Strategic Environmental Assessment (SEA) and its Application to Marine Areas beyond National Jurisdiction (ABNJ)

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The Concept of Strategic Environmental Assessment (SEA)

SEA is a proactive and comprehensive process which identifies and evaluates the significant environmental and sustainability implications of particular plans, programmes and policies to ensure that they are fully considered and addressed at the earliest stages of decision making (Noble, 205, Verheem and Tonk, 177). SEA typically involves the setting of an overarching environmental vision and objectives for a particular geographic region and activities within that region (Noble, 206). A broad range of alternative courses of action to achieve the specified objectives are then developed and each alternative is assessed against specific criteria within the context of the broader environmental vision and objectives. Alternative courses of action are then assessed against criteria such as sustainability measures and acceptable levels of environmental change for particular species, habitats and ecosystems. On the basis of this assessment, the most desirable courses of action are selected and implemented in policies, plans and programmes for that area. One of the main benefits of SEA is that it provides a means of anticipating and avoiding cumulative adverse impacts on the environment (Elliot, 69). From a global perspective, SEA for all components of the environment, including the marine environment, is still at an early stage of implementation, with the 2003 Protocol on Strategic Environmental Assessment in a Transboundary Context (Kiev Protocol) being the principal international instrument on this process and the EU Directive on SEA being a key regional example of its implementation in policy. The objective of the EU Directive on SEA is stated as being "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, by ensuring that….an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment" (EU Directive, Article 1).

Elements of SEA

SEA instruments and policy directives such as the Kiev Protocol and the EU directive on SEA contain provisions prescribing policies plans and programmes which are subject to SEA processes. These are known as screening provisions and refer to those policies, plans and programmes likely to have significant effects on the environment. In some cases they provide a more specific listing of those plans and programmes for which an SEA process is mandatory. The Kiev Protocol describes some of the key elements in an SEA process in its definition of SEA. These include the evaluation of the likely environmental and health effects of a policy, plan or programme through the determination of the scope of an environmental report and its preparation, the carrying out of public participation and consultations, and the taking into account of the environmental report and the results of the public participation and consultations in the policy plan or programme (Kiev Protocol, Articles 6-12).

In practice, SEA is generally understood as comprising a flexible framework of key elements which support decisions on development by integrating environmental considerations into the decision making process (Partidario, 11). The elements in an SEA process tend to be less prescribed and more iterative than in EIA processes. Elements in an SEA process include an array of "analytical and participatory approaches" designed to "integrate environmental considerations into policies, plans and programmes and evaluate the interlinkages with economic and social considerations" (OECD, 32). Different tools can be employed at different stages as part of an SEA according to the context of the policy, plan or programme being assessed. These include tools to predict environmental and socio-economic effects, tools to ensure full participation of stakeholders and tools for analysing and comparing options. An OECD Guide to Understanding SEA in the development context provides some useful examples of the different types of tools which can be employed:

Tools for predicting environmental and socio-economic effects

- Modelling or forecasting of direct environmental effects
- Matrices and network analysis
- Participatory or consultative techniques
- Geographical information systems as a tool to analyse, organise and present information

Tools for ensuring full stakeholder engagement

- Stakeholder analysis to identify those affected and involved in the policy, plan or programme decision
- Consultation surveys
- Consensus building processes

Tools for analysing and comparing options

- Scenario analysis and multi-criteria analysis
- Risk analysis or assessment
- Cost benefit analysis
- Opinion surveys to identify priorities (OECD, 33)

A selection of these tools could be used according to the context of the SEA with each of the broad general categories being represented in the mix.

A further element in any SEA process is ongoing monitoring of the implementation of particular policies, plans and programmes to determine any adverse unforeseen environmental or health effects so as to undertake remediation (Elliott, 70-71).

SEA and EIA

SEA proactively examines a wide range of alternatives for policies, plans and programmes and selects the preferred course of action with a broader environmental and planning vision in mind. In contrast, EIA is more confined and concrete in focus determining the likely environmental impacts of a particular project or development. EIA will typically propose alternatives and specify mitigation measures to avoid the most negative environmental impacts of a project or development. SEA is a more overarching and flexible concept than EIA allowing for a more comprehensive and forward looking assessment of environmental considerations at the policy, planning and programme level (Noble 204-205, Partidario, 23-24). While EIA is often location specific and limited in time, SEA processes broaden the

spatial and temporal range of environmental assessment often being applied to whole sectors of activity or geographic areas as an institutionalised part of decision making on a long term basis. Ideally, SEA and EIA should be vertically integrated or tiered with environmental considerations being taken into account at the policy, plan and programme level and then flowing down to the project level (Craik, 156; Marsden, 208). In descriptions of the relationship between SEA and EIA, EIAs are often described as being nested within a particular SEA. In practice and in the past this has not always happened, with EIAs for specific projects often occurring in the absence of a broader environmental vision for the particular marine region and associated activities and industries.

SEA and Marine Spatial Planning

Marine spatial planning (MSP) has been defined by UNESCO as "a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that usually have been specified through a political process" (UNESCO). It is emerging as a tool for accommodating competing uses of the marine areas while maintaining the environmental integrity of these areas. Ideally, an SEA process would precede MSP for a particular coastal or marine region. The SEA vision and objectives for a particular region would provide some overarching parameters for MSP in the same region. For instance an ecosystem based approach endorsed in the SEA vision and objectives for a particular coastal or marine region could be one of the guiding principles for MSP in that region. MSP can also be a more fine grained process and in some cases a more localised process than SEA. MSP will need to take into account the detailed spatial and temporal factors affecting the diverse human activities in particular marine areas and the positive and negative implications of allowing or restricting certain uses over time.

Examples of SEA in Marine Context

The conduct of an SEA for a particular offshore region prior to resource exploitation can establish a sustainable policy context for future development. An SEA provides for the proper consideration of alternatives and cumulative impacts as well as engaging those affected by proposed developments in a shared environmental, economic and social vision for the region at an early stage in decision making. SEAs establish important background information for project based EIAs such as ecologically and biologically sensitive areas and patterns of multi-sectoral use in the region. Examples of SEA being applied to resource development in waters under national jurisdiction are increasing internationally. Many jurisdictions conduct SEAs before opening up offshore areas to oil and gas development including the United States, Canada, Norway, and Denmark (Doelle b, 103). Member States of the European Union are also required to conduct SEAs for new offshore energy development plans such as for wind and wave energy (EU Directive, Article 3). In Australia, the Environment Protection and Biodiversity Conservation Act (EPBC) requires that all Commonwealth managed fisheries undergo SEA before new management arrangements are bought into effect, and that all fisheries with an export component undergo assessment to determine the extent to which management arrangements will ensure that the fishery is managed in an ecologically sustainable way (Marsden, 211). A study of the role of SEA in the tidal energy industry in the Bay of Fundy, Nova Scotia, Canada by Meinhard Doelle makes a number of recommendations on the characteristics of an effective SEA:

- The SEA should be applied early and proactively;
- The SEA should integrate environmental, social and economic aspects and be integrated within larger planning and decision making processes;

- The SEA should take into account its place within the other tiers or levels of assessment. For instance SEA should inform future EIA processes at the project level;
- The SEA should be guided by regulatory, policy and other forms of guidance rather than being ad hoc;
- The SEA process should be flexible and adaptable;
- The SEA process should be transparent and include opportunities for public involvement throughout;
- The most effective incentives must be in place to ensure that the SEA is adhered to;
- The SEA must be followed up in terms of performance, as well as effects, compared with predictions and in terms of improving future policies plans and programmes as well as improving the assessment process itself; and
- The political will necessary for putting in place and implementing an SEA must exist. Decision makers must be participants in the design establishment and implementation of the SEA (Doelle a,139-142).

Envisioning SEA in ABNJ

An SEA process may be most appropriately employed where a trigger arises as a result of proposed sectoral developments or plans for a particular region of ABNJ with the potential for significant impacts on the marine environment. For ABNJ there is currently no institution with overarching responsibility for the protection of the marine environment of ABNJ and the conservation of its biodiversity. If an international legally binding instrument for the conservation and sustainable use of marine biodiversity in ABNJ is negotiated under UNCLOS with SEA provisions, the Conference of Parties (COP) of that instrument advised by its Scientific Committee may decide to trigger such an SEA. The objective of an SEA in this instance might be to analyse the key environmental, economic and sustainability issues and problems involved with emerging activities or conflicting activities in particular regions of ABNJ with a view to minimising the environmental harm and biodiversity loss caused by such developments. A number of analytical methods could be employed for the SEA taking into account that no specific sequence or method has been specifically mandated in state practice to date. Initially an SEA might involve the development of a problem framework which maps the key environmental, economic and sustainability issues and problems associated with specific activities in a particular region of ABNJ (Partidario, 43-44). This might include in broad terms the marine biodiversity and natural resources of the region, ecologically and biologically sensitive areas within the region, the medium and long term economic potential of a specific industry such as marine geo-engineering, the economic potential of other industries within the same region e.g. deep sea fisheries and bioprospecting and the cumulative environmental impacts associated with the particular activities to be conducted in the region.

In addition, a governance framework could be developed to identify institutional responsibilities for policy, plan or programme implementation, governance instruments, mechanisms for institutional cooperation and the stakeholders that need to be engaged in any participative or collaborative process (Partidario, 46). This is likely to include but not be limited to regional fisheries management organisations, regional seas organisations with ABNJ responsibilities, related international organisations such as the FAO, CBD and CMS, ISA, and relevant IGOs such as IUCN and environmental NGOs. A strategic reference framework could also be prepared to map the overarching law and policy documents which set the context for the SEA (Partidario, 46). This could include globally endorsed policies

such as the UN Sustainable Development Oceans Goal 14, the RIO +20 commitments on ocean sustainability, relevant articles of UNCLOS, the new internationally legally binding instrument for conservation and sustainable use of marine biodiversity in ABNJ and the Convention on Biological Diversity (CBD). The problem, governance and strategic reference frameworks together provide the necessary context for developing critical decision factors (CDFs) or key integrative themes upon which the SEA is based. These documents should all be prepared in conjunction with the relevant stakeholders identified above and particularly those most closely involved in developing policy, plans and programmes for the ABNJ regions in question (Partidario, 48).

In the above example of emerging or conflicting uses, the CDFs could include conservation of ecological systems, development of new industries such as marine geoengineering in particular areas of ABNJ and transparent governance. These key integrated themes upon which the SEA is based would then be assessed against relevant criteria and indicators (Partidario, 48-49). For instance, in the case of ecological systems what approaches would be necessary to minimise biodiversity loss in a particular region. In the case of governance, what models of institutional cooperation and stakeholder engagement would be optimal for achieving transparent governance in the ABNJ marine geoengineering sector. Strategic pathways or options are then identified including the assessment of opportunities and risks involved in adopting different options (Partidario, 53-54). Different environmental, sustainability, fiscal and governance implications will follow from particular pathways. A number of recommendations for strategic pathways to achieve the strategic objectives of the SEA could then be made in a report to the COP of the new international legally binding instrument, and to other stakeholders. A follow up programme and monitoring and evaluation guidelines are critical components of SEA (Partidario, 55-56). This could involve mechanisms such as monitoring the state of the environment in the relevant region of ABNJ on a regular basis, identifying any strategic changes of direction such as policies which intensified or de-intensify activities such as marine geo-engineering or other activities in a particular region of ABNJ and maintaining continuous engagement with relevant stakeholders over the medium to longer term to ensure transparent governance.

The challenges involved in implementing SEA for policies, plans and programmes in ABNJ are significant due to multiple factors such as the vast geographic areas involved, the significant knowledge gaps on deep sea biodiversity, the sparse and fragmentary governance framework currently in place, the lack of resources and technical capacities to implement strategic options and the nascent stage of many activities in ABNJ. For these reasons, SEA for particular sectors and regions of ABNJ may only evolve over the longer term as knowledge of deep sea biodiversity increases and the necessary resources and governance structures are in place. The development of an international legally binding agreement on conservation and sustainable use of marine biodiversity in ABNJ and its associated institutions has a significant role to play in this process and in promoting and implementing SEAs to protect biodiversity in ABNJ.

References

Neil Craik, *The International Law of Environmental Impact Assessment. Process Substance and Integration* (Cambridge University Press, Cambridge, 2008).

Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

Meinhard Doelle, "Role of Strategic Environmental Assessments in Energy Governance: A Case Study of Tidal Energy in Nova Scotia's Bay of Fundy" 27(2) *Journal of Energy and Natural Resources Law* (2009) 112-144.

Meinhard Doelle, Nigel Bankes and Louie Porta, "Using Strategic Environmental Assessments to Guide Oil and Gas Exploration Decisions: Applying Lessons Learned from Atlantic Canada to the Beaufort Sea" 22(1) *Review of European Community and International Environmental Law* (RECIEL) (2013) 103-116.

Fanny Douvere, "The importance of marine spatial planning in advancing ecosystem based sea use management" 32 *Marine Policy* (2008) 762-771.

Mandy Elliott, *Environmental Impact Assessment in Australia. Theory and Practice* 6th Edition (Federation Press, Sydney, 2014).

Robert B. Gibson, Meinhard Doelle and John Sinclair, "Fulfilling the Promise: Basic Components of Next Generation Environmental Assessment" 29 *Journal of Environmental Law and Practice* (2016) 257–283.

Thomas Greiber and Marissa Knodel (with comments from Robin Warner), "An International Instrument on Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction. Exploring Different Elements to Consider. Paper VII - Relation between Environmental Impact Assessments, Strategic Environmental Assessments and Marine Spatial Planning" (IUCN, Commissioned by the German Federal Agency for Nature Conservation, 2015).

Simon Marsden, "Coordinating Strategic Environmental Assessments of Marine and Terrestrial Plans: Australian Experience in the Sub-Antarctic" in Robin Warner and Simon Marsden (editors), *Transboundary Environmental Governance: Inland Coastal and Marine Perspectives* (Ashgate Publishing Limited, Farnham, Surrey, 2012).

Bram F. Noble, "Strategic environmental assessment: What is it? & what makes it strategic?" 2(2) *Journal of Environmental Assessment Policy and Management* (June 2000) 203–224.

OECD, *Applying Strategic Environmental Assessment. Good Practice Guidance for Development Co-operation* (2006).

Maria do Rosario Partidario, *Strategic Environmental Assessment Better Practice Guide – methodological guidance for strategic thinking in SEA* (Portuguese Environment Agency and Redes Energeticas Nacionais, Lisbon, 2012).

Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context, adopted 21 May 2003, entered into force 11 July 2010 (Kiev Protocol).

Ricardo Roura and Alan Hemmings, "Realising Strategic Environmental Assessment in Antarctica" Journal of Environmental Assessment Policy and Management (2011).

Verheem and Tonk, "Strategic environmental assessment: one concept, multiple forms" 18(3) *Impact Assessment and Project Appraisal* (2000) 177-182.

UNESCO, *Marine Spatial Planning*, http://www.unesco-iocmarinesp.be/marine_spatial_planning_msp