation proposals submitted to Transfund New Zealand for fiscal year 2004 to 2005 (Sadler *et al.* 2004).

Box 3.20: Auckland's Regional Growth Strategy 2050 as a SEA application

Approximately one third of New Zealanders live in the Greater Auckland Region. It is the major growth pole of the country with a population of more than one million. The political and administrative geography of the region is relatively complex by New Zealand standards. In accordance with the provisions of Resource Management Act, four city and three district councils are responsible for controlling land use; and the Auckland Regional Council is responsible for preparing a regional policy statement to guide planning and management of the natural and physical resources of the area. However, there is no single agency responsible for coordinating land and infrastructure development in a rapidly growing metropolis where environmental and social impacts from urban sprawl and traffic pressures continue to intensify.

In the late 1990s, the Auckland Regional Growth Forum was established as a special purpose, collaborative body to address these issues and the policy vacuum underlying them. This initiative of the Auckland Regional Council enjoyed strong support and contributions from the seven local authorities. A particular emphasis was given to developing a long-term vision and growth strategy for the region to 2050 (a period during which time the population is projected to double). The strategy was developed over three to four years and incorporated both a strong technical basis and extensive public consultation. For example:

- reports were prepared on the following topics: regional planning overview; national and physical resource constraints; transport capacities; physical infrastructure; social infrastructure; growth management techniques; employment location; intensification; and rural issues; and.
- public consultation was undertaken in two main phases: the first stage involved preliminary consultation with stakeholder groups and the wider public which helped to establish the draft strategy;

²⁸ In the last round, the three metropolitan regional land transport strategies (Auckland, Christchurch and Wellington) all used relatively simple evaluation techniques to assess different sets of scenarios against transport planning targets or objectives and performance criteria. For example, the “scorecard” or “planning balance sheet” approach was used in developing the Canterbury regional land transport strategies. Although described as an evaluation matrix, it is little more than a checklist. Most indications are that this approach will have to become more systematic in the new round of strategy-making and should benefit from the use of formal SEA (see Sadler *et al.* 2004).

this was then released for a second round of consultation, which included stakeholder and open meetings, formal submissions and public hearings.

Options for accommodating future growth were assessed by reference to preferred outcomes:

- safe, healthy communities;
- diversity of employment and business opportunities;
- housing choices;
- high amenity of urban environments;
- the protection and maintenance of the character of the region's natural environments;
- sustainable use and protection of the region's resources (including infrastructure); and
- efficient access to activities and appropriate social infrastructure for all.

Although no reference is made to SEA, Fookes (2002) analysed the strategy process and methodology in relation to this approach and found a close fit. The Auckland Regional Growth Strategy 2050 is being implemented through various statutory and non-statutory arrangements by the local councils involved. Monitoring and adaptation is a key element of this process (Dixon 2002). In addition to the Councils, Infrastructure Auckland is a key implementation agency. It was established with the principle function of making grants to transport and storm-water projects in the region. The multi-criteria analysis of potential projects applied by the agency is reported to be one of the most advanced examples of its kind in New Zealand.

Source: Ward *et al.* (2002).

See also Auckland Regional Growth Forum (1999) and for updates <http://www.ia.co.nz/index2.html>

Looking ahead, it is not clear whether SEA (as understood internationally) will evolve in New Zealand from the variants identified under and beyond the RMA. As already noted, RMA implementation has been much slower than anticipated, particularly with respect to national policies and standards. These are critical if the promise of the RMA is to be fulfilled (Dalziel and Ward, 2004). Certain national environmental standards and a national policy statement on indigenous biodiversity are now being drafted. But it is recognised that the government still has much to do (Jenny Dixon, pers com).

The first round of RMA-based plans is still incomplete and it will take some time before the next round begins. At the same time, a new generation of long-term, strategic community plans are being prepared out under the Local Government Act (2002). The relationship between the two sets of plans remains unclear. Equally, the potential role of SEA principles and practice in the preparation of plans at both levels has yet to be defined. In the RMA context, Dixon (2002) notes that much will depend on the extent to which planners and decision-makers adopt SEA principles and methods voluntarily (as opposed to introducing new legal and administrative arrangements).

Outside the remit of the RMA, there is considerable scope for SEA as both a formal and informal procedure in a number of areas. A more systematic approach could be taken at several levels: by central government in policy-making; at the local and regional level for land transport planning; and for local-level strategic planning under the Local Government Act (2002). But progress is likely to take time. In the near future, it is likely that SEA process and practice in New Zealand will continue to be distinctive and diverse - much like its ecology (Sadler 2003).

3.3.10 Norway²⁹

The formal provision for SEA of policy and legislation in Norway is given in the *Instructions for consequence assessment, submission and review procedures in connection with official studies, regulations, propositions and reports to the Storting*. These Instructions were issued by Royal Decree on 18 February 2000 and came into force on 1 March 2000 (replacing previous Instructions issued on 16 December 1994).

Both policy and legislative proposals are subject to strategic assessment under the Instructions. The process followed is far more flexible than the EIA procedure. All potential impacts of an initiative are addressed, including financial, social, regional, gender equality and environmental issues.

As for EIA, responsibility for assessments undertaken under the Instructions lies with the line ministry/sector concerned. The Ministry of the Environment has a support and advisory role and has issued *Guidelines on Environmental Assessment in Accordance with the Instructions for Official Studies and Reports*.

Currently, there are no specific, formal requirements for SEA of on-shore plans and programmes, But Norway will implement the EU SEA Directive. Legislation requires environmental assessment before opening an area for petroleum-related activities. In addition, the licencees are required to undertake regional environmental impact assessments within smaller areas if the authorities decide it is necessary. Environmental assessment has also been an integral part of preparing sector programmes such as the national transport plan and the national plan for hydroelectric power (see Box 3.21), which are presented as white papers to the Parliament.

Box 3.21: Environmental assessment for hydroelectric power plans in Norway

Norway's strategy for balancing the use and conservation of river systems involves plans and management systems as well as legislation. Elements of particular importance in the decision-making framework include the licensing procedures, the Protection Plan for Water Resources, and The Master Plan for Water Resources.

The first **Protection Plan** was adopted in 1973 and the most recent plan adopted in 1993. The watercourses included in the plan are protected from hydropower development as well as other types of intervention. The aim of the current revision is to add watercourses to the plan. The Plan is drawn up in close co-operation between the energy and water authorities, and the environmental authorities. It is based on an evaluation of the "protection" interests related to the respective watercourses: cultural heritage, nature conservation, fish, wildlife, outdoor recreation and pollution control, as well as agriculture, forestry and reindeer husbandry. All interested parties, including local authorities and local and national NGO's, received the evaluation reports and were able to express their opinions in a broad hearing process.

The **Master Plan for Water Resources** is based on detailed reports (feasibility studies) made for about 400 potential hydropower projects (above 1MW) in the country. Each report contains an evaluation of the impact of the project on the different types of interests in the catchment area: hydropower potential, nature conservation (geology, landscapes, botany and zoology), outdoor recreation (aesthetic experience, walking, rafting etc.), fish (salmon, trout, science, fishing), wildlife (mammals, birds, hunting), water supply, water quality (protection against pollution), cultural heritage, agriculture and forestry (potential), reindeer husbandry (a third of the projects are in *Sami* districts), flood protection and erosion control, transportation, ice and water temperature,

²⁹ With contribution by Terje Lind, Ministry of Environment, Norway.

climate (changes in the local climate due to more open water in winter) and regional economy. For some projects, many alternatives were studied. Each report was subjected to a hearing process and also, subsequently, for the “main report” (Master Plan) submitted in the autumn of 1984. The first generation of the Master plan was approved by the Parliament in 1986. Since then it has been revised two times, most recently in 1993. It is currently being revised again.

In preparing for the introduction of formal requirements for SEA of plans and programmes, the Ministry of the Environment has initiated several pilot projects to gain experience of how SEA might best be undertaken out at the municipal and regional level (see Box 3.22)

Box 3.22: SEA in land use planning: experiences from five pilot projects.

The Ministry of Environment (MoE) has initiated several SEA pilot projects. The aim has been to test how SEA (both the process and documentation) can best be implemented for land use planning in different settings and circumstances – for different municipality sizes and different planning processes.

The SEA pilot projects built on three of the formal procedural requirements in the planning process:

- The *notice phase* (a more structured process in relation to the public as well as identifying issues relevant to the plan);
- The *circulation* of the draft plan to the public and to relevant governmental authorities (with more thorough information about the impacts of the plan as well as plans to abate them and for follow-up);
- The *publication* of the adopted plan (with information on, for example, how the impacts will be abated and monitored).

The pilot projects show that the SEA elements can be integrated into different stages of land use planning under different planning situations. It has been found especially useful to strengthen the early phase of planning by providing a precise prescription for the process and documentation. In addition, the following considerations have proved to be important:

- A focused knowledge base, to ensure that the assessment of relevant impacts is integrated in the planning process;
- Participation by public organisations;
- Cooperation with relevant governmental bodies;
- Political discussions and considerations;
- Documentation as basis for communication and to steer the planning exercise.

3.3.11 United Kingdom³³

Prior to the entry into force of the EU SEA Directive’s on 21 July 2004, the UK had no statutory provisions for SEA. Nevertheless, several types of SEA process had emerged during the 1990s including appraisals of national policies, ‘environmental appraisals’ (and latterly ‘sustainability

³⁰ With contribution by Maria Partidario.

³¹ With contribution by Maria Partidario.

³² Andalucía, Asturias, Islas Baleares, Canarias, Cantabria, Castilla y León, Castilla la Mancha, Extremadura, Madrid, Murcia, País Vasco, Valencia, La Rioja, and also in Catalunya

³³ With contribution from Steve Smith, Scott Wilson Kirkpatrick consultants, UK.

appraisals') of local and regional development plans, and *ad hoc* SEAs carried out in specific sectors (e.g. transport and water). Examples of the latter include the strategic environmental appraisal of the Strategic Defence Review (Ministry of Defence, 2000) and the SEA for offshore oil and gas licensing and wind energy generation for the Department of Trade and Industry (DTI 2001).

Good practice guidance has been prepared for both English local authorities and central government departments (see Boxes 3.23 and 3.24, respectively). This guidance forms part of the Government's approach to ensuring that development is sustainable, e.g. as set out in the first and second UK Strategies for Sustainable Development (HMSO 1990, Stationery Office 1994). So far, policy appraisal has been applied narrowly and inconsistently and will not be directly affected by the EU SEA Directive. But development plan evaluation must be brought in line with the SEA Directive (see below).

Box 3.23: UK Guidance on SEA for national policies

The Government's White Paper on the Environment, *This Common Inheritance* (DoE 1990), emphasised the importance of incorporating environmental considerations into policy development. Commitments made in the White Paper resulted in the publication of *Policy Appraisal and the Environment* in 1991 (DoE, 1991). This guide was aimed at central government agencies and emphasised the use of cost-benefit techniques as a basis for taking environmental effects into account in policy development. A companion study provided advice on good practice. It indicated that progress was uneven and slower than anticipated with considerable variation in implementation of policy appraisal. It brought into question the extent to which the government-wide commitment to address the potential environmental impact of its own proposals was being met. A subsequent study drew similar conclusions and confirmed there was scope for further improvement (DETR, 1997). Updated guidance was prepared on this basis (DETR, 1998).

The policy appraisal process involved several basic steps (DoE, 1991; DETR, 1997):

- *List the objectives* of the proposal and *summarise the policy* issue, identifying possible trade-off's and constraints;
- *Specify the range of options* for achieving the objectives, including the 'do nothing' option;
- *Identify and list all impacts* on the environment and consider mitigation measures to offset them;
- *Assess the significance* of the impacts in relation to other costs and benefits;
- Use an appropriate method to *value costs and benefits*, including those based on monetary values, ranking or physical quantities;
- *State the preferred option* with reasons for doing so;
- *Monitor and evaluate the results*, making appropriate arrangements for doing so as early as possible.

More recently, the emphasis has switched from environmental to 'integrated policy appraisal'. The *Modernising Government* White Paper of 1999 committed Government "to produce and deliver an integrated system of impact and appraisal tools in support of sustainable development covering impacts on business, the environment, health and the needs of particular groups in society" (UK Government, 1999). In response, an approach to Integrated Policy Appraisal (IPA) was developed by several Government departments to help policy makers assess the full range of social, economic and environmental impacts of their initiatives. IPA was designed to act as a "gateway" to other appraisal methodologies, reducing work by identifying which appraisals needed to be done for a specific policy proposal.

Following a series of pilot studies, the IPA tool has now been incorporated into the existing system of Regulatory Impact Assessment (RIA). As part of RIA, policy makers must explicitly identify the economic, social and environmental costs and benefits of their proposals. This is intended to provide a

unified approach, bringing together within one tool the two complementary aims of better policy-making and sustainable development. From 1 April 2004, the RIA system was extended to cover all substantial policies and proposals, which will have an impact on the public and private sectors. In order to ensure that RIAs are properly completed, a number of quality checks have been put in place in addition to Ministerial sign-off:

RIAs are placed in the public domain and are a key part of the consultation process:

- RIAs accompany letters seeking collective agreement to proposals so that Ministers, in their responses, are able to comment on the analysis presented in the RIA;
- From 2003/04, the National Audit Office has a new role in reviewing the quality of a sample of RIAs;
- From 2004, departmental reports will require statements on what is being done to support better regulation and to improve the quality of RIAs;
- The Cabinet Office Regulatory Impact Unit is working with departments to enhance the quality of analysis in RIAs and the Department for Environment, Food and Rural Affairs and other departments will be involved in efforts to improve the assessment of social and environmental costs and benefits.

To supplement the RIA regime, the Department of Environment, Food and Rural Affairs (DEFRA) is preparing detailed guidance “designed to make it as easy as possible for policy makers to spot the environmental impacts of their policy options during the policy-making process”.

For further information see: <http://www.sustainable-development.gov.uk/sdig/integrating/index.htm>

Box 3.24: UK Guidance on SEA of development plans

Initial guidance on the role of SEA in the preparation of development plans was issued in Policy Planning Guidance Note 12, *Development Plans and Regional Planning Guidance* (PPG12) (DoE, 1992). This required planning authorities to consider the environmental implications of their development plans. In response, a number of local authorities began to carry out ‘environmental appraisals’ of their development plans and the Department of Environment prepared *Environmental Appraisal of Development Plans: A Good Practice Guide* (DoE, 1993). In comparison to the conventional model of SEA, ‘environmental appraisal’ of development plans has been variously described. Examples include ‘a less systematic’ but ‘more integral and iterative process’ (Sadler and Verheem 1996), ‘less comprehensive and onerous’ (Therivel, 1998), ‘less detailed’ (Russell, 1999) and simply ‘informal’ (Glasson and Gosling, 2001). Therivel (1998) argued that many of the SEAs carried out in Britain – particularly the environmental appraisals of development plans – were only *partial* SEAs since they did not describe the baseline environment, consider alternatives, make rigorous, quantitative predictions and offered little in the way of (concrete) mitigation measures. But she went on to argue that the majority of these nonetheless fulfilled the aims of SEA – including improved decision-making and greater awareness of environmental issues amongst decision-makers. Sadler and Verheem (1996) emphasised their sustainability dimensions and scales - a linkage that the government has sought to maintain in preparing guidance pursuant to the SEA Directive.

During the mid-1990s, many local authorities expanded their environmental appraisal to encompass economic and social concerns; indeed, Therivel (1998) reported that approximately one-third of respondents to a 1997 questionnaire on appraisal practice characterised their appraisals as ‘sustainability appraisals’. The trend toward Sustainability Appraisal (SA) culminated in the publication of a revised PPG12 in 1999. This required local authorities to carry out a full environmental appraisal of their development plans, but encouraged them to extend this to cover other sustainable development objectives. At the regional level, the former Department of Environment, Transport and the Regions published a *Good Practice Guide on Sustainability Appraisal of Regional Planning Guidance* (DETR 2000). Recent research by the EIA Centre at the University of Manchester has demonstrated an increasing use of SA (Short *et al.* 2003). It shows that development plans have become more environmentally sound in the majority of cases. In just over half of the plans examined, some changes also occurred as a result of applying SA (mainly

changes in wording of policies and re-prioritisation of proposed allocation sites within the plans).

The voluntary system of environmental / sustainability appraisal of local and regional plans is set to change considerably in light of the EU SEA Directive and the new Planning and Compulsory Purchase (PCP) Act which was due to receive royal assent in June 2004. In particular, *Strategic Environmental Assessment Directive: Guidance for Planning Authorities* (ODPM, 2003) indicates how the requirements of the SEA Directive are to be incorporated into the wider SA process. The PCP Act introduced fundamental changes to the planning system, replacing the system of Unitary Development Plans, Structure Plans and Local Plans in England with a single level of planning: Local Development Framework (LDF). Significantly, the constituent parts of an LDF – Local Development Documents (LDDs) – must undergo *statutory* SA. For the first time, SEA and SA will both be statutory requirements for local authority development plans. The Government advocates a unified approach to SEA / SA and has commissioned guidance (to be published by the end of 2004) on undertaking SA of LDDs which fully incorporates the legal requirements of the SEA Directive.

Government guidance on undertaking SEA for spatial and land use plans (ODPM, 2003), advocates a five stage approach to SEA (and SA) (see Figures 3.2 and Table 3.3). Further draft generic practical guidance on SEA for non-planning authorities, prepared by the Office of the Deputy Prime Minister together with the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment was published in July 2004 with a three month consultation period provided for comments. The guidance includes sections on the background and context of the SEA Directive, consultation, SEA and sustainable development, and the steps in the SEA process (ODPM 2004).

The government's Statutory Instrument 2004 No. 1633 sets out regulations transposing the EU SEA Directive into law in England (available at www.hmso.gov.uk/si/si2004/20041663.htm). Transposition of the SEA Directive into national law has been dealt with separately in Scotland, Northern Ireland (NI) and Wales. In line with the Partnership Agreement – *A Partnership for a Better Scotland* (Scottish Labour Party and Scottish Liberal Democrats, undated) – Scottish Ministers aim to achieve and surpass the objectives set out in the EU SEA Directive. This involves a two-stage process. The Scottish Parliament has adopted a set of regulations implementing the SEA Directive; however, these will be revoked by a comprehensive bill on SEA, which will apply it to a wider range of public sector strategies, plans and programmes than the Directive requires (Sheate *et al*, 2003). Similarly *Sustainability Appraisal of Unitary Development Plans in Wales: A Good Practice Guide*, issued by the National Assembly for Wales (2002) was superseded by interim guidance on the implications of the SEA Directive for Unitary Development Plan (UDP) preparation. This in turn will be replaced by guidance on a combined approach to SEA / SA. In the UK at least, SEA is increasingly incorporated into a wider approach to sustainability appraisal or integrated assessment.

Figure 3.2. Five-stage approach to SEA / SA (ODPM, 2003)

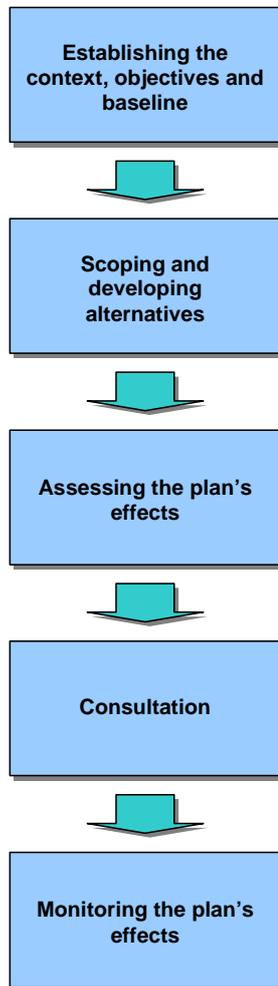


Table 3.3: Stages, decisions and outputs of SEA and sustainability appraisal (ODPM, 2003)

Planning stage	SEA or Sustainability Appraisal stage	The purpose of this stage	What to decide	What to record
Identify the issues and options and prepare for consultation	<p>A. Setting the context and establishing the baseline</p> <ul style="list-style-type: none"> Identify other relevant plans and programmes; Identify environmental protection objectives, and state their relation to the plan; Propose SEA and sustainability appraisal objectives; Propose indicators; Collect baseline data, including data on likely future trends; Identify environmental and sustainability problems. 	<ul style="list-style-type: none"> Document how the plan is affected by outside factors; suggest ideas for how any inappropriate constraints can be addressed; Focus on key environmental and sustainability issues; help to identify SEA and sustainability problems, objectives and alternatives; Streamline the subsequent baseline description, prediction and monitoring stages; Provide a base for effects prediction and monitoring 	<ul style="list-style-type: none"> What other plans, programmes and environmental protection objectives influence the plan; What environmental/sustainability objectives and indicators to test the plan options and policies against; What data to collect and how to structure it so it can be easily used; What environmental and sustainability problems to consider during plan-making. 	<ul style="list-style-type: none"> List of relevant plans, programmes and environmental protection objectives; List of SEA/sustainability appraisal objectives and indicators; Data on environmental/sustainability baseline; List of relevant environmental/sustainability problems.
Consultation on issues and options	<p>B. Deciding the scope of SEA and developing alternatives</p> <ul style="list-style-type: none"> Identify alternatives; Choose preferred alternatives; Consult authorities with environmental responsibilities and other bodies concerned with aspects of sustainability 	<ul style="list-style-type: none"> Clarify baseline, identify problems and alternatives; Ensure that the SEA and sustainability appraisal covers key issues; Help to ensure that the plan is sustainable. 	<ul style="list-style-type: none"> What alternatives to consider, possibly linked to each problem identified in Stage A; What to include in the draft report 	<ul style="list-style-type: none"> List of alternatives; Results of Stages A-B.
Prepare proposed plan	<p>C. Assessing the effects of the plan</p> <ul style="list-style-type: none"> Predict the effects of the plan; Evaluate the plan's effects; Propose measures to prevent, reduce or offset adverse environmental effects. 	<ul style="list-style-type: none"> Consider all likely effects; Ensure that all relevant effects are identified and proposed mitigation measures are considered. 	<ul style="list-style-type: none"> What the effects of specific options, policies and proposals will be; How any adverse effects of implementing plan policies can be avoided, reduced or offset 	<ul style="list-style-type: none"> Effects of the plan options, policies and proposals; List of preferred alternatives and explanation of why these are preferred;

			(mitigated); <ul style="list-style-type: none"> • The preferred alternatives; • How to present the information. 	<ul style="list-style-type: none"> • Proposed mitigation measures and how they will be implemented; • What methods have been used to analyse data and limitations; • Draft Environmental Report
Full public consultation on proposed plan	<i>D. Consulting on the draft plan and the Environmental Report</i> <ul style="list-style-type: none"> • Present the results of the SEA up to this point; • Seek inputs from the public and authorities with environmental responsibilities; • Take consultation results into account; • Show how the results of the Environmental Report were taken into account in finalising the plan. 	<ul style="list-style-type: none"> • Gather more information on the environmental baseline and problems; • Discover the opinions and concerns of the public on environmental and sustainability issues; • Show that information and opinions on environmental and sustainability issues have been appropriately considered 	<ul style="list-style-type: none"> • Who to consult (in addition to statutory consultees) and how; • How to analyse to consultation results 	<ul style="list-style-type: none"> • Consultation process
Monitor plan implementation	<i>E. Monitor the significant effects of implementing the plan on the environment</i>	<ul style="list-style-type: none"> • Ensure that plan is well implemented and feeds into the future plans or reviews next round of SEA/Sustainability Appraisal; • Ensure that adverse effects can be identified ; • Provide information for future SEA's. 	<ul style="list-style-type: none"> • How to measure the actual effects of plan on the environment and <i>sustainability</i> 	<ul style="list-style-type: none"> • Proposed monitoring programme.

Further guidance on SEA in the UK includes:

- The Environment Agency is developing good practice guidance for SEA to assist external organisations in carrying out SEA (due in 2004);
- The Department of Transport has commissioned guidance on SEA of local Transport Plans (due summer 2004) (draft available on www.webtag.org.uk/sitepages/consult/pdf/211consult.pdf);
- Guidance on SEA and biodiversity was recently published by the Countryside Council for Wales, English Nature, the Environment Agency and the Royal Society for the Protection of Birds (2004). It explains how biodiversity implications can be considered in SEA on a step-by-step basis in the UK (www.rspb.org.uk/policy/planningpolicy/s_e_a.asp)

3.3.12 USA

The *National Environmental Policy Act* (NEPA 1969) applies to "proposals for legislation and other major federal actions significantly affecting the ...environment." It appears to provide a broad legal mandate which the Council on Environmental Quality (CEQ 1986) interprets to include policies, plans and programmes. CEQ Regulations on NEPA implementation set out procedures that apply generically to all proposed actions (e.g. notably indicating whether and how to prepare an environmental impact statement or EIS). In addition, specific guidance is given with regard to an EIS that may be prepared for broad federal actions, such as the adoption of new land use plans or sector programmes (e.g. at Section 1052.4(b)).

From an international perspective, programmatic environmental impact statements (PEIS) comprise a long established and well developed area of SEA practice (e.g. Sadler and Brooke, 1998; Wood, 1999). Early CEQ annual reports refer to the increased use of, and document experience with, 'programme impact statements' (CEQ 1975). Most federal departments and major agencies had applied this form of SEA more than 25 years before EU SEA Directive came into force (Sadler 2004). Subsequently, CEQ regulations included provisions for focusing this process on actions that are related regionally, or generically by stage of technology development, or which are otherwise connected (e.g. by reference to potential cumulative effects). Federal agencies use this approach for a broad range of strategic activities, applying it particular to land use and integrated resource management and to the transport, water and waste sectors amongst others (see US Environment Protection Agency web site: www.epa.gov/).

In comparison to other types of NEPA application, the contemporary use of PEIS remains limited. It comprises a small proportion of the c.500 draft, final and supplemental EISs that are completed each year in the USA (Clark and Richards 1999). As a consequence, the PEIS may be seen as the apex of a broad base of project-specific EIS (which themselves represent a very small proportion of the 50,000 less detailed environmental assessments completed each year). This approach is reported still to be under-utilised, but observers (eg Bass and Herson (1999) comment that it is particularly helpful in considering alternatives and addressing the cumulative effects of subsequent projects and activities. PEIS provides a framework for any further EIA of individual projects, and subsequent requirements for analysis can be 'tiered' to results of the PEIS. This is acknowledged to save time and resources, particularly where there is a multi-stage sequencing of activities.

PEIS also vary substantially in their strategic focus and in the way that agencies use and adapt the approach. A study of the effectiveness of NEPA after its first 25 years of operation noted that the process was rarely used to formulate specific policies and was often skirted in developing programmes (CEQ 1997). As with other areas of NEPA implementation, there is a large body of case law relating to the scope and application of the process. NEPA is not triggered unless there is a federal action that has a demonstrable environmental impact. For example, the finding of ‘no action’ under NEPA was used to exempt the national energy policy, which normally would be assumed to have a wide range of environmental consequences (Clark, reported in Sadler and Brooke 1998). On the positive side, the same Department was commended in the NEPA effectiveness study for its extensive use of programmatic and site-wide analyses in determining how to reconfigure its nuclear weapons complex and address environmental clean up obligations (CEQ 1997).

More recently, the use of ‘programmatic analyses and tiering’ was one of five key themes addressed in the report of the NEPA Task Force (2003). It noted that this approach was used in a variety of ways and decision contexts and summarised the continuum of actions addressed in PEIS or related documents in three main categories (Table 3.4). It also emphasised that there are no clear-cut boundaries and some activities might fit into more than one category. This typology refers to SEA-type applications at the policy level that are not labelled as programmatic and may challenge some of the conventional wisdom about NEPA. One of the examples cited is the EIS of the Bonneville Power Administration Business Plan, summarised in Box 3.25.

Table 3.4: Types of actions addressed in NEPA programme analyses

Source NEPA Task Force (2003)

Category of Action	Description	Examples
Policy or strategy	National or regional analyses that establish programme goals and objectives.	<ul style="list-style-type: none"> • Tennessee Valley Authority "Integration of NEPA into a Comprehensive Environmental Management Systems". • Bonneville Power Administration "Business Plan" - an example of use in "Longview Energy Development Plan".
Land use	Integrated planning analyses for a geographical or landscape area - may prescribe general standards and controls and procedures for project implementation.	<ul style="list-style-type: none"> • White River National Forest Plan and EIS . • APHIS - "Bison Management Plan for Montana and Yellowstone National Parks".
Programme	Resource plan or programme-analyses that decide future priorities for development and scheduling and set controls for implementation of site-specific actions.	<ul style="list-style-type: none"> • Animal and Plant Health Inspection Services - "Rangeland Grasshopper and Mormon Cricket Suppression Programme". • Bonneville Power Administration - "Fish and Wildlife Improvement Plan".

Box 3.25: Bonneville Power Administration Business Plan EIS

The electric utility market is increasingly competitive and dynamic. To participate successfully in this market and to continue to meet specific public service obligations as a federal agency, the Bonneville Power Administration (BPA) needs adaptive policies to guide marketing efforts and its other obligations such as its energy conservation and fish and wildlife responsibilities. This EIS evaluated six alternatives to meet this need.

(1) **No Action.** BPA would maintain its traditional activities in planning for long-term development of the regional power system, acquiring resources to meet customer loads, sharing costs and risks among its firm power customers and non-federal customers using the federal transmission system, and administering its fish and wildlife function, with the goal of fulfilling the requirements of the Northwest Power Act.

(2) **BPA Exercises Market Influences to Support Regional Goals.** In addition to its own activities to acquire energy resources and enhance fish and wildlife, BPA would exercise its position in regional power markets to promote compliance by its customers with the goals established by the Northwest Power Act.

(3) **Market Driven BPA** (The BPA Proposal). BPA would change its programmes to try to achieve its mission while competing in the deregulated electric power market. BPA would be a more active participant in the competitive market for power, transmission, and energy services, and use its success in those markets to ensure the financial strength necessary to fulfil its mandate under the Northwest Power Act.

(4) **Maximize BPA's Financial Return.** BPA would operate like a private, for profit business. It would focus on limiting costs and investing its money where it could get the best return, while continuing to fulfil the requirements of the Northwest Power Act.

(5) **Minimal BPA Marketing.** BPA would not acquire new power sources or plan to serve customers' load growth. Activities would focus on meeting revenue requirements through the long-term allocation of current federal system capability, while continuing to fulfil other requirements of the Northwest Power Act.

(6) **Short Term Marketing.** BPA would emphasize short-term (5 yrs or less) marketing of power and transmission power products and services, while continuing to fulfil requirements of the Northwest Power Act

Source: Clark (pers.com), based on Business Plan Final EIS (DOE/EIS-0183)

The NEPA Task Force (2003) reported that the use of programmatic analyses is increasing at most government levels and coordination of analyses is improving. Most of the Federal agencies appear to view these processes positively and they are considered to be particularly valuable to address issues at the broad landscape, ecosystem or regional level. Programmatic analyses also allow agencies to address environmental law or policy obligations such as the protection of threatened and endangered species. However, there was also considerable criticism and public concern about aspects of programmatic analysis. Some agencies have abandoned the concept of tiering, concluding that it is ineffective and inefficient - another finding that challenges the conventional wisdom on SEA that accords tiering an iconic status. The NEPA Task Force also

provide recommendations on how to address these and other issues related to programmatic analyses and tiering³⁴.

Recently, there have been some interesting developments in SEA independent of NEPA. The environmental review of trade agreements was first required by a Presidential Executive Order in 1999. It was confirmed by the new Administration in 2001 and enacted in the Trade Promotion Authority Act of 2002 (Norton-Miller 2004). Such reviews address the domestic impacts of trade agreements. In addition, a voluntary SEA has been proposed for a programme of the Immigration and Naturalization Service to enhance immigration points of entry (Box 3.24). Whether or not this will be a harbinger of a more widespread non-NEPA use of SEA remains to be seen.

3.3.13 SEA experience in other industrial countries

In this chapter, our primary focus has been to cover the mainstream of national experience in SEA among the developed countries and to illustrate aspects and areas of practice that we consider to be of note or wider interest internationally. Obviously, there is a degree of subjectivity in the countries selected for examination. Also, as noted previously, SEA is a rapidly developing field. This is well illustrated by the briefing papers tabled by the countries and international organisations attending the 8th Intergovernmental Policy Forum on environmental assessment, held in Vancouver in association with IAIA 04 (Canadian Environmental Assessment Agency, 2004). For these reasons, the SEA experience of four other countries (Japan, Korea, Portugal and Spain) is summarised in this section to exemplify different arrangements or elements of approaches.

Japan

A Cabinet Directive in 1972 established a national-level EIA system in Japan and this was given legal recognition in the Basic Environment Law (1993). Article 19 of this Law stipulates that consideration must be given to environmental protection in the formulation and implementation of government policies that are expected to have an impact on the environment. So far, no formal provision has been made for a national system of SEA of policies, plans or programmes which are not subject to the EIA law of 1997. But during the preparation of this latter law, there was

³⁴ Key recommendations of the NEPA Task Force (2003, section 3.6) were stated as follows: To promote consistent, clear, cost-effective programmatic NEPA analyses, documents, and tiering that meet agency and stakeholder needs, the task force recommends that CEQ provide guidance to:

- Emphasize the importance of collaboration as agencies expand the use and scope of programmatic NEPA analyses
- Include a section in the first tier document that explains the relationship between the programmatic analysis and document and future tiered analyses and documents, and describes how stakeholders will be involved
- Emphasize that programmatic documents should explain where and when deferred issues that were raised by the public and/or regulatory agencies will be addressed, and describe the proposed temporal and spatial scales that will be used when analyzing those issues
- Develop criteria for agencies to use when evaluating whether a programmatic document has become outdated, and articulate a general life expectancy for the different programmatic documents.

discussion of the potential role of SEA and a review of international experience in this field (Omori, 1997, 1999).

Since then, a number of actions and studies have been undertaken to establish a basis for introducing and implementing SEA in the event of a decision in principle by the government to introduce it. The policy cornerstone for such a decision is laid down in the Cabinet approval of the Basic Environment Plan (2000) which, *inter alia*, provides a mandate to (Nishikubo 2004):

- “Carry out a review of the content and methods for including environmental considerations in decision-making on policies, plans and programmes;
- Evaluate the effectiveness and practicability of such measures by reviewing cases and formulating guidelines based on the review, and
- Consider the framework for including environmental consideration in decision-making on policies, plans and programmes, if necessary”.

The Ministry of the Environment has published several reports on aspects of international experience with SEA and its possible application in Japan at both the national and local government levels. This work began with examining legal and institutional arrangements for SEA established in OECD countries (Fuller *et al.* 1998). The focus has now shifted to SEA effectiveness and methodology (Mitsubishi Research Institute 2003), which may be of wider international interest. In addition, in 2003, the Ministry of Environment issued a preliminary guideline on SEA in the formulation of municipal waste management plans. The Ministry of Land, Infrastructure and Transport introduced guidelines for promoting public involvement in road, airport and harbour planning and for taking into consideration alternatives in an early stage of the planning process. In addition, several local governments have introduced a SEA component in their environment-related plans and programmes, eg Saitama prefecture, Hiroshima City and the Tokyo metropolitan government (cited in Mitsubishi Research Institute 2003).

Korea

EIA was adopted in Korea in the late 1970s and a SEA-type process was introduced in 1999. The Prior Environmental Review (PER) or Preliminary Environmental Scan (PES) system was legislated to identify and minimise environmental impacts at an early stage for certain plans and projects which are specified under the Environmental Policy Act. However, this process is applied after the framework decisions for projects have been taken (e.g. site or route), making it difficult to assess the best alternatives. It also overlaps with the EIA system with both following a similar approach and incorporating a review procedure (see Box 3.29). As a consequence, there has been a recent increase in demands for a new assessment process related to the strategic level of policies, plans and programmes. In response, the focus is now on upgrading and expanding the PES system to incorporate internationally accepted SEA principles (see Box 3.26).

Portugal³⁵

At present (pre-transposition), there are few legal requirements bearing on SEA in Portugal. A general requirement for EIA of plans and programmes was included in the National Environmental Law (1987) but regulations to implement this provision were never issued. In addition, recent legislation on the development of mineral exploration plans contains a

³⁵ Information in this section was contributed by Maria Partidario, New University of Lisbon.

Box 3.26: Preliminary Environmental Scan (PES) in Korea: A SEA-like system

The PES system (also called the Prior Environmental Review System) aims to balance development and conservation by identifying possible environmental impacts of development plans or projects in the early stages of planning. It includes considering ways to carry out development plans while harmonizing the built and natural environments in an aesthetically pleasing manner (Korean Ministry of Environment, 2001).

The PES System is applied to:

- 39 *administrative plans* specified under the Basic Environmental Policy Act` and other individual laws;
- Any *development activities* conducted in 20 specified types of conservation and protection areas (e.g., conservation areas for natural environment, wildlife and/or wetland, and protection areas for waterworks and/or groundwater, etc).

An example of how the PES and EIA systems work together

The following example for housing land illustrates how the PES and EIA system provide an overall EA process. In order to develop housing land, a PES is required to check the following main concerns:

- Sustainability of the goal;
- Alternatives;
- Environmentally-friendly land-use plan;
- Conditions of location;
- Relevance of the project.

When a target site fulfils the requirements listed above, it is designated as official housing land for development. An EIA is then undertaken with detailed analyses to mitigate the negative environmental effects predicted in specific fields such as air quality, water quality, floral and fauna, geology and noise. Public participation in this process is mandatory and a sound monitoring plan must be prepared.

However, if the development is anticipated to cause critical and severe environmental problems, it can be terminated at the PES stage and no further action is permitted. In 2002, the development plans for several major housing sites were withdrawn after being subject to the PES process.

The Ministry of Environment controls both the PES and EIA systems through consultation processes with development agencies. Research is being undertaken with a view to introducing SEA as early as possible, probably from 2005. One possible option is to upgrade and expand the PES system to incorporate SEA principles.

Further information on PES available in Korean Ministry of Environment (2001) (see also www.me.go.kr).

Source: Young-Joon Lee, Korea Environment Institute (<http://www.kei.re.kr>)

requirement for a SEA report to be included in the plan but so far there has been no legal definition of the process, methodology and content for SEA. As a member state of the European Union, Portugal is also bound by Council Regulation EEC n° 2081/93 regarding proposals for Regional Development Plans and Structural Funds programmes and now must implement the European SEA Directive 2001/42/EC (see section 3.2).

At the time of writing, the institutional framework for SEA in Portugal is not yet clear. However, it is probable that the main responsibilities will rest with the Ministry of Environment. The local government authorities responsible for land use planning and the environment will have the duty of overseeing SEA implementation in their respective regions.

As part of Portugal's moves to comply with European SEA Directive, the Land-Use Planning Department of the Ministry of Environment commissioned the New University of Lisbon to prepare guidance for SEA of Land-Use Plans. This guidance had now been released in a formal publication (DGOTDU, 2003). It sets out a technical methodology for strategic impact assessment (SIA) to be used during the planning process as part of the conception, preparation, discussion, approval and implementation of spatial plans in Portugal. It applies to regional, special, inter-municipal, and municipal master plans as defined in the Spatial Planning Act and regulations (Law n. 48/98 of 11th August, and Decree-Law n. 380/99, of 22 September 1999). The SIA methodology is designed to be used in close articulation with the planning methodology, to fit to the sequence and nature of planning activities and functions that are normally part of a plan development process.

The only known applications of a SEA approach to date in Portugal occurred in 1994 and 2000 in connection with reports prepared as part of the Regional Development Plans and Structural Fund programmes. Full studies and reports are not publicly available. A summary of the 1994 report shows that the study focused mainly on the requirements of the Council regulations at the time. In general, the approach addressed the individual project components proposed in the programme. Frequent arguments were made that insufficient information was available to enable adequate impact assessment. It is assumed that the 2000 report followed the approach set out in the EC guidance (CEC 1998) but it is not publicly available.

Spain³⁶

Prior to transposition of Directive 2001/42/EC, there was no provision for SEA at the national level in Spain. However, there had been significant development of SEA legislation in different Autonomous Regions³⁷ and for different categories of land-use and sector plans and programmes. In most cases, this provision is made under the EIA legislation (for example in Castilla y Leon, Valencia, and Andalucia). In other cases, SEA is required under a general environmental protection law (eg in the Basque Territory and also Andalucia) or integrated in planning procedure (e.g. in Catalunya).

Prominent examples of SEA legal requirements in Spanish regions include the frameworks established by Castilla y Leon, Basque Territory and Andalucia (see Appendix 8). In these jurisdictions, the responsibilities for overseeing SEA regulations vary, eg:

- Castilla y Leon - the *Junta de Castilla* (regional government executive body);
- The Basque Territory - the Environmental Authority of the Autonomous Community;
- Andalucia - the Environmental Agency of the Autonomous Community.

As in Portugal, experience with SEA practice in Spain has been gained through the preparation of Regional Development Plans and Structural Funds programmes, which require a SEA equivalent

³⁶ Information in this section was contributed by Maria Partidario, New University of Lisbon.

³⁷ Andalucia, Asturias, Islas Baleares, Canarias, Cantabria, Castilla y León, Castilla la Mancha, Extremadura, Madrid, Murcia, País Vasco, Valencia, La Rioja, and also in Catalunya

assessment that covers environmental issues in accordance with Council Regulation (EC) No. 1260/1999. Examples include:

- SEA of the Regional Development Plan and Structural Fund Programmes for Andalucía;
- SEA of the Operational Programme for Rural Development in Castilla y León;
- SEA of the FEDER (Fonds Européen de Développement Régional) Operational programme in Castilla y León;
- SEA of Regional Development Plan and Structural Funds Programmes: 2000-2006.

In addition, implementation of SEA legislation enacted in the regions has resulted in a growing body of practice³⁸. Examples include:

- SEA of urban development plans and the wind energy plan in Castilla y León following the adoption of Legal Decree 1/2000 of May 18;
- SEA of the urban plan (2002) for Puerto de la Cruz, Islas Canarias under Law 11/90 of 23 July;
- SEA of wind energy plans in Valencia and Cataluña under Valencia Law nº 2/ 1989 of 3 March;
- SEA of territorial plans in the Basque Territory under Law 3/1998 of 27 February; and
- SEA of the Review of the Municipal Plan of Málaga.

³⁸ *One example at the national level was the SEA of the Hydrologic Plan carried out in 2001–2002 for the Ministry of the Environment, which was widely criticized for its weaknesses including lack of consideration of environmental aspects.*

Case study 3.1: SEA of Parliamentary Bills in Denmark

Source: Elling and Nielsen (1998)

The aim of this review was to draw the lessons from experience gained in the first phase of implementation of the Danish system of SEA of bills and other government proposals sent to Parliament and to develop methods in relation to internationally recognized principles and elements of procedure. In this context, it also addresses the overall requirements and character of SEA as a policy level instrument. The concept of SEA adopted here is that it:

- 1) Is a tool for integrating environmental considerations into the legislative and policy process;
- 2) Has a different content from EIA of projects and will not replace this level; but also
- 3) Builds on the same fundamental principles, including documentation, procedure, significance, alternatives and the involvement of the public.

The context for SEA application

The above concept and principles of SEA were tested on two Danish Bills with the cooperation of the Ministry of Housing, the agency responsible for drafting the. One Bill (L 229 to amend laws on tenancy and relating to arrangements for heating charges and individual water meters etc.) was tested retrospectively. The other (L 105 on private urban renewal) was analysed as part of the drafting process. Both cases followed the procedure set out in the Administrative Order (Circular No 12 of 11 January 1995 issued by the Prime Minister's Office). They are also examples of environmentally-oriented legislation generating many small projects with potential cumulative effects when combined. With this type of Bill, it is relatively easy to calculate and assess the effects on the environment of individual subsidised or regulated activities. Yet it is the scale of the cumulative effects that is more critical and uncertain since the level of activity may be unpredictable.

The approach taken

For this last reason, the approach was based on two aims:

1. To balance the degree of detail when assessing effects in accordance with the level at which the decision is reached, and primarily in relation to the *direction* rather than the *magnitude* or scale of the impact, and judging significance from that perspective;
2. To expand the concept of environmental impact to include the *subsequent* course of events in addition to the formal approval, and exploit the opportunities for further amendments. In fact, this is what happens in the legislative process.

A test of the principles of public participation and the assessment of alternatives was also added in both cases. These elements are *not* requirements of the Circular but they are recommended as good practice in Ministry of Environment guidance. In the retrospective analysis (L 229), they were included respectively: (i) through a hearing that the Ministry of Housing held on the environmental impact of the bill; and (ii) by reviewing the impact assessment in light of potential alternatives and their environmental outcomes. In the prospective example (L 105), public participation and alternatives were incorporated throughout the drafting of the Bill and the assessment of its environmental impact.

SEA in practice

There were marked differences between the assessments carried out as part of this project and those presented by the Ministry of Housing as observations on the Bills L 229 and L 105. In both cases, the Ministry's observations were far more general and less detailed shown to be necessary by the scope for environmental assessment revealed in the analyses undertaken. For example, the retrospective analysis of Bill L 229 indicated that the environmental effects were calculated for limited areas and on a limited scale compared to what would have been possible (e.g. quantification of savings from revised arrangements for

heating bills and from installing individual water meters). With regard to Bill L 105, there was no detailed assessment of the environmental effects of the measures to promote energy and resource savings in private urban renewal schemes through a 'green positive list of subsidies' (e.g. installation of water and energy efficient fittings).

A comprehensive objectives-led SEA of this Bill could be undertaken on two different (or complementary) levels:

- SEA of the measures on the 'green positive list' as a starting point to identify their direct and indirect, positive and negative, impacts on the environment, preparatory to tightening up on schemes that can be approved and/or to overhauling the list;
- SEA of the environmental impact of Danish housing stock as a starting point for a green positive list of subsidies for private urban renewal, which would be oriented toward significant issues (securing energy, water and waste efficiencies).

In the final analysis, the role and influence of SEA in the adoption of Bills L 105 and L 229 was unclear. The commentaries accompanying the Bills stated that their enactment would bring positive environmental effects but this was not substantiated in the documentation. As such, the cases run counter to the intent of SEA to make environmental concerns visible throughout the decision-making process. Members of Parliament did not have a sufficient basis of information on which to take environmental aspects into account and reach decisions about the merits of the Bills. For example, the debate on Bill L 105 centred on whether the green positive list would put a brake on urban renewal, as opposed to clarifying the ecological principles and premises underlying the approach.

Other conclusions and wider implications

The wider implications of the above review centre on the testing of certain internationally recognized elements of SEA (documentation, procedure, significance, alternatives and involvement of the public). Specifically, the last two elements are of interest because they are not formal requirements under the Danish system. Nor are alternatives and public involvement necessarily well addressed elsewhere at the policy level (although they are obligatory under the European SEA Directive and transposed in Denmark as Act 316 of 5 May 2004). A key conclusion of the case studies was that these elements could be applied to parliamentary Bills without any major or fundamental difficulties.

However, these aspects may need to be adapted to maintain the flexibility of the legislative process. For example, interest groups play a defined role in parliamentary procedure already and this could be broadened to provide for public comment and input at key stages of scoping and/or to review the completed assessment (building on the Danish parliamentary tradition of public hearings). At both levels, consideration of alternatives will be critical, respectively, to finding a low impact course of action and to clarifying the environmental impact of a bill when it is presented.

In principle, the Danish process for SEA of Bills and other government proposals can be implemented in accordance with the internationally accepted elements, as listed above. However, in practice, the retrospective analysis of Bill L 229 indicated that a number of factors can impede this happening, including a lack of time, data, resources and political support. The first three constraints were not present in the case of Bill L 105 but analogous political obstacles may be recognized. Above all, however, the case analyses demonstrate that SEA of the environmental effects of Bills and other government proposals is technically feasible and can be done in a meaningful way and in a form that is accessible to non-expert decision-makers and the public.

Some further requirements

Based on the above discussion, there are some immediate opportunities to enhance SEA and the presentation of findings to decision-makers:

- Although "the public" was confined to organized groups in the cases analysed, the results suggest that it is possible to involve the general public in the SEA procedure. This would strengthen and add transparency to the procedure;
- A role for the general public in scoping and assessment may also prevent the responsible authority preparing legislation from attributing importance *a priori* to certain interested parties and to encourage wider debate;
- Making it obligatory for the responsible authority to consider all inputs would preclude the current practice of overlooking the environmental statement or paragraph in the observations on a Bill;
- More explicit specification of the content and scope of SEA would help to get the information on the environmental effects of a bill *presented* to decision-makers.

Some characteristics of SEA of Bills

The above review also draws attention to the characteristic features of SEA at this level:

- A decision-making process for a Bill consists not of one single decision but of a series of decisions and SEA also will be subdivided into a number of different elements. The elements of SEA at any one stage provide both the basis for and constraints on the elements at the next stage.
- The dynamic nature of strategic decision-making means that no decision is ever definitive. In the case of Bills, this implies amending or reforming Acts that are not achieving the intended effect or are having unintended impacts, including those on the environment. This can help compensate for the lack of predictability in SEA
- Law-making is a complex process, influenced by many activities and interests. These features emphasize the importance of matching SEA to the dynamics of decision-making, notably by presenting information in a way that promotes environmental considerations being taken into account and influencing choice.
- Except for construction legislation, the cumulative effects associated with Bills are general and not tied to a specific locality or type of physical environment. This makes attribution of significance difficult.
- Other things being equal, the assessment of the impact of a Bill on the environment will be more abstract than for a project (or plan) and the negative effects will be correspondingly easier to conceal.
- When assessing the environmental impact of a Bill, analysts often will be able only to identify the *direction* of an impact rather than the *degree* of the impact.

Case study 3.2: SEA of the Netherlands National Waste Management Plan 2002

Source: Verheem (2003)

Background

In the Netherlands, the policy and planning framework for waste management is highly structured and facilitates a tiered process of SEA and EIA as follows (Sadler and Verheem 1996):

- *At the national level:* policy-planning decision(s) are made on the technologies for final waste treatment, e.g. refuse, dumping or incineration and total treatment capacities - SEA addresses alternative technologies and their environmental consequences;
- *At the regional level:* spatial planning level decision(s) are taken on where treatment sites will be located - SEA addresses location options and their environmental consequences.
- *At the local level:* project decisions are taken on design and mitigation measures for each of the selected locations - EIA focuses on project and site-specific impacts tiered to earlier strategic assessments.

The National Waste Management Plan

The National Waste Management Plan (2002-2006) is a responsibility of the Minister of the Environment. It sets the policy-planning framework for a four-year period and will then be renewed. A major objective of the plan is to set the so-called 'minimum standard' for environmental performance of techniques that are used to process a number of waste streams. Under the plan, no licence can be issued for techniques that do not meet the minimum standard. In some cases, this is defined very broadly (e.g. 'incineration with energy retrieval') but, for other waste streams, it is defined as a specific technique. A second component of the plan is to define the preferred capacity for waste incineration in The Netherlands.

The SEA and decision-making process

SEA was mandatory for this plan in accordance with the then Dutch EIA Decree³⁹. It was carried out to set those standards that were to be defined as a specific technique and focused on a comparison of the environmental performance of major alternatives for these standards. It was also meant to establish the environmental foundation for capacity planning for waste incineration, recognising that appropriate capacity should neither be too little (leading to too much waste dumping) nor too large (removing the incentive for prevention and re-use of waste). Other objectives to be taken into account in this context included optimising energy generation from incinerating waste and more effectively utilising existing incineration capacity in The Netherlands.

³⁹ The first and second 10 year waste management programme were developed by the Waste Management Council - a non statutory voluntary body (bringing together the Ministry of Environment and provinces) with no decision-making power. The provinces, again voluntarily, then streamlined their provincial waste plans with the 10 year programme. For this streamlining, a national-level SEA was undertaken, but the provinces did not have to undertake repeat SEAs. At the national level, there was no statutory waste management plan in the past (although objectives were set in the National Environmental Policy Plan). But in 2002, the Dutch waste management planning system was changed and a new formal National Waste Management Plan was introduced. This set minimum standards which the provinces have to follow in their own plans. Because formal decisions were taken in this new national plan, an SEA was mandatory. In summary, SEA for the 10 year programmes was voluntary; SEA for the National Waste Management Plan is mandatory.

An eight-step process was followed:

- Step 1 – Public notification to explain the plan and its objectives;
- Step 2 – Mandatory public participation in scoping the required content of the SEA and the plan;
- Step 3 – Review and advice on content from state environmental and nature agencies and the independent EIA Commission;
- Step 4 – Plan and SEA preparation;
- Step 5 – Release of the draft plan and SEA report (the content was legally prescribed and included a requirement to describe the best alternative from an environmental perspective);
- Step 6 – Public participation and comment on the quality of the SEA report and draft plan;
- Step 7 – Review and advice on quality from environmental and nature agencies and the EIA Commission;
- Step 8 – Approval of the plan by the Cabinet and Parliament and adoption by the Ministry of Environment.

Approach and Methodology

Information assembly: The SEA was primarily based on existing information including:

- Experience with the implementation of previous waste management plans;
- The results of an action programme to fill in knowledge gaps in these previous plans;
- Information from EIAs carried out for licensing waste processing facilities;
- Monitoring programmes of the Ministry of the Environment;
- Information from a number of research programmes from state institutes.

Development of alternatives for minimum standards: Specific techniques were applied for 26 waste streams (asbestos, batteries, organic, solvents, oil, etc). For each stream, alternative techniques were described and compared to identify the preferred option from an environmental viewpoint.

Development of alternatives for capacity planning: The SEA compared the environmental effects of four alternative scenarios for the incineration of waste in 2012 from households, industry and construction activities (these three streams account for approx. 80% of total waste incinerated). The scenarios differed in terms of the processing techniques used. A precondition was that techniques had to be in operation on a commercial scale now or potentially in the near future).

- *Scenario 1:* First, waste is divided into three components: most combustible (RDF), paper and plastics (PPF) and organic with a high water content (ONF). Then paper and plastics are separated from RDF and the former is burned as additional fuel in coal-fired power plants or cement ovens. The rest of the RDF is burned in new waste incinerators using the latest technology. The organic fraction with a high water content is first either digested or composted, and then burned in existing waste incinerators.
- *Scenario 2:* Waste is processed into RDF and then incinerated in new waste incinerators, specifically designed for this purpose (i.e. fluidised bed or grate incinerators with combined heat and electricity generation).
- *Scenario 3:* All waste is integrally incinerated, with low caloric waste in existing incinerators, high caloric waste in new waste incinerators and incineration capacity increased until demand and supply are balanced.
- *Scenario 4:* (status quo): No increase of incineration capacity; waste that cannot be incinerated is land filled.

Impact analysis of minimum standards: For each waste stream, alternative techniques were compared using 'Life Cycle Analysis' (LCA) to identify their environmental effects from production to disposal. It included

the effects of re-use of material, which are often positive (e.g. the savings in raw materials). LCA described the effect on six standard 'environmental themes' under which 12 'sub-themes' were investigated.: climate change (greenhouse and ozone layer effects), acidification, eutrophication (water and land), dispersion (toxics in humans, land and water systems, photochemical oxidants), use of resources (a-biotic) and disruption (to life support systems and biodiversity).

The LCA was also carried out from different political perspectives to make the results more useful for decision-making. For this purpose, different weightings were given to specific effects (Box C3.2.1). A 'distance to target' analysis was also carried out to compare alternatives in terms of their contribution to existing policy objectives. In all cases, the total burden on the environment was also given.

In addition, the SEA also investigated the relative contribution of waste processing to overall environmental problems in The Netherlands, to use of space, amount of waste to be land filled, use of energy and use of water.

Box C3.2.1: Weighting sets used in the LCA:

- All themes equally important (i.e. climate change, acidification, etc.);
- All sub-themes equally important (i.e. greenhouse, biodiversity effects, etc.);
- Effects that contribute most to achieving policy targets are most important;
- Only the greenhouse effect is important (reflecting the importance of reduction of energy use in Dutch policy);
- Only the dispersion effects are important, i.e. health impacts are most important because this is the main concern of the general public .

The SEA included the following information for the LCA of each waste stream:

- Characteristic and composition of the waste stream;
- Alternative waste processing techniques;
- Process descriptions and (LCA) system boundaries;
- Mass balance of the process and use of space;
- Financial cost of the technique;
- Effects of waste transport;
- Energy balance;
- Means used during waste processing;
- Emissions to water, soil and air;
- Gaps in knowledge and uncertainties;
- Overview of the environmental effects (use of resources, use of space and emissions).

Impact analysis for capacity planning: The environmental effects of the four alternative scenarios were compared using a simplified form of LCA, i.e. only the most relevant environmental aspects were considered: use of space for landfill waste; and emissions of NOx, CO2, CO, carbon hydroxides, NH3 and dioxins.

On the basis of this limited set of aspects, the six standard environmental themes and effects (as described above) were scored in the LCA together with the four additional themes (use of space, amount of waste to be land filled, use of energy and use of water).

The LCA addressed the environmental effects of the processing techniques, of the residual waste to landfill, and of reduced demand for primary resources and fuels from re-use of waste and from electricity and heat

generation from waste processing. In addition, the effects of road transport of waste or primary resources were taken into account (the major such effect).

A sensitivity analysis was carried out using the weightings described under 'minimum standards'. In this analysis, uncertainties were taken into account concerning the amounts of waste that would be processed using the different techniques in each scenario, as well as uncertainties in the environmental effects of these techniques.

Comparison of alternatives for minimum standards: For each alternative technique, quantitative scores were given in the following formats:

- Matrix of alternatives and their scores against all LCA sub-themes;
- A bar chart of alternatives with the added scores (without 'weighting') of environmental impact;
- Matrix of alternatives and their scores against land use, final waste production, use of energy and use of water;
- Matrix of the alternatives with the added scores against each of the five different weighting sets;
- Matrix of techniques illustrating the cost per ton of processed waste.

In addition, the techniques were discussed qualitatively (based on the quantitative scores) and final conclusions drawn.

Comparison of alternatives for capacity planning: The different scenarios for capacity planning were compared in the same way as described above.

Public participation: A distinction was made between the 'organised public' (e.g. NGO's, local political parties) and the general public or individual citizens. The organised public was actively canvassed to send comments at both the scoping and review stage of the SEA process (compared to the more passive right of individual citizens to comment). Major NGOs were invited to two round tables on alternatives and impacts and a selected group was invited to become part of a 'sounding board' that provided feedback throughout the planning process. Other methods were also used for public participation:

- Discussion groups in an early stage;
- Communication through the media and via an information bulletin;
- Technical workshops throughout the process;
- Information meetings for the general public

There was a high-level of response from NGOs, notably on the alternatives to be examined (environmental NGOs, in particular, focused on options to prevent and reuse waste) and from the organised public (although this focused mainly on local issues and was less useful for the more strategic level of decision-making associated with the waste plan). Very few individual citizens responded.

One concrete result of public participation was the introduction into the planning process of a new alternative - the option to separate waste before incineration. Although it was not possible to include this alternative in the final plan, it will play a significant role in the new round of planning

Monitoring and follow up: The results of the current waste management plan will be subject to monitoring and evaluation in preparing the next version of the plan (2006). For that reason, it was considered redundant to establish a specific programme for monitoring and evaluation plan. This also will take place through:

- EIA of the effects of specific waste processing facilities (compared to the minimum standard);
- Annual monitoring of the composition and amount of waste to be processed in The Netherlands (including import/export and development of techniques for waste separation).

Overview of what worked well and why

Uncertainty analysis: The SEA discussed a number of areas of uncertainty including:

- The composition of waste streams is often highly variable (sensitivity analyses were used);
- Emissions to soil because of seepage are often not known;
- LCA methodology still has a number of flaws (e.g. in factors used to calculate the environmental effect of emissions);
- Costs of processing a ton of waste are often subject to company secrecy;
- *Some* techniques are in question or disputed as ‘proven’ technology;
- The projection of amounts of waste (suitable for incineration) expected in the future.

Quality review: In its review of the SEA report, the independent EIA Commission argued that an enormous amount of useful information had been generated and this was sufficient for purposes of decision-making. Although the results of the LCA had many uncertainties (above), the Commission found they were robust enough to designate minimum standards and plan future capacities.

Results and Lessons

The contribution of the SEA to decision-making on minimum standards: Although it was possible to establish the minimum standard (see above), it proved harder to conclude which techniques were the best from an environmental viewpoint. In all cases, the final score was most influenced by the scores three environmental effects: use of abiotic resources; the greenhouse effect; and ecotoxicity in land systems (and to a lesser degree acidification and eutrophication of land systems).

The contribution of the SEA to decision-making on capacity planning: The LCA showed that all scenarios had overall positive environmental effects. In all cases the negative effects of burning and processing the waste was more than compensated for by the positive effects of energy generation and re-use of waste material. Of course, it should be remembered that only a limited set of effects was taken into account.

Overall, scenarios 1 and 2 were rated as having the most positive effect and scored approximately equally. Scenario 1 scored better on the effects on ozone layer, photochemical smog production, eco-toxicity, toxicity for humans, residual waste to land fill and use of water. Scenario 2 scored better on eutrophication of water systems, use of space and use of energy. Scenario 3 ranked third and scored best on biodiversity and life support. Scenario 4 (the status quo) had the least positive effects. In all cases, waste incineration in a coal-fired power plant had better environmental scores than in a cement oven (which generates less energy and more emissions).

The sensitivity analysis confirmed the above ranking and discriminated further between scenarios 1 and 2. Using the ‘distance to target’ weighting, scenario 1 was ranked as best overall. With the other three weighting sets, scenario 2 was ranked as best overall. Because in all scenarios the final scores were heavily influenced by the positive effects of energy generation, an additional sensitivity analysis was carried out on the assumed efficiency of energy generation associated with waste incineration. It indicated that if waste incinerators could achieve 10% increase in energy efficiency, then scenario 3 scored as positively as scenarios 1 and 2. Although scenarios 1 and 2 scored best on environmental issues, they did not achieve the objective of using the existing waste incineration capacity optimally since both were based on building new incinerators using new technology.

What actually happened: Minimum standards were set for waste streams in the National Waste Management Plan based on environmental effects and other aspects such as costs, public health, reliability, feasibility, practicability and impact on import/export. Incineration capacity under any scenario was overtaken by rapid changes in the structure of the European waste market as a result of new EC regulations (which effectively preclude capacity planning within one country).

Conclusions for SEA good practice: LCA was a useful approach, although such a comprehensive method did not appear to be necessary in all cases. A number of minimum standards could have been founded with a simpler method.

Public participation played an important role in the SEA process and in plan elaboration. The involvement of NGOs was considered to be positive by the planners. Firstly because there was wide support for applying an integrated approach to waste management (rather than focussing only on a particular interest or concern); and, secondly, the plan that was finally adopted had wide acceptance.

NGO participation largely comprised technical experts and the most senior representatives were insufficiently involved. For the next round of planning, a 'high level steering group' should be part of the sounding board as well as technical groups. In contrast, on the environmental side, NGOs focused too little on technological issues and had weak positions in the sounding boards compared to other NGOs. Next time, environmental NGOs should be engaged bilaterally and challenged explicitly to give an opinion on technological issues.

Finally, a strategic plan (and the SEA of it) contains many assumptions and preconditions and it is crucial that public participation takes place in the formulation of both. This will help significantly to increase the credibility of the end results and the final plan, itself. It is also important to record and file all of the choices made during the SEA and planning processes in order to reinforce their transparency and justify the alternative(s) selected.

Case study 3.3: Proposed SEA of Point of Immigration Entry Enhancements, USA

Source: Ray Clark, pers.com.

Background

As a result of the terrorist attack on the United States on 11th September 2002, the Immigration and Naturalization Service (INS) is required by legislation to enhance all Points of Entry (POE), i.e. with more sophisticated technology such as finger, face or biometric identification. Prior to the start of any proposed actions, the INS, like any other federal agency, is required to comply with the requirements of the National Environmental Policy Act (NEPA) and evaluate their potential effects on the environment. The General Services Agency (GSA) will conduct whatever site-specific analyses are necessary to implement the proposed POEs.

Approach

The technology for this POE enhancement programme was not known and not developed; so no actual actions could be proposed. Yet the INS knew that it was going to have to do something at 66 POE and its environmental staff were put under great pressure to prepare the required EIAs very quickly. The scenario was that once the proposed actions were decided, 66 EIAs would then have to be undertaken and the NEPA process would hold up implementation. Enhanced POEs could have a range of impacts due, for example, to tearing up roads, widening lanes, placing electronic towers for technology.

The Clark Group (TCG) proposed to INS that the most appropriate, efficient, and effective approach was to prepare a strategic environmental appraisal (SEA) before any proposal was offered. The SEA is not a NEPA analysis but will provide the INS with vital information to facilitate rapidly the preparation of the required analysis and assist the implementation and completion of POE enhancements. The SEA will be a document from which INS may reference in subsequent site-specific NEPA analyses. The SEA will be a part of the Administrative Record for the POE project and will provide a scientifically defensible approach for more focused EIAs. It will support decision-makers in directing the level of NEPA analysis required and level of detail for the analysis

The SEA will involve several steps:

- **Develop a 'roadmap'** to inform agency personnel and others about the objectives of the SEA and provide clear indication where input will be needed. Rather than look at the impacts of individual POE projects, the SEA is concerned with the 'big picture', dealing with the health and trends of ecosystem resources, and the authorities accountable for them. As the POE technology is being developed, the SEA report will be used by planners to ensure efficient compliance with NEPA.
- **Scoping:** The SEA can be used to ensure the efficiency of the scoping process part of NEPA to ensure that the planners are focused on the significant issues, rather than all issues.
- **Develop current strategy and alternatives**
- **Conduct the SEA:**
 1. An analysis of the actions and activities involved in each alternative, and development of matrices of impact issues (by resource area) to determine potential problem areas (using a qualitative scale), areas of lesser concerns, and areas where we need additional information.
 2. Identification of areas where INS/GSA may need to conduct site-specific NEPA analyses.
 3. Identification of data needs, suggested levels of significance, mapping/GIS requirements and level of NEPA analysis in an attempt to standardize any subsequent NEPA analyses (and thus

streamline that portion of the process). TCG will rely on expert approach as a data collection method.

4. Regional workshops (representing U.S Fish and Wildlife Ecosystems 1, 4, 10 and 24) and interviews will be used to collect information on potential problems, impact areas and areas where no significant impact would be expected. These workshops will rely on regional experts in a variety of technical fields drawn from state and federal agencies, universities and non-governmental organizations.
 5. The results of the SEA will provide INS with a scientifically defensible approach (which will be part of the agency's administrative record) for how to conduct NEPA analyses in a more focused manner.
- ***Develop a catalogue of mitigation measures*** which INS may then apply to site-specific analyses. Expert input in the previous step will also provide recommended mitigation strategies. These mitigation options will supplement INS strategies of avoidance, minimization, and conservation. The catalogue will provide contractors working on environmental assessments for INS and GSA with an immediate NEPA reference tool for avoiding or minimizing impacts to specific resource areas. It could be included on the GSA NEPA Call-in Web Site (<http://hydra.gsa.gov/pbs/pt/call-in/nepa.htm>). Where possible, other sources of mitigation approaches will be identified such as a Guide to the Congestion Mitigation and Air Quality Improvement Programme based on The Intermodal Surface Transportation Efficiency Act of 1991.

