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## The success of SEA in the Dutch planning practice How formal assessments can contribute to collaborative governance

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## ABSTRACT

In this article we answer the question how Strategic Environmental Assessment (SEA) may assist collaborative planning. We argue that successful collaborative planning generates specific demands on the production of policy-relevant knowledge, which SEA may help to meet. Important criteria for usable knowledge in governance processes are its interactive production, its flexible character to cope with the dynamics of collaborative processes, its openness to stakeholder involvement, and its focus on close interplay between policy and knowledge developers. The SEA procedure may fit well into collaborative planning processes, depending on how policy makers apply and use this procedure. From two rather controversial Dutch planning cases we learn that SEA, applied wisely, plays an important role in realizing meaningful stakeholder involvement, joint fact-finding and interaction between lay people and experts, agreement about the policy problem, the alternative solutions and their effects, and knowledge which is feasible to facilitate decision-making in a context of highly polarized positions and value-laden conflicts. We can conclude that SEA seems to be perhaps not formally intended to facilitate collaborative governance processes, but that it can do so when the users translate its principles in accordance to the general principles of successful collaborative governance and joint fact finding.

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### 1. Collaborative governance and strategic environmental assessments

In our complex and fragmented society, the relevant resources for realizing collective action are widely dispersed among actors with varying interests, ambitions, perceptions and value systems (Koppenjan and Klijn, 2004). While this complicates the realization of collective action, the situation is further exacerbated by the fragmented and dispersed nature of knowledge relevant to the project at hand. Knowledge is often not only dispersed and fragmented, but also often controversial and strategically mobilized and applied (Van Buuren and Edelenbos, 2004; Collingridge and Reeve, 1986). Controversial policy issues are further complicated by colliding reports and quarrelling experts. In addition, there is also the problem of information overload. Too much information that is not always relevant or sound overwhelms public knowledge managers. Managing knowledge relevant to governance processes means not only producing the 'right knowledge', but also managing the distribution of knowledge and discerning policy-relevant elements from the information overload.

In recent years, standardized procedures have been put in place for the production of knowledge relevant to spatial programs and projects through the system of Environmental Impact Assessment. More recently, the European Commission implemented Directive 2001/42/EC on Strategic Environmental Assessment. These instruments are often applied in the context of controversial and complex spatial projects that have a high chance of triggering knowledge conflicts and report wars.

At first sight, these formal knowledge production procedures that are aimed at delivering "usable knowledge" seem to fit uneasily into the goal-seeking, dynamic and non-linear process of collaborative problem-solving. Knowledge production that is structured according to formal procedures may not be able to seamlessly incorporate the non-linear dynamics of a collective process of will-formation involving the needs and wishes of various stakeholders. Further, the question remains as to whether these research-oriented procedures (with their emphasis upon scientific precision, procedural purity, transparency, timeliness and legal validity) can facilitate the processes of joint fact-finding and collaborative analysis in which stakeholders find themselves negotiating differing interpretations of reality.

In this article, we address the question of how the knowledge procedures associated with Strategic Environmental Assessment (SEA) can be used to facilitate a collaborative policy process. We analyse the application of SEAs to two projects in the Netherlands. First, we evaluate the Strategic Environmental Assessment of the

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Southern Sea Line, a proposed high speed rail connection between Amsterdam and the Northern provinces of the Netherlands. In a previous evaluation conducted for the Dutch Ministry of Transport and Public Works (Van Buuren and Nooteboom, 2007), we concluded that the SEA fulfilled an important role in the process of decision-making and of frame reflection. These findings are supported by another case study carried out as part of a Ph.D. thesis which examined the SEA carried out in relation to the deepening of the Schelde Estuary to safeguard the accessibility of the Port of Antwerp (Van Buuren et al., 2006; Van Buuren, 2006). This case study provides more in-depth insights into the way and conditions in which an SEA that serves as a formal procedure of knowledge production can support and facilitate a process of collaborative decision-making.

The two case studies were conducted in somewhat different ways, and the authors had different roles to play in relation to each. The evaluation of the Southern Sea Line was an ex-post evaluation in which we relied on interviews with key players and document analysis. The validity of our findings was examined in a meeting of experts comprising key representatives from various arms of the project organization. In contrast, the Scheldt Estuary case study was conducted while the SEA was being implemented. We were thus able to complement our interviews and document analysis with observations of meetings in which we could get a direct insight into the processes by which consensus is realized.

In this article, we first describe the SEA as created by the European Directive, its aims, the content it covers and the procedures associated with its implementation. We then describe the Dutch context in which the SEA is implemented. Third, we analyze the demands relevant to the production and dissemination of knowledge as it takes place in a collaborative process involving many stakeholders with diverse interests, perceptions and strategies. Our two case studies then demonstrate how the SEA is implemented in the Dutch context to a collaborative governance process. We conclude that the SEA can indeed facilitate collaborative governance processes, if users implement it in accordance with the general principles of successful collaborative governance. Finally, we outline these general principles of knowledge development and outline arrangements that have been found to contribute to successful collaborative governance efforts.

## 2. Purpose and structure of SEA

The EU Strategic Environmental Assessment (SEA) Directive (2001/42/EC) complements the EIA Directive (85/337/EEC) which requires the assessment of major construction projects that are likely to have an impact on the environment. In order to deliver an assessment with the required level of detail, an EIA needs to take place at a stage when significant changes are unlikely to be made to the proposed project. Decisions about the site of a project or on the choice

of alternatives should already have been made earlier, for example, in plans for a whole sector or geographical area. Government decisions that set a framework for project decisions require an EIA, and are called PPPs (policies, plans and programs) if they limit the scope of projects or if they foreclose the possibility of exploring project alternatives that might possibly be better environmentally.

However, because an EIA was not required at this general stage of planning, these impacts were not assessed. The SEA Directive plugs this gap by requiring the environmental effects of a broad range of plans and programs to be assessed, so that they can be taken into account when plans are actually being developed and adopted in due course (Commission's Guidance on the implementation of Directive 2001/42/EC; Nooteboom, 2000, see Fig. 1).

Both the EIA and SEA define largely similar processes that must be followed. Primarily, they stipulate that the public must be consulted on the draft plans and on the environmental assessment. They stipulate also that competent authorities must take their views into account when a decision is made. The difference between the two is mainly in the level of the decision to which the assessment is linked: project level or strategic level. Often, concrete project decisions take previous strategic decisions into consideration. Such a process is called tiering (see Fig. 2) and the SEA Directive is seen as successful if different project proposals arise out of strategic decisions that were previously taken as a direct result of the SEA.

Before the SEA Directive was adopted in 2001, there were numerous discussions about its added value. Many questions were asked, including whether the environmental soundness of strategic decisions is truly a problem, and if so, does the SEA help assess the environmental impacts? Would it not create additional bureaucracy for a project to be assessed at several stages of planning? Several empirical studies served to remove some of the doubts surrounding the value of the SEA (e.g. Thérivel and Rosário Partidario, 1996; Nooteboom, 1994; Lee and Hughes, 1995; Sadler and Verheem, 1996; Dom, 1997; Nooteboom, 2000). The value of the SEA mechanism is now widely accepted, but a clear demonstration of its benefits continues to be challenging to achieve (e.g. Jones et al., 2005; Wallington et al., 2007).

The SEA Directive was adopted in 2001 and was meant for national legislative implementation by 2004. However, it was only implemented in the Netherlands in 2006. The Environmental Management Act and its subsidiary, the EIA Decree have been amended to introduce the 'plan-EIA' as it is now called in the Netherlands (Ministry of VROM, 2006). It was anticipated that the SEA and EIA would be frequently tiered together and the mandated procedure for the 'plan-EIA' was thus made to be almost the same as that which is minimally required by the SEA Directive. The SEA and EIA were made applicable to dozens of formal plans and programs, based on laws from spatial planning, water management, drinking water management, environmental

Article 1 of the SEA Directive lays down two objectives for the carrying out of an environmental assessment in accordance with the Directive:

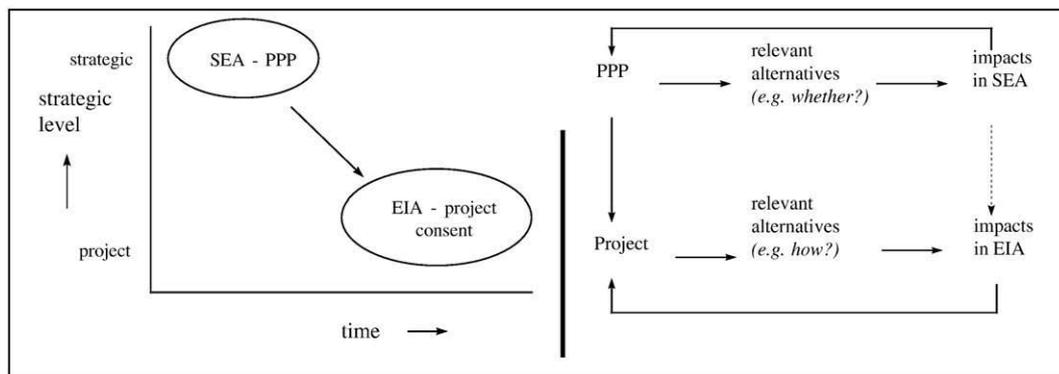
- to provide for a high level of protection of the environment and
- to contribute to the integration of environmental considerations into the preparation and adoption of certain plans and programmes with a view to promoting sustainable development.

Article 1 should be read in conjunction with the recitals of the Directive, particularly recitals (4), (5) and (6) which also describe the aims of the Directive:

- to ensure that such effects of implementing plans and programmes are taken into account during their preparation and before their adoption (recital 4),
- to benefit undertakings by providing a more consistent framework in which to operate by the inclusion of relevant environmental information into decision making. The inclusion of wider set of factors in decision making should contribute to more sustainable and effective solutions (recital 5), and
- to provide for a set of common procedural requirements necessary to contribute to a high level of protection of environment (recital 6).

Source: Commission's Guidance on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programs on the environment, undated.

Fig. 1. Official objectives of the SEA Directive.



**Fig. 2.** Tiering as generally seen as an order of planning decisions from strategic to project level. The right diagram indicates that the SEA influences an EIA indirectly because the SEA has influenced an influential PPP (from: Nootboom, 2000).

(waste) management, transport management, and nature conservation. The formal steps involved in the SEA are (Ministry of VROM, 2006):

- 1) A public announcement of the start of the procedure;
- 2) Consultation of administrative bodies involved in the implementation of the plan about the scope and details of the environmental statement;
- 3) Writing the environmental statement (termed the 'plan-EIA');
- 4) The public display of the environmental statement and draft plan, public consultation, trans-boundary consultation when necessary, and consultation with the Netherlands Commission on the EIA;
- 5) Crafting of the final draft plan based on the environmental impacts and other factors raised through consultation with various parties;
- 6) Publication of the final plan; and
- 7) Evaluation of impacts after implementation.

An implication of the requirement that public announcements be made is that individuals involved in the planning process have to stick to the problem description provided in the announcement. If in the process of planning, new alternatives are introduced that affect future development projects, the procedure starts over with a new announcement. In several respects, the SEA procedure is simpler than the EIA procedure, particularly with regard to public scoping which requires that the public be invited to make suggestions about the scope of the project, its possible impact and alternatives that may be worth considering. Although the EIA requires that these steps be taken, the SEA does not stipulate such requirements. The Dutch Ministry of Housing (VROM, 2006) indicates that the impacts should be described with less detail in the SEA as more detailed decisions and EIAs will follow soon after.

Thus, the SEA can be seen as a relatively open procedure meant to enhance the quality of spatial decision-making. It functions as a procedural guarantee that an environmental assessment will be carried out in the early phases of the planning process. As a procedure, it has to be interwoven with the process of decision-making, regardless of whether the process is purely government-centered or collaboratively oriented.

### 3. Context of application in Dutch planning practice

The Netherlands has a very consensus-oriented planning culture (Kickert et al., 1997). Citizens are actively concerned about the adverse impacts of large scale projects, and their voices have been heard in the democratic debate since as far back as the 1970s (e.g. Nootboom, 2007). The government has been obliged to organize decision-making processes related to large projects such that they are open to the various stakeholders to participate in. This is mainly to convince parliament and elected councils that the option being put forth will be widely supported. Often, in addition to receiving assurances that

adverse impacts will be adequately mitigated or compensated, parliament requires the added assurance that the infrastructure projects being proposed will be financially viable, and that they will generate reasonable returns for the country. This concern has become more critical since the publication of the influential report of the Temporary Parliamentary Committee on Infrastructural Projects in 2005.

The synonyms 'appropriate' and 'adequate' are often used to describe acceptable outcomes of political processes. However, the terms have to be crystallized within a dynamic process in which learning occurs by trial and error. The government seeks to establish and follow certain procedures by which appropriate plans are to be developed (Hidding, 2006; De Roo and Voogd, 2004). More and more detailed procedures tend to emerge through jurisprudence, 'unofficial manuals' and other interpretational aids that are put in place to help cope with different situations and to safeguard the soundness of this process. In the Dutch professional environmental assessment circle, the tendency for earlier choices to set a precedent for new 'laws' to be applied to other somewhat incomparable situations is often referred to as 'juridification' ('legalization').

The 'juridification' of the SEA is widely seen as a threat as it implies that it would not be enough to do one's best to develop and assess alternative plans. A judge may have to decide during an appeals process which quality should have been placed above all others on hindsight. Naturally, no judge has ever informally indicated in advance how he will apply the law, and this has given rise to worries that the outcomes of the SEA or EIA may be actively contested (see [www.vvm.info](http://www.vvm.info) and papers in the Dutch magazine Milieu).

These legal and political realities demand that a process is put in place in the Netherlands in which reasonable alternatives are carefully reviewed, and that mitigation and compensation are taken into account adequately. Stakeholder participation in this process of design and assessment is dominated by a limited number of influential NGOs who have no interest in frustrating the process, except when they seek to make the case that a certain design and assessment practice is insufficient. These NGOs are known to show their teeth on occasion, but are largely open to negotiations. Such patterns have been observed and described by Van Eeten (1999) and were dubbed the 'green polder model' by Weggeman (2003).

At the same time, civil servants and governing politicians seem to make different estimates about the appropriate timing of a formal SEA (Runhaar and Driessen, 2007). Where a proposed strategic decision (a plan or programme) may require an SEA, politicians try to wait as long as possible to initiate it. Only when the planning process is at a fairly advanced stage do politicians ask for an SEA because they are legally obliged to do so before they can implement a decision. In such cases, the SEA is not intended to develop broad support, but only to comply with the legal requirements for spatial planning decisions. Such an SEA is executed only when politicians are convinced of the necessity

and quality of the proposed solution and that there is enough political and societal support for its approval. The SEA in such cases is not intended to improve the quality of the deliberation or the ultimate decision, and usually results either in minor adjustments of the original proposal or in rare cases, the total refusal of it.

However, other individuals operating in the arenas in which these plans are developed are often well aware of formal procedures that must be followed, as well as of the possible reactions of the citizens. The SEA and EIA procedures therefore have a 'preventive effect' in that they work to mobilize collaboration even before they actually are started (De Jong and Nooteboom, 2002).

While authorities prefer to wait, civil servants tend to prefer that the formal SEAs be initiated earlier on so as to develop a widely supported decision. They often seek to put forth possible options to the public before one particular solution is selected and subjected to an SEA. Subsequently, their motivation to apply an SEA is to create a widely supported and implementable strategy. They prefer that the SEA begin before anyone knows what decision will or should result, and that the SEA is used in accordance with its original aims, which is to structure the public discussion about possible actions and to develop a widely supported decision.

In general, policy processes are highly erratic (Teisman et al., 2009). Unpredictable dynamics arise out of the combination of unexpected but highly impactful events, fast changing preferences, interfering policy processes and institutionally designated changes in the decision-making processes. Projects often end up looking very different from what was expected in the beginning. Additional complexity is added when these dynamics clash with highly structured legal procedures. Also, when new actors enter the policy arena and bring new ideas to the table, or when actors manage to find a novel solution that serves their diverging ambitions, research questions can lose their relevance and defined procedures may cease to appear useful to the actors. As a predefined procedure, the SEA is inherently focused on values such as predictability, equality, legal security, procedural purity and the prevention of deviations. Like any set process, the SEA may appear to be a troublesome obstacle in such a situation that stands in the way of flexibility.

Nonetheless, even though the SEA process may start with a wide problem description if that problem description does not suffice and causes the planning processes to stray in unexpected directions, it may be adapted in an official act by the governing politicians. Where other environmental regulations are rigid, the SEA in theory offers flexibility as long as arguments are made transparent.

In this article, we therefore analyze two cases in which the procedure seems to fulfill a valuable function in realizing a successful collaborative governance process which was both highly complex and controversial.

#### 4. Collaborative decision-making and demands on knowledge production

Much has been written about the ultimate functions of the SEA and the criteria used to assess its effectiveness. In general, an SEA is meant to safeguard environmental interests and to ensure that these are given serious consideration in plans and programmes. As such, the effectiveness of an SEA can be seen as its contribution to the selection of the most sustainable, environmentally-friendly planning option (Wallington et al., 2007).

Cashmore et al. (2008) defined four effectiveness criteria that determine the transformative potentialities of environmental assessments: learning outcomes (both social and technical); governance outcomes (e.g. stakeholder participation, network development); development outcomes (design choices; consent decisions); and attitudinal and value changes. Taking these into account, the SEA has not only the potential to affect on the way in which environmental interests are taken into account, but also the quality of the stakeholder

dialogue and the mutual adjustment of their perceptions and ambitions (Cashmore et al., 2004; Thérival and Minas, 2002).

In this paper, we ask what the SEA procedure actually does to contribute to successful collaborative planning and policy-learning. To answer this question, we have to first describe the essence of collaborative planning. Collaborative planning or policy-learning is aimed at realizing consensus between actors with diverging points of view. Looking more closely at common sources of conflict, it becomes apparent that there are three elements which define the fundamental differences between divergent points of view (Van Buuren, 2006; Van Buuren & Gerrits, 2008). First of all, individuals vested in certain views tend to hold specific ambitions based upon their interests (Scharpf, 1997). Second these individuals hold deeply entrenched world views, value systems, and interpretation schemes (Sabatier, 1993; Fischer, 2003). Finally, this divergence is also reflected in the facts they accept, mobilize or ask for (Van Buuren and Edelenbos, 2004; Van Eeten and Ten Heuvelhof, 1998). Based on these fundamental differences, collaborative planning has to do with realizing consensus on the level of:

- the ambitions and interests of stakeholders (what they want to realize);
- their frames, interpretations, perceptions and core beliefs (the normative values they hold); and
- the factual knowledge they mobilize, accept and which they choose to take into account in weighing policy options.

Even when consensus about ambitions is realized, new factual insights or uncertainties can easily give rise to new questions and controversies. Consensus about frames and beliefs often evaporate when concrete plans have to be made with regard to the question of 'what are we going to do', and actors have to choose among the range of ambitions. Of course, consensus about facts is neither enough to realize a compromise between conflicting ambitions, nor to realize consensus about interpretations and frames.

Many contributions to the study of policy analysis (Twaalfhoven, 1999; Van de Riet, 2003; Mayer et al., 2004; Van Asselt and Rijkens-Klomp, 2002) have shed light on the various requirements which have to be fulfilled for the process to be both robust and convincing. We formulate these requirements with respect to the challenge of realizing consensus on the three levels as mentioned above. Knowledge production has to facilitate the negotiations between protagonists of different spatial ambitions and a broadly shared alternative has to be eventually selected (Cross et al., 2000; Mills and Clark, 2001). Knowledge production has also got to stimulate a process of frame reflection and policy-oriented learning in which stakeholders are invited to reflect upon their policy beliefs and problem definitions and to adjust their frames accordingly (Van Buuren, 2009; Woodhouse and Nieuwsma, 2001; Guston, 2004). Thirdly, the process of knowledge production has to deliver an authoritative and credible body of knowledge which can be used as a common resource of accepted arguments (Sarewitz, 2004; Twaalfhoven, 1999; Clark and Majone, 1985).

These requirements can be translated into a set of concrete indicators that can be used to assess the usefulness of policy-relevant knowledge (and the process in which it is produced) for solving controversial policy problems (Van Buuren, 2006).

Turning to the process of establishing agreement on the issue of ambitions, the following indicators can be formulated:

1. the produced knowledge enables an integral weighing of a broad set of options valued as relevant by the stakeholders; and
2. the produced knowledge respects the core interests of participating actors.

With regard to consensus about interpretations, indicators for useable knowledge are that it:

1. provokes frame reflection and policy-oriented learning; and
2. integrates various problem perceptions and definitions.

With regard to the acceptance of facts, indicators for acceptable knowledge are that

1. its quality is proven by an external quality check; and
2. its validity and credibility is accepted by the stakeholders.

These knowledge functions are essential for collaborative decision-making. Knowledge which does not aid the decision between alternative options is ultimately useless. Similarly, knowledge which chronically collides with the problem perception that is dominant among the various stakeholders can become contra-productive, and serves only to make policy decisions more controversial. Similarly, knowledge which is widely contested or discredited cannot serve to underpin a policy decision. The extent to which these factors are necessary in an SEA can differ widely from project to project. Generally, the more controversial the proposed decision, the more important it is that all criteria are met.

Performance on most of these indicators cannot be enforced by means of formal procedures, since there is no criterion that may be readily applied. The SEA Directive seems to guarantee 1 and 5 while neglecting other indicators which are aimed at the more process-oriented functions of knowledge (De Bruijn and Ten Heuvelhof, 1999). Nonetheless, the criteria have to be fulfilled in the process, and the procedures adopted may serve either to enable or hinder it (Cashmore, 2004).

We turn now to our two case studies through which we seek to analyze the function the SEA fulfils in realizing collaborative decision-making on highly controversial spatial programs. After a short introduction of the case, we look at the way in which the SEA in these cases is used to realize agreement about ambitions, frame convergence and the validity of basic facts.

## 5. The Scheldt estuary: a controversial deepening

The Western Scheldt is the last remaining open connection of the Western Delta to the Northern Sea. It forms the access point for the Port of Antwerp, the second largest port of Europe. The first part of the estuary is located in the Netherlands. To facilitate the growth of the port, the fairway needs to have sufficient depth to enable the access of the ever growing container ships. In 1997, the Port of Antwerp received permission to deepen the fairway after a stalemate in the negotiation process between Flanders and the Netherlands lasting fifteen years. In 1998, they made a new request for a further deepening. To prevent a second time-consuming and paralysing process, both governments decided to invest in a collaborative process in which a Long Term Vision for 2010 was prepared. This Vision included three ambitions:

- to guarantee the accessibility of the Port of Antwerp;
- to improve the ecological quality of the estuary; and
- to safeguard against floods in the estuary.

The Vision itself was not a binding spatial plan, and did not therefore have the force of law behind it. Neither did it require a formal assessment. It was decided that the spatial plan had to be elaborated in three detailed Development Plans (for 2010, 2020 and 2030) before implementation. It was decided also that these plans had to be laid down in bilateral treaties and implemented using the established national spatial procedures.

The deepening of the fairway received important standing in the first Development Plan. Despite the fact that they were not obliged to do so, both governments decided to carry out a Strategic Environmental Assessment because of the controversial nature of the decision. They wanted to study the effects of different possible packages of measures to enlarge the fairway capacity and to improve the natural environment while safeguarding against floods.

Important conditions for the implementation of the SEA were its budget and time frame, along with the need for unequivocal research on the feasibility of the ambitious Long Term Vision which, at the time,

lacked serious factual underpinnings. As part of the SEA, first, a carefully designed process of formulating the Problem Outline was organized. This Outline served as starting point for the SEA and a Social Cost–Benefit Analysis (which are different requirements in The Netherlands). Both public and private stakeholders were asked to provide their input into the Problem Outline. A Public Announcement of the SEA was then prepared. The governmental agencies involved (the ministries of both countries and the regional implementation and management agencies) worked together with stakeholder representatives to realize a broadly shared document. Only the agricultural interest groups were not involved, and this eventually emerged as a significant shortcoming of the effort.

Negotiations on the specific measures to be included in the Development Plan were carried out at the same time as research activities and there were well-organized links between the two. When important issues were being discussed (for example, nature compensation areas), these issues were also reflected in the research efforts. However, to prevent the discussion from becoming too politicized (the development of nature areas is very controversial in the Zeeland province due to the strong agricultural lobby and the collective sentiment that it would decrease safety against floods) only 'illustrative projects' were researched. Two possible locations were explored without making an ultimate choice between them.

The SEA played an important role in resolving the stalemate that arose with regard to the options of the deepening of the estuary or maintaining its ecological state. By incorporating the suggestions of the Port of Antwerp's expert on 'morphological dredging' (an idea to artificially develop intertidal areas by dumping dredged materials on specific locations in the estuary), the SEA successfully bridged the gap between the Port Authorities and the Dutch management authorities. The latter were initially very critical about this suggestion, but became willing to explore it further by way of an in situ experiment when the SEA process indicated that it would be viable.

To further enhance the reflective role of the SEA, the whole research process was accompanied by working groups (composed of expert representatives of the various stakeholders, both governmental and societal). Draft reports were presented to the Board of Advising Parties (OAP) which was composed of regional authorities and representatives of interest groups who were authorized to influence and advise ministers from both countries about the Development Plan.

Interestingly, a great deal of effort was invested in minimizing the controversy over basic facts. The SEA was subject to a critical review of a committee with members from the NCEIA (Netherlands Committee on Environmental Impact Assessment) and the Flemish EIA experts. An expert group composed of independent experts and expert representatives of public and private stakeholders was involved in the research process, and was asked to discuss both its course and content. The SEA itself was prepared by a multidisciplinary consortium of morphologists, ecologists, and hydrologists, and their work was integrated by a consultancy firm experienced in integrating disciplinary results into coherent multidisciplinary research reports. This firm organized its own quality checks, as did the various subcontractors.

### 5.1. Analysis

#### 5.1.1. Agreement about ambitions

The SEA contributed in an important way to an agreement about ambitions. It made visible which combinations of measures were both feasible and effective in light of the ambitions of the Long Term Vision. It showed also that a further deepening was possible without seriously harming the estuary, but that investments in nature development were necessary in order to safeguard the long-term viability of the estuary, regardless of this decision.

As a result of the strong links between the process of negotiation and the process of research, the actors from both sides came to

recognize their own interests and goals in the research questions. Because they had representatives in the working groups, their views were heard in the Public Announcements and they were able to express their desires and formulate their core values during the research process. However, an important note has to be made. During the whole process, the agricultural organizations were only involved to a limited degree. Thus, they could not express their core values in such a way that they were taken into account in the scientific search towards feasible policy options for nature development. This became a major problem when the Development Plan had to be worked out in relation to concrete projects, especially with regards to the issue of giving agricultural land back to the sea.

### 5.1.2. Consensus about interpretations

As a result of their close involvement in the process of drawing the SEA, the stakeholders were often provoked to privately reflect upon their own frames. While they were able to influence the choices made in the research process, this ability came with the informal 'obligation' to take the results seriously as these had been derived from their own inputs. This obligation contributed greatly to the process of policy-learning and consensus building.

A second important contribution of the SEA to policy-learning had to do with the research approach. Both the sceptical interpretation about the impact of human interventions and the more optimistic interpretation of the development of the estuary were integrated in the research approach. The mathematical approach used by the sceptics and an empirical approach (used by the optimists) were combined to ensure that the varying problem perceptions were included in the SEA.

These steps ensured that the deeply rooted controversies between the different frames were somewhat bridged by the SEA and its eventual outcome. Strong negative feelings about the impact of a possible deepening were weakened by research findings that showed the deepening to be far less harmful as previously assumed. At the same time, research findings on the deterioration of the estuary also reinforced the view of the necessity of the projects among almost all actors. These results were widely accepted both because of the close involvement of stakeholders and because of the external quality checks that were carried out.

Despite these generally positive outcomes, the exclusion of the agricultural interest groups and the inhabitants of the Dutch province of Zeeland served to cause a significant amount of public resistance after the Development Plan was determined. This made the Plan very difficult to implement and necessitated further confirmation of the quality of the research results.

### 5.1.3. Acceptable facts

In line with the objectives of the organizers, the intensive research process resulted in an SEA that was not subsequently subject to intensive discussions. The quality of the research was a key to preventing frustrations in the cross border negotiations and various external quality checks ensured that the research was generally accepted as authoritative. Along with the quality provisions and the evaluation of the Flemish–Dutch EIA Commission, an international peer review was organized by the project coordinators of the SEA to further guarantee its quality. This external peer review served to reinforce perceptions of the quality of the research results. Further, none of the governmental actors and stakeholders disputed the research results in the OAP. These efforts to increase transparency and to secure perceptions of quality served to help people accept the SEA as being valid and credible.

However, as previously mentioned, despite the generally positive nature of perceptions, an important omission was made in consulting the agricultural sector and the citizens of Zeeland and this served to complicate the process. Here again, we witness the importance of involving all actors in the process. After the decision was made to

adopt the Development Plan, the two groups began to protest. They cast doubts both on the quality of the research results and on the very necessity of these projects. Although these doubts were not taken seriously by the authorities, they did serve to reduce overall perceptions of the legitimacy of the nature development projects significantly and considerably complicated their implementation.

## 6. The Southern Sea line: a disputed railway

The Southern Sea is a large bay that sits inside the Netherlands. It became Lake IJsselmeer after its damming in the early 20th century. Today, it has given its name to a high speed rail connection (with the Dutch abbreviation: ZZL) that was envisaged to connect the Western Netherlands with the north. The ZZL was an outcome of negotiations between the Northern Netherlands region and the national government about investments on efforts needed to boost the lagging economy of the north. The government reserved a significant budget, and in the mid 2000s, the Cabinet, headed by the Minister of Transport and Waterworks assigned a project study to prepare a draft "structure vision". An SEA was required in order to implement this decision, and it later became one of the first in The Netherlands which followed the EU procedure for an SEA. In 2006, the Ministry requested a professional evaluation of that SEA (Van Buuren and Nooteboom, 2007), and that effort has provided the raw material on which this case study is based.

A project bureau composed of personnel from different ministries started off with the official assignment to develop an investment to "improve the attainability of the north from the Western Netherlands by means of a fast public transport connection". An SEA was demanded at the start of the process, and it was decreed that all formal SEA steps could be intertwined with steps that belonged to the formal procedure to develop a structure vision. Where environmental impacts normally already would be investigated and reported as part of the documentation of the structure vision, the SEA procedure created higher expectations about the way environmental impacts would be assessed and integrated.

The project bureau decided to ask the Commission on the EIA to advice about the scope of the EIA, and later about the quality of the report (a step that is still not legally required). Within this context, a document was circulated among authorities and in public, stating the intentions of the project bureau, and inviting feedback on the desirable scope of the SEA report, including alternatives to reach the project's objectives, and relevant impacts. Dozens of meetings were organized and hundreds attended as part of this consultation. Based on this feedback, a scoping document was prepared and circulated, and the actual SEA was written on that basis. Along with the SEA, a social cost–benefit analysis and a spatial analysis was also prepared. These parallel processes were run by public and private consultancies, whilst the project bureau coordinated the examination of the alternatives and their impacts. Several alternative technologies and routes were developed for the rail line, and these were each assessed and compared. A nearly final SEA and draft structure vision was then circulated among stakeholders, and the results were taken into consideration.

When the SEA was ready a year after the start of the project bureau, it was submitted to Cabinet. In an interesting turn of events, in April 2006, Cabinet chose an alternative that had not yet been explored in detail: the so-called "transition alternative". This alternative did not entail any major new infrastructure, but rather a package of other investments in the north. The Cabinet believed that after taking environmental impacts raised by the SEA into consideration, a high speed rail line was not economically efficient. This new draft structure vision was published along with the SEA and stakeholders and the public were asked for feedback. Public hearings were organized in all relevant provinces, and hundreds of written reactions were received. All of these steps, the envisaged process, and all relevant documents,

were circulated amongst interested groups and published on the internet.

Strikingly, by this point, millions of euros had been spent on developing and assessing alternatives in consultation with many stakeholders for a project that had not been selected. However, the efforts had in fact been necessary to decide if the project would solve any problems and not create too many new problems. Once Cabinet had decided to investigate the Southern Sea Line, interviewed professionals representing many stakeholders indicated that in general, the money had been well-spent. In their eyes, the SEA had significantly contributed to the learning process, as had the social cost–benefit analysis.

Despite the stated environmental reasons for reconsidering the railway, it remains difficult to differentiate between the effect of the SCBA and the SEA on the Cabinet's choice. It has been speculated that economic arguments were dominant, and incorporating monetary valuations of environmental impacts did not change the balance. In its Structure Vision ZZZ, the *Dutch Cabinet, (2006)* does not refer specifically to environmental impacts as reason for not choosing a rail line. However, it does indicate that the railway had potentially adverse environmental impacts on the areas crossed, whereas non infrastructure option were potentially beneficial in preventing climate change. The argument that rail would be less energy intensive than road transport did not play any visible role in the decision. In terms of the political process, some regional authorities and NGOs (often in favour of a ZZZ because trains bring sustainable mobility and growth) probably started to doubt its sustainability, since any possible route would cause the destruction of sensitive areas. Pressure on Cabinet to pursue the rail option therefore diminished.

## 6.1. Analysis

### 6.1.1. Agreement about ambitions

The SEA contributed to the creation of greater alignment between the ambitions of stakeholders. The SEA was focused on an integral weighting of a set of options that had to be first developed through a number of parallel processes, most of which involved several rounds of consultation. The project bureau ensured a degree of consistency among alternatives by enforcing specific objectives and conditions. The SEA process itself resulted in the production of tables outlining the impact of each option. These impacts were similarly weighed, but in more monetary terms in the social cost–benefit analysis (SCBA).

The core values of the various actors involved in the research trajectory were respected to a large extent. Parliament demanded insight into the added value of the various solutions to the economic development of the Netherlands as a whole; the Northern provinces asked for information about travel times, employment growth and economic growth in their region; nature organizations asked for certainty about the impact of the plans on the region's ecology. The project organizers managed the research process in such a way that all these core values were taken into account.

### 6.1.2. Consensus about interpretations

The SEA contributed to an extensive process of consultation which left stakeholders feeling included and that their views were being taken seriously. This served as an incentive for them to reflect on their own frames and to include the interests of others in their preference for various options. The public discussion about possible routes for the railway extended over many hearings in which stakeholders and experts met. The project bureau tried actively to stimulate dialogue about these options between these groups. The fact that there were multiple possible routes might have helped in reassuring residents that the alternative that was closest to their own backyards was only one of many that might be chosen. This made it easier for them to take part in discussions without getting emotional as it was always clear

that there is a good chance that cooperation would contribute to the selection of another alternative.

The key to the Cabinet decision to abandon the railway was not the comparison of rail line options, but the understanding that the legally and politically feasible possibilities would not create enough economic growth in the North to justify the investment. The dominant frame that the distance between the North and the Randstad Holland (the main economic area of the Netherlands) was the cause of the backlog of the Northern provinces was challenged by the research findings that shortening this distance by building a railway would result in only marginal economic improvements.

It became clear to many at this stage that the true impediment of northern growth was not that it was isolated from the Western Netherlands. Priorities shifted from the railway to other means of fostering economic growth. Insiders have indicated that it is likely that the SEA has contributed to this shift, despite the fact that its influence cannot be separated from other assessment activities like the cost–benefit analysis.

### 6.1.3. Acceptable facts

The project organization invested much in the acceptability of the research and its results. By organizing wide-scale consultation about the research approach and the findings, they were successful in taking into account the opinions of stakeholders in both the scoping of the overall research and the elaboration of the different alternatives to the routing and design. Most citizens living near the different routes were found to have to suffer greater nuisance from the railway than they would benefit. This was extensively addressed in the SEA on a cumulative level across the whole line after taking into account standard mitigation and (in case of effects on nature reserves) extra compensation measures.

Methods for SEA were generally based on EIA practices, but the data were presented at a more macro level to enable a strategic decision about the rail line. The EIA Commission is well known to have a stabilizing role on EIA data acceptance: the larger environmental NGOs have no interest in attacking the EIA Commission in relation to one scenario because they tend to have to work together in other scenarios. The same goes for the social cost–benefit analysis, where methods had evolved in a participative process between all the main research institutes (*De Jong and Geerlings, 2003*). It became difficult for opportunistic parties to find institutes prepared to contest the SEA or the SCBA, in particular because both had been overseen by independent steering committees connected to many stakeholder groups. The second opinion of the independent Critical Review Team composed of high-qualified and generally accepted 'wise men' also became an important contribution to the status of the SEA.

## 7. Case comparison

Both cases show us how the SEA functioned as a process facilitator, contributing to a collaborative governance process in which knowledge is produced not only for the sake of legal obligations but also to facilitate a process of frame reflection, consensus-building and joint fact-finding.

In both cases, the SEA fulfilled invaluable roles in realizing more agreement about ambitions, more convergence between frames and facts which were far less likely to be contested. In the case of the Scheldt, the SEA helped to give knowledge a self-standing position next to deep-rooted ambitions which allowed it to influence the interactions and lead to widely supported decisions over a very sensitive matter. The research process provoked frame reflection and even a reframing of deeply anchored views held by previously divergent actors. Despite this, a small but highly affected group of stakeholders (farmers) remained in opposition, and the question arises as to whether a closer involvement of that group might have led

to different outcomes or if it might have allowed for greater support from them.

In the case of the Zuiderzeelijn, ambitions and frames evolved throughout the lifespan of the SEA and the social cost–benefit analysis. The SEA facilitated interactions that created better understanding of mutual perspectives and interests. The dominant problem definition was replaced by a much more balanced problem definition.

In both cases, we saw how the rather broad research questions (in which the multiple ambitions of the various stakeholders were taken into account) contributed to the perceived usefulness of the research and enabled the integral weighting of alternatives. The provisions for stakeholder involvement in the research process contributed to a process of frame reflection and forced actors to take the research results seriously (because of their own involvement in their establishment). The external quality checks contributed to the external trustworthiness of the research and pre-empted difficult discussions about their validity.

## 8. Conclusion

From these two case studies, we conclude that SEA can contribute to the success of collaborative governance processes. In both cases, an SEA provided convincing insights which stimulated both a process of frame reflection and facilitated the process of selecting ambitions.

The conditions which have to be fulfilled if the SEA is to play this role can be summarized in the six conditions mentioned in section 3. However, there are a number of additional conditions which we find to also be relevant to the realization of useful knowledge. These have to do with:

1. practising flexibility in adjusting the research questions when necessary;
2. facilitating fruitful synergies between the processes of fact-finding and will-forming; and
3. developing new roles for researchers;
4. formulating new requirements for the research process.

Looking at the first condition, it was clear in both the cases that the research questions were adjusted to reflect the evolving insights and questions of the stakeholders. In the Scheldt case, the idea of morphological dredging was included, while in the ZZL case the transition alternative was included. This flexibility is necessary to maintain the relevance of the research in the face of evolving problem perceptions, and in order to facilitate decision-making with help of applicable research data.

Flexibility in determining research questions is highly amenable to establishing a fruitful interaction between the processes of fact-finding and will-forming. People within the research and decision making tracks have to be willing to work together on mutual goals so as to safeguard the optimal interaction between both tracks. Only then can the fact-finding track deliver usable knowledge and will-forming track claim that its decisions or desires are really 'evidence-based'.

It is not just the timing of the SEA that is important. The way in which it is carried out is also crucial for its success. The SEA may serve to funnel the search towards policy options by continuously and iteratively refining alternatives. This process is not only a research process, but also a political process. The SEA can be carried out in a dynamic way if it is open to adjustments in the original problem definition and if it is adaptive to new insights, political ambitions or societal wishes. In the past, the Dutch EIA Decree required that a scoping document be established at the start of the process, after which any adjustments would require the commencement of a new procedure. This requirement was frequently associated with increased paper work and a significant loss of time that is the consequence of not using the SEA as reference point from the start of the process. Presently, most strategic decisions in which politicians are faced with a number of alternatives are subject to an SEA which does not require

a scoping document, while most projects that require an EIA are enabled by plans that also require an SEA. Interestingly, in these SEAs, politically endorsed scoping documents are usually prepared and later adjusted voluntarily. This seems to create less risk of delay and illustrates the changing role of researchers. Researchers should resist making detailed research projects that take long implementation periods. Rather, there should be frequent interaction between researchers and the planning team. Dynamic processes and open discussions may be difficult for researchers to handle, but these are also crucial for realizing a real collaborative governance process.

Collaborative governance thus puts extra requirements on the organization of the research and the SEA procedure. It is not enough to follow the exact letter of the planning and effects forecasting procedure. The process must also invite deliberation and consensus, since without this, there is a risk that the stakeholders would feel abandoned. Interaction between different stakeholders, quality checks and clear connections to a process of negotiation about the planning ambitions are all crucial to the process, and without them, dissatisfied stakeholder groups might turn against the plan. A more inclusive approach is no doubt more painstaking, expensive, time consuming and makes the procedure more open to external influences. But such an approach is also more able to incorporate insights from stakeholders, is more open for peer review and is also more interconnected with the process of will-formation. Competent authorities get less authority to define the desired outcomes in a specific way, but at the end of the day, they stand to gain more from this unforeseeable plan because it has more support.

## 9. But why do we need a procedure?

In this paper, we have answered the question of whether, as a formal procedure, the SEA can be used to facilitate a process of collaborative decision-making. The answer is yes, depending on the way it is done. We have provided a specific interpretation of what we see as the main function of SEA, namely that it goes far beyond simply collecting all relevant information about the environmental consequences of various policy options. The SEA can contribute to the general consensus within a controversial planning process by facilitating the accomplishment of a legitimate selection of policy ambitions, a process of mutual learning between stakeholders with different perceptions and the realization of a jointly agreed-upon body of knowledge.

However, the question remains as to whether it is possible to realize the same outcome without a legal obligation to follow such a formal procedure. There seem to be three possible answers to this question. First, in The Netherlands many SEA practitioners believe that political decision-makers underestimate the resistance they (or their successors) will otherwise meet without the help of an SEA. The obligatory nature of the organization of an SEA functions as a guarantee for stakeholders that the environmental impacts of policy options will be assessed, regardless of the willingness of the authorities.

Secondly, the legally binding character of the SEA ensures that relevant actors get involved in the process. It raises expectations of the quality of the interactive process, because this quality should ultimately be defensible before an administrative court. Without such status, it would be much more difficult to mobilize stakeholders.

Third, a legal procedure also helps to fundamentally organize the process of fact-finding and deliberation. By formulating the conditions under which such a process must occur, it prevents it from becoming too erratic, indeterminate and subject to alteration.

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