Between Policy-Making and Planning SEA and Strategic Decision-Making in the Danish Energy Sector

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Between Policy-Making and Planning:

SEA and Strategic Decision-Making in the Danish Energy Sector

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This article deals with the challenge of approaching decision-making processes through strategic environmental assessment (SEA). It is argued that the interaction between policy-making and planning in strategic decision-making processes is a neglected reason for problems with applying SEA, as legislation and guidance on SEA primarily approach either the policy or plan level. To substantiate the argument, the extent of interaction is empirically investigated.

Four contemporary decision-making processes in the Danish energy sector are mapped as a series of choices. Fundamental changes with considerable environmental impacts are decided these years, often without preceding SEA processes. The mapping shows a profound interaction between policy-making and planning. In this interaction, public consultation, systematic environmental analyses, and transparency on alternatives are primarily related to choices of planning character.

The findings lead to a discussion of the existing SEA guidance that is challenged in terms of adequacy of the guidance to approach the interaction.

Keywords: Strategic decision-making, strategic environmental assessment, energy sector, policy-making, planning, responsibility

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Introduction

Despite more than a decade of application and research into SEA, integration of SEA into strategic level decision-making is still regarded a challenge (Sadler, 2005). One explanation for the problems of integrating SEA at the strategic level may be underestimation of the interaction between policy-making and planning. In this interaction, policy-making frames planning and planning influences policy-making; political agendas and horse trades may, at the same time, be based on and frame technocratic calculations. SEA literature widely focus on policy-making and planning as distinct and separate levels of decision-making and treat the relations between these levels through the concept of 'tiering' (e.g., Thérivel, 2004). This article shows that it may not always be appropriate to treat policy-making and planning separately, and the concept of tiering may have to be refined.

This article presents an investigation of the nature of strategic decision-making processes based on the hypothesis that these are characterised by an interaction between policy-making and planning. A strategic decision-making process is understood as a series of choices that, as a whole, constitute a formal strategic decision. Progression in the series of choices is mapped to determine the extent of interaction. If the interaction is profound, it calls for considerations of how to approach such interaction through SEA.

The empirical data is composed of contemporary strategic decision-making processes in the Danish energy sector, in which strategic decision-making seems to be characterised by considerable interaction between political settlements, socio-economic calculations, geo-political interests, and technical assessments. This interaction may be a contributing factor to the rare application of SEA in the sector; only one formal SEA has been carried out since the Danish legislation on SEA became effective in 2004. Although SEA has been undertaking on a range of policies and plans within the energy sector (Jay, 2010), SEA application in the sector is complicated by the importance of the private sector (Marshall and Fischer, 2006) and the fragmentation of the sector (Jay, 2010).

The Danish energy infrastructure is under major development as a result of a decline in domestic fossil fuels and political targets of 30 percent renewable energy in 2020 (Energinet.dk, 2009a). To exemplify

the magnitude of consequences of decisions made within the sector, the 0.8 billion dollars electricity cable between Norway and the Netherlands disturbed 580 km of seabed including environmentally sensitive areas, required 9,000 tonnes of copper and 12,000 tonnes of lead for the cable, and it took 10 years to complete (EngineerLive, 2009).

The mapping of strategic decision-making processes shows that the strategic level decision-making processes in the Danish energy sector are characterised by a continuous interaction between policy-making and planning taking place in windows of opportunities rather than formal approvals of plans and policies.

The Challenge of Approaching Strategic Decision-Making

Strategic decision-making is what Slack (2009) terms a process of intervention. Policy-making and planning represent parts of a process of intervention (Slack, 2009) and possess different characteristics. Inspired by Wood and Djeddour (1992) and Slack (2009), policy is here defined as a set of objectives and a broadly stated course of action to solve perceived problems. The policy-making process is related to attributes like "diffuse" (Lynn, 1987), "apparent disorder" (Lindblom, 1968), and "change rapidly" (Thérivel, 1997, cited in Bailey and Dixon, 1999). It is formed through political negotiations and power relations (World Bank, 2010). Planning is understood as a more specific outline of a course of action, i.e., the implementation of policies (Slack, 2009). Planned actions are deduced from described situations and expected achievements over given periods of time. Rational procedures and instrumental logic are dominant in planning as opposed to political decision-making (Bryson, 2004). As summarised in table 1, planning and policy-making are thus conceptualised as two separate activities distinguished by differences in nature, order, and output.

Table 1. Differences between policy-making and planning

	Policy-making	**Planning**
Nature of decision-making	Political - decisions as results of negotiations and depending on power relations	Rational - decisions as results of analyses and rational procedures
Order in decision-making processes	Policy-making as apparent disorder and unpredictable	Planning as sequential and predictable steps
Output	A set of objectives and broadly stated course of action	A specific outline of a coordinated course of action.

During the last decade, SEA literature has increased its focus on decision-making with theorisations based on decision theory literature (e.g., Nilsson and Dalkmann, 2001, Cherp et al., 2007, Kørnøv and Thissen, 2000), with numerous investigations of how SEA is integrated into decision-making (e.g., Vicente and Partidário, 2006, World Bank, 2005, Nitz and Brown, 2001), and with conceptualisations of SEA approaches (e.g., Sheate et al., 2003, Caratti et al., 2004). One of the challenges of SEA methodology in terms of decision-making is the 'paradox of timing' (Nooteboom and Teisman, 2003) stating that impact assessments are either too late or too early: "It is too late because the relevant influential stakeholders already prefer a specific solution, and it is too early because the problem definition used in the assessment is always redefined during the decision-making process, resulting in an irrelevant assessment" (p. 288).

In this wealth of SEA literature on decision-making, planning and policy-making are often treated by distinct SEA methodologies and guidance. Institutions like the World Bank have been drivers of the development of the policy-oriented SEA (World Bank, 2005) and the EU has maintained focus on the plan-oriented SEA through the EU directive 2001/42. This distinction may derive from reservations about SEA at the policy level during the development of the SEA concept in European countries. In the development of the UNECE protocol on SEA, reservations about approaching the policy level were "political and institutional as much as procedural or methodological" (Sadler, 2005, p. 5). Policy-

oriented SEA and plan-oriented SEA have different forms (Morrison-Saunders and Arts, 2004) and "distinct methodological tasks" (Fischer et al. 2002, p. 170). In short, policy-oriented SEA approaches are characterised as simple and flexible (Thérivel, 1997). They take place less formally and with greater variability (Nitz and Brown, 2001, Sadler, 2005). Plan-oriented SEA approaches, on the other hand, are characterised as widely rational (Nitz and Brown, 2001) and structured (Fischer, 2003).

The interaction between policy-making and planning is to some extent considered in the concept of tiering in which a tiering of environmental assessments should follow a tiering of strategic actions (Thérivel, 2004). Tiering is widely understood as a hierarchy of decision-making in which "a higher, earlier tier influences a lower, later tier" (Nooteboom, 2000, p. 152). It is argued that tiering "helps to concentrate on relevant alternatives" (Hildén et al., 2004, p. 527); that "foreclosure may be prevented, postponement of detailed issues may be permitted and assessments can be better scoped" (Arts et al., 2005, p. 1); and that tiering "could lead to better decisions and to more efficient resource allocation, since assessments would be conducted at the “right” timing and would feature increasing levels of detail, as needed" (Sánchez and Silva-Sánchez, 2008, p. 516).

Especially within the last decade, the concept of tiering has been criticized for "its implicit assumption of a linear planning process [that] does not fit well with the dynamic nature of planning and decision-making in practice" (Arts et al. 2005, p. 1). Bina (2007) notes that "behind the hierarchical system evoked through ‘PPPs’ and ‘tiering’ is a less coherent reality; one that EA theorists have appeared unwilling to engage with (at least until the late-1990s)" (p. 590). Time-lags (Hildén et al., 2004) and tiering taking place "in the reverse direction" (Gunn and Noble, 2010, p. 5) contribute to a blurred picture of practice that does not correspond to the theoretical assumptions behind tiering (Hildén, 2005). In line with these arguments, Fischer *et al*. (2002) propose a tiering framework that engages with the less coherent reality and note that: "Although the framework presents an inevitably oversimplified rational approach, it includes feedback mechanisms between the different tiers in order to reflect `real' decisionmaking, which might not follow a hierarchical and logical sequence of predetermined steps […] In reality, this often consists of a continuous interaction and negotiation process by different parties" (pp. 167-168). The investigation of the interaction between policy-making and plan-

ning in this article contributes to the debate on tiering in regards to the empirical understanding of the reality behind the theoretical assumptions.

One of many possible explanations of the interaction between policy-making and planning is to view the interaction as a result of the network society (Hajer and Wagenaar, 2003) in which policy-making often happens in configurations that do not conform to the old formats (p. 8). Another break with old formats was introduced with the Garbage Can Model of decision-making (Cohen et al., 1972) in which decisions are made when independent streams of problems, solutions and participants collide in "choice opportunities" (p. 2). This understanding of decision-making emphasises that "Choices are frequently negotiated outside the context of explicit decision processes…" (March, 1994, p. 226) The Garbage Can Model does not pay attention to the level of decision-making and does not rely on the formal systems of planning and policy-making. Therefore the model is of relevance when investigating the interaction between policy-making and planning.

Analytical Framework and Method

Inspired by Cohen *et al*.'s concept of choice opportunities and the ANSEA project (Jiliberto, 2004), the analytical framework of this article is centred on a mapping of series of choices in strategic decision-making processes. This approach makes it possible to identify the policy-making versus planning character of each choice and thus determine the interaction between these in the progress of the investigated processes. Each choice constitutes a framework for the output of the decision-making process, and only choices with an environmental dimension are mapped. These choices are of special importance in terms of SEA, since each choice concludes a moment of influence; if environmental considerations are to be included, information about environmental consequences must be provided prior to the making of choices.

The approach is in line with the ongoing SEA implementation by one of the main actors in the Danish energy sector, the transmission system operator Energinet.dk. Energinet.dk implements the Danish SEA legislation from the point of departure that important strategic decisions with potential environ-

mental impacts are often made in windows of opportunities rather than by a formal approval of a plan (Energinet.dk, 2008). As this understanding is based on insight into the sector, it supports the relevance of viewing strategic decision-making as a series of choices.

Each mapped choice is characterised in terms of its policy-making versus planning character using the characteristics given in table 1. The characterisation is added an examination of when key elements of environmental assessment methodology are conducted; i.e., public consultations, systematic environmental analysis, and considerations of alternatives. The intention is to clarify the point of departure for approaching the interaction through SEA.

The mapping and characterisation of the decision-making processes give indications of the extent of interaction between policy-making and planning and an overview of patterns of the current application of environmental assessment elements in this interaction. The analytical framework is illustrated in figure 1.

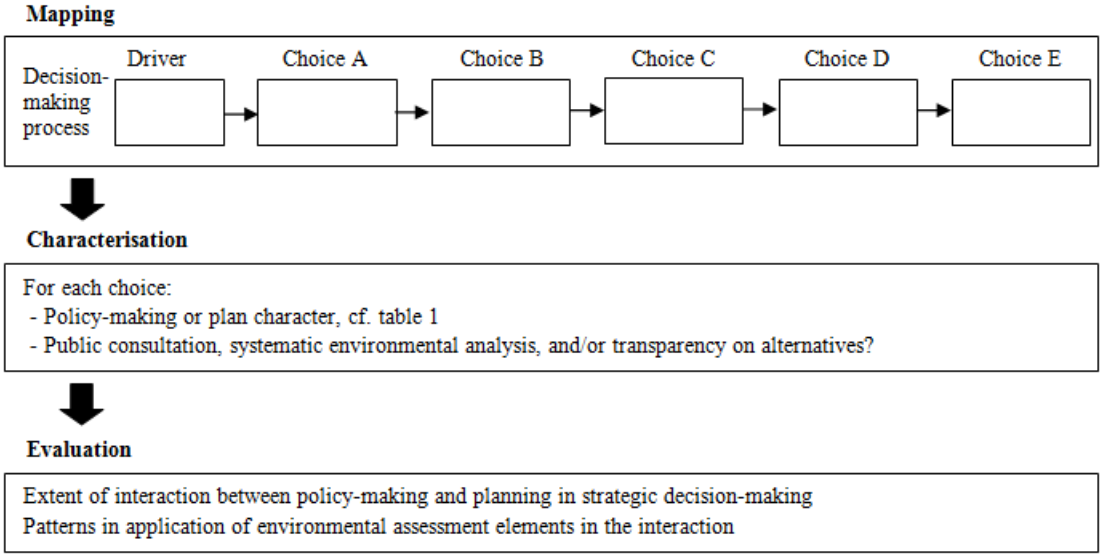

Fig. 1: Analytical framework.

The mapping covers only a small part - a sequence - of ongoing decision-making processes in the energy sector. These sequences cover, in average, important choices made in a period of two years. The previous choices that provide the point of departure for the mapped series of choices are summarised as drivers. To be able to visualise the series of choices, the mapping is a severe simplification only

illustrating who makes what decision in which order. The progress in the series of choices may therefore seem predictable and simple; however, the mapping would be very complex if non-decisions and contextual input were included. For practical reasons, the number of choices is limited to a maximum of five for each decision-making process, and these are subjectively identified as the most important choices in terms of environmental consequences of the strategic decision-making processes. No distinction is made between what is officially regarded as formal or informal decisions and both are included in the analysis.

The method for mapping the series of choices has been two continuous processes of 1) achieving insight and grasping progress and consequences by observation and participation, and 2) documenting the insight by review of publications and news media. Insight into the decision-making processes has been gained by participating in the meetings and internal communication of the Danish transmission system operator (TSO), Energinet.dk. Energinet.dk is responsible for the energy infrastructure planning in Denmark and, thus, plays a role in all the investigated decision-making processes. Energinet.dk is established as a state-owned institution with its own board and with the purpose of ensuring "efficient operation and expansion of the overall electricity and gas infrastructure" based on "coherent and holistic planning" (Energinet.dk, 2005). The participation has involved more than 70 meetings and numerous informal conversations at different levels in the organisation in the period from August 2008 to July 2009. The meetings included section and division meetings, planning, management orientation and public consultation. Most of these meetings included information about the investigated decision-making processes or relevant information about the energy sector. Since the beginning of the participation, the insight has, to the extent possible, been documented by the analysis of publications from ministerial agencies and news media articles. These publications have primarily been reports, plans, and press releases, which have primarily been published by the Ministry of Environment and the Ministry of Climate and Energy. In the effort of documenting insight, political decisions have been problematic, since these have a tendency of being communicated without transparency in terms of underlying political horse trades and bargaining.

The mapping of the processes has been discussed with representatives from the Danish Energy Agency and Energinet.dk to validate the understanding of the progression and the importance of the choices

made. This informal review has reduced the potential bias of a subconscious tendency of making the result match the hypothesis of interaction between policy-making and planning. It has, furthermore, given other perspectives on the relevance and the order of the included choices and the logic between these, which has helped reduce another bias: "People seem to see past events as much more rationally ordered than current or future events, because retrospective sensemaking erases many of the causal sequences that complicate and obscure the present and future" (Starbuck and Milliken 1988, p. 36).

Four Contemporary Decision-Making Processes in the Danish Energy Sector

The mapping covers four contemporary decision-making processes related to Danish energy infrastructure: 1) The National Test Centre for Windmills, 2) The Offshore Wind Action Plan, 3) The Natural Gas Plan '09, 4) The Kriegers Flak Interconnection. The processes represent different scales and types of energy infrastructure, different approaches to the development of infrastructure, and different drivers of the development. Also the extent of environmental considerations varies between the decision-making processes, both formally and informally. Since the processes are contemporary, they in part reflect the global economic crisis, the political attention to renewable energy and climate change, and the decrease in fossil fuel resources.

All decision-making processes constitute a framework for the future development consent of a spatial area and are therefore likely to be within the requirements of the EU directive on SEA. Furthermore, the Danish regulation requires environmental assessment of government proposals (Elling 2005), which in part applies to the policy level of the decision-making processes. The processes are visualised in figure 2 followed by an elaboration of the mapping.

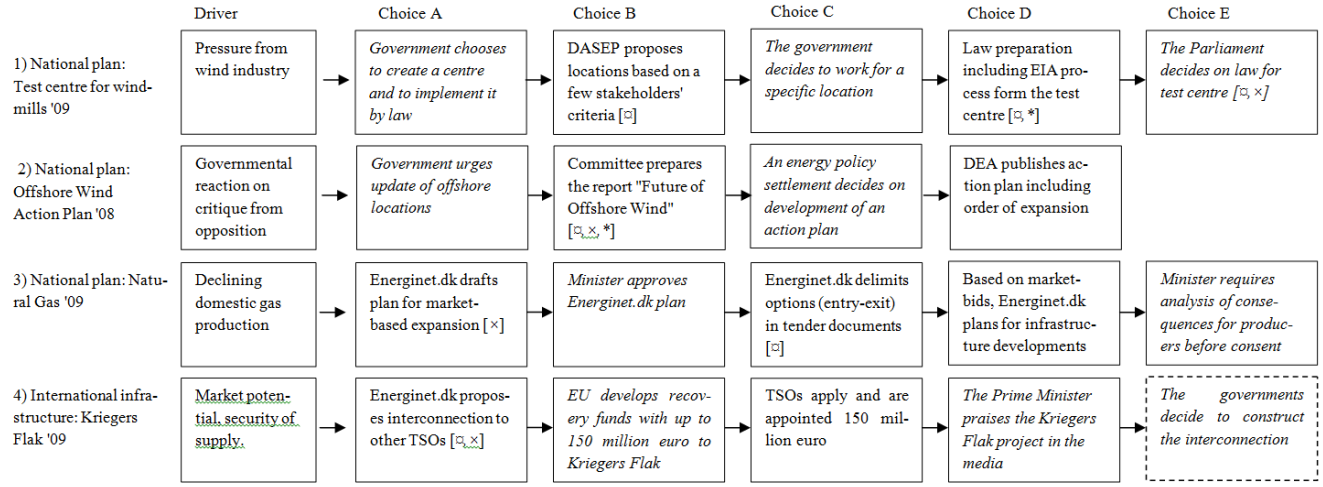

Fig. 2: Mapping of strategic decision-making processes on energy infrastructure as series of choices. Boxes in italic font style represents choices with policy-making character, and boxes in normal font style represents choices with planning character. Choices that include public participation are marked by [*], transparency on alternatives [¤], and systematic environmental analysis [×]. The choice in the dashed box is not yet made, but expected. 'Government' covers decisions at different governmental levels, which are specified in the text.

1) The National Test Centre for Wind Turbines

[A]: The Danish wind power industry is a powerful actor in Danish politics. Organised in the partnership MEGAVIND, it has strongly argued for the development of offshore wind turbine technologies as a necessary means of keeping the leading position in offshore wind energy (MEGAVIND, 2008). In 2009, the Government's Economic Committee acceded to the wind industry's interests and chose to establish a test centre by law (DASEP, 2009a).

Characterisation: The Economic Committee is constituted by the Government's ministers, and it prepares the Government's economic policy. The choice of making a test centre must therefore be seen as a part of the policy-making. The choice involved no public consultation or transparency of alternatives, although the choice initiated and framed a certain intervention.

[B]: Following the Economic Committee's choice, the Danish Agency for Spatial and Environmental Planning (DASEP) initiated a screening process for suitable areas. Actors related to the wind power industry as well as a wind research institution were consulted in terms of criteria for location. The consultation ended up with four criteria concerning average wind speed, distance to housing, international spatial restrictions, and area size. DASEP screened the entire country in accordance with these

criteria and ended up with 14 potential locations. These areas were examined, and only one area was termed suitable (DASEP, 2009a).

Characterisation: Based on systematic analyses, the choice of suitable areas is of planning character. In this case, the planning seemed to be hurried as the public was not consulted, and environmental considerations were reduced to certain spatial restrictions and distance to neighbours. The test centre was to be placed in a national protected forest that had to be cut down to create optimal wind potentials. Although some alternative locations were presented, there was limited transparency of how the criteria were chosen and what was included in the examination of the 14 areas.

[C]: Based on the DASEP proposal for location, the Economic Committee chose to work for a test centre at the suggested location, which the Minister of Environment publicly announced. Shortly after this choice was made, a scoping consultation document for the following environmental assessment of the law proposal was published. The document included a description of the test centre in general terms, including the location, and an invitation to a public meeting near the location (DASEP, 2009b).

Characterisation: The politicians' early choice of a certain location was likely driven by the wind power industry's condition that it would support this specific location if it was ready for testing within a certain, short time period (Danish Wind Industry Association, 2009). Months later, DASEP published a brief minute of the assessment of the 14 areas that also involved environmental considerations. The public were neither informed nor involved in the choice of the location. The scoping consultation was characterised by opposition from a strong NIMBY (Not In My Back Yard) movement, and many comments concerned the location and alternatives rather than the project (DASEP, 2009c), although the location in practice was settled by the Government's public announcement of the location.

[D]: The law proposal and the EIA were produced within two months. The EIA was made by the regional environment centre and based on judgements by experts, e.g., on the presence of bat species in the area.

Characterisation: The choices made in relation to producing the law proposal and the EIA were characterised by systematic analysis and scientific knowledge and were thus of planning character. No alternatives were treated in the environmental assessment besides the 0-alternative. The consultation process seemed to be led by a strategy of aiming at as little awareness as possible: The 11 days scop-

ing consultation period covered a one week autumn leave, the consultation period for the EIA report was intended for the Christmas period (DASEP, 2009d), and the initial press meeting was announced within hours at a location several hours away from most NGOs and news media (Danish Ministry of Environment, 2009). Due to inputs in the consultations, the location of the test centre was moved some hundred meters (DASEP, 2009e), and other minor changes were made.

[E]: Encouraged by the public's criticism, a considerable parliament debate took place prior to the adoption of the law. The test centre was part of a broad energy settlement, and the adoption of the law therefore required a broad support for the centre. Parties of the settlement required a detailed environmental analysis of two alternative locations prior to settling the agreement. These analyses were debated and the alternatives were found inappropriate. With a minor delay compared to the time schedule, the law was adopted with stronger restrictions on the construction and operation of the centre, e.g., on the extent of tree felling.

Characterisation: The adoption of the law was characterised by political bargaining on environmental issues reflecting differences in political profiles. Representatives of the public presented their views to the Technical and Environmental Committee. As a standard practice, the official political discussions on the centre and its alternatives were broadcasted; however, the key negotiations were presumably made in the corridors.

2) The Offshore Wind Action Plan

[A]: Denmark has a long tradition of creating possibilities for wind energy development, and offshore wind has been part of the Danish energy production since 1991 (DEA, 2005). In 1997, a national plan for offshore wind power production was made (DEA, 1997), and a national plan was again on the political agenda in 2005 as part of the Government's energy initiative (Danish Ministry of Transport and Environment, 2005). The initiative included a decision to update previous analyses of locations for future offshore wind power. The Committee for Future Offshore Wind Power Sites was appointed

with the commission of making a technical report on sites for the development of offshore wind turbines.

Characterisation: The political choice of developing offshore wind was a policy change triggered by a severe criticism of the Government's decision of cancelling the expansion of offshore wind capacity in 2001. The political choice was not transparent in terms of presenting alternatives. Environmental benefits seemed to be a central reason for the choice, but apparently the discussion did not include negative impacts. Furthermore, the choice included specific directions for the Committee's work that had to emphasise economic efficiency and streamline administrative procedures (The Committee for Future Offshore Wind Power Sites, 2007).

[B]: The Committee analysed the Danish waters for potential areas, taking a range of interests into account. Based on the analyses, the Committee pointed at seven main areas (The Committee for Future Offshore Wind Power Sites, 2007).

Characterisation: The choice of areas was of planning character as it was based on systematic analysis and rational procedures. A strategic environmental assessment was made of the Committee's report on future offshore wind power sites, since it constituted a frame for development (DEA, 2008a). The SEA report included no other alternative than the 0-alternative, and only alternatives of cable technology were described in the Committee's report. The public consultation led to a sensitivity analysis of the Committee's report (DEA 2008b).

[C]: A political settlement over energy policy in 2008 formed the choice of developing an action plan for offshore wind (DEA 2008c). A new site was included in addition to the Committee's report, and the politicians changed the order of the development of the sites (DEA 2008a).

Characterisation: The political choices were the results of a political bargaining of the content of the energy settlement. The choices were not transparent in terms of presenting alternatives besides the political suggestions, and the choices were apparently made without systematic environmental analysis.

[D]: Shortly after the settlement, the DEA prepared the Offshore Wind Action Plan based on the Committee's report and with an order of establishment of the specific locations (DEA, 2008a).

Characterisation: The preparation of the action plan was coordinated with electricity infrastructure planning; it involved an update of the Committee's report on economy and integrated the political choices of the settlement. The changes were transparently described, but as the plan was primarily a reproduction of the Committee's report, it neither involved consultation nor environmental analyses. There was no official SEA screening of the significance of the changes that were made after the SEA process.

3) The Natural Gas Plan '09

[A]: No new major national energy infrastructure for transmission of natural gas has been constructed in Denmark the last ten years, as the system has been of adequate capacity for the transport and export of domestic natural gas resources. The domestic resources are, however, running out, and this creates a new situation with a projected need for import of natural gas. Therefore, Energinet.dk initiated the planning of natural gas infrastructure and proposed the use of the Open Season approach (see De Joorde and Van Oostvoorn, 2006) to let the gas actors' demand for capacity influence the location of new gas transmission pipelines (Energinet.dk, 2009b).

Characterisation: The planning of natural gas infrastructure was a continuation of earlier analyses of economic, social, and environmental consequences of potential gas infrastructure developments (Energinet.dk 2007). The analyses had not included public consultation, and only a summary was made publicly available. The analysis included several development alternatives in the expansion of the infrastructure. A SEA process of the planning was initiated, but it was cancelled due to the consequences of the economic crisis (described below).

[B]: In 2008, the Minister of Climate and Energy accepted Energinet.dk's proposal of an Open Season process (Energinet.dk, 2009b).

Characterisation: The Minister's acceptance of the market-based approach to the development of natural gas infrastructure signalled a political endorsement of the change in the planning procedure and a political strategy of including the natural gas system in the future efforts related to climate change

mitigation and the introduction of biogas. No official considerations were given on how a market-based approach would influence the decision-making process, including how and when environmental concerns were to be included. Likewise, no public consultation was made and no transparency was presented in terms of considering alternative approaches.

[C]: To structure the Open Season process, Energinet.dk delimited the bidding options to certain corridors in the tender documents (Energinet.dk, 2009c).

Characterisation: The delimitation of options was based on technical and market-based analyses and was thus of planning character. The delimitation was decisive to the potential environmental impacts, but it included no transparency on how environmental considerations were integrated. The public was not consulted in the delimitation of options in the tender documents, and the reason for the choice of options was not explicated.

[D]: The 2009 Open Season process was influenced by the global financial crisis as the developers of a promising project on a gas tube from Norway to Sweden and Denmark chose to "suspend further project activities due to increased commercial risk combined with the global economic developments that have given an uncertain view on future gas demand" (Energinet.dk, 2009d). Based on the biddings on the remaining options and a socioeconomic analysis, Energinet.dk chose to work on an expansion of the capacity towards Germany (Energinet.dk, 2009e).

Characterisation: The choice and the reason for the project were publicised, but no public consultation was made. The consultation only involved market actors. The expansion towards Germany was included in the previous environmental analyses, and no new analysis of environmental consequences was made before the EIA.

[E]: The Minister required a detailed analysis of consequences for natural gas producers before giving the final consent to the capacity expansion (DEA, 2010). The analysis was made, and the consent to proceed was given.

Characterisation: The natural gas and oil producers in the North Sea are powerful players in the Danish policy-making on energy. Therefore, the Minister seemingly wanted to be sure of the consequences for these actors before giving the final consent to the development. The political focus seemed to be on financial and stakeholder interest rather than environmental consequences.

4) The Kriegers Flak Interconnection

[A]: The Kriegers Flak area is divided between Sweden, Germany and Denmark, and all countries have plans on offshore wind power plants in the area. In 2009, Energinet.dk started analysing the potential benefits of combining the wind power plants to utilise the cables for transnational electricity transmission in periods with little wind energy production, and to test technologies for offshore transnational electricity grids. Cooperating with the Swedish and German TSOs, Energinet.dk analysed the potentials and implications of the interconnection and prepared the ground for a choice of a technical solution (Energinet.dk 2009f).

Characterisation: The proposal of the Kriegers Flak interconnection was of planning character and involved environmental considerations at an early stage. Alternative locations of offshore wind were considered in the offshore wind process, so the Kriegers Flak proposal only dealt with alternatives in terms of interconnection possibilities and cable technology. No consultations were made on the environmental considerations, but the analysis was publicised.

[B]: Due to the global economic crisis, the European Commission and Parliament launched a European Economic Recovery Plan with funds for major energy infrastructure projects (European Commission, 2009). Among a wide range of funds to infrastructure projects, EU allocated 150 million euro for transnational infrastructure in Baltic and Kriegers Flak areas.

Characterisation: A political decision to counteract the crisis thus interfered with the development of the Kriegers Flak interconnection and sped up the efforts. No assessment of environmental impacts or consultation was made of the EU Recovery Plan despite the plan's support to projects with considerable environmental impacts: "The urgency of the economic crisis calls for the fastest possible action, in line with the conclusions of the European Council. This means there has not been time for an impact assessment" (European Commission, 2009, p. 3). Furthermore, the applicants were urged to act in a hurry and be prepared to make considerable investments in the projects by the end of 2010.

[C]: The TSOs applied for the recovery funds and became the only candidate in the pool for the 150 million euro (Bülow, 2009). Therefore, the commission could not reject the interconnection, but negotiate it.

Characterisation: The choice of applying for the funds was based on an analysis of the possibilities to speed up the process. By applying for recovery funds, Energinet.dk limited the time for environmental analyses and design optimisation in terms of environmental impacts.

[D]: Shortly after the Commission's allocation, the Danish Prime Minister praised the allocation of funds to the Kriegers Flak interconnection in the media (Information, 2009) and in a parliament committee (The Danish Parliament, 2009). He stressed that the Government would make the necessary initiatives to establish the interconnection and that it had to be done quickly to achieve the EU funds.

Characterisation: Thus, in principle, the Prime Minister made the choice of establishing the project, before Energinet.dk's analyses were concluded. The EU funds and the Prime Minister's praise made it unlikely that the project was abandoned due to environmental considerations. This principal decision was made without consultation and without systematic environmental analysis.

[E]: The political approvals of the entire project have not been made, but the expectation is that the Danish and German Governments decide on their parts of the interconnection in 2010.

Interaction between policy-making and planning

The characterisation of the choices is summarised in table 2. All of the four strategic decision-making processes are characterised by a high alternation between policy-making and planning. The analysis indicates that it is within planning and not policy-making that alternatives in terms of infrastructure locations are considered, that public consultation is carried out, and that environmental aspects are considered. Policy-making seems to put a time pressure on the progress, as seen in the cases of the test centre and Kriegers Flak processes.

Table 2. Summary of the analysis

Interaction between policy and planning	High interaction in all four series of choices (three and four shifts between policy-making and planning out of four possible shifts)
Public participation	Conducted prior to choices of planning character in two out of four series of choices. Two decision-making processes are without public participation.
Transparency on alternatives	Limited range of alternatives considered in all series of choices. Except from one instance, consideration of alternatives are related to choices of planning character
Environmental analysis	Two series of choices included systematic and detailed environmental analysis related to choices of planning character. The other two series included minor considerations on environmental analysis, also related to choices with planning character.

The results of the mapping are in line with Buckley's (2000) description of practice in the 1990s: "State and national governments, however, can, and commonly do, still adopt economic and industry policies, budgets, and legislation, and enter into international agreements on trade, investment, defence, intellectual property, and so on with little or no formal environmental assessment, and little or no opportunity for public consultation by their citizens and electorates except through informal political protest and lobbying" (p. 209).

SEA Implications of the Interaction

The profound interaction between policy-making and planning relates to SEA literature and practice in different ways and challenges some of the existing norms and understandings. Although the empirical evidence for the interaction only covers four decision-making processes, the challenges are relevant to consider in terms of their potential influence.

Firstly, the interaction challenges the relevance of focusing on either policy-making or planning in SEA application and literature. The study shows that it may not make sense to treat these levels separately, as both levels in a dynamic interaction form the development in question. The obvious need to approach choices at both levels in one process urges consideration of whether existing SEA methodologies are appropriate: Simple and less formal policy-oriented SEA approaches may be appropriate for

the choices of policy-making character; however, these approaches will most likely be of less relevance to the choices of planning character compared to plan-oriented SEA approaches. Similarly, the plan-oriented approach may not be flexible enough to approach the choices of policy-making character. Therefore, neither the policy nor the plan-oriented SEA methodologies seem adequate for approaching the interaction.

Secondly, the study contributes empirically to the discussion of tiering by showing that the progression of choices at strategic level does not follow the decision-making hierarchy, but is constituted by interaction between policy-making and planning choices. The widely held assumption of a linear planning process should therefore be considered replaced by an assumption of a continuous interaction. SEA reports that typically provide the frames for what should be included in lower level environmental assessments, may therefore also have to include suggestions for higher level decision-making and assessment processes, including "diagonal tiering" (Arts et al. 2005, p. 3) to decisions in other sectors.

Thirdly, the interaction makes it difficult to determine who has the responsibility at what stage in the series of choices. To keep a sense of perspective and enhance continuity in the integration of environmental considerations, it is relevant to consider whether it would be possible for a single actor to assume the overall responsibility for SEA application throughout the strategic decision-making process. Policy choices are not under the auspices of Energinet.dk, which therefore does not seem an appropriate candidate. Policy-makers are not aware of the early choices in planning induced interventions. It may, however, be possible for policy-makers to require SEA application and continuity of sequences of the decision-making processes.

Fourthly, the interaction may make it difficult to approach the 'early stages' of decision-making when the "maximum opportunity occurs to gain environmental leverage on alternatives and options from a SEA perspective" (Sadler, 2005). The study shows that a range of actors make formal and informal choices of environmental significance in the development of energy infrastructures, which are likely to make it difficult for a single actor to identify the early stages. A manager within the energy sector explained the difficulties of determining the right time for SEA application with emphasis on the inertia of the process: "It is like we are seated in a high-speed train and through the window we see a sign saying 'SEA process', but it is too late to press the stop button".

In the mapping, the choices are presented as political settlements, reports, committee task, etc., and not as a "plan" or a "programme". Thereby the choices often avoid attention in terms of environmental assessment requirements, as also concluded by Boothroyd (1995). In 2009, the Danish legislation on SEA was reformulated by broadening plans and programmes to "documents". The coming years will show how this formulation will work in practice, and to what extent it will cover the choices identified in the mapping.

The study shows that public participation, transparency of alternatives, and systematic environmental analyses are conducted in relation to a limited amount of choices, primarily of planning character. This practice constitutes a point of departure for approaching the interaction through SEA, as the practice indicates the existence of competences and experiences at the planning level. The ongoing SEA implementation in Energinet.dk is likely to improve the practice at the planning level, and due to the profound interaction, it may very well enhance the application of SEA among policy-making actors in the sector.

Conclusion

This paper has shown that strategic decision-making processes in the Danish energy sector are characterised by a profound interaction between policy-making and planning that challenges the application of SEA. In the series of choices that form energy infrastructures and related environmental consequences, planning choices based on systematic analyses alternate with policy-making choices based on bargaining and horse trades. Public participation, transparency of alternatives, and systematic environmental analyses are conducted in relation to a limited amount of choices, and primarily related to choices of planning character.

The findings represent a number of challenges to existing SEA literature and practice, including questions of whether it is possible to develop a SEA methodology which is able to approach both policy-making and planning characters; how to assign responsibility when responsibility continuously changes hands in the progress; how to identify early stages when no actor has an overview of the informal

choices; and how to tier the environmental assessment process when the progress does not follow the decision-making hierarchy.

The mapping will serve as an input to SEA implementation in the Danish energy sector. In an international perspective, more studies are needed to determine how widespread this interaction is in strategic decision-making processes. The study in itself may constitute an empirical input to discussions on how to approach strategic decision-making processes through SEA and how to increase the influence of SEA.

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