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*Publication date:*
2010

*Document Version*
Tidlig version også kaldet pre-print

# Exploring potentials of sense-making theory for understanding social processes in public hearing

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Keywords: Sense-making, public meeting, infrastructure

This paper has point of departure in a planning process on energy infrastructure in Denmark and focuses on a particular public hearing meeting characterised by trenchant opposition and distrust to the authorities among the public. It points at the need to understand the interaction between authorities and the public in such planning often characterised by conflict.

A sense-making framework is developed based on Karl Weick's theory to investigate how participants at the meeting change their understanding aspects like other actors' opinions and the infrastructure project. Through interviews and observations it is shown that participants' senses do not change except from a few aspects. The participants at the meeting thus seem stuck in their positions without interest in being open for other interpretations or arguments.

The investigation leads to considerations about the benefit and role of such a public meeting and the importance of trust and openness in the social processes in a public hearing.

## 1. Introduction

The Danish energy system is undergoing major changes due to political focus on climate change and renewable energy. The change involves among inter alia an increase in renewable energy production capacity, a completely new electricity transmission grid, and an increase in natural gas storage facilities. The planning processes on these infrastructure changes are often characterised by local opposition and debates on the necessity of the infrastructure.

Obviously, the opposition is related to the related impacts of energy infrastructure on the local society. Infrastructure may reduce property prices, decrease potential income from natural resources, require expropriations, etc. Therefore, the impacted people feel a need to stand up against the planning and space indeed becomes a luxury when several interests are conflicting.

One example of energy infrastructure planning is the planning of a re-leaching and expansion of caverns for natural gas storage in Ll Torup, Jutland. When talking to local people about their experience with the

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authorities and public meetings on the Ll Torup planning, they describe the meetings as an arena of trenchant opposition from locals and authorities that do not answer questions from the audience. The description is far from objectives of public participation, e.g. rights of access to information and public participation in decision-making as prescribed by the Aarhus Convention (UNECE, 1998), and from planning paradigms such as Consensus Planning (Innes 1996) and Communicative Planning (Healey, 1996).

This paper presents an investigation of a particular public hearing meeting in the Ll Torup planning process. The investigation aims at exploring "what is going on" at the public hearing meeting with focus on the social processes of creating and sharing meaning and understanding. Several investigations of planning processes have focus on power and politics in the relations between the actors, however, this paper uses sense-making theory to explore what is going on at the public hearing meeting. The intension of using sense-making theory is to add another dimension for understanding the social processes at the meeting.

Weick (1995, 2001) is a primary inspiration on sense-making in this paper, especially his explanations of how people bracket cues and label events to grasp situations and create meaning. Weick's writings on sense-making are inspired by social constructivism, socio-psychology theory and organisation theory, and his writings seem rarely used within planning and impact assessment literature. The investigation of the public hearing meeting is distinctive compared to most other sense-making studies as it covers a very short time span and thus involves a bigger opportunity for revealing minor changes in participants' understandings.

### *1.1. Description of the case*

The Danish energy transmission system operator, Energinet.dk, owns and operates a natural gas storage at Ll. Torup in central Jutland. The gas storage facility consists of seven cavities at a depth of 1,270-1,690 metres leached in a salt dome. The caverns are 200-300 metres high with a diameter of 50-65 metres. In 2008 Energinet.dk started planning for re-leaching the existing caverns and establishing extra storage capacity by expanding the existing facilities. The project is expected to take 25 years to complete. (Energinet.dk, 2009)

The planning process involves a wide range of documents and authorities: EIA and environmental approval by Aarhus regional environment centre, municipal plans by Viborg Municipality, permit from the Energy Authority, and approval by the Minister of Climate and Energy.

Besides the authorities, a range of actors in the area are engaged in the processes. The local actors are primarily fishermen, residents, owners of summer cottages, and nature NGOs. They are organised through the NGOs and through a few resource-strong persons that have used considerable efforts in trying to stop or significantly change the process.

The case is the specific public hearing meeting of the Ll Torup planning process. The public hearing meeting was held at Viborg Musiksal, May 3rd 2010 at 7pm. About 200 people were present, including

representatives from 3 regional environment centres, the natural gas storage company and the Danish Energy Authority. Among the audience were representatives from the Danish Society for Nature Conservation, Danish Ornithological Association, fishermen and city council members. Two peaceful happenings against the planning were taking place at the entrance and a banner were decorating the room of the meeting.

## 2. Sense-making analytical framework

The investigation covers a minor part of participants' sense-making process that was initiated when the participants' noticed the planning ideas for the first time and continues throughout the re-leaching to potential coming re-leaching. The focus of this investigation is delimited to the development in the persons' sense-making processes from before the meeting to after the meeting. The analytical framework include aspects that the participants are expected to have made sense of and encompass both technical or physical aspects as well as persons' understanding, see table 1.

| *Sense about* | *Before the meeting* | *After the meeting* |
|---|---|---|
| The project | | |
| Societal need for the project | | |
| Certain environmental impacts | | |
| The range of environmental impacts | | |
| Other peoples' understanding and values | | |
| Own understanding and values | | |

*Table 1: Sense-making analytical framework for the investigation of the public hearing meeting.*

The analytical framework is expected to show how and to what extend the participants' sense change at the public hearing meeting. This information will make it possible to discuss what influences participants' sense-making process, and adding new investigations may make it possible to discuss under what circumstances, sense-making is taking place.

## 3. Methodology

In line with Yin's (2005) writings on case study methodology, the investigation of the Ll Torup case is based on a range of methods and acknowledges the importance of the context. The methods are participant observations, review of news on the planning, and interviews. Contradicting Yin's writings is the short time frame, which therefore is supplemented by background knowledge of reports and statements in the news about the Ll Torup planning.

In terms of the potential of using sense-making theory, the case can be seen as a critical case, since it is highly politicized and value-based which is thought to hamper the relevance of investigating sense-making processes; if the sense-making interpretation is relevant in this case, it is likely to be relevant in all cases.

Whereas other sense-making studies are based on historic data or longitudinal studies, this investigation is focused on a very short time frame. The short time frame is expected to make it possible to direct changes in persons' sense-making to the social processes taking place at the public hearing meeting. It is, however, a snap-shot of ongoing sense-making and organizing activities among all involved actors, and it may be difficult to explain the changes taking place, as these are part of a complex web of interacting processes.

### *3.2. Interviews of meeting participants*

The analytical framework is reflected in the choice of conducting interviews before and during/after the public meeting hearing to achieve insight in the development of the participants' sense-making.

*Choosing interviewees*

Three interviewees were found by searching the media for persons that expressed their sceptics about the project and the EIA. A variety of opinions were sought and partly achieved by representatives from local fishermen, from a regional organisation of a national nature NGO, and from a regional organisation of a national bird NGO. These representatives provided a good basis for using a snowballing technique to identify other relevant interviewees for coming studies. The interviewees were all knowledgeable of the case and engaged in being critical of the development, however, their opinions and interpretations are likely to have influenced this investigation to reflect a critical view of the planning process. Furthermore, the interviewees were all knowledgeable in nature and the impacts of the project, which may be reflected in the character of the sense-making development.

The interviewees' personality and background was an obvious frame for their sense-making activities, and there was a clear tendency that the interviewee with a business background focused on strategic and regulatory aspects, the interviewee with education background focused on logic and calculations, whereas the gardener mainly emphasised impacts on nature. From the interviews and observations at the public hearing meeting it was clear that the persons participating in the hearing used a wide range of sources were used by the persons to make sense of the project. The persons of course referred to the reports on the activity and the environmental impacts that were directly connected to the hearing, however, they also referred to background materials to the reports, similar projects, modelling methods, statements in the news media, information at web pages against the planning, historical data, and personal experiences. Part of the debated information has been made accessible by request of the affected people. The social process of exchanging viewpoints was thus based on a complex variety and amount of information. In spite of the importance of the

interviewees' background and their use of materials in their sense-making processes previous to the meeting, this is not part of the investigation.

*Interview considerations*

Three full interviews were made on the day of the public hearing meeting. Two interviews were made in the homes of the interviewees to enhance a relaxed and confidential atmosphere, and the third at the venue of the meeting. The interviews during/after the meeting had character of being conversations and continuations of the interviews before the meeting. I emphasised that they were to accept how I used their statements and I conducted the interviews like conversations taking notes in stead of recording the conversation. Thus, the quotation may not be 100% accurate, however, they are approved by the persons afterwards and thus an acceptable representation of what they were likely to say in this situation and still stand for. To make the topic of sense-making easier to understand, I used the terms 'perception' and 'understand' in the communication with the persons. Furthermore, I aimed at opening up for their words and what they found interesting rather than using the analytical framework slavish. The interview questions in "everyday" language were of the character: How do you understand the project? What do you expect to hear about at the meeting? Did you hear something new at this meeting? Did it change your understanding of the project or its impacts?"

The efforts of making my intensions clear were complicated by the setup of the PhD project as it is partly funded by Energinet.dk that has initiated the re-leaching of the caverns. Despite the complications, it may have given an increased interest in my project as the persons then had an opportunity for accessing an "insider" in the re-leaching company.

### *3.3 Analysis of statements in news media*

A significant part of the meaning creation is assumed to be based on news media. This assumption follows an observation that several actors point at the same "mistakes" in the reports and use very similar arguments. Therefore, news media and web pages have been reviewed for opinions and arguments. The review has covered national and local newspapers, ministerial news letters, and private homepages about the planning. Search words were names of the impacted areas, words related to the planning, and names of the authorities and key persons involved in the process. The findings of the review are not directly mentioned in this paper, but they have constituted part of the basis for developing interview questions and for interpreting interviews and observations.

### *3.4 Observations at the public hearing meeting*

To get insight in the sense-making processes as they are taking place, a public hearing on the Ll Torup case was observed by participation in the meeting. The observation was focused on who was speaking, how the audience reacted, what arguments were used, and how opinions of specific issues were developed (if possible). The observations were noted and some were discussed with participants.

## 4. Results

The result of the investigation is summarised in table 2. Besides being part of the interviews, all aspects of the sense categories were brought into the debate by the audience at the public meeting.

| *Sense about* | *Interviewees' sense before the meeting* | *Change in sense (During/after the meeting)* |
|---|---|---|
| The project | A very comprehensive project with no treatment of waste water | (Similar) |
| Societal need for the project | "The extra capacity of the caverns has the purpose of earning money and not a necessity for the society" | (Similar) |
| Certain environmental impacts | Uncertain knowledge about impacts on the protected area | (Similar) |
| | "Political" EIA | (Similar) |
| The range of environmental impacts | A range of impacts on the ecosystem in protected area, impacts on human health and fishery | (Similar) |
| Other peoples' understanding and values | Agency hides knowledge about the content of the salt in the caverns | The agency said themselves that they did not know what was down there |
| | Agency has declined the alternative of a pipeline for the wastewater to discharge in Kattegat due to the distance | Agency had considered it outside the possible demands to Energinet.dk |
| Own understanding and values | "We know more about the local characteristics since we live here, and we experienced the impacts from the leaching of the caverns decades ago". | "There were nothing new today" |

Table 2: The development of the interviewees' senses

**5. Discussion of the sense-making processes**

In terms of the development in the interviewees' sense-making process from before to after the meeting, only a few changes were obvious. One interviewee specifically stated: "There is no new [relevant] information about the consequences at the meeting". One of the changes in senses was bracketed by one interviewee in emphasising that the agency clearly admitted that they - in spite the formulations in the EIA report - did not know what amount of heavy metals were in the caverns. Another change was a change of sense from the agency not considering alternatives fully to a sense of a professional judgement as basis for their decisions. Looking beyond the interviewees, some participants uttered changes in their understanding of the planning; a participant started a comment on the planning with: "I think I have become wiser about the operation phase tonight". Furthermore, some confusion rose among the audience around certain discussions, which indicates that some participants are still in a phase of making sense of these discussions.

From observing the meeting, it seemed that change of sense among participants primarily was related to certainty and knowledge in the basis for the EIA. Attention to these aspects may be due to many participants' interest in contesting the knowledge and arguments of the agency. This interest came into light in an interviewee uttered: "We would like to hear other viewpoints to benefit our case". The certainty and knowledge seemed also to reflect a primary difference between the agency and the public made sense of the project, which may be due to differences in normative and disciplinary structures that govern the way of the agency and the participants view events. Looking beyond the sense-making framework political interests or instructions may be an explanation as it seemed that the agency had no interest in following the participants' line of thought. In stead the agency often answered questions about heavy metal concentrations of the salt to be re-leached with information about the limits on the wastewater content in the environmental approval.

*Settled changes at a late public hearing*

The minor changes are likely to be due to the late time of the public hearing meeting: Documents on the project has been published 3 months before and another public hearing meeting was held prior to the investigated. A public meeting with no more than a few questions per person may not be a relevant forum for reaching a level of detail of conversation between the knowledgeable interviewees and the agency. An interviewee directly commented the insufficient time for decent explanations. Change of a settled sense based on deep insight in the issue at hand may require a considerable level of detail and sufficient time to achieve this level.

The changes of interviewees' sense-making are part of a longer process, which one of the interviewees described in this way:

> *"In the beginning I focus on details and re-calculate their numbers to look for e.g. a factor ten mistake. Thereby I focus on things "that are too flawed". It is an effort of demolish the*

> *logic and arguments in the report. Later, I get more overview of the report and the understanding that the most significant point of criticism are covered, for instance in the description of operation phases in the environmental approval. The question is then if the environmental agency has the strength to stop the process."*

The investigated public hearing meeting takes place late in this progression of sense-making at a stage, where the interviewee's sense of aspects included in the analytical framework are settled in an "overview".

Earlier public hearing meetings may be earlier in peoples' creation of meaning. As an example of changes in sense-making previous to the meeting, two interviewees mentioned the lately published information that the EIA report is partly based on data from a 20 years old sample of the salt in the caverns rather than a new sample. As the age of the sample was not mentioned in the EIA report, the interviewees had assumed that new samples had been made. The late realisation of the age of the samples changed much attention from the uncertainty about the content to the inadequacy of old samples.

*What influences when and how people make sense of the projects and its impacts?*

Besides the late time of the meeting, the minor changes of sense may be due to distrust among the participants to the agency. Partly because the EIA report in their opinion was positive to the project in its treatment and judgement of data: According to some of the statements in the media, data that may lead to criticism seemed to be ignored in the report. As one of the interviewees' commented it: "The more they put forward, the more suspicious we get on what they are hiding". The distrust was fuelled by an interpretation of the agency's verbal performance: "I am upset that they [the environment agency] do not answer the questions". An example of such questions was about an apparently controversial choice between remarkably different results from laboratory tests, which the agency did not explain in spite of several questions about it. The distrust seemed to decrease the participants' openness for the agency's understanding. In stead the audience kept asking about e.g. how to deal with the content of heavy metals in the salt caverns when the agency in a seemingly proper way had explained that their only possibility was to regulate the wastewater.

The use of specific frames for talking about an issue seemed to influence actors' sense-making. In some instances the audience seemed not to follow the logic of the environment agency's answers and became confused about the agency's statements. An example is way of approaching the problem of uncertainty about the contents of the caverns, where the public focus on the toxic chemicals in the caverns, whereas the agency focuses on µg/l concentrations in the wastewater. The framing of issues also came into sight in a discussion on mercury: The environment agency framed the question of mercury as "it is only 2 kg compared to the average intake from the sea to the fjord on 100-800 kg", giving the impression that the (environmental) agency is defending the project rather than the environment. One of the participants counter-framed the impact as "1 kg is one too much ". Another specific framing was the agency's statement "There will be no

more salt content in the Fjord than what is naturally occurring today", which seem to cover that the increase in *average* salt content will not increase to levels that are not presently occurring. The coming maximum salt content was not mentioned. Some participants tried to counteract the agency's framing by using a metaphor of an incredible number of lorries loaded with salt rather than a small number of µg/l. Such carefully formulated framings of impacts are discussed by Gioia and Chittipeddi (1991) as "sense-giving". They defined sense-giving as "the process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality." (p. 442). Sense-giving inspired Maitlis and Lawrence (2007) to introduce the concept of "sense-giving contests" for the contesting framings and inspired Corvellec and Risberg (2007) introduce the concept of "mise-en-sens" for a more detailed understanding of sense-giving. Sense-giving is by far an innocent activity that inter alia relates to ethics, power and legitimacy.

**6. Conclusion**

The investigation confirms the idea that sense-making theory has a potential for explaining how peoples' sense-making evolves in their effort of creating meaning of a project and its impact. In the case of Ll Torup the use of sense-making made it clear that the public hearing meeting only resulted in minor changes among the interviewed participants. The insight in participants' sense-making processes may serve as a basis for reconsidering the timing and format of the public hearing meeting and for improving communication between the involved actors concerning e.g. the basis for decision, the frames used and action suggested.

To the extent the investigation confirms the assumed potential of sense-making it opens up for a range of questions to be studied: Would it be beneficial to differentiate the dialogue with the public depending on their insight, since the insight seemed to influence the level of detail on which changes in sense-making takes place? Weick argue that sense-making and identity are intimately linked, and it is therefore interesting to ask: Are people adopting an identity of opposition developing a common sense-making style? Does sense-making have a potential in terms of creating meaning of and discussing valuation of impacts? When is sense-giving a legitimate activity?

The investigation indicates that objectives of public participation are under pressure in highly contested and value-laden developments. It shows that public hearing meetings risk being an arena for a verbal fight where the people opposing the project are trying to get information that may help them stop the process, rather than developing and sharing understandings. The agency and opposition seem to be locked in structures, where no openness or concessions are given. The investigation therefore leads to worries if it at all is possible to gain a constructive debate on the basis for decision-making in cases like Ll Torup? To end in a positive tone, a representative of the opposition declared that if the purpose of the public hearing clearly was to establish "the best EIA", he declared that he would participate with an aim of a constructive dialogue.

**Acknowledgements**

The investigation is part of a PhD process on strategic environmental assessments in the Danish energy sector that aims at assisting authorities in developing a suitable practice on SEA. Acknowledgement is given to Energinet.dk for funding the project and for the interviewees for their time and openness.

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