



Netherlands Commission for  
Environmental Assessment



## Climate change adaptation and SEA

We define Strategic Environmental Assessment (SEA) as a family of approaches that aim to integrate environmental and climate change considerations into policies, plans and programmes and evaluate their interlinkages with economic and social considerations. SEA can play a key role in the integration of adaptation to climate change in policy making.

According to the Intergovernmental Panel on Climate Change 2009, climate change will have effects on all countries and its inhabitants. Nearly all governments recognise the need to adapt to the expected impacts of climate change. We consider SEA to be the tool to integrate adaptation to climate change in policy making. This information is in line with the OECD-DAC Guidance; In this key sheet we use the term 'climate change inclusive SEA'.

### SEA is a tool to:

1. structure the public and government debate in the preparation of policies, plans and programmes;
2. feed this debate through a robust assessment of the environmental and, where required, other consequences;
3. ensure that the results of the assessment and the debate are taken into account during decision making and implementation.

This means that public participation, transparency and high quality information are key principles. SEA is therefore more than just the preparation of a report; it is a tool to enhance good governance. In principle, SEA also includes social and economic issues.

### National climate change policy

A national climate change policy is a condition for integrating adaptation to climate change in SEA. This policy ideally contains information concerning:

### SEA for climate proofing of the Netherlands

The Netherlands is vulnerable to climate change. About 30% of the country is below sea level and it is located in the delta of two large north-west European rivers the Rhine and Meuse. Due to climate change it is expected that the discharge of these two rivers will increase by approximately 25%. To maintain the safety level of one flood each 1350 years, adaptation measures are necessary. Traditional dikes, protecting the Netherlands for more than 1000 years, are not sufficient anymore. Therefore, the 'space for rivers' approach was introduced in SEA aiming to maintain the safety level and improve the spatial quality. Adaptation measures such as dike relocation, wash land excavation, removing obstacles and water retention and storage were elaborated and compared in alternatives. The public was consulted at the start and after the SEA report was ready. In the next step 20 EIAs were conducted for a detailed design at project level.

- Expected climate changes for the medium and long term;
- Risks to the society (population and economy);
- Vulnerability of the different areas and land use types;
- Objectives such as safety levels that need to be achieved;
- Identification of adaptation options.

In addition, a strategy provides information on how to achieve the objectives identified in the policy and allocation of funds. The policy and strategy are used as a reference framework in SEA. Without this framework it is more difficult to utilise the SEA potential.

## Good practice SEA steps

SEA principles are similar for policies, plans and programmes. However, SEA processes and procedures may differ. The following SEA steps apply mainly at plan and programme level. The information, required to execute a climate change inclusive SEA, is printed in italics.

### A. Establishing the context for SEA

- Screen and decide on the need for SEA; Decide whether this plan is at risk from climate change\*.
- Set objectives: develop a common vision on (environmental) problems, objectives and identification of alternatives, with all stakeholders; The national or sector objectives for climate change adaptation need to be specified for this plan. Anticipate a long term horizon of at least 50 years.
- Identify stakeholders in the planning process and prepare a communication plan; Which groups will be most affected (positively as well as negatively) by climate change impacts and adaptation measures.

### B. Implementing SEA

- Scope the content for the SEA; Are the objectives of the plan feasible under the different climate change scenarios? Via which mechanisms does climate change influence the plan objectives?
- Collect baseline data; Climate change scenarios should be used to assess the expected impacts;
- Assess alternatives; Identify adaptation options that can be used as building blocks for the different alternatives
- Identify how to enhance opportunities and mitigation of impacts;
- Assure quality through independent review and public involvement of draft reports;
- Document results and make these available.

### C. Informing and influencing decision making

- Organise a meeting of stakeholders to discuss the SEA results and formulate recommendations for decision making;
- In writing, justify the (political) choices that have been made in the finally adopted policy or plan;

### D. Monitoring and evaluation

- Monitor decisions that have been made as well as the implementation of the adopted policy or plan;
- Evaluate both SEA and policy or plan.

SEA is flexible, i.e. the scope and level of detail of the above steps can differ depending on time and resources.

## Using climate change scenarios in land-use planning, Kenya.

An SEA supporting the development of a land use plan in the Tana delta in Kenya aimed to distinguish different zones for nature conservation, livestock grazing, fishing, irrigated agriculture and subsistence arable agriculture. The SEA showed that the coastal zone is most vulnerable to salt water intrusion. This is a combined effect of sea level rise due to climate change and less water discharge of the Tana river due to an increasing upstream extraction of river water. Therefore, in the SEA it was concluded that the coastal zone could best be reserved for nature conservation and tourism development because those functions will fit best in an area that most likely will become more saline in the future.

Available time mainly depends on the timing of the planning process. Costs for SEA may vary correspondingly from a few thousand to half a million Euros.

## Vulnerability assessment and SEA

Vulnerability to the impact of the climate can be defined as the degree to which a natural or social system is susceptible to climate change. Vulnerability can be determined at different levels.

The objective of vulnerability assessment (VA) is to inform specific stakeholders about options for adapting to the impact of climate change; this should inform and influence decision making. Over the last years, this VA has been developed by the climate change community. This objective of VA is in line with the objective of climate change inclusive SEA that focuses on decision making by government authorities. Therefore, we consider VA as one of the members of the SEA family of tools. Ideally, a VA should be part of a climate change inclusive SEA because SEA has developed additional safeguards for well-informed decision making.

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