

“Offshore Wind Power and the Challenges related to  
Public Participation and Local Acceptance:  
Comparative Case study in France and Denmark”

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## **Forewords**

The present study has been made in order to complete the necessary requirements of the Lund University International Master Programme in Environmental Studies and Sustainability Sciences (LUMES, Master of Science, Sweden).

## **Abstract**

*In the development of onshore and offshore wind power projects in Europe, inviting the local populations to participate during the decision process and getting their support have become key arguments since the last decade. Public participation often appears in case studies like a positive approach during the decision process (most of the time as a voluntary invitation from the project developers) and tends to stimulate dialogues between the stakeholders. However the direct connection between this participation and the level of acceptance of the local inhabitants hasn't been clearly made in the literature on wind power.*

*The aim of the paper is thus to see, through a comparative study of the offshore wind parks of Veulettes-sur-Mer (France) and Middelgrunden (Denmark), whether the involvement of the local inhabitants during the decision process really affects their acceptance of the offshore project, and how this level of acceptance can be influenced by diverse criteria that the inhabitants put forward.*

*In the case of offshore wind, Denmark has shown its technological advance over the other European countries, in a social and political context highly positive towards wind power. During the implementation of new projects, local acceptance has always been considered a necessary factor to look for, and the local populations have been more and more considered as main stakeholders to get support from.*

*In France however, the decision process of the future first offshore project in Veulettes-sur-Mer has highlighted the contradictions during the communication campaigns, the difficulties to reach this acceptance among the local inhabitants and the tensions between the involved stakeholders.*

*For both cases, public participation has played an important role in building people's opinions. However, the criteria which appear crucial for the local inhabitants vary for each project. The different types of public involvement have differently affected the local acceptance, and the presence of certain aspects such as cultural ones seems to be a necessary precondition for the appearance of support towards the projects.*

## **Key Words**

Offshore wind power, public participation, local acceptance, decision process, stakeholders' interests.

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# 1. INTRODUCTION

## **1.1 Background**

### **1.1.1 The political context: European objectives**

During the last decade, the increase in oil prices as much as the different scenarios concerning the possible effects of global warming (IPCC, 2001) have been giving states good reasons to further develop their legal schemes and technological infrastructures towards Renewable Energy Sources (RES).

In terms of renewable energies and limitation of greenhouse gases' emissions, the European Union (Parliament and Council) Directive of Sept. 27<sup>th</sup>, 2001 has been considered the main guideline concerning energy demand and production, and recommends that renewable-energy-based electricity should reach 22,1% of the EU 15 group's demand in 2010 instead of 14% in 1997 (European Commission, 2001). According to this directive but also to the functioning of the EU itself, each member state is allowed to choose its best renewable energy policies that will fit the supranational objectives. It is also invited to adopt the proven best practices, economic incentives and administrative procedures in order to reach the objectives defined by the Kyoto Protocol (UNFCCC, 1997). The commitments towards RES have been reaffirmed by the European Commission in January 2008 in its "*proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources*", proposing to implement mandatory objectives of "*20% for renewable energy's share of energy consumption in the EU by 2020 and a binding 10% target for the share of renewable energy in transport petrol and diesel*" (European Commission, 2008).

Therefore, the European member states have been incited to develop their electricity production through RES, and wind power has been standing as a production technology with one of the greatest potentials for the future:

*"3.3% of the EU's electricity consumption is met by wind power (2007), but this share could increase to almost one quarter by 2030, provided that the right framework is introduced and current distortions in the EU energy markets are removed. If combined with serious energy efficiency measures, the share of wind energy could reach 30% by 2030"* (Belhomme, 2002; European Wind Energy Association, 2007).

### **1.1.2 The advantages of offshore wind power compared to onshore ones**

Although the investments in capital and maintenance are generally higher than onshore infrastructures, the offshore facilities are considered much more efficient in terms of production potential for the following reasons:

- "*Wind speeds are generally higher than on land*" [...]

- “it is more feasible to utilize very large-scale wind turbines than on land, and this is also likely to improve the economic viability as more energy can be captured from one platform” (Boyle, 2004)
- The wind blows generally in a more even way than on land, and there are fewer disturbances from the ground’s surface and shape (*Ibid.*).
- For a similar type of technologies, offshore windmills’ production can be from 30 up till 50% higher than onshore ones. (Le Visage, 2004).

Despite these advantages and high production potential on its Northern coasts, France did not implement yet any legal structures and economic incentives that would favour offshore wind power compared to the current development of nuclear infrastructures. On the other hand, as it will be seen later, Denmark often appears like a forerunner in terms of offshore technological expansion, and shares with other countries the experience it gained during the last decades.

### **1.1.3 General and local acceptance towards wind power**

Different levels of social acceptance of wind power projects can be distinguished. In this analysis, “general acceptance”, which corresponds to the perceptions on a large scale (region, country, federal level) is different from the “local” one which only refers here to a specific case, to a small geographical area and to the individual perceptions and attitudes of a certain group of people.

There is a general distinction to make between national and local attitudes towards onshore and offshore wind power infrastructures. For instance, 90% of the French population expressed in 2007 a positive attitude towards wind power and the development of RES (France Energie Eolienne, 2007), while only 5% were against it, according to national Danish polls (Middelgrunden Wind Turbine Cooperative, 2003). These statistics however don’t give any detailed information on the local attitudes towards specific infrastructures or projects nor on the criteria that local inhabitants consider decisive to build up their opinion.

## **1.2 Aim of the paper / Questions and Hypothesis**

### **1.2.1 Aim of the paper**

The aim of the paper is to see whether the involvement of the local inhabitants during the decision process affect their acceptance of an offshore project, and how this level of acceptance is influenced by diverse criteria that the inhabitants put forward.

### 1.2.2 The empirical study

The study will be based on a review and comparison of the different steps of the decision process of the offshore projects in Veulettes-sur-Mer (France) and Middelgrunden (Denmark), and on their relation to the social acceptance of these projects in the concerned areas. This paper will also “explore” the “prerequisites” which are considered by the local inhabitants important/decisive/necessary in order to accept the implementation of an offshore park in their neighbourhood.

On the one hand in France, the interest given to offshore wind power by the political leaders and the civil society has been quite recent and controversial. Various factors can be proposed to explain the French reluctance, from the weight of nuclear power within the national electricity production until the fairly centralized political system. Scholars however find it important, if not necessary, to focus on the early stages of the decision process and on the quality of the consultation with the inhabitants in order to understand the local acceptance or rejection of wind farm projects (Jobert, 2007). Certain projects that seemed beneficial for the production of “green” electricity in relation to the national objectives have been refused by the political authorities within the last years. The mentioned reasons to justify their decisions were related to the ambiguities between the will to promote and develop sustainable energy production on the national scale, the lack of legal and technological schemes and the miscommunication with the local authorities and inhabitants (Actu Environnement, 2005).

On the other hand, in the literature on wind power and on renewable energy production, Denmark is often called a “success case” within the European Union’s state (Nadaï, 2007; Kolonas, 2007). Following its objectives of producing 50% of the total energy production through wind power (Ea Energy Analyses, 2007), the Danish government has been developing offshore wind parks since the early 1990’s and implementing legal and economic schemes to encourage industries but also private stakeholders to take part of the consultation processes. These days, offshore wind power seems to be well anchored in the landscape and in Danes’ mentalities. Their attitudes towards offshore infrastructures are for diverse reasons more positive than in other regions, and offshore parks are favoured for a further development of wind power in the future (Ladenburg, 2007).

The chosen examples of Veulettes-sur-Mer in France and Middelgrunden in Denmark will allow us in this research to notice the differences, common points and influential factors in the decision processes of both cases, and to combine them with the involved stakeholders’ attitudes towards offshore parks. Different angles can be used to define the most significant characteristics that would ascertain the acceptance of the local communities, for instance:

- The perceptions of the local inhabitants, their direct feelings of acceptance or rejection towards the offshore wind parks of Veulettes-sur-Mer and Middelgrunden;
- The most important criteria that are quoted to justify their attitudes;

- The characteristics of the successive steps of the decision process: stakeholders' involvement in the discussions, communication campaigns, economic benefits and incentives, existing policy frameworks, ownership of the parks...

### **1.2.3 Initial assumptions**

The main hypothesis behind this comparative study is related to the forms of communication during the process of deciding and implementing an offshore wind project. It is based on the assumption that *the Danish way of involving the various stakeholders makes the local communities more willing to accept offshore wind power in their neighbourhood in a relatively peaceful atmosphere. On the contrary, in the French case, the lack of clear communication between the stakeholders makes compromises and decisions harder to reach, and favours the development of conflicting and strained dialogues between supporters and opponents to the project.*

## **1.3 Limits and Outline**

### **1.3.1 Limits of the analysis**

The following analysis only deals with attitudes of the local communities on offshore wind power in the limited geographical areas of Veulettes-sur-Mer and Copenhagen. The close surroundings (especially the other communes affected by the offshore parks in terms of visibility and administrative procedures) will sometimes be considered, especially when these are involved in certain processes or discussions, but they won't be in the centre of the analysis.

These two cases will be the only ones analyzed here. However some data concerning other wind power cases, onshore and offshore, were looked through in order to find out and compare the most frequent criteria that are taken into consideration in terms of public participation and local acceptance.

At last, the present study won't take side in the many debates concerning the positive and negative aspects of wind power itself, as they are frequently described and discussed by associations and inhabitants in newspapers or official websites. The main idea is not to favor wind power against other energy sources or infrastructures, but to understand the reasons of the advance of certain countries and the delays of others in terms of development and promotion. The analysis will only use some of the criteria that are often submitted to justify people's opinions, both in favor or against specific projects.

### **1.3.2 Outline**

After the presentation of the methodological tools (Chapter 2) and of the theoretical framework and concepts (Chapter 3) that were used to organize the present study, a short introduction of the cases will be given (Chapter 4) in order to introduce the analysis. In Chapters 5 and 6, the main results will be listed, compared and discussed in order to highlight the main characteristics of both of the projects, and

will provide a critical approach of the first assumptions and an enlargement of the topic. At last, the conclusion (Chapter 8) will summarize the results of the research.

## 2. METHODOLOGY

### **2.1 The Qualitative Comparative Design**

As Bryman says, conducting a comparative case study to design an analysis allows one to “illuminate existing theory or generate theoretical insights as a result of contrasting findings uncovered through the comparison” (Bryman, 2004). The main interests of comparing various cases is to highlight common points and differences, to distinguish “characteristics of two or more cases to act as springboard for theoretical reflections about contrasting findings” (*Ibid.*), and therefore “establish the circumstances in which a theory will or will not hold” (Yin, 1984).

The cases of Veulettes-sur-Mer and Middelgrunden will underline the main aspects concerning both decision processes, their differences and similarities, but also define a list of criteria that may be necessary to consider and apply in order to make a project socially accepted by the local communities.

Many aspects of such a research method can however be submitted to criticisms. In this work, for which qualitative sources are the most important (See 3.4), one can refer to the reasons described by Bryman (2004), according to which:

- Qualitative research can be considered “*too subjective*”, since such a study relies “*too much on the researchers’ often too systematic view about what is significant and important*”. Such a criterion can also be applied when justifying the choice of the cases of a comparative study. There is a need for objectivity in the design and the description of the cases as much as in the selection of the contacts to interview.
- It can be “*too difficult to replicate*”, contrary to quantitative methods, since the data collection depends on theoretical insights as much as on subjective facts and interpretations.
- It could create “*problems of generalization*” due to the specificities of the compared cases and to the limitations of the scale of the research (here mainly geographical ones).
- There could be a “*lack of transparency*” related to the three criteria developed above, that could only be solved through a careful justification of the methodology, the steps of the research and the choice of cases and interviews.

However, one of the most essential challenges when conducting a comparative study is to be careful about the importance given to any of the chosen cases, and thus required to define the angle of

the comparison. It is indeed necessary to find either a right balance between them, or to justify the reason of a possible imbalance. For this essay, the Danish case is considered a success in terms of social acceptance of offshore infrastructures, while, on the contrary, France experiences many difficulties to develop wind power. Despite these differences, it remains important to keep both cases on the same analytical level instead of putting the Danish one on a “pedestal”. Both will thus be equally analysed and questioned, and the same research methods (including data collection of both quantitative and qualitative sources) will be applied.

At last, the concept of impartiality remains important during all the steps of the research, implying to justify every theoretical and concrete inputs and conclusions drawn from them. For this analysis, the main difficulty during the data collection (especially when preparing and conducting the interviews) has been to clearly define, present and always keep an objective position concerning RES and wind power. For instance, many negative and strained comments from associations and people who strictly oppose the development of “industrial wind power” put into questions the structure of the work and each step of the research design.

Though the research methods were planned within a sociological analytical framework, some difficulties related to the nature of the study field itself were encountered. These days, wind power is in fact a very controversial topic which often has a strong linkage with political discussions as much as with individual perspectives. Accessing information and meeting people become therefore more complicated, controlled and interpreted, and researchers are often asked to take side in the debates: “*Access is usually mediated by gatekeepers who are concerned about the researcher’s motives, what the organization can gain from the investigation, what it will lose by participating in the research in terms of staff time and other costs, and potential risks to its image*” (Bryman, 2004). For instance, in the case of Veulettes-sur-Mer, many cases of industrial spying were denounced by opposing associations which are against any further development of wind power in France. A certain mistrust was directed against the “*very powerful European lobby of industrial wind power companies*” (correspondence with the president of the association « Vent du Bocage », February 2008), and for this reason a few people refused to answer any questions, although they could have gotten detailed explanations concerning the purposes of this research.

## **2.2 The choice of the cases**

### **2.2.1 France and Denmark: High potential of wind power in terms of clean energy production**

To fulfil the European objectives and apply the European Directive on a national level, the French government has been setting its own objectives. The main aim is to increase the national production of renewable energies from 15% to 21% by 2010, and in more details:

- From 12 M toe to 18 M toe of “renewable heat” (heat based on renewable energy sources), which is an increase by 50% of the values of 2001.
- From 0,4 to 2,8 M toe of renewable fuels, which is an increase by 600%.
- From 14% to 21% of renewable electricity which represents 3 M toe more than these days.

Consulting groups specialised in renewable energies have been considering wind power a key source of energy production in France (Secrétariat Général de la Mer, 2002; Espace Eolien Développement, 2006). Even if nuclear power remains the core of the French energy policies (nuclear power equals around 80% of the national electricity production), wind power represents the main pillar of the future policies, and should contribute to 73% of new renewable energy increase (Chabot, 2004).

Meanwhile, the Danish government has been setting since the middle of the 1970’s targets and policy proposals concerning RES in order to reduce the country’s dependency on oil and thus double “*the share of renewable energy to 30% by 2025*” (Ea Energy Analyses, 2007).

Though Denmark is already considered a successful country in terms of turbines’ installations, wind power still appears as a major solution for a “greener” future, its integration is planned to reach 50% by 2035 within the total electricity production of the country (*Ibid.*).

According to Figure 1, the Northern European coasts are favourable for a further development of onshore and offshore wind parks. However, wind power has never been fully exploited on the French territory like in other regions such as Denmark, Germany or Spain. Moreover, discussions concerning the future implementation of offshore wind structures in France have been too recent and controversial to equal the Danish advance on the issue.

### 2.2.3 France vs. Denmark

About ten projects of offshore parks have been announced in France in the last years on the North-western coasts of the country. However, nine of them were rejected by the regional authorities, despite the invitation to tender to foreign companies, the positive pressure from supporting associations and the good will of the political authorities on the State level (Actu Environnement, 2005). The latest one, which proposed the construction of 156 offshore turbines between Le Tréport and Saint-Valéry-sur-

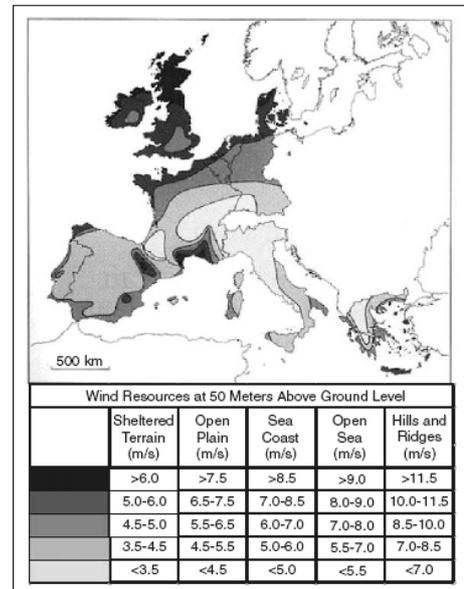


Figure 1 – Wind Resources in Western Europe (according to RISOE for the European Commission, Eole France, 2005)

Somme (Normandy) for a potential yearly production of 702 MW has been abandoned for safety reasons, due to the presence of underwater mines from the Second World War in the selected area. Local inhabitants and associations of fishermen warmly welcomed this decision. The wind power companies however interpreted this issue as a step backward from planners and politicians towards sustainable development and renewable energy production: they criticized the weight of political and social pressures against what they consider necessary investments for the future of the energy sector in France. According to the comments on the reject of these projects, different stakeholders rationally compete against each other to defend their interests, and they seem to take advantages from the lack of multilateral communication to put pressure on political and economic authorities.

Contrary to France, Denmark has been successfully developing its offshore wind power infrastructures since the 1990s in terms of energy production but also of acceptance by the population. In fact, since 2005, eight offshore parks, with a total capacity of 423 MW (for a total of 3135 MW onshore and offshore), have been contributing to the national production of “clean” energy (total of 28% in 2006, with around 19% produced by onshore and offshore wind power) (Danish Energy Agency, 2005; 2008). In the next years, two more offshore parks, each with a capacity of 200 MW (Horns Rev II and Rødsand II), and many near-shore projects (Hvidovre) will contribute to this production, adding to the reputation of Denmark as a forerunner in terms of offshore techniques (*Ibid.*).

France and Denmark have reached different stages of progress and development in terms of infrastructures and communications between stakeholders: while the former hardly tries to find new incentives to produce “clean energy” through renewable sources but remains attached to its nuclear facilities, the latter is in an interesting position of being a model worldwide, sharing its experience and giving advice for future offshore projects (Middelgrunden Wind Turbine Cooperative, 2003). Comparing the decision processes in both countries and analysing the different ways for people to react to the projects will thus highlight original outcomes related to specific habits and possible cultural behaviours.

#### **2.2.4 Veulettes-sur-Mer and Middelgrunden**

The interest in the project of Veulettes-sur-Mer is obviously related to its novelty as much as to the strained relations between the involved stakeholders and their attitudes. The fact that the French case is still at the proposal stage while the Danish one has been implemented for almost a decade also makes the comparison and the analysis interesting and relevant.

In Denmark, many other projects than Middelgrunden would have also been interesting study cases to analyze. However, Middelgrunden has many similarities with the French case in terms of size, with an equivalent number of turbines (21 in France, 20 in Middelgrunden) and in terms of distance from the coast (between 3 and 7 km away). Moreover, the implementation and management of the wind farm by a

cooperative is an interesting system to introduce and highlight, concept which can also be used later in the analysis as an important factor of decision. At last, this case was chosen thanks to the possibility to access a certain amount of information translated from Danish to English, which facilitated the conduction of the fieldwork and of the analysis.

## **2.3 Research Method: Study Sources**

### **2.3.1 Sources and Epistemological aspects**

The sources used for this essay are primarily qualitative ones and consist in articles, interviews and discussions related to the social and sociological aspects of the development of offshore infrastructures and to the concepts of public participation and acceptance. The secondary type of empirical sources is composed by quantitative information (numerical data and statistics) from scientific and literature specialized in the technical and engineering aspects of wind power. They also consist in official reports and specific local, national and regional statistics concerning the levels of acceptance of renewable energies and wind power in general.

In terms of epistemological concerns, this paper follows an interpretivist position, meaning that *“the stress is on the understanding of the social world through an examination of the interpretation of that world by its participants”* (Bryman, 2004). Our focus here concerns the characteristics of the interactions between the different stakeholders during the decision processes. Therefore, the present study belongs to an ontological framework, since *“social properties are outcomes of the interactions between individuals rather than phenomena ‘out there’ and separate from those involved in its construction”* (Ibid.).

### **2.3.2 France**

The first stage of the data collection was a review, in the shape of an academic paper, of the theoretical advantages of offshore wind power in France and of the main difficulties and reasons to explain the delays of its development. This essay has been used especially to define the limits of the present research and some of its angles of analysis. The second stage consisted in field work and direct observations in Veulettes-sur-Mer (visit in February 2008). It was there possible to meet the local inhabitants, discuss with them (casual conversations as well as recorded interview) but also to meet the representatives of the study Commission and access the official report provided by ENERTRAG. At last, these sources, mainly qualitative, technical and non-technical, were combined with articles in order to realize a literature review and set up a theoretical framework corresponding to the outcomes of the analysis. All these sources are in French.

- **Description of the sources:**

- *Field work and observation:* the visit of the area concerned by the offshore park was an important step in order to better understand people's arguments.
- *Casual conversations:* due to the important suspicion towards strangers, it would have been difficult and awkward to record certain conversations with people met randomly in Veulettes. Therefore, the data given during these talks were combined with the observations as main illustrations of the case, and the outcomes were thought through afterwards. Most of the people were met in the hotel in which I stayed but also at the City Hall where I did my research. The discussions were short but very friendly and open, which also gave me the possibility to introduce the aim of my work and give people a voice in the project.
- *Interview of Mrs. Sabine Servan-Schreiber at the City Hall of Veulettes-sur-Mer, 29-02-08:* As the president of the association "Vent de Travers" which is against any further development of industrial wind turbines, Mrs. Servan-Schreiber has been doing researches on the effects of wind power and collecting all the available information on the offshore project in Veulettes. She has been looking through many official documents and talking to many stakeholders involved in the implementation process. She is also well-known among the local community, and was thus an interesting person to contact for this project. The interview lasted an hour and a half, but the second part wasn't recorded due to the interruption of the tape recorder and the demand of Mrs. Servan-Schreiber who expected the discussion to be over soon and thus did not want to start it again. Therefore, the text of the first part can be found in the appendix as an exact transcription, while the second part of the text is based on the notes that were taken.
- *Official Reports from the Study Commission:* These reports were available at the City Hall during the visiting hours, but it wasn't possible to copy them. I thus had to write down the interesting parts that will be used in the following parts. If necessary, these documents are still available at the prefecture of Seine-Maritime in Rouen.
- *Official Reports from CECA SAS ENERTRAG:* These reports were shown at the same time as the Study Commission's ones. Some of them are available online (see references); the access to the most detailed ones can be asked to the people in charge of the project. The notes were taken during the meeting with the Study Commission at the City Hall.
- *Mail correspondences with associations against the offshore park (Fédération Environnement Durable, Vent Du Bocage):* These correspondences were brief and rather aggressive due to a certain mistrust towards any researcher on the topic. None of my questions were answered, and no one accepted my meeting proposals. I however entered in contact with Mrs. Servan-Schreiber thanks to one of these associations who forwarded my mails.

### 2.3.3 Denmark

The research for empirical material on the Danish case was made in parallel to the French one in order to collect sources that could be comparable in terms of origins and quality. In addition to the official reports and information from the cooperative in charge of Middelgrunden, the data collection has been completed with the few available articles concerning how the local inhabitants have been involved in the public discussions and how they have impacted the decision process.

- **Description of the sources:**

- *Observation of the park from Copenhagen:* The Middelgrunden offshore park is visible from the centre of Copenhagen, which makes it an interesting site to look at. Its proximity from the coast has in fact played an important role in people's perceptions and level of acceptance of the project.
- *Written Sources:* The main written source of information consists in the official publications of the Middelgrunden Wind Turbine Cooperative that are available on the cooperative's webpage. These reports were combined with other articles accessible in English about the Middelgrunden wind farm. Some documents in Danish were also collected, but for language reasons, their use was secondary.
- *Interview of Mr. Hans C. Soerensen at the headquarter of the consultancy group SPOK ApS in Copenhagen, 31-03-2008:* Mr. Soerensen is a consultant on offshore wind power projects in Denmark and other countries, and is a board member of the Danish Wind Energy Association (DV) and the manager of the consultancy group SPOK ApS. He has been focusing his work on the concepts of public participation and acceptance by the local communities of the offshore parks, and was therefore an important interlocutor to discuss with. The interview which lasted an hour and was conducted in English was very friendly and useful in terms of data collection, and increase the understanding of the issues related to the implementation of wind power parks.
- *Interview of Mrs. Mette C. Buch at her office at the Danish Energy Agency, Copenhagen, 04-04-08:* As a specialist of renewable energies and more especially of offshore wind power in Denmark within the Danish Energy Agency, Mrs. Buch has been a very friendly interlocutor, proposing very relevant insights on the current situation in Denmark during an hour-long discussion in English.
- *Mail correspondences:* M. Soerensen has been very helpful and forwarded some reports and articles concerning public participation in the case of Middelgrunden wind park but also in other ongoing projects.

## 3. PREVIOUS RESEARCH and THEORETICAL FRAMEWORK

### **3.1 A new study context involving a new study approach**

The majority of the available articles on the concept of public acceptance towards wind power is mainly related to attitudes towards onshore infrastructures. Since offshore wind power has become a new subject of interest, it does not have yet its own theoretical background on which we can directly refer to. Therefore, the first theories that we can find or propose have to be “borrowed” from the outcomes related to onshore wind power. Thus, for the same reasons, the following parts will consist more in a literature review rather than in a proper theoretical framework.

The lack of direct literature on offshore wind power and on the cases that will be analyzed and discussed furthermore contributes to the interest of this essay. In fact, most of the available documents deal on the one hand with the technical aspects of offshore infrastructures (size, voltage, installation techniques...), or on the other hand with the economic conditions related to the energy production (price of the turbines, cost of the energy units, market conditions...) and the national and European targets concerning the energy market and the production of renewable energy sources. It makes it thus difficult to properly define and analyze what the criteria in favour/against offshore specifically are, contrary to onshore wind power (Ladenburg, 2007). This lack is even more significant in France and could be explained by the delays in the promotion and development of offshore infrastructures in the country. It remains therefore difficult to find specific articles on the social aspects of offshore wind power (on the contrary to onshore), especially those related to the concepts of public participation and local acceptance.

Comparing these two specific cases in France and Denmark will thus propose new outcomes and highlight two distinct approaches of the same concerns. It will also give precisions about the sociological aspects of projects, in addition to their technical sides, and provide researchers who want to conduct similar projects with the opportunity to understand the main issues and opinions of the involved stakeholders.

### **3.2 Sustainable development and Renewable Energy Sources (RES)**

Since the publication of the United Nations' Brundtland Commission “*Our Common Future*” in 1987, the definition of “sustainable development” has been commonly accepted and used as “*development that meets the needs of the present without compromising the ability of the future generations to meet their own needs*” (World Commission on the Environment and Development, 1987), despite its general and “*relative*” characteristics (Boyle, 2004). In order to put the concept of

sustainability within the context of the energy production, with the current level of technologies and infrastructures, one can refer to Boyle's criteria to define what can be called "sustainable energy sources": "*energy sources that are not substantially depleted by continued use; the use of which does not entail the emission of pollutants or other hazards to the environment on a substantial scale; and the use of which does not involve the perpetuation of substantial health hazards or social injustices*" (Ibid.).

Renewable sources such as wind power tend to meet these criteria the best compared to other sources such as fossil fuels or nuclear power, since "*they are essentially inexhaustible and their use is usually entails much lower emissions of greenhouse gases or other pollutants, and fewer health hazards*" (Boyle, 2003). It could be possible to do a deeper critical analysis of this relation between the concepts of sustainable development, renewable energy sources and wind power, and question the benefits to get from a further development of wind power infrastructures. These points however will not be discussed in this paper. One can refer to Kolonas (2007) to learn more about the discussions among the researchers.

### **3.3 Public participation during the decision process and project acceptance**

#### **3.3.1 Public participation**

Involving the local communities during the decision process has become a new source of interest for scholars as much as for wind power companies. In fact, such a method is now considered a decisive criterion that will impact on the success of the implementation of an offshore park. Loring (2007) has made a typology of criteria that favour public participation, using indicators that are normally involved in the evaluation of decision-making and land-use planning processes:

- "*The participants (the members of the local public who were involved in the project planning process) are representative of the views of the full range of potentially affected people*
- *Barriers to involvement of local communities in the planning process have been minimised.*
- *Community members impact decisions about the project;*
- *Community members have financial ownership in the project;*
- *The project was initiated by a local individual or group;*
- *The community will have continued involvement in the project after construction*".

According to the results of Loring's study, the combination of these criteria may affect the level of acceptance of a wind power project. This combination however won't be sufficient to create by itself support and confidence, especially when these criteria and their effects are considered without any further analysis of other possible impacting factors (Ibid.).

Kolonas (2007) moreover proposes a critical synthesis of the concept of "public participation" and the way it is developed in the literature related to wind power. He highlights three main characteristics

that are often considered among the researchers to discuss the influence of participation of local communities on the planning processes:

- *“participation as consultation: two representative studies”*, considering the attitudes of local inhabitants towards wind parks in their neighbourhood in South West Ireland (Warren et al., 2005) and Scotland (Braunholtz, 2003). The studies’ surveys mainly emphasized the type of consultation from the project developers and the time of consultation during the process; the results have shown the interest of the researchers for the public attitudes towards wind power, without however giving critical outcomes concerning the understanding of people’s attitudes.

- *“substantial participation: quantitative, systemic and concluding ways of reference”*: many case studies tend to use a systemic approach in order to understand public participation and attitudes during the planning processes, with the use of indicators and comparative variables, each of whom corresponding to a given level and type of public involvement. The majority of the studies’ results consider public participation as *“the factor of public participation is often being used as a “master key” solution that would mitigate public opposition towards wind power”* (Kolonas, 2007).

- *“participation by economic incentives offered”*: such a focus within the literature on wind power and public attitudes seems to be either avoided or less taken into account in comparison to other criteria that are more related to *“social, physical, symbolic or communicative factors”* (Ibid., from Devine-Wright 2005). However, economic incentives are also discussed as a possible way for the policy-makers and the project developers to mitigate the opposition and develop positive attitudes towards wind power among the local communities (Bell et al., 2005).

At last, Soerensen et al. (2003) give a list of the main forms of public participation that one can promote during the planning process:

- *“through information about ongoing development (information);*
- *through involvement in the decision making process (planning participation);*
- *through financial involvement in the project (financial participation)”*

Soerensen addresses the fact that the local communities are unfortunately not often offered *“a direct influence on the decision making”*. Despite the possible criticisms against these approaches, he acknowledges that a better dialogue between the stakeholders involved in the process could obviously mitigate the opposition to the projects as much as create a stronger feeling of confidence among the local inhabitants. They thus highlight the advantages of a stronger public involvement:

- *“an essential improvement of planning decisions and balancing of different aspects;*
- *increased awareness of public concerns;*
- *an increased understanding of possible cooperation between opposing parties;*
- *elimination of misinformation and believed threats;*
- *future confidence and acceptance”*.

### 3.3.2 Public acceptance and project success

The concepts of “public acceptance” and “project success” are often viewed in the literature and in case studies as impacting and complementing each other. They are also closely related to the level of involvement of the local communities during the planning process, since participation is considered one of the most privileged ways leading to local acceptance, as seen in the previous part.

Loring (2007) at first proposes indicators and criteria that would define a high level of public acceptance towards wind power in many study cases:

- *“positive results in public opinion surveys about the project during the planning phase;*
- *Significant interest groups generally in favour (or not opposed) to the project;*
- *Attendees to public meetings generally in favour (or not opposed) to the project;*
- *Few letters of objection sent to planning authorities and newspapers;*
- *Letters of support sent to planning authorities and newspapers;*
- *Positive media coverage”.*

In relation to these indicators that he describes as complex and difficult to compare and analyse, Loring defines a “successful project” as a project answering certain conditions:

- *“planning consent obtained;*
- *reasonable (average) time taken for decision;*
- *appeal on planning decision not necessary;*
- *planning process did not involve costly requests from the planning authorities for additional information from the developer;*
- *planning conditions placed on project did not introduce extensive costs or delays to the project construction”.*

Jobert et al. (2007) define in their introduction two main approaches related to the way one public acceptance can be considered as an angle to conduct a study on perceptions towards wind power:

- *“one is oriented towards public opinion (global and local) working with opinion polls or discussion groups to identify the motivations and attitudes of the public”*
- *“the other analyses how a project or a program is constructed to understand why it is accepted or rejected, focusing either on public policy or on actors’ behaviour during the implementation”*

Jobert et al. decide to favour the second approach and thus focus on the search for acceptance by the project developers rather than on the perceptions of local communities towards the project. These two focuses however, even if often used separately as two distinct methodological approaches, can be combined in order to have a full understanding of the issues of public acceptance.

At last, the concept of “local acceptance” can be related to planning tools and project schemes within the policies set up for a further development of wind power (Nadaï, 2007). Focusing on the

French legal and legislative frameworks, Nadaï explains that the conduction of projects and planning processes have experienced a certain evolution within the last decades, “*from top-down (“rational planning”) to more participative approaches (“communicative planning”)*”, which made the project developers and authorities more eager to engage a better and stronger dialogue with the local communities and implement particular tools to reach a higher level of local acceptance.

### **3.4 Acceptance and rejections of wind power: general criteria**

Diverse types of criteria can be put forward to consider people’s perceptions and attitudes towards wind power projects (ongoing planning processes or already settled wind parks). On the one hand, the emphasis can be put on the criteria that are directly related to the characteristics of the planning process itself. One can on the other hand consider the criteria used the most by the opponents and supporters of wind power in order to understand their main preoccupations and arguments

#### **3.4.1 “Siting”, “planning” and “project management” as key factors**

The concepts of “siting”, “planning” and “project management” refer to the analytical approaches to understand the planning process, the policies used to promote wind power, and their implications on the final decisions and on the acceptance by the local communities.

Nadaï (2007) highlights the importance of “siting” and “planning” as “*tools for dealing with local acceptance and landscape issues*”. They involve in fact different understandings of the use and management of the landscape as much as the weight given to more social and subjective aspects: “*planning generally refers to an integrated approach of the territory, which allows planners to decide on land uses in time and space [...] “Siting” has been used in the expression “siting policy” referring to a policy that deals with local issues related to the siting of wind power infrastructures*”. The former takes into considerations the territorial and physical aspects of an area, while the latter is considered “an open space” for dialogue and projection of local communities’ voices (Nadaï also talks about memory and identity). Both approaches have advantages in terms of final implementation and tend to complete each other since they consider different spatial scales, administrative and social levels, and involve different types of stakeholders.

Jobert et al. (2007) use the same type of terminology as Nadaï in their case study of wind energy in France and Germany. After reviewing numerous studies and making a typology of the main factors affecting people’s perceptions and local acceptance, they have chosen to organize their analysis through the angle of two main categories, each of these divided into four decisive factors which question the different aspects of the project (ongoing or already settled). The consideration of all of them will provide

the reader with a complete overview of the planning process, its main issues and the involved stakeholders:

- *“Site: Geography, visual impact; Former use and perception of the territory; Ownership of the territory; Local economy*
- *Project management: Local integration of the developers; Information, participation; Creation of a network of support; Ownership of the park, financial participation”*

**3.4.2 The most quoted criteria to oppose wind power**

The factors that are the most often used by the opponents of of wind power (onshore and offshore) are well listed in a research concerning public acceptance of wind turbines in Sweden (Devlin, 2002) and summarized in Figure 3. One of the most common ways to approach these factors in the literature is to define indicators and scales in order to define how these factors actually impact on people’s attitudes and in which order of priority they do (Wolsink, 2007).

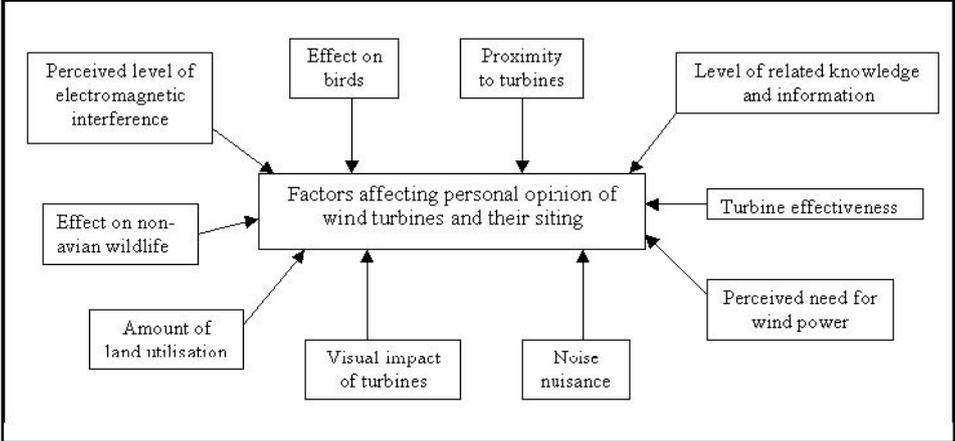


Figure 3 – Most common claims of opponents to the siting of wind turbines (Devlin, 2002)

These opponents (local inhabitants acting lonely or gathered in associations) sometimes use these factors in more or less aggressive ways in order to make their claims heard and respected as rational reasons to stop ongoing projects. As Blauvelt (research director of ABS Energy Research) says for instance, *“one of the big problems with wind is that people tend to get hyped up about it, very emotional”* (Landler, 2008). Many criteria such as visibility and aesthetics can be considered subjective since they mainly refer to personal perceptions and tastes. The others however are debatable and often need scientific and technical assessments to be rationally answered.

In the general literature on wind power, the concept of “NIMBY” often appears as one of the key concepts to explain people’s attitudes against wind power infrastructures. Standing for “Not In My Backyard”, the NIMBY concept can be defined as a *“widespread supportive attitude to wind power, but a reluctance to accept specific local proposals that adversely affect the individual”* (Devlin, 2002). In

more concrete words, it refers to the situation when people who are generally in favour of wind power and its development are against it as soon as they are questioned about the location of the turbines, if these turbines happen to be placed in their close neighbourhood. However, as Wolsink says, “*the idea of NIMBY is rather simplistic as it suggests that people have positive attitudes towards something (wind power) until they are actually confronted with it, and that they then oppose it for selfish reasons*” (2007). Such a sociological and psychological approach to explain people’s negative attitudes concerning the siting of the turbines is debatable and sometimes discussed in the literature as a “shortcut” in the analysis (*Ibid.*). Even if it has often been recognized in different studies as a valuable way to justify any type of opposition to the already-implemented or ongoing projects, the concept of “NIMBYism”, often used as a “label” rather than as a real theory, should however be used with caution (Kolonas, 2007). The results of surveys or interviews should indeed always be critically analyzed by the researchers: “*This viewpoint is completely unrealistic in its simplicity and, moreover, it is illegitimate because it attributes motives to people that can only be confirmed by investigation [...] If the term “not-in-my backyard” describes all resistance by communities to the siting of controversial land uses and facilities, it has indeed become just a label lacking any explanatory value*” (Wolsink, 2007).

### 3.4.3 the most quoted criteria to claim the positive impacts of wind power

The criteria that are used by the supporters of wind power technologies are often answers to the opponents’ claims. Like in the previous part, they can be summarized in Figure 4 (Devlin, 2002):

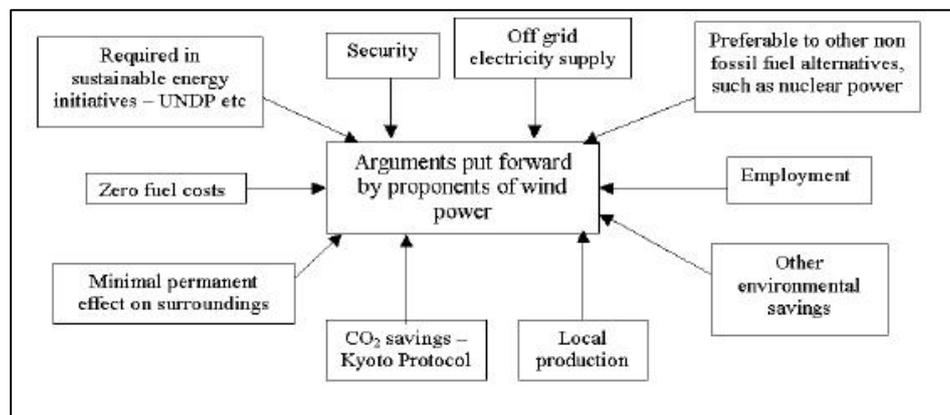


Figure 4- Most common claims to promote the development of wind power (Devlin, 2002)

Like the negative aspects, the positive ones can also be discussed and are often at the centre of the debates concerning the impacts of renewable energies.

At first, the arguments directly related to the energy directives according to which wind power is “*required in sustainable energy initiatives*”, proposes “*CO2 and other environmental savings*” and is “*preferable to other non fossil fuel alternatives such as nuclear power*” can rationally and scientifically be questioned. Many studies have indeed showed the “bad sides” of wind turbines in terms of ecological concerns, since their construction and installation emit CO2 and allegedly have side effects on the

environment and the landscape: “*Derrière chaque éolienne se cachent au moins une cimenterie et une aciérie produisant le béton et l’acier nécessaires à leur fabrication...et ces unités ne sont nullement “écologiques”!*” (Sciama Y. et al., 2008). Moreover, the current efficiency of wind turbines still makes other energy sources (such as coal and nuclear power) more interesting in terms of financial and technical investments and of land use: “*Ainsi, alors qu’il faut 10 hectares à une centrale nucléaire pour concentrer une puissance de 1,5 GW, la même puissance d’éoliennes consomme 18 700 hectares!*” (*Ibid.*)

Secondly, the installation of an offshore wind park can be considered an interesting source of economic benefits on the local level. Apart from the investments’ feedbacks from the energy generation and sale by the electricity companies and the jobs that are created in order to produce, install and maintain the wind park, the local communities affected by the wind park get financial compensations. It has been decided for instance that in Veulettes-sur-Mer, a sum of 1.4 million euros would be distributed between the local communities experiencing a visual impact and the communes within a 30km-wide area for whom fishing is the main economic activity (Commission d’Enquête, 2007). Such agreements allegedly allow the project developers to mitigate conflicts between the different users of the concerned landscape related to the “competition” related to the land use and its management (Le Visage, 2004).

The argument according to which wind turbines could become an attraction for tourists is also a subject of strained discussions between supporters and opponents of wind power, who consider the turbines either attractive or source of landscape destruction. Thus, according to Le Visage, an offshore park could create an effect of “*amusement park*” or “*artificial centres of interests*” in places where the landscape is considered monotone (*Ibid.*). ENERTRAG considers the visual impact as an important factor to work on, since “*a wind park too far from the coast would lose its tourist appeal while a park too close would disturb the local residents’ comfort*” (ENERTRAG, 2006).

At last, project developers and associations which support offshore tend to highlight all the environmental impacts of the turbines that could positively impact the marine ecosystem (Le Visage, 2004). Apart from the risks of bird collisions that are said to be minor if not inexistent, the turbines for instance could in fact create artificial reefs and thus benefit the biological environment and the fishing activities with the possibility for example to promote offshore aquaculture (*Ibid.*).

### **3.5 Summary: the necessary concepts**

From this literature review, some of the concepts described above will be used in the following parts as tools to question the empirical material and analyse the French and Danish cases. The emphasis will mainly be put on:

- Public participation and its different levels as defined by Soerensen et al. (2003). In Veulettes-sur-Mer and Middelgrunden, the inhabitants have been involved on different levels and in different types of participation, from informative meetings and public hearings up till direct ownership of the wind park. These different levels of involvement will impact attitudes and acceptance differently, as it will be shown in the analysis.
- The way public participation and the level of acceptance of the locals are related, with a focus on the different types of involvement as said above.
- The most significant criteria that affect locals' attitudes towards the wind power projects. The factors that appear decisive and their effects on people's perceptions and attitudes differ very much in both cases as much and will thus be analysed below. Also the different ways to mitigate these effects will be analysed.

## 4. SHORT INTRODUCTION TO THE CASES

### 4.1 Veulettes-sur-Mer, France

#### 4.1.1 Location

The commune of Veulettes-sur-Mer is located in the region of Haute-Normandie (department of Seine-Maritime) on the coast of the English Channel. As a seaside resort, the number of inhabitants varies depending on the seasons with a population peak during the summer or school holidays. However, the rest of the year, there are between 250 and 300 “full-time” inhabitants in Veulettes (Communes 76, 2006). The commune is settled between two cliffs, in a small wild valley in which one can find the mouth of the Durdent River.

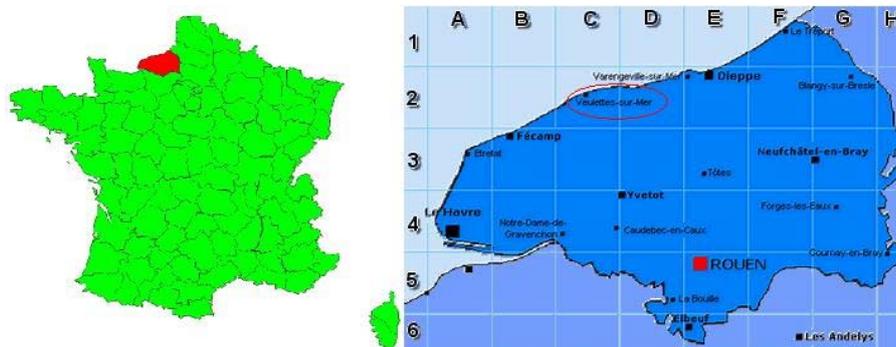


Figure 5 – Location of Veulettes-sur-Mer (see <http://www.sites-hotels.com>)



Figure 6 – Panoramic view of the sea side from the beach of Veulettes-sur-Mer  
The wind turbines will be visible close to the right cliff

#### 4.1.2 Technical aspects and ownership

The group SAS CECA « Centrale ENERTRAG Côte d’Albâtre » (a subsidiary of the German group ENERTRAG) is in charge of the project, from the engineering and land-use prospects during the planning until the technical aspects, and will own the necessary surface to install the turbines as much as the turbines and their production themselves. Started in 2004 with an international call to tender, the project is now reaching its final stages of public consultations before the installation of the first line of wind turbines during the fall 2008 (Rousseau, 2008).

The wind farm will be consisting in 21 wind mills anchored at a depth of 23 meters, for an expected power production of 105 MW (which equals one fourth of the existing onshore wind power infrastructures in France). The turbines will be placed every 800 meters, forming 3 parallel lines with a distance of 1,6 km between each other, and the blades will be placed 90 m over the sea level, with a diameter of 100-120m each. After being transferred onshore with a cable to a transformer in the valley, the energy production will satisfy the consumption of 125 000 households (ENERTRAG, 2006).



Figure 7 – Location of the turbines  
(ENERTRAG, 2006)

#### 4.1.3 Involved Stakeholders

A neutral Study Commission has been designated by the Administrative Tribunal of Rouen (*Tribunal Administratif de Rouen*), under the authority of the prefect of the region of Seine-Maritime, to collect and synthesize the comments and opinions of the local inhabitants (Préfecture de la Seine-Maritime, 2007). The members of this Commission have been since then the main interlocutors and

intermediaries between ENERTRAG, the political authorities on the different levels of power and the local inhabitants.

Different associations and consulting groups specialized in renewable energies and wind power have also been putting pressure on the local and national authorities in favour of the project, such as *Espace Eolien Développement* (a consulting group specialized in making analysis of projects from the site definition till the engineering construction of the turbines), the IFREMER (*Institut Français de Recherche pour l'Exploitation de la Mer* – French Research Institute for Exploitation of the Sea), the SER (*Syndicat des Energies Renouvelables* - Union for Renewable Energies) or the *Compagnie du Vent* (the Wind Company).

At last, some local stakeholders have been playing a major role in the negotiations, especially the local citizens working in the fishing and tourism sectors. Environmentalist groups and associations such as the *Groupe Ornithologique Normand* (GON- Scientific group working of birds' ecosystems) and the *Groupe Mammalogique Normand* (GMN- Scientific group working on mammals' ecosystems) also should not be forgotten here since their viewpoint has a strong effect on people's understanding of the issues.

## **4.2 Middelgrunden, Denmark**

### **4.2.1 History of the project**

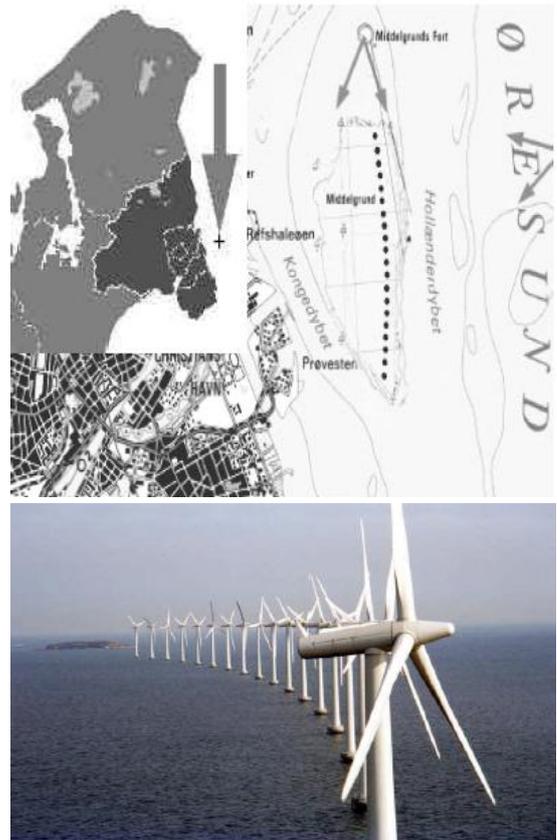
The discussions concerning the opening of an offshore wind park close to Copenhagen started in 1997 with the creation of the Middelgrunden Wind Turbine Cooperative. From 1997 until the project approval in 1999 and the installation of the turbines in 2000, three public hearings have given the local inhabitants the opportunity to influence the evolution of the project (especially the shape and position of the wind park) and comment on the Environmental Impact Assessment in a positive atmosphere, without much protest (Middelgrunden Wind Turbine Cooperative, 2003; Larsen J.H.M *et al.*, 2005).

### **4.2.2 Technical aspects and ownership**

The Middelgrunden wind farm consists in 20 wind turbines anchored at a depth of 4 up to 8 meters, on the shoal of Middelgrunden (a natural reef used in the past as a dumpsite), for an installed power of 40 MW (20 x 2 MW). The turbines are located at a distance of 2.5 - 3.5 km away from the Eastern coast of Copenhagen, and the blades are placed 64 m over the sea level, with a diameter of 76m each. The wind park is also famous for its original aesthetic shape, since the turbines form a slightly curved line which is visible from the centre of Copenhagen as much as from the airplanes landing in Copenhagen Airport, Kastrup. Nowadays, the offshore park produces around 3% the energy needed to

provide the inhabitants of Copenhagen with electricity (Middelgrunden Wind Turbine Cooperative, 2003).

The ownership of the park is divided in two equal parts between the company Energi E2 (Copenhagen Energy) which possesses the 10 turbines North and the Cooperative which gets the 10 turbines South. The ownership of these turbines South is actually split into shares that were bought by 8553 electricity consumers, including local inhabitants of Copenhagen, private companies, unions and local organizations. Nowadays, the Middelgrunden park is still the “*largest wind farm in the world based on a cooperative system*” (Larsen J.H.M *et al.*, 2005).



Figures 8 & 9 – Middelgrunden wind park  
(Larsen *et al.*, 2005)

#### **4.2.3 Presentation of the Middelgrunden Wind Farm Cooperative**

The creation of the Middelgrunden Wind Farm Cooperative in 1997 and the success of the park in terms of local acceptance mainly depended on different stakeholders’ initiatives and involvement at each step of the decision process. In 1996, before its establishment, the local association “Copenhagen Environment and Energy Office” proposed an offshore project to the Danish authorities and argued in favour of its economic and energetic advantages. With the support of the Danish Energy Agency and the Danish Parliament, further investigations have been made to finally designate the Middelgrunden reef as the best site to welcome the turbine (Middelgrunden Wind Turbine Cooperative, 2003). On the long run, the cooperation between the cooperative and the private sector (represented by Energi E2-Copenhagen Energy) has been considered a success in terms of project conduction: “*the wind cooperative has the knowledge from the private wind sector, enthusiasm and commitments as well as better contacts with the public and the press*” (*Ibid.*). The project developer also worked in close collaboration with different NGOs and associations related to environmental safeguard (for instance the Østerbro Fishing Association, Copenhagen Environmental Protection Agency, Danish Society for the Conservation of Nature...).

## 5. PRESENTATION AND INTERPRETATION OF THE RESULTS

### **5.1 Public involvement during the planning process**

In order to find out whether and how the concepts of public participation and local acceptance are related, one first needs to describe and discuss the main characteristics of the involvement of the local communities both in Veulettes-sur-Mer and Middelgrunden. It will be possible afterwards to compare and discuss the differences and common points in the process, and see later in this chapter how these characteristics have affected the project and people's perceptions.

#### **5.1.1 Veulettes-sur-Mer: public campaigns and limited individual involvements**

The still ongoing discussions concerning the implementation of the future offshore park in Veulettes-sur-Mer have highlighted a certain confusion of communication between the different stakeholders. The typology made by Soerensen et al. on the concept of public participation ("*information, planning participation and financial participation*"; 2003) can be used here as a theoretical tool, but the dynamics of informing "*about ongoing development*" can be put into questions through the concrete observation of the case.

On the one hand, the inhabitants of Veulettes-sur-Mer and of the neighbouring communes have been given the possibility to access and comment the official descriptive reports from ENERTRAG during two main public hearings (the main and latest one lasting from early January until the end of February 2008). They could get informed about the existence of these hearings through the mandatory publications of official announcements in the local press and in local shops (Préfecture de la Seine-Maritime, 2007). The neutral Commission in charge of organizing the dialogue between the project developers and the local communities has reported that the documents at people's free disposal consisted of well-developed and detailed information that would easily be understood by everyone (each report being divided into technical and non-technical parts to adapt with the level of interest and knowledge) (Commission d'Enquête, 2007). The members of the Commission have been doing an important work in welcoming the inhabitants, addressing them the main parts of the project, answering their questions and collecting their comments. These comments have been synthesized in a report that has been forwarded afterwards to the local and regional administrative authorities and to the project developer (Préfecture de la Seine-Maritime, 2007).

On the other hand, the discussions with the political representatives at the City Hall of Veulettes-sur-Mer (interview with Mrs. Servan-Schreiber, see transcription in the Appendix) have indicated that the local authorities haven't heard about the conduction of the project in their municipality until the publication in the press. The local inhabitants have also complained against the insufficient and short-notice information concerning the project and the public hearings, and have thus been unable to learn

more about the project's conditions and participate in the discussions with the Commission and the project developer. At last, the objectivity of the reports and syntheses has often been put into questions: Many inhabitants have wished to access other “counter-researches” that would examine the project's impacts on the local level. The combination of all these “pessimistic statements” has thus led to a limited direct involvement of the local inhabitants during the meetings, since only 50 people out of the registered 296 ones attended the main hearings (Commission d'Enquête, 2008).

There is thus a contradiction between the amount of provided information from the project developer, considered complete and sufficient by the Study Commission, and the perception of this information by the local inhabitants whose expectations were very likely to be different and probably more demanding.

The discussions with inhabitants and articles about the project have actually highlighted a certainly high level of mistrust towards ENERTRAG which was mainly regarded by the local residents as a big foreign industrial group “invading” and destroying their landscape without any right. One could also question the intentions from the project developer concerning the short-term deadlines to inform the locals and the fact that many of the meetings were organized during the low season. Many of the inhabitants were actually away from Veulettes-sur-Mer at this time and therefore could not get informed and express their opinions on the project. At last, the fact that all the reports were available in two forms (technical and non-technical ones) could also reinforce certain suspicions according to which the project developer did not expect everyone be interested in the available documents but also to understand them properly. All these aspects could probably explain why local people have complained and asked for more neutral and unbiased data, and justify the lack of active participation from the majority of the concerned inhabitants.

### **5.1.2 Middelgrunden: public participation and economic involvement**

The research has shown in the case of the Middelgrunden park that the different criteria proposed by Soerensen et al. concerning the involvement of the local communities are totally relevant. The case does in fact take up all three concepts of “*information*”, “*planning participation*” and “*financial participation*” all along the project's implementation, and weight has been given by the project developer to people's comments and choices on the siting and the management of the park.

In this way, the local inhabitants around Copenhagen and its neighbourhoods have been invited to discuss the project during three public hearings between 1997 and 1999. Communication campaigns including comprehensive dialogues, exhibitions and visits of wind parks, have been made in cooperation with the Middelgrunden Wind Turbine Cooperative, Copenhagen Energy and the Danish Energy Agency in order to provide the population with information on the technical details of the project, on its siting

and shape, and finally on the environmental impact assessment that had been conducted (Middelgrunden Wind Turbine Cooperative, 2003 – interview with Mr. Soerensen, see transcription in the Appendix).

However the Middelgrunden park is more well-known for its particular cooperative management and the possibility for the local inhabitants to become shareholders of the infrastructures under certain legal conditions. Such a practice has been quite common in Denmark since the late 1980's, and around “86% of the wind turbine came from privately owned turbines” in 2001 (European Commission, 2003). Nowadays, 8553 consumers, mainly located in the Greater Copenhagen area, own of the Middelgrunden Wind Turbine Cooperative's shares (40 500 shares, offered at 570 € each - Middelgrunden Wind Turbine Cooperative, 2003), which still makes it the “*largest wind farm in the world based on a cooperative system*” (Larsen J.H.M *et al.*, 2005). As share-owners (in addition to the other local inhabitants), people are offered the right to discuss and vote the management of the cooperative proportionally to the amount of shares they own, according to bylaws that are available to the public on the Cooperative's website.

Contrary to the public participation occurring in Veulettes-sur-Mer which appears like a unilateral informative process in which dialogue is uneasy, the involvement of the local inhabitants has been much more efficient, complete and peaceful in the Middelgrunden case. The local inhabitants have positively welcomed the amount of information, as we will see later in the part related to the effect of this participation on the level of acceptance.

The analysis shows that the economic aspects are very decisive since they incite people to get involved during all the steps of the planning process. They have in fact increased their interest to take an active part in the discussions, which had for effect to create a very positive and comprehensive framework for negotiations between the local residents, the representative of the consulting group and the company. Some cultural aspects could also be explored in order to explain the differences of perceptions and attitudes towards the available information and the trust towards the project developer. The cultural issues according to which Danes allegedly are more eager than the French people to participate in such projects and create a multilateral dialogue with the company will however be discussed later in the analysis.

At last, the analysis will refer to the concepts of “*planning*” and “*siting*” as “*tools for dealing with local acceptance and landscape issues*” defined by Nadaï (2007). The local inhabitants in fact have been invited during the public hearings to express their opinions on the main characteristics of the park (including its location and its size), but they are also considered, as share-owners, as main interlocutors to discuss the management of the park and thus to deal with “*local issues related to the siting of wind power infrastructures*” (*Ibid.*). It is thus already possible here to envisage the positive effects of the

public participation in Middelgrunden on the project and the level of acceptance of the local residents, contrary to the situation in Veulettes-sur-Mer which introduces a more complex case.

## **5.2 Effects of this participation on the project**

The aim of the following parts is to describe and discuss whether public participation, as it has been previously presented for both cases, has affected the decisions that were taken by the project developer concerning the final project.

### **5.2.1 Veulettes-sur-Mer: an omnipresent developer but no specific effects**

The official reports from the Study Commission and the project developer have emphasized the positive amount of information at the disposal of the local communities (Commission d'Enquête, 2007). They have also highlighted the exemplar attitude from the developer towards the promotion of the local landscape and the future wind park to the general public (ENERTRAG 2006, see in the Appendix). However, despite the discussions that took place during the public hearings and the recommendations made by the Study Commission, the main initiatives to change the project have been taken during the call-for-tender process by the economic stakeholders interested in the park. Thus, the initial project of installing 189 turbines (9 lines of 21 machines) on a surface of 102 km<sup>2</sup> for a total estimated production of 567-945 MW had been turned into a smaller-scale park, the way it is nowadays (*Ibid.*), but neither the size and the shape of the park or the location for the generator have been influenced by the local communities. The efforts of dialogue and compromises concerning issues raised by them appeared in fact like “principles” and “one-way communication”, context that increases mistrust towards the local authorities and the project developer, as much as a “defeatist spirit” according to which “nothing can be changed” or “it is too late to change or propose anything new” (interview with Mrs. Servan-Schreiber, see transcription in the Appendix).

Concerning the development of the project, the opportunity given by the project developer to the local residents hasn't fulfilled certain of their expectations. The public hearings appeared to them more like information meetings rather than proper consultation ones in which they (supporters and opponents to the project) would have actually been able to express their opinions and affect the project's conduction. This lack of effective consultation was a negative aspect used to justify the locals' mistrust towards the company and the local authorities and to possibly explain the confusing impacts on the level of acceptance in Veulettes-sur-Mer.

### **5.2.2 Middelgrunden: an open dialogue leading to major changes**

One of the particularities of the conduction of offshore projects in Denmark is the weight given by the project developer and the consulting groups to the local communities' opinions and to their

comments and recommendations during the decision process. In the case of the Middelgrunden park, beside the opposition from certain protest groups (fishermen, yachtsmen and local environmental associations) limited in size and means, the cooperation between the local groups, the shareholders, the political authorities and the developer has led to major changes in the project, mainly in terms of size and visibility of the park. Thus, the original planning and siting of the park have been modified between the two first hearings, reducing the amount of turbines (from 27 to 20) and the shape of the park, favouring the curved shape on the shoal of Middelgrunden (instead of 3 lines of 9 machines).

Here, the “*communicative planning*” as defined by Nadaï (2007) seemed to have created an efficient multilateral dialogue which has affected the project’s main characteristics. Contrary to the case of Veulettes-sur-Mer, all the parts have been listened to, and the project opponents (mainly locals and associations) were influential enough to exert on the project developer and change the original plans of the park.

### **5.3 The effects of this participation on people’s perceptions and acceptance of the offshore wind parks**

After emphasizing the influences that the local communities allegedly have had on the conduction of both projects, the analysis will focus on the effects of this participation on people’s perceptions, opinions and attitudes. There are in fact specific patterns to distinguish that tend to impact the level of acceptance towards the project, and main differences can be found between the cases in Veulettes-sur-mer and Middelgrunden when comparing the reception of the information that were given.

#### **5.3.1 Veulettes-sur-Mer: A mixed reception of information leading to confusing attitudes towards the offshore project**

Despite the amount of data considered by the Study Commission sufficient and detailed enough to provide the local inhabitants with understandable information on the offshore park and the opportunity for them to express comments and recommendations, the results of the research on the reactions and opinions towards the project have been quite interesting but often confusing.

Different patterns, sometimes paradoxical, can be highlighted here to see whether the involvement of the local population really affects the level of acceptance of the offshore project:

- **Support of the local inhabitants :**

Despite the lack of direct involvement of the inhabitants of Veulettes-sur-Mer during the public hearings, the Commission has witnessed a high level of support towards the offshore project through the discussions, votes and written comments that were done by the inhabitants. The Commission for instance collected 35 positive votes out of 50 in favour of the park the way it has been proposed (in terms of size and shape). Many people in their comments have taken into consideration the positive assets that the

park will create as an “*attractive and dynamic project for the commune, which will be a good “spring” for local commerce*”, under specific conditions related to the fishing and circulation rules within the park (Commission d’Enquête, 2007). Moreover, the local inhabitants have also been showing signs of interest and pride considering the fact that “their park” would be the first offshore wind park ever in France, and that they would thus become a display case for further projects in the future (interview with Mrs. Servan-Schreiber, see transcription in the Appendix). At last, the questions and comments related to the implementation of the offshore park (especially about the effect on the natural ecosystems) have been efficiently answered by the project developer and its impact assessment reports, which seemed to prevent people from fearing or complaining about the park’s impacts and disadvantages (Commission d’Enquête, 2007).

However, there is an interesting and maybe paradoxical pattern to highlight, in the way people tend to consider the City Council of Veulettes-sur-Mer and the decisions that have been taken in the last months. Though there had been voices of mistrust against the mayor during the context of municipal elections in 2008 (Ibid.) and against the project developer ENERTRAG, the inhabitants have expressed at the same time a total support for the project: “Here, everyone is in favour, except about fifteen owners of secondary residences” (Parrad, 2008). A distinction can thus be made between people’s perceptions related to the amount of information they got during the communication campaigns and the way they got involved in the discussions, and their general acceptance of the offshore project itself. This created in fact a confusing atmosphere during the observations and discussions with the local inhabitants, since they did not seem to really be aware of this distinction. This sometimes made their position very unclear and/or paradoxical. Moreover, it happened sometimes that during a same discussion, some people would at first criticize the project developer, the political authorities and their methods to make the project’s plans to pass, but then claim again that the offshore park is a positive thing and that they support the same political authorities for their decisions. Despite the amount of available information, many locals have remained confused about the project and did not clearly make up their minds without the influence of influential people.

Some explanations can be brought up to justify such argumentation, according to what has been said in the interview or the casual conversations. At first, as it has been seen previously concerning the Danish case, the economic means tend to influence people’s perceptions of the project. The local residents, who in this project were never proposed to become share-owners of the park, however took into consideration the economic benefits that the offshore park would give to Veulettes-sur-Mer and to the region. In fact, the project developer has proposed to divide 1.4 million euros as compensation measures among the communes concerned by the park in terms of visibility and fishing activities (ENERTRAG, 2006), which actually appears like an important sum for these areas in which the economic activities are quite low. However, this aspect is strongly criticized by the opponents who say

that these small communes and their representatives have been “bought” by the project developer and involuntarily put in an economic and political situation in which they can’t refuse this money anymore (interview with Mrs. Servan-Schreiber, see transcription in the Appendix). They would rather favour local and national investments in projects in which the “human capital” of the local areas is strongly involved, for instance in developing the hostels and infrastructures to welcome families, children, and extend the summer season (*Ibid.*).

In addition to the economic factors, the pride of welcoming the first offshore park in France and becoming an example can also be questioned. Some of the local residents who were sometimes described as not having the necessary cultural background to express a critical opinion on the project, were very proud to become the main focus in newspapers or on television, and were thus eager to show their high level of support towards the park (*Ibid.*). Here, the research has shown that the education level which is rather low in Veulettes (only 4,6% of the inhabitants have a post-secondary degree – Communes 76) probably impacts people’s ability to have a critical opinion on the project, but such a point would have to be further explored in another research to be ascertained.

At last, despite this potential lack of knowledge and interest, people have expressed (in more or less obvious ways in their discourse and attitudes) their understanding of the “common interest”, accepting to “sacrifice for the others” when producing energy for the rest of the country (*Ibid.*). For instance, locals from Veulettes-sur-Mer have compared the importance (in terms of energy production but also in terms of environmental risks) of the offshore park with the nuclear power plant located in the neighbour commune of Paluel, just a few kilometres away. For the “sake” of the country and the French people in general, they would support the project, even if it would place them in great danger.

- **Appearance and reinforcement of certain profiles:**

The participation of the local inhabitants has reinforced certain characteristics peculiar to people’s perceptions and acceptance of the project. The Study Commission made an interesting typology of the stakeholders that showed up during the public hearings, and defined certain profiles whose characteristics can be discussed (Commission d’Enquête, 2007). It thus distinguished:

- The “*local seaside residents*” who expressed a high level of reject towards the project, with a highly-developed attachment to the landscape. Despite their support of renewable energy sources, they reject wind power, especially when in their neighbourhood. This profile adds to the confusion related to the inhabitants’ perceptions. On the one hand, it contradicts the results made during the present research, but it supports on the other hand the NIMBY concept according to which people are in favour of wind power except if turbines are settled in their backyard.
- The “*basic citizens*” who don’t live on the seaside but showed great interest and support in the project, and that the Commission qualified as easily “manipulated” by the information they

got. The observations have actually highlighted the importance of local “leaders of opinion” whose influence appeared crucial in the building of people’s opinions. Like the seaside residents, they are in favour of RES but reject any implementation in their neighbourhood.

- The “*individual opponents*” who involved themselves into a “mission” and consider themselves strategic stakeholders, though it sometimes appeared they did not have all the necessary information to really influence the others. However they are often well-known in the region for their opinions, and often play the role of “leader of opinions”.
- The “*associations*” against the project which were leading the discussions and trying to get the support of the scientific community. It seems however that their influence was higher in non-concerned communes, reinforcing the negative opinions of certain “*individual opponents*”.
- The “*fishermen*” who worry about the future about their activity.

Thus, according to this typology and the observations made in Veulettes-sur-Mer, the interests of the different stakeholders involved in the discussions and their will to defend them seem to have been reinforced along the decision process thanks to the information that they were provided with. On the one hand, the ones who did not have any particular point of view on the project now express their acceptance towards it. On the other hand however, the individual inhabitants and members of associations which have expressed their disappointment concerning the information process did not reconsider their opinions, and indeed became even more extreme in their position.

- **Veulettes-sur-Mer now used as a “fighting platform” for supporters and opponents of wind power:**

As the first offshore wind park in France, Veulettes-sur-Mer has become in the last months an appealing platform for supporters and opponents of wind power from different horizons to express their arguments concerning the project. The public hearings have given opportunities for individual citizens but also for associations in favour of or against any further development of wind power to present their researches and try to convince each other about the advantages and risks of such a park.

However, it has been noticed that the opponents with the most virulent attacks against the project developer and the political authorities (both on the local and national levels) were not the most directly affected by the wind park. The main criticisms against the project have thus come from other communes or from inhabitants without any direct visibility on the future park (Commission d’Enquête, 2007). Many associations on the regional and national levels (*Fédération Environnement Durable, Vent du Bocage, Vent de Travers...*) involved themselves in the discussions, and demonstrations have been organized to mobilize people and raise the awareness of the citizens and the political authorities concerning the possible ravages of the project (interview with Mrs. Servan-Schreiber, see transcription in the Appendix). The internet has also become a privileged stage for everyone to debate, promote positive and

negative aspects and create opinion networks. The case of Veulettes-sur-Mer has thus reinforced the antagonist opinions and created a strained climate of discussions between the stakeholders.

Despite what has been said in the precedent sub-part, this final aspect goes against the idea that the NIMBY concept is well anchored in the region. Defined as a “*widespread supportive attitude to wind power, but a reluctance to accept specific local proposals that adversely affect the individual*” (Devlin, 2002), it normally deals with the refusal for people to have turbines in their direct neighbourhood, mainly for individual reasons. However, the strong involvement of external opponents shows here that the “fight” against the park in Veulettes-sur-Mer goes beyond the commune’s borders and thus beyond individuals’ subjective perceptions of the park, which thus invalidates the “NIMBY” concept and supports the idea of Wolsink that NIMBY is a “rather simplistic” explanation of people’s attitudes (2007).

Moreover, because wind power can deal with very subjective opinions (aesthetic criteria, feelings towards the landscape...), the stages for dialogues often are strained and the dialogues (when there are any) are very virulent between supporters and opponents of wind power. Veulettes-sur-Mer, on the contrary to Middelgrunden, has turned in the last months into a “symbolic” place to “fight” for: As the first offshore park in France it will create new possibilities for a further development of wind power and it is considered either as a great opportunity for more renewable sources by the supporters, or as a environmental and economic disaster by the opponents.

**→ Conclusion: In the case of Veulettes-sur-Mer, public participation had certain effects on the level of acceptance of the local inhabitants and other involved stakeholders, but the informative process has highlighted difficulties and reinforced certain patterns.**

On the one hand, people who did not have any particular opinion concerning the offshore park have been showing signs of support after accessing the information spread by the local authorities, the Study Commission and the project developer ENERTRAG. On the other hand however, people who already had negative opinions about the project have used the public stage to express their reinforced rejection. For these opponents, public participation has been considered as a manipulative way to increase local acceptance of the most credulous/acknowledgeable persons.

### **5.3.2 Middelgrunden: local acceptance as a prerequisite for the implementation of a successful project**

Contrary to the patterns highlighted in the French case, the Danish results are not surprising and ascertain the original assumptions proposed in the introduction. Here are the main characteristics that result from our research:

- **General increasing interest and support of the park from the local inhabitants:**

The involvement of the local communities during the planning process through the communication campaigns and public hearings has had positive effects on the local inhabitants and their acceptance of the project. At first, the locals efficiently incited concrete major changes in terms of shape, size and area of the park. They have also shown signs of great support towards the project and only few cases of protest from very distinct groups were encountered: “*At the final hearing a large number of local groups and committees, not mentioning the several thousand shareholders, recommended and supported the project – only a relatively small group of yachtsmen, fishermen, individuals and politicians remained in opposition*” (Soerensen et al., 2003). Between the first and the last hearings, many technical explanations were provided by the developer and the consulting group involved in the discussions in order to reduce and delete individual fears (*Ibid.* – interview with Mr. Soerensen, see transcription in the Appendix), which seemed to have played a major role in the understanding and the acceptance of the park: “*I believe that’s where you have an extremely important part of the acceptance of the project because we could discuss, we could show the measurements and the instruments about the sound, people could listen, and then they said “well ok, there’s no problem” (Ibid.).*

Meetings with specialists and few visits to onshore parks have increased trust and understanding towards the diverse technical and economic aspects of the park: “*Locals were worried about potential noise impact from the farm, but after a demonstration tour to a modern on-shore wind turbine, the locals were convinced that there would be no noise impact from the Middelgrunden turbines*” (Soerensen et al., 2003). During the planning process, the involvement of many types of stakeholders has made the communication campaigns complete and rather detailed, which tended to improve the quality of the dialogue with the local inhabitants and to increase their interests towards the issues related to Middelgrunden the park and more generally towards wind power itself: “*Through dialogues with many kinds of interest groups, CEEO and the Middelgrunden Windturbine cooperation, with its 8,500 members, generated a widespread understanding for and social acceptance of the chosen location and layout of the farm*” (*Ibid.*).

The comparison between the parks of Middelgrunden and Veulettes-sur-Mer is rather interesting since it highlights the differences between the planning processes but also between the aspects that local inhabitants consider crucial. On the one hand, as said above, noise appeared like one of the main criteria that the locals feared in the case of Middelgrunden, and more generally in Denmark. Their fears decreased if not disappeared thanks to communication campaigns, comprehensive dialogues with the project developer and consulting groups and organized tours to onshore parks. On the other hand, visual aspects were not as decisive as they are now in Veulettes-sur-Mer and more generally in France when discussing wind power. In Veulettes, the locals have expressed their indignation to see their landscape ruined by the park (interview with Mrs. Servan-Schreiber, see transcription in the Appendix), and

visibility became a strong factor from the opponents on the same level as economic and environmental ones. On the contrary, Danes, as forerunners in the wind sector, have been used to see wind turbines in their landscapes since the 1990's (interviews of Mrs. Buch and Mr. Soerensen, see transcriptions in the Appendix). Moreover, Middelgrunden, which is often considered as a very aesthetic park, tends to "disappear" from people's concerns since it is a "nice-looking industrial infrastructure" integrated within the industrial area in Copenhagen (*Ibid.*). At last, concerns about the magnetic fields that could affect the ecosystem but also impact human health are not as important in Denmark as in France. The discussions about the installation of the cables and of the generator in the commune of Veulettes add to the strained environment, but they are on the other hand almost non-existent in the case of Middelgrunden.

Two main specificities could also explain why local acceptance seemed easier to reach in Middelgrunden than in Veulettes-sur-Mer. These criteria mainly refer to general patterns on the national level in Denmark and France, but they can have major impacts on perceptions and acceptance of local projects. One could say at first, from the observations, discussions and interviews that Danes allegedly are more eager to act in favour of measures to mitigate climate change by which they seem to feel more concerned (interview of Mrs. Buch, see transcription in the Appendix). They have accepted the need for more renewable energy sources in order to fulfil the ambitious objectives and national directives of increasing "the share of renewable energy to 30% by 2025" (Ea Energy Analyses, 2007). Moreover, the importance of the cultural background and its effects on people's attitudes towards the offshore projects can be discussed. Though this relation should be further explored, one can already say in this research that Danes tend to be more interested and open-minded towards wind power than the French; this could be explained by the reason quoted above according to which they are more used to see turbines in their landscape, but also by the fact that nuclear power in France remains the a highly-supported energy source.

- **The benefits of the economic participation as share-owners increase people's interest:**

The communication campaigns have been considered efficient since they have gathered all the stakeholders involved in the planning process together and have reached everyone's support under the same project. However, many credits in terms of local acceptance have been given to the Middelgrunden Wind Turbine Cooperative and to the principle of share-ownership proposed to the local inhabitants.

By definition and as described in the previous part, people as share-owners were invited to discuss the planning of the project when it was still on the first stages of its implementation, and can nowadays discuss the park's management, their voices' weight depending proportionally on the amount of owned shares. The analysis has shown that involving the communities through economic means improved the dialogue between the project developer and the owners but also to increase the amount of participative actions they made during the process (especially during the public hearings and visits of onshore parks

as examples). The ownership of shares also seemed to enlarge their interests in all the phases of the project and gave them relatively good reasons to be careful on the decisions taken during the final phases of the planning process: *“The ownership is forcing people at very early stage to think about the project, which means get involved in the planning process, or get involved on where we have to place the turbines or not have to place the turbines...and then create this kind of consent...where you feel you have an influence...and this can surely change the attitudes”* (interview of Mr. Soerensen, see transcription in the Appendix).

At last, the ownership factors seemed to have played a major role in terms of local acceptance of the Middelgrunden project by the local communities. The official reports on the Middelgrunden park take the relation “public participation through local ownership-local acceptance” for granted, explaining that *“local commitment to the Middelgrunden project has proven a key factor in carrying through this wind development. Without the involvement of local people the Middelgrunden project would have never succeeded”*(Middelgrunden Wind Turbine Cooperative, 2003). Nevertheless, even if the literature, observations and interviews tend to ascertain the fact that ownership is an important factor that can lead to a stronger local acceptance, it is not totally clear whether it is sufficient by itself. As we have seen above, people are positively affected by the amount of information they can get from the project developer and by their opportunities to discuss and influence the project. The results of the present study and other official documents however are not sufficient enough to reinforce the idea that ownership as a mean by itself is the main key factor that would increase the level of acceptance in the case of the Middelgrunden wind park, but also more generally in the case of any wind power project in Denmark.

- **Local acceptance is a distinct condition from authorities to give the permissions to implement the project :**

The implementation of the Middelgrunden wind park as much as the other onshore and offshore wind power project has been depending on official permissions given by the Danish authorities. Before installing any turbine, the project developer needs to get different permits from the diverse authorities which deal with fishery, maritime transport, energy production and environmental aspects and which are directly affected by the project. The Danish Energy Agency (DEA) coordinates the discussions between all these authorities, checks that the necessary researches and impact assessments have been carefully carried on, and gives the final word on whether the project should be accepted or not (interview of Mrs. Buch, see transcription in the Appendix).

Public participation of the local communities doesn't appear like a necessary condition for a project to be accepted by the DEA, and may not even be a decisive criterion to follow during the tender procedures (*Ibid.*). Local acceptance on the other hand is a key aspect that the DEA always looks for in order to validate the conduction of a project. Without this step in the planning process, the project is just

rejected even if it validates all the other criteria related to technical and environmental aspects: “we cannot approve a project if there is a strong local opposition; it’s just not possible, it needs to be a criterion that there is no strong opposition. And if there a strong local opposition comes along the project, and for that reason the investor must try again and create a project where the local population...that they can accept” (Ibid.). Within the official reports the Middelgrunden park, the concept of local acceptance is again directly related to the information provided by the cooperative and to the ownership system, but it is only considered “*necessary*” (Middelgrunden Wind Turbine Cooperative, 2003)

Here, local acceptance is considered a prerequisite for a project to take place, and it can actually threaten the conduction of the project itself: “*Public opposition is a serious threat! It’s a necessary...we don’t want to push any project that is not publicly acceptable*” (interview of Mrs. Buch, see transcription in the Appendix). Contrary to the project in Veulettes-sur-Mer, the local communities, including members of the cooperative but also non-owners, were thus given implicit and explicit power to act and influence the planning process and more generally the project itself. This power and potential to influence and threaten the project seemed to have positively affected the levels of public participation and acceptance: people tended in fact to be more involved and interested due to the fact they considered having real possibilities to influence and change the planning process and the final decisions.

→ **Conclusion: In the case of Middelgrunden, public participation has had positive effects on the local inhabitants involved in the discussions. However, in addition to public participation, the already-existing context (social, cultural and economic aspects mainly) have allegedly helped to reach a certain cohesion towards the project.**

The planning process appeared like a very active situation during which people were given power to act, influence and finally change the project. Local acceptance has become a necessary if not mandatory criterion for the project developer to fulfil, which makes the local communities much more important in terms of credits and opinions than in the French case. The ownership system seemed to have played a major role in positively influencing people’s interests, participation and influence, and is considered a key aspect of the “success” of Middelgrunden.

#### **5.4 Are Veulettes-sur-Mer and Middelgrunden “successful cases”?**

Even if the park of Veulettes-sur-Mer hasn’t been built yet contrary to Middelgrunden, the results presented in the previous parts can tell whether the projects have been successful or not. As seen in the Theoretical Framework (Chapter 3), Loring (2007) proposed different criteria and indicators used to define the term “*success*” in relation to the level of public acceptance (including concerns about planning consent, time and costs of the process, public opinion, meeting attendance and media coverage). Both

cases appear “successful” according to these criteria, despite the confusing attitudes of the locals and the presence of a strong opposition in the case of Veulettes-sur-Mer.

However, the different levels of public participation in Veulettes and Middelgrunden as described by Soerensen et al. (2003) have had diverse effects on the acceptance of the projects and their “success”. The planning process in Middelgrunden has combined all the forms of public participation (“*information, planning participation and financial participation*”), while the one in Veulettes only covered the informative step on the “*ongoing development*”. Public participation as a whole positively affects the acceptance and determines if a project can be called “successful” or not. It remains however necessary to analyse the effects of these levels, taken individually, on the opinions and attitudes. The results of this present research in fact don’t give more details on the direct impacts of each level of participation, and it could be interesting in a further research to calculate the correlations between these different factors.

## 6. DISCUSSION

The results that have been presented in the previous part can now be questioned and for most of them extrapolated. This part of the essay will thus be dedicated to a critical analysis of these results. This will be done by discussing to what extent they ascertain or not the assumptions that have been proposed in the introduction.

### **6.1 Back to the start of the project**

#### **6.1.1 Aim of the paper**

The main objective of the present essay was to relate the public participation during the planning process of an offshore project to the level of acceptance of the local inhabitants, and discuss the criteria that affect people’s decisions and level of support. The results have shown that involving the locals in the planning process really affects their opinions, though there are some important differences between the cases of Veulettes-sur-Mer and Middelgrunden in terms of scale and characteristics of these differences. Thus, the objectives of this essay have been positively fulfilled, though many aspects should be further explored in order to better highlight and analyse the main criteria and thus propose a better understanding of the main issues in other offshore cases.

#### **6.1.2 Assumptions**

The original assumptions that this essay had begun with distinguished the effects of public participation in the French and Danish cases: on the one hand, the Danish way of involving the various

stakeholders would favour the development and reinforcement of positive attitudes towards the offshore park, while on the other hand in Veulettes-sur-Mer, the lack of clear communication and the development of conflicting interests and expectations would create a confused situation between supporters and opponents of the project. The research has ascertained these assumptions in general, but some of the results were actually surprising. For instance, the fact that the local inhabitants of Veulettes actually do support the project despite the lack of comprehensive communication with the project developer and the political authorities was not expected at all. It was also very interesting to acknowledge the fact that the main opponents are actually lobbying from outside the concerned communes.

## **6.2 Extrapolation from the study**

The results and main conclusions that have been presented in the previous chapter can themselves be questioned. One can in fact enlarge their prospects and wonder what more they can tell us about general aspects of the study cases.

### **6.2.1 France and Denmark**

The interests and the reasons for choosing Veulettes-sur-Mer and Middelgrunden as study cases have already been presented in the introduction. The analysis of both cases which are quite similar in terms of size and distance from the coast has highlighted the differences between planning processes but also specificities related to the involvement of the local inhabitants and their attitudes. One could however wonder what this locally comparative study can tell us about the attitudes towards offshore wind power in France and Denmark at the national level, and about the weight given to public voices during the conduction of projects related to renewable energy production.

The study cases could be considered good illustrations of national patterns in France and Denmark. On the one hand, it is common knowledge to say that France is “notorious” for its “tradition” of protests and conflicting situations between citizens and political authorities and the example of the planning process in Veulettes-sur-Mer pictures this fact very well. Despite the support of locals, people have been expecting and fighting for more information, better transparency and more rights to make the project change. Moreover, though the available information have been considered sufficient, neutral and clear enough by the Study Commission, the residents have expressed mistrust towards their commune’s authorities and the project developer, and the situation ended up into conflicts and confusing dialogues with them. Denmark on the other hand is often considered, like the other Scandinavian countries, as a country in which governance practices allow people to participate in public discussions about major projects on the local and national levels. Through the public hearings and communication campaigns, but

also thanks to the ownership system, the project developer have managed to create a trustful environment for discussion though it might also have benefits from other criteria such as an already-well-anchored cultural background or an institutional system which favours this type of initiatives.

### **6.2.2 The general level of acceptance of renewable energy sources**

The results of this essay can also be considered significant when focusing on the general acceptance of renewable energy sources on the national level. In France, the development of RES (wind, hydro and solar energies mainly) is still very low, especially due to the “supremacy” of nuclear plant within the French energy system, even if national surveys have collected supportive results (up till 90% of support towards wind power). However, during the last months, one could possibly witness in the French press a virulent “outbreak” of articles and reports concerning the counter-effects, possible ravages and lies about wind power and other “green energies” (Betti-Cusso, 2008; Corbier, 2008; Kempf, 2008; Landler, 2008; Sciama et al., 2008). The conflicts during the planning process in Veulettes-sur-Mer could well be compared with the ones on the national level, increasing the general mistrust towards the project developers (especially foreign companies). One could thus possibly say that people in France are not “ready” yet to further develop RES, contrary to other countries such as Denmark in which they are well integrated in the national energy system but also well accepted on the local and national levels by the inhabitants.

### **6.2.3 The importance of public participation and local acceptance**

Despite the sometimes-surprising results in the case of Veulettes-sur-Mer, the research has ascertained the fact that public participation is one of the key aspects that can thoroughly affect the level of acceptance of local inhabitants. Moreover, this level of acceptance can have major impacts on the conduction of more or less big projects, sometimes even threatening their implementation. The study cases have in fact put forward the challenges (and possible conflicts and contradictions) to involve local communities in offshore projects and presented the understanding of the issues from the residents’ and the project developer’s sides. Both concepts are thus necessary to respect from every sides and if possible to reach in order to create a social environment in which citizens can trust their political leaders and take important decisions in a constructive and peaceful way.

## **6.3 How to improve/increase public participation and local acceptance**

This final part will thus be dedicated to possible solutions and advice that can be given to the project developers and the political authorities in order to improve/increase the involvement of the local inhabitants and their acceptance of wind power projects. The following aspects will be focusing on offshore wind power, but could easily be used for other

### **6.3.1 Improving the communication campaigns and the education on wind power**

At first, one may wonder if and how the public campaigns to inform the local inhabitants and on a larger scale all the citizens can be improved. In fact, people need to access as much information as necessary and as wanted in order to learn about the project and therefore to be able to have a critical opinion about it. They should also be aware of their right (if they have any) to participate in the discussions and negotiations, and their support should never be taken for granted by the project developer. At last, it is also useful to spread information that do not target any particular group and whose main aim is to promote renewable energy, sustainable development, conservation of the landscape. ENERTRAG for example has included in its official “*measures to accompany the seaside inhabitants*” the need for people to get informed all along the coast about the new offshore park through exhibitions, in order to highlight and redefine the landscape and the view from the coast (ENERTRAG, 2006).

The study cases have shown the challenges related to communication with the public and their direct involvement in the planning process. From the planning process in Veulettes-sur-Mer and the disappointments and criticisms from the locals (contrary to the “easy” context in Middelgrunden), one can say that it is a necessity to adapt the communication campaigns to the needs and expectations of a specific local area/country/cultural background. Thus, no “already-made communication framework” should be used and pasted on different projects. However, the future wind power projects should benefit from the experience of the past ones and from companies or countries that have shown their advance in the sector. The Middelgrunden Cooperative for example has put at anyone’s disposal recommendations for the conduction of new projects, including technical details but also advice on “*planning and organization of large wind projects*” related to the relations with the local communities and (Middelgrunden Wind Turbine Cooperative, 2003)

### **6.3.2 Strengthening of rules for the project developers**

It could also be interesting to discuss the integration by the political authorities of certain obligations related to participation and acceptance within the framework of rules of the project developers, following the example of Denmark. As it had been said during the interview with Ms. Buch from the Danish Energy Agency, local acceptance is a prerequisite to implement a project without which the final permits cannot be delivered. However, according to some observations from the DEA, the involvement of the local inhabitants is still not mandatory and thus depends on the companies’ goodwill. The majority of the onshore and offshore projects has been conducted with a certain level of cooperation with the local inhabitants and sometimes with the help of consulting group which organized the dialogue between all sides; but such a decision still depends on the companies and their will to act in favour of more or less participation.

To make public participation compulsory and thus to let the local inhabitants express themselves concerning wind power projects, some representatives of the French Senate have proposed in February 2008 a text of law that will be soon discussed in the Parliament. According to this text, the organization of a public consultation (referendum) would become legally mandatory for each wind power project where the turbines are higher than 50 meters (Marini, 2008). The representatives in fact explain that this would be the only way to mitigate the obvious lack of information and “pedagogy” from the authorities, and thus to give a voice to the citizens of the affected communes (*Ibid.*). Since this law would concern the majority of the current projects, the reactions towards the text are again very virulent. It appears on the one hand like a way to protect the right of the citizens to become informed and clearly express their discontent, while on the other hand the supporters of wind power consider it an “unnecessary administrative brake” during the planning process (Corbier, 2008).

## 7. CONCLUSION

The comparative case study about the offshore parks in Veulettes-sur-Mer and Middelgrunden has ascertained the importance of involving the local residents in the planning process in order to reach their support. It has also validates the original assumptions according to which the Danish participative system makes the local communities more willing to accept offshore in their landscape, while the lack of clear communication and dialogue between the stakeholders in France has created a confused and strained environment which doesn't favour the look for compromises and decisions.

The analysis and the comparison of both planning processes have highlighted interesting patterns that can give a better insight on the challenges encountered by the project developers and the political authorities when communicating with the locals. Moreover, the different levels of involvement of the local communities have had different effects on their acceptance, and it would be interesting/necessary to further study the effects of these types of participation one by one to find out which are the most significant and influential.

In Veulettes-sur-Mer, the presentation of the first offshore park in France mainly consisted in public hearings and discussions between the developer, the Study Commission and the local residents. The information that were considered sufficient and detailed enough were however criticized by the locals whose expectations were different, hoping for more transparency and better comprehensive dialogues. Despite that, the level of acceptance of the residents of Veulettes-sur-Mer is relatively high, and the main complaints surprisingly come from communes and people who are not directly concerned by the future park in terms of visibility.

Some characteristics and conclusions have been thus drawn from the French case:

- Strong support from the locals and strong reject from outsiders;
- High level of mistrust towards the project developer and the political authorities;
- Communication methods not adapted to the local communities' expectations.

In Middelgrunden, in addition to public hearing and information campaigns, the citizens have been invited to buy shares of the Middelgrunden Cooperative and thus to become owners of the park. The study has confirmed that the ownership factor had been decisive to reach a high level of acceptance from the locals who felt more concerned by the necessity of a right and eco-friendly implementation and management of the offshore park. However, contrary to the French case, the Danes have allegedly had a better knowledge of the project and a stronger cultural background favouring the development of wind power, and this certainly improved their perceptions of the information and more generally their acceptance of the project.

Here are thus the main conclusions drawn from the research:

- Strong support from the locals and few cases of protest from very specific groups;
- Ownership as a key element to involve the public and reach a high level of support;
- Cultural background favouring wind power and renewable energy sources in general.

## 8. REFERENCES

- Actu Environnement, 2005. “Energies : La France retient un seul projet d'éoliennes en mer sur les 10 proposés”. <http://www.actu-environnement.com/ae/news/1246.php4> (date of consultation 18-01-2008)
- Agence de l'Environnement et de la Maîtrise de l'Energie, 2003. “Sondage Perception de l'Energie Eolienne en France, Ademe-Synovate, Janvier 2003”,
- Belhomme Regine, 2002. “Wind Power Developments in France”, *Power Engineering Review*, Vol. 22, Issue 10, pp. 21-24.
- Betti-Cusso M., 2008. “Eoliennes: Miracle ou Arnaque? Dossier Spécial”, *Le Figaro*, Vol. 19759 (03-02-08), pp. 46-59.
- Bishop I.D., Miller D.R., 2006. “Visual assessment of off-shore wind turbines: The influence of distance, contrast, movement and social variables”, *Renewable Energy*, Vol. 32, pp. 814-831.
- Boyle, G., B. Everett and J. Ramage (eds.), 2003. *Energy Systems and Sustainability*, Oxford: Oxford University Press.
- Boyle, G., 2004. *Renewable Energy, Power for a Sustainable Future*, Oxford: Oxford University Press.
- Braunholtz S., 2003. “Public attitudes to windfarms – A survey on local residents in Scotland”, MORI Scotland, Scottish executive social research.
- British Wind Energy Association (BWEA), 1994. “Prospects for Offshore Wind Energy”, report written for the EU.
- Bryman A., 2004. *Social Research Methods*, Oxford: Oxford University Press.
- Chabot Bernard, *L'énergie éolienne en France: bilan en fin 2003 et perspectives de développement – Wind power in France: Status at the End of 2003 and Development Prospects*, presentation made during the congress “WindEnergy” in Hamburg, 11-14/05/2004.
- Commission d'Enquête, 2007. “Enquêtes publiques conjointes di 9 juin 2007 au 13 juillet relatives à la demande d'autorisation déposée par la SAS CECA “Centrale ENERTRAG Côte d'Albâtre”, “Par éolien offshore –Veulettes sur Mer”, *Avis de la Commission d'Enquête sur le dossier présenté par le Maître d'Ouvrage*”. Synthetic report of the reading of the report given by the company ENERTRAG concerning the offshore project.
- Commission d'Enquête, 2007. “Avis et Conclusions de la Commission d'Enquête”. Synthetic conclusion of the Commission concerning the offshore project.
- Communes 76, 2006. Website giving information about the communes of the department of Seine-Maritime, <http://www.communes76.com/Communes/depar.php?commune=Veulettes-sur-Mer> (date of consultation: 15-03-08)
- Corbier M-C., 2008. “L'envol de l'éolien suscite de nouvelles attaques des opposants”, *Les Echos*, 15/04/08.
- Danish Energy Agency, 2007. Official webpage: <http://www.ens.dk> (date of consultation: 12-03-2008)
- Danish Energy Agency, 2005. *Offshore Wind Power, Danish Experiences and Solutions*.
- Devlin E., 2002. “Factors affecting public acceptance of wind turbines in Sweden”, Master Thesis of Lund University International Master's Programme in Environmental Studies and Sustainability Science (LUMES).
- Ea Energy Analyses, 2007. “50% Wind Power in Denmark in 2025-English Summary”,
- Enertrag, <http://www.enertrag.com> (date of consultation: 14-10-2007). Company specialised in Wind power and developing the project in Seine-Maritime.
- Enertrag, 2006. “Centrale éolienne Côte d'Albâtre”, official report of activities.

- Espace Eolien Développement, <http://www.espace-eolien.fr> (date of consultation: 14-10-2007).  
French consulting group specialised in wind power.
- Espace Eolien Développement, 2006. <http://www.espace-eolien.fr/Eolien/200twh.htm> (date of consultation 08-09-07)
- European Commission, 2001. “*Offshore Wind Energy – Ready to Power a Sustainable Europe*”, Final Report, *Concerted Action of Offshore Wind Energy in Europe*.
- European Commission (Directorate-General for Energy and Transport), 2003. “EU Best Practice in RES: Wind Energy in Denmark” OPET Network.
- European Commission, 2008. “*Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources*”, Brussel.
- European Wind Energy Association, 2007. “*Introduction: Strategic Overview of the Wind Energy Sector*”. <http://www.ewea.org/index.php?id=194> (date of consultation: 21-01-2008)
- Fédération Environnement Durable, 2007. “L’éolien industriel, une imposture écologique, un scandale financier”
- France Energie Eolienne, Syndicat des Energies Renouvelables 2007. “*90% des Français favorables au développement de l’énergie éolienne selon une étude LH*”, national survey on wind power.
- Henderson, A. R. et al., 2002. *International Journal of Environment Sustainable Development*, Vol. 1, (4), 356-369.
- “Il était une fois dans le Nord Ouest”, 2007. “*Pétition contre les éoliennes offshore Veulettes*”, <http://leioangr.blog.mongenie.com/index.php?idblog=397598> (date of consultation : 14-10-2007).
- Intergovernmental Panel on Climate Change, 2001. *IPCC Third Assessment Report on Climate Change*.
- Jobert A., laborgne P., Mimblar S., 2007. “Local acceptance of wind energy: Factors of success identified in French and German case studies”, *Energy Policy*, Vol. 35, pp. 2751-2760.
- Kalaydjian R., Delpech J.-P., 2007. “Potential Impacts of marine energy systems and the problem of sustainable development in coastal zones”, Ocean Energy Workshop-April 2007, IFREMER.
- Kempf H., 2008. “Plus d’éoliennes, pas moins de CO2”, *Le Monde*, February 15<sup>th</sup>, 2008.
- Kolonas T., 2007. “*The research on public perceptions toward wind power schemes: an Analysis through the “eyes” of sustainability*”, Master Thesis of Lund University International Master’s Programme in Environmental Studies and Sustainability Science (LUMES).
- Ladenburg J., 2007. “Attitudes towards on-land and offshore wind power development in Denmark; choice of development strategy”, *Renewable Energy*, Vol. 33, pp. 111-118.
- Landler M., 2008. “As wind power spreads, it meets more resistance”, *The New York Times*, 29-03-08, available online: [http://www.nytimes.com/2007/11/23/business/23wind.html?pagewanted=1&\\_r=1](http://www.nytimes.com/2007/11/23/business/23wind.html?pagewanted=1&_r=1) (date of consultation: 09-04-08).
- Larsen J.H.M., Soerensen H.C., Christiansen E., Naef S., Völund P., 2005. “*Experiences from Middelgrunden 40 MW Offshore Wind Farm*”, Copenhagen Offshore Wind 26-28 October 2005, KMEK-Copenhagen Environment and Energy Office (CEEEO).
- Le Visage C., 2004. “Eolien offshore: vers une politique du développement en France”, *Impacts*, Vol. 1-2, pp.179-195, L’Harmattan, Paris.
- Loring J. McL., 2007. “Wind energy planning in England, Wales and Denmark: Factors influencing project success”, *Energy Policy*, Vol. 35, pp. 2648-2660.
- Marini P., 2008. “*Proposition de loi tendant à rendre obligatoire la consultation des citoyens préalablement à l’implantation d’éoliennes de grande hauteur*”, Sénat.

- Middelgrunden Wind Turbine Cooperative, 2003. "The Middelgrunden Offshore Wind Farm – A Popular Initiative", published by Copenhagen Environment and Energy Office.  
Middelgrunden Wind Turbine Cooperative, official website.  
<http://www.middelgrunden.dk/index.htm>
- Nadaï A., 2007. " " Planning", "Siting" and the local acceptance of wind power: Some lessons from the French case", *Energy Policy*, Vol. 35, pp. 2715-2726.
- Nielsen S., "Offshore Wind Power in Denmark, Key environmental issues", Danish Energy Authority, Ministry of Transport and Energy.
- Offshore Windenergy Europe, <http://www.offshorewindenergy.org> (date of consultation: 14-10-2007). Independent source of information for professionals working in the field of offshore wind energy.
- Parrad M., 2008. "Les éoliennes offshore vont apparaître en Normandie", Reuters, <http://fr.news.yahoo.com/rtrs/20080424/tts-france-eoliennes-ca02f96.html> (date of consultation : 01-05-2008).
- Préfecture de la Seine-Maritime, 2007. "Arrêté : Enquête Publique ; objet : Implantation d'un parc éolien en mer au large de Veulettes-sur-Mer"
- Rousseau F., 2008. "Comment implante-t-on un premier parc éolien offshore en France ?", *Les Energies de la Mer*, blog of 3B Conseils, February 1st, 2008, [http://energiesdelamer.blogspot.com/2008\\_02\\_01\\_archive.html](http://energiesdelamer.blogspot.com/2008_02_01_archive.html) (date of consultation: 16-03-2008)
- Sciama Y., Chevassus N., 2008. "Le dossier noir des "énergies vertes", *Sciences & Vie*, Vol.1086, pp. 55-75.
- Secrétariat de la Mer, 2002. "Energie éolienne en mer, Recommandations pour une politique nationale".
- Soerensen C., Hansen L. K., Hammarlund K., Larsen J. H., 2003. "Experience with and strategies for public involvement in offshore wind projects", *National Planning Procedures for Offshore Wind Energy in the EU*, Institute for Infrastructure, Environment and Innovation, Brussels-Belgium.
- Total, June 2006. "L'énergie éolienne". Article to promote wind energy and offshore wind power.
- United Nations Framework Convention on Climate Change, 1997. Kyoto Protocol, third Conference of the Parties (COP 3)
- Vesperi M., 2007. "L'éolien maritime français peine à décoller", <http://www.news.fr/actualite/business/0,3800001900,39370270,00.htm> (date of consultation : 14-10-2007)
- Warren C. R., Lumsden C., O'Dowd S., Birnie R.V., 2003. "Green on Green : Public perceptions of Wind power in Scotland and Ireland", *Journal of Environmental Planning and Management*, Vol.48, n° 6, pp. 853-875.
- Western Isles Alternative and Renewable Energy Partnership. "Co-operative ownership" in Denmark, text available on <http://www.cne-siar.gov.uk/wiarep/deownership.pdf> (date of consultation: 25-04-2008).
- Wolsink M., 2000. "Wind power and the NIMBY-myth: Institutional capacity and the limited significance of public support". *Renewable Energy*, Vol. 21, pp.49-64.
- Wolsink M., 2007. "Wind power implementation: The nature of public attitudes: Equity and fairness instead of "backyard motives", *Renewable and Sustainable Energy Reviews*, Vol.11, pp. 1188-1207.
- World Commission on the Environment and Development, 1987. *Our Common Future*, report from the United Nations' Brundtland Commission, Oxford University Press.
- Yin R.K., 1984. *Case Study Research: Design and Methods*, Sage, Beverly Hills.

## 9. APPENDIX

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**Table of comparison, Synthesis of collected information**

	<b>VEULETTES-SUR-MER France</b>	<b>MIDDELGRUNDEN, Denmark</b>
<b>RES: National Targets, share of the energy production</b>	21% by 2010	30% by 2025
<b>MAIN OTHER ENERGY SOURCES</b>	Nuclear power, around 78% of the electricity production	Crude oil and natural gas
<b>WIND POWER Production Number of sites Acceptance (national statistics) Number of offshore sites</b>	- 2700 MW (2007) - 341 parks, 1500 turbines - 90% of positive attitude - none	- 3136 MW (2007)  - 95 % of positive attitudes - 10 offshore parks
<b>LOCATION town, region</b>	Veulettes-sur-Mer, Haute Normandie	Middelgrunden, Copenhagen
<b>DATE - Decision Making - Opening of the park</b>	- 2006 - End of 2008 (?)	- 1996 - 2001
<b>TECHNICAL DETAILS: - number of turbines - diameter - total production - distance from the coast - design</b>	- 21 windmills, - 100/120 m -105 MW (energy needs for 125,000 households) - 7 km - 3 parallel lines (1,6 km in between)	- 20 windmills, 2MW - 76 m - 40 MW (3% of the power used in Copenhagen) - 3 km - slightly curved line
<b>COMPANY IN CHARGE OF THE TURBINES' INSTALLATION</b>	ENERTRAG France SARL (ENERTRAG AG) PROKON Nord	Bonus Energy (Siemens Wind Power)
<b>COMPANY IN CHARGE OF THE PROJECT MANAGEMENT</b>	Centrale SAS CECA "ENERTRAG Côte d'Albâtre"	The Middelgrunden Wind Turbine Cooperative, Copenhagen Energy
<b>CONSULTATION DURING THE DECISION PROCESS AND INVOLVED STAKEHOLDERS</b>	Dialogue with the local and regional political authorities (State's services on local and regional levels, maritime State's services) 2 public hearings (2007-08)	Locally based commitments, active, open and comprehensive dialogue with the public and the political authorities Consulting group 3 public hearings (1997-99)

<p><b>OWNERSHIP</b></p>	<p>ENERTRAG France SARL (ENERTRAG AG) - Centrale SAS CECA “ENERTRAG Côte d’Albâtre”</p>	<p>50% Energi E2 (10 turbines North), 50% Cooperative (10 turbines South)  Shares of partnership (1/40,500)  - 8553 electricity consumers  - local organizations and companies  - unions  (90% of the shares owners from Greater Copenhagen)</p>
<p><b>MAIN CRITERIA CONSIDERED BY THE ENVIRONMENTAL IMPACT ASSESSMENTS (official sources, in order of presentation)</b></p>	<ul style="list-style-type: none"> <li>- Flora and Fauna</li> <li>- “Human impacts”</li> <li>- Visual impacts</li> <li>- Uses and Activities (soil, fishing, tourism and leisure, management)</li> </ul>	<ul style="list-style-type: none"> <li>- Visual Impact</li> <li>- Risks of heavy metals contamination</li> <li>- Risks of collision</li> <li>- Flora and Fauna</li> <li>- Fishing</li> </ul>
<p><b>MAIN CRITERIA CONSIDERED BY THE LOCAL COMMUNITIES</b></p>	<ul style="list-style-type: none"> <li>- Visibility</li> <li>- Protection of the landscape</li> <li>- Protection of the local economic activities (fishing and tourism)</li> <li>- Economic benefits</li> <li>- Prestige (being a model)</li> </ul>	<ul style="list-style-type: none"> <li>- Noise</li> <li>- Energy directives and CO2 targets</li> <li>- Visibility</li> <li>- Economic Benefits - Ownership</li> </ul>
<p><b>LEVEL OF ACCEPTANCE OF THE LOCAL COMMUNITIES</b></p>	<p>Mixed:</p> <ul style="list-style-type: none"> <li>- high support from the political authorities</li> <li>- support from the majority of the inhabitants of Veulettes</li> <li>- rejects and protests coming from outside the commune</li> </ul>	<p>Positive, supportive, strong public involvement at different levels</p>

**Notes and extracts taken at the City Hall of Veulettes-sur-Mer, documents put at the public's disposal by the Study Commission. 29-02-2008 (French)**

**« Enquêtes publiques conjointes du 9 juin 2007 au 13 juillet relatives à la demande d'autorisation déposée par la SAS CECA « Centrale ENRETRAG Côte d'Albâtre »**

**« Parc éolien offshore – Veulettes sur Mer »**

**Ordonnance du Tribunal Administratif de Rouen du 6 avril 2007.**

**Arrêté préfectoral du 19 avril 2007**

**Rapport de la Commission d'Enquête.**

**Avis de la Commission d'Enquête sur le dossier présenté par le Maître d'Ouvrage :**

*«L'examen de la liste des chapitres, paragraphes et annexes, telles que reprises ci-dessus, montre que le dossier présente une information étendue et détaillée sur les sujets concernés.*

*Le dossier comporte d'une part des informations accessibles tant à un large public (document de présentation générale du dossier) et d'autre part des informations pouvant être appréhendées par des personnes plus averties.*

*Le fascicule intitulé « Résumé non technique du projet éolien offshore de la Côte d'Albâtre » exigé par la réglementation en vigueur, présente de manière synthétique et particulièrement illustrée une vue d'ensemble du projet.*

*Il facilite la compréhension du dossier, pour des personnes quel que soit leur niveau de compétence ou d'expérience qui ne sont pas familières des techniques, principes scientifiques et procédés concernés et présentés dans le dossier. »*

***Conclusion à en tirer:***

Bon niveau d'informations mises à la disposition du public durant chaque permanence de la commission d'enquête.

Informations détaillées, résumés techniques ou non techniques disponibles.

Bonne visibilité et transparence, cartes, graphiques, présentations du projet en détail.

**Chapitre 2 : observations recueillies lors des consultations publiques :**

*Registre concernant Veulettes-sur-Mer : 50 dépositions pour 296 habitants*

*Avis favorables : 35*

*Avis défavorables : 15*

*Avis non explicite : 1*

*Contre : principalement syndicats ou professionnels de la pêche et associations*

*Pour : Conseil Régional de Haute Normandie – Les Elus Verts*

**Avis et Conclusions de la Commission d'Enquête :**

Le projet présente des avantages :

- *Energie propre*
- *Risques environnementaux limités*
- *Répond aux objectifs éoliens de la France*
- *Effets de récif artificiel*
- *Impacts sur l'environnement et l'eau relativement limités*
- *Les effets d'implantation sur la turbidité de l'eau sont temporaires et limités dans le temps*

- *Les risques de pollution du milieu marin sont limités*
- *Relative acceptation du projet par la population locale*

### Chapitre 1 : Généralités :

*Les enquêtes se sont déroulées de manière satisfaisante. Elles ont débuté calmement avec une fréquentation des permanences modeste.*

*Affluence particulière le dernier jour de l'enquête, avec une plus grande manifestation de rejet envers le projet, qui pourrait s'expliquer par le phénomène appelé « NIMBY! », « Pas dans mon jardin ! »*

### Profil des personnes qui se sont manifestées lors des permanences :

*Riverain direct : ceux qui ont manifesté un rejet important. Devient instantanément écologiste. Il est pour toutes les énergies renouvelables, sauf l'éolien. Question d'appartenance au territoire très forte (questions relatives aux aspects négatifs du bruit, à l'accès à la plage, à la côte, à la pollution,...)*

*Citoyen de base : non riverain, intéressé par le projet, vaguement inquiet, facilement influençable. Considère que le projet n'est pas une solution miracle. D'accord tant que le projet n'est pas mis en place chez lui !*

*Opposants individuels : s'investissent d'une mission de protection. Ils n'ont pas toutes les informations, mais ils se pensent stratégiques dans l'instruction du dossier.*

*Associations de défense : large participation, rôle de meneurs. Elles n'ont pu entraîner que des opposants extérieurs aux communes concernées. Recherche d'aide auprès d'experts, compétents ou non.*

*Professionnels de la pêche : inquiets pour l'avenir du métier.*

Participation élevée de communes non concernées par le projet !

### Chapitre 2 : Conclusions de la Commission, compte tenu :

- Du retard national concernant le développement de l'énergie éolienne par rapport à d'autres pays européens
- De la prise en compte des engagements pris à Kyoto
- De la prise en compte de la directive de l'Union Européenne relative au développement des énergies propres
- « préserver l'avenir de la vie sur notre planète, l'humanité et l'avenir de nos enfants »
- Que le projet sur la Côte d'Albâtre est le premier projet offshore en France
- Qu'avec la distance, les machines sont à peine perceptibles depuis la côte
- Que la production éolienne semble infime mais elle est propre
- De l'existence de mesures compensatoires par le Maître d'ouvrage en matière de faune et ressources halieutiques
- Des retombées financières : taxe sur la production d'éoliennes en mer, décrétée par l'article 76 de la Loi de Finance de 2006. Montant : 12000€/MW installé. Taxe redistribuée à la collectivité, la moitié à destination des communes littorales ayant un impact visuel, et l'autre moitié pour les ports de pêche et de plaisance situés dans un rayon de 30km autour du parc.

- De l'avis favorable des habitants de la commune de Veulettes-sur-Mer : « projet attractif et dynamique pour la commune. Il donnera un ressort pour le commerce. Zone restée autorisée aux pêcheurs (sauf chalutage), circulation à l'intérieur du parc ».
- Que les avis défavorables ont été démentis par l'étude d'impact et réponses du pétitionnaire.
- Que l'impact sur le littoral est faible.

Recommandations de la Commission d'Enquête :

- Le balisage lumineux doit être le moins agressif possible
- Le diagnostic « Point zéro » du suivi de la ressource halieutique soit mis en place le plus rapidement possible
- Montant de la garantie financière pour le démantèlement du parc à calculer par le Ministère des Finances
- En cas de démantèlement, que les structures offshore soient sapées jusqu'au sol marin pour questions de sécurité et de navigation.

Démantèlement des structures industrielles en mer prévues par :  
Résolution de l'ONU en 1982  
Loi de l'urbanisme et habitat no° 2003-50 du 23 juillet 2003.

**ENERTRAG « Projet de Parc éolien en mer de la Côte d'Albâtre, Département de la  
Seine-Maritime ».**  
**Dossier de Demande de Permis de Construire (reçu le 31 mai 2007)**

Sommaire :

- *Identité du demandeur*
- *Descriptif du projet*
- *Risques et dispositifs de sécurité*
- *Maintenance*
- *Démantèlement*
- *Volet paysager*
- *Formulaire administratif*
- *Promesse de vente du terrain*
- *Pièces graphiques : cartes, simulations visuelles*

**ENERTRAG SAS CECA « Projet de Parc éolien offshore « Côte d'Albâtre » au large de  
Veulettes-sur-Mer, Etude d'Impact Environnemental  
Caen, avril 2007 (reçu le 31 mai 2007)**  
**CREOCEAN Services et Conseil en Environnement Littoral, Marin et Océanographique**

Sommaire :

- *Introduction*
- *Description de l'état initial du site d'implantation du projet*
- *Zone d'emprise*
- *Caractéristiques du milieu physique*
- *Milieu naturel*
- *Qualité du milieu*
- *Espaces naturels protégés et inventoriés du littoral*
- *Patrimoines culturels et archéologiques faisant l'objet de mesures de protection*
- *Paysages*
- *Occupation du milieu, documents d'urbanisme et populations*
- *Activités humaines*
- *Synthèse de l'état initial, identification des compartiments sensibles*
- *Description de la mise en œuvre du projet*
- *Mise en place des éoliennes*
- *Câbles*
- *Poste de transformation*
- *Phase d'exploitation*
- *Démantèlement*
- *Bilan énergétique et bilan carbone du parc éolien*
- *Effets prévisibles du projet sur l'environnement naturel et humain*
- *Milieu physique*
- *Milieu vivant*
- *Zones naturelles protégées*
- *Effets paysagers*

- *Usage du milieu urbain*
- *Compatibilité règlementaire*
- *Effets prévisibles sur la santé humaine*
- *Effets des travaux sur la sécurité et la santé*
- *Effets des ouvrages en place sur la sécurité et la santé*
- *Synthèse*
- *Raisons du choix du projet*
- *Politique et économique* : Directive EU + gisement offshore élevé, atouts de la côte Haute-Normande
- *Technique*
- *Environnemental*
- *Mesures destinées à supprimer, réduire ou compenser les effets négatifs du projet sur l'environnement*
- *Analyse critique des méthodes utilisées pour l'évaluation des effets et des difficultés rencontrées.*

#### Bilan énergétique CO2 du parc éolien :

*34% fabrication des éoliennes*

*39% fabrication des pieds tripodes*

*16% maintenance*

*3% transport et construction*

*3,7% démantèlement*

Projet initial : 189 aérogénérateurs, 9 x 21 machines sur une surface de 102 km<sup>2</sup>, production estimée entre 567 et 945 MW

Appel d'offre en 2004 > projet de 21 machines de 5MW chacune sur une surface de 14-23 km<sup>2</sup>

#### « Mesures d'accompagnement à destination des publics riverains » (chap. 8.4, p. 339) :

Forte implication du maître d'ouvrage en matière d'informations des publics et usagers ainsi que pour une gestion environnementale du site exemplaire

= mise en place de démarches voire d'outils de communication

= valorisation du nouveau paysage industriel

Panneaux de présentation des éoliennes

Exposition sur le thème des éoliennes

Panneaux et maquettes de présentation en phase de travaux et en mode d'exploitation

Exposition sur les énergies renouvelables

= mise en valeur du chemin côtier

Valorisation des différents points de vue sur les éoliennes dans la limite de la zone d'influence visuelle

→ Réappropriation, redéfinition du nouveau paysage, de son image.

Taxe professionnelle comme mesure compensatoire.

**Transcription of the interview with Mrs. Sabine SERVAN-SCHREIBER at the City Hall of Veulettes-sur-Mer, Friday, February 29<sup>th</sup>, 2008 (in French).**

*« Si ce point vous intéresse tout particulièrement, qui est de savoir comment les populations sont impliquées, alors je peux vous dire 3 choses, qui me paraissent abominables. La première : le maire, et le représentant de la communauté de communes, qui représente 38 communes, ont appris le projet par la presse. C'est agréable, c'est sympa, hein ? Deuxièmement, mon implication dans ces affaires qui, ce n'est pas mon métier, je n'ai plus l'âge, c'est pas la chose que je devrais faire en ce moment...est venue d'un mouvement démocratique fort, ou républicain, qui est qu'en venant voter pour mon député qui lui était en ballottage, pour le sortir de là, parce que c'est quelqu'un que je connais bien, et qui est moins nocif que les autres...donc le 16 juin je vois qu'il y avait un avis d'enquête, et qu'au fond il n'y avait que 3 jours pour écrire quelque chose parce que je n'étais pas prévenue avant, et que c'était pendant la campagne électorale...faisant suite à une campagne électorale présidentielle qui n'était pas si simple...ni si commode, ni si calme.... bon...et donc, je me suis dit, mais bon, un projet d'une telle ampleur, dans une commune comme celle-ci, où les résidents extérieurs –les résidents secondaires- font tout le charme, toute l'économie et toutes les dépenses...c'est juste pas possible ! Et c'est comme ça que j'étais là. J'ai vu monsieur le maire, je lui ai dit « monsieur le maire, qu'est ce qui se passe ? » il m'a dit « j'ai été prévenu par la presse. » et c'était vrai, parce que plusieurs autres personnes me l'ont confirmé.*

*Donc, si vous voulez, à un moment donné, vous ne connaissez mais rien mais rien mais rien ! Votre pays, vous le connaissez, mais rien d'autre. Et tout d'un coup, alors qu'il vient d'y avoir une grande campagne présidentielle, qu'il vient d'y avoir une législative non négligeable, en tout cas sur ses effets, puisqu'il y a eu une vague bleue assez intéressante, vous apprenez que 1500 pilonnes vont venir en travers de on ne sait pas où, et à la décision d'on ne sait pas qui pour faire on ne sait pas quoi. Car à ce moment là, déjà, l'Allemagne dit « moi je ne subventionne plus », le Danemark dit « moi je ne construis plus », l'Angleterre dit « attention attention ! », et, l'Espagne publie péniblement un communiqué disant « on fait 11% péniblement, quand c'est pas en panne, dans les bonnes années ». Vous comprendrez bien que...bon, à partir de là...Après c'est une ex thésarde comme vous qui s'est mise à travailler... Mais d'abord il y a eu beaucoup de courtoisie. J'ai pas été d'abord sur les gens qui sont contre par principe. J'ai été d'abord voir les gens qui normalement savent. Je suis allée voir par exemple le directeur d'EDF que je connaissais, qui était devenu un autre, que je ne connaissais pas, que j'ai été voir, disant « qu'est-ce qu'on essaye de faire ? ». Et puis j'ai été voir des lieux ! Je suis partie pour Cromer (Norfolk, UK, wind farm planned by 2013). Je suis partie à Borkum, parce qu'il y avait une référence sur Borkum, il n'y avait rien. JE suis partie sur Gibraltar, où là il y a des forêts d'éoliennes, mais pas en mer. Ce serait très gênant pour le chenal, vous comprenez. Donc ils les ont mises sur les collines....C'est très laid, Gibraltar, donc il n'y a rien de perdu, sauf les singes, qui sont découpés en rondelles (il y a beaucoup de singes à Gibraltar). A Marbella il y en a aussi, mais ils ne se sont pas trop mal débrouillés. IL y en a autour des îles, comme les Baléares. J'ai vu, c'est pas mal fait. J'en n'ai pas vu aux Canaries, mais autour des îles, ça paraît judicieux. Mais voilà, ce n'est jamais aussi prêt comme nous propose ce monsieur allemand qui prétend faire un nouveau Mur de l'Atlantique, que nous on a déjà eu, ça va. Tous les 50 ans on a une vague allemande, bon on se remet, mais bon. C'est jamais si prêt. Cela dit ce n'est pas de sa faute, ni de la faute du maire, ni de la faute de personne. C'est qu'il y a un silex qui permet de le faire.*

*Donc, j'ai pas été voir d'abord les gens contre. J'ai d'abord été voir les lieux, puis els gens qui connaissent. Alors les spécialistes de l'ingénierie électro...électriques aux Arts et Métiers, pour savoir si les articles que je lisais...Parce que moi dans la presse je suis bien informée, dans toutes les langues donc...et je ne croyais pas ce que je lisais ! Au début je me disais « ils sont fous ! ». Puis ensuite, deuxième étape de l'enquête, je suis allée au Parlement...qui a voté cet arrêté inique. Alors il a été voté deux fois...une fois juste avant les présidentielles quand Mr Jospin socialiste se présentait, par trois députés beurrés au petit Lu et au café à 3 heures du matin...et qui regrettent aujourd'hui ce qu'ils ont fait, qui ne sont plus députés maintenant et c'est bien fait pour leur gueule. Tous les trois. Et puis ça a été revoté...c'était bien fait pour leur gueule, vraiment...Mais personne n'est allé leur mettre du plastic à leur porte...Et, ça a été repris au moment où Chirac pensait présenter son cher Villepin, ou se présenter lui-même...avant qu'il n'ait consulté les astrologues qui lui ont dit qu'il ne fallait pas...et donc ça a été repris à ce moment là et voté en douce...le but était de se mettre les Verts avec soi. Bon. Mais si les Verts avaient un projet qui soit valable pour l'ensemble de la nation, on serait entièrement d'accord. Parce que nous on a été des gens mieux que biens. On a été des citoyens formidables. Parce que quand on nous a amené une centrale nucléaire, il y a 30 ans, avec tout ce que ça représentait, 5 ans de travaux, de dangers, de soucis, d'inquiétudes....d'accord c'était EDF, ça protège quand même, EDF, c'est un bon sigle, chez nous...M'enfin tout de même, on a pris ça...on a été bien.*

- Il n'y a eu aucune révolte, quoi que ce soit ?

*- Rien. On a compris l'intérêt général, et on savait que c'était pour nourrir l'ouest de Paris. On savait. Donc on savait ! Donc on a fait notre boulot ! Alors maintenant, Veulettes, aujourd'hui...On nous propose 21 éoliennes et ça change l'économie de la commune, ça transforme une villégiature en banlieue industrielle...ça fait que le Président de la Communauté de Communes, qui heureusement est démissionnaire, n'a pas investi dans le balnéaire proprement dit, qui est indispensable ici, euh, correctement...et que nous avons été, pour avoir été la seule commune qui a vue sur la centrale...Parce que Paluel ne voit rien, et les autres non plus..Ils touchent la recette mais ne voient rien, nous on est les seuls à avoir la vue....et qui n'ont rien eu, qui n'ont pas été indemnisés, qui n'ont plus de chouettes, plus de rossignols, plus d'hirondelles parce qu'il y a trop de lumière...Moi j'avais une chouette depuis 50 ans, elle est partie ! Où veux-tu qu'elle chasse, maintenant ? Je n'ai jamais mis un pesticide dans mes 5 hectares, ce qui n'est pas si grand que ça d'ailleurs...j'avais des lapins, je les ai toujours d'ailleurs, mais les chouettes, les rossignols, les hirondelles, je n'ai plus rien ! Plus que des pigeons ramiers qui viennent du Sénégal.*

*Bon...il n'y en aura plus beaucoup, parce que c'est vrai que là, bon...on n'en meurt pas, on meurt de rien...il faut accepter de changer. Mais, pour quelque chose ou pour quelqu'un. Surtout quand on est vieux. Et nous on veut bien changer tout ce qu'on veut pour des gosses qui ont votre gueule. Et votre âge. On est prêt à habiter des maisons qui ne seront plus que des mausolées mortuaires, on est prêt à beaucoup de choses. On est prêt à foutre toutes ses économies dans des changements de toits, dans des rembourrages de fenêtre, dans des changements de bagnoles, dans des voitures qui roulent à 70 à l'heure, avec des moteurs bio...encore que là il y a des incidences aussi graves....on est prêt à tout. Mais pas à des conneries. Parce qu'on est trop vieux. Et ça on peut pas. Et mettre une grande araignée éolienne sur tout un canton qui vit du tourisme...pour alimenter le cœur thermique de Fécamp qui est, c'est vrai, une ville en perdition...ben ça va. Et en plus, avaler à notre âge des mensonges ignobles comme « Fécamp c'est très joli », c'est 4 fois plus petit et ça tourne pas vraiment. C'est pas « branché ». Alors il ne faut pas pousser non plus ! « Vous comprenez ça*

*attire les touristes ! ». Non mais attendez, les touristes...Moi je remplis ma maison de Hollandais, si c'était si bien que ça...ils resteraient chez eux...voilà...l'hôtel Les Frégates est rempli de Hollandais....ils se font, les mecs, 1200 km d'autoroutes pour venir à Veulettes ! Parce que la première visiteuse c'était la secrétaire de la reine Juliana...et que j'ai profité de ça pour développer un tourisme aimable, et de famille...et ça c'est durable !*

*Alors, voilà, pour ce qui est de l'organisation des enquêtes, ils sont très fiers d'eux, les préfets, les administrations, et tout ça...parce qu'ils croient qu'ils ont fait ce qu'il faut. Cela aurait coûté 60 fois moins cher pour l'organisation de l'enquête, de faire une publicité d'une page dans le journal local, c'était bon pour l'économie, au lieu de faire des tirages couleur à la con...*

- A priori cela a été fait, déjà, d'après ce que j'ai lu dans les rapports...

*- Non non, vous n'avez pas vu les annonces ! Un petit pavé, en bas de la page, sur la 17<sup>e</sup> page. Moi j'aurais souhaité une publicité comme pour Leclerc, en page 2 du Courrier Cauchois, de Liberté Dimanche, du Paris Normandie, de la Formation Dieppoise, bon...ça leur aurait coûté, quoi, 15000 €. Et bien, 15000€ avec un bulletin réponse, ça suffisait. Et on réunissait les gens qui avaient répondu, tous, en leur disant « voilà, la préfecture est ouverte samedi toute la journée, dans la salle de Magellan, pour consultation des dossiers d'enquête »...avec un étudiant de votre école payé pour en faire la synthèse. Et une synthèse qui eut été faite par un Enarque, et non par Monsieur ENERTRAG.*

- c'est-à-dire objective....

*- C'est-à-dire avec contredits. Bon, de plus, un petit papier de l'Etat disant « nous on pense que, on pense que... vous avez doublé de population, vous nous coûtez très cher en électricité, bien que vous vous ralliez tous dans les villes, on ne peut pas mettre d'éoliennes dans les friches industrielles, c'est trop dangereux, on ne peut les mettre que dans les petits villages... Bon dans les petits villages, si on en met une, il faut plutôt en relier 15...Donc, à quel endroit souhaitez-vous qu'on les mette ? Il faudra bien qu'on en mette quelques-unes...L'Europe trouve que c'est sympa qu'on en mette, parce que eux ils en ont plein la gueule ils n'en peuvent plus, mais nous, on a beaucoup d'hydraulique... On est obligé de faire vite, faisons quand même quelque chose. Mettons nous d'accord ». Bon. Et ben mon vieux. Il y aurait eu un référendum local, cantonal ou régional, il y aurait eu beaucoup de monde, et les maires auraient du coup assuré leur réélection sans problème. Là ils se sont foutus dans des contradictions épouvantables. Parce qu'on croit que c'est eux qui ont décidé. Le maire, une fois qu'on lui envoie 1,4millions d'euros dans la gueule, d'ici 5 ans, il ne va pas dire non ! Et en plus, la population, qui n'est pas prévenue, se dit « mais quel sale con ! ». Et forcément, il y a un litige municipal qui n'est pas utile.*

-Donc vous pensez qu'une technique pareille aurait attiré beaucoup plus de monde ? Parce que j'ai lu que d'après les rapports de la Commission d'enquête...

*-Vous savez dans ces rapports ils disent ce qu'ils pensent....*

- La chose qui m'a un peu choquée, finalement, c'est que les populations locales... par exemple pour Veulettes-sur-Mer, il n'y a que 50 personnes qui sont venues dans les premières journées de l'enquête....et c'étaient...36 pour, 15 contre...

*-Oui mais 50...Nous les 150 résidents, nous n'étions pas prévenus ! Comment voulez-vous qu'on sache ?! Et le début de l'enquête en plus se passe sans contredits, c'est-à-dire que c'est le commissaire d'enquête qui expose les faits comme on les lui donne, plus accompagné du monsieur CECA qui a reçu l'accord du Préfet pour présenter son projet. Donc il n'y a que les arguments...vous n'avez qu'à lire le cahier qu'on vient de finir...tous les gosses écrivent « ah nous on est d'accord pour de l'énergie propre ! ». Mais propre de mon cul ! Ça veut dire qu'à Veulettes, 4 fils de 90 000 volts vont nous passer sous les fesses pendant qu'on mange les moules ! Je ne dis pas que c'est grave, mais enfin... « propre »...ça rapporte pas un sous, de savoir si c'est grave ou pas ! Hein ! Parce que le brevet qui dira que ça donne une leucémie, qu'est-ce qu'on fait après ! Qu'est-ce que ça rapporte ?! Absolument rien ! Juste un discrédit total de la communauté à laquelle tu appartiens, le livre que tu ne peux pas sortir, l'éditeur qui te prend pour un pestiféré, enfin...tu as intérêt à consacrer ta vie à autre chose qu'à étudier les 90000 volts. C'est évident ! C'est exactement la même chose que le nuage de Tchernobyl. Il est passé, évidemment que le nuage...il n'y avait pas de frontière ! Donc, il est passé. Bon, alors nous on est très iodé, on a survécu. Il n'est pas venu chez nous. Je crois. Mais enfin il est venu en Corse, il est venu dans tout l'est de la France, et on a eu une recrudescence des leucémies infantiles importantes, et des cancers de la thyroïde, qu'on attribue à toutes sortes de choses : les vaches étaient devenues folles, les moutons avaient des spores, les poulets avaient la grippe aviaire, et tout ça était aux hormones, le SMIC avait baissé, le pouvoir d'achat n'avait pas augmenté,...alors les pauvres petits ils ont des leucémies. Enfin ! De toute façon, un bon politique au niveau, un stratège politique, il s'en fout, que la population meure. Vous savez pourquoi ? Il y a trop de vieux, et on a doublé depuis 50 ans. Donc, faut que ça crève, à un moment donné. Alors, il y a que les médecins qui ne s'en foutent pas. Pis les mamans. Mais eux, s'il y a des allègements de populations...ça fait moins cher pour tt le monde...Pas trop, parce que ça ruinerait EDF, mais...*

*- si je puis me permettre, ce n'est pas une vision très pessimiste de la chose ?*

*- c'est très gênant, cette population qui augmente beaucoup : on n'a pas fait de maisons, on n'a pas fait de routes, on n'a pas fait d'écoles, on n'a pas changé les machins...c'est très gênant, vous savez, quand vous avez 50% de population en plus. Heureusement ce n'est pas chez nous. L'Europe se fait dans les 50%, mettons à 27. Et elle a fini de les faire. La France est encore la meilleure dans ce domaine, parce qu'elle a plein d'Arabes. C'est pas parce qu'elle est meilleure en soi. Les Turcs ont déjà compris que c'est pas utile de faire plein de gosses, et que ça fout le loyer en l'air. Bon, puis même les pays bien détruits, comme les Serbes et tout, ils ne font pas plus de 2 gosses. Ils savent, ils ont compris que ça ne sert à rien. Mais, les Arabes, c'est une culture. Et...Donc c'est une culture...*

*Alors nous on ne sait pas comment leur apprendre à écrire, on ne sait pas comment les installer, on ne sait pas comment les faire travailler... d'ailleurs il n'y a plus de travail, comme ça on ne sait rien...ils savent plus rien, et leur culture, en plus, c'est moisis, parce qu'elle est abimée par des comparaisons difficiles à gérer si t'as pas un haut niveau moral. C'est pas que la religion soit obsolète, c'est qu'il est difficile de gérer des critères religieux si on ne les a pas entièrement, intégralement, parfaitement enracinés, exemplairement exécutés. Et donc, nous tous qui allons au Maroc, en Tunisie, et partout, nous vivons une culture qui est encore vivante, mais ceux qui vont en Arabie Saoudite, à Tripoli, ou à Bahreïn...Déjà voir la distorsion entre la culture et la valeur morale, plus la distorsion avec la leur...ceux qui vont aux Philippines voient la superposition factice....c'est comme un pull, on se met un pull...on est islamique parce qu'on se met un pull...mais bon...ça ne couvre pas la distorsion avec les cultures tribales qui sont encore en-dessous, très présentes. LE Christianisme a vécu ça en Amérique latine. Le*

*Musulman il vit ça partout où il est, qu'il soit un musulman tchéchène, kazakh, ....Donc on ne sait pas ce que ça donnera. Pour revenir à chez nous, c'est un peu violent d'aller bousiller Veulettes pour entretenir la cité de Mantes-la-Jolie qui ne donnera pas un seul ouvrier compétent demain. Et ce n'est pas parce que l'ouvrier n'est pas capable ! C'est parce qu'on n'aura pas fait ce qu'il faut pour qu'il le devienne, et il ne peut pas le devenir. IL ne peut pas parce que c'est physiquement impossible. Elever un enfant convenablement, serait-il né de chez le Duc de la Rochefoucauld, à Mantes-la-Jolie ?! Voilà.*

- Mais est-ce qu'on vous a proposé des alternatives ?

*- Non, et malheureusement, là, j'ai des reproches à faire. Ils n'ont pas demandé, parce qu'ils n'ont pas d'idées. LE Cauchois moyen est quelqu'un qui ne se lave pas, qui se baigne pas, pour qui...qui est un agriculteur né...et pour qui la perspective n'a aucune importance vu qu'on l'a toujours eue. Alors les châteaux savaient ce qu'était la perspective, et apprenait ce qu'était le nombre d'or et Léonard de Vinci. Ici on ne sait pas. La perspective, c'est la barrière qui délimite ton jardin, ça veut dire « je suis riche ». c'est cette barrière-là qui est nulle, qui est abominable, que les Anglais ont supprimé, les Américains aussi...c'est une conquête du droit de propriété confirmée en 1830 qui est si importante qu'on a le plus grand mal à la défaire, et que les opérations de remembrement des terres en Mayenne, en Bretagne,... ont été difficiles à cause de ça. Bon du coup on a plein de pesticides et d'OGM et tout ça...c'est une autre histoire...Fallait pas le faire. Donc, en dehors de ça, la résistance elle était là. Une barrière c'est « je suis chez moi, là ». Et c'est pas qu'elle ne soit pas transparente : le chat passe par-dessus... Donc...ça, c'est ce dont on dispose en France comme formation esthétique. Après, il faut être étudiant aux Beaux Arts. Ou alors, vivre dans des familles où on vous apprend à cultiver la perspective, le jardin, les hauteurs, les lignes de pente, ou être marin et avoir été obligé de travailler sur les alignements...qui permettent de se repérer quand on les voit.... On aurait pu demander une piscine d'eau de mer, qu'on demandait depuis 15 ans...ça agrandit la saison de 3 mois. On aurait pu demander un petit parc où les gosses peuvent jouer, ou un petit parc animalier, avec un système de gardiennage pour les gamins....on pourrait demander un trampoline pour la plage, on pourrait demander une cabane pour lire sur la plage, on pourrait demander....*

-Mais est-ce que Veulettes a envoyé une demande, a proposé le site ?

*-Non non, je vous dis que non. JE vous l'ai dit le maire a appris par l'Etat. C'est l'Etat qui a proposé le site, L'Etat cherche... C'est un autre aspect. L'éolienne, c'est 70° à la tête. SI vous êtes le maire du Havre, et que vous passez dessus le Pont de Normandie, vous allez voir la zone industrielle du Havre qui est une horreur. Le Maire qui a fait classer la ville du Havre au Patrimoine de l'Unesco avec des accès fussent un peu plus jolis...et donc on aurait pu mettre nos éoliennes là. Ca aurait donné...pour une fois c'était l'Albatros, hein, au lieu d'être une usine à gaz...Ben non, parce que, pendant 2 km, ça diffuse quand ça tourne, ça diffuse une chaleur qui change l'économie de la croissance en-dessous, bon ce n'est pas très grave...mais qui crée un risque supplémentaire d'explosion ! C'est pour ça qu'on les met à distance l'une de l'autre pour pas que les palles cassées...bon...on fait tout un tas de choses très attentives et c'est pour ça qu'elles sont bien dans des petites communes.*

- Mais on ne pense pas forcément après aux gens qui habitent à coté...

*- On n'y pense pas du tout ! On s'occupe même activement de ce qu'eux-mêmes ne sachent pas et ne pensent pas !*

- Pouvez-vous préciser ce dernier commentaire....

- Ah bien c'est très facile. Vous avez en France une liste très connue qui s'appelle le « cadastre ». Le cadastre répertorie tous les gens qui ont une propriété quelque part, pourquoi ? Uniquement fiscalement, pour qu'ils payent leur part de taxe sur leur propriété. Cette liste du cadastre, il suffit de s'asseoir 2 après-midi, que je n'ai pas eus, pour relever les gens qui sont propriétaires. Pour s'apercevoir assez vite que...le fait que beaucoup de gens habitent ailleurs. Evidemment, pourquoi veux-tu qu'ils habitent ici, bien oui, qu'est-ce qu'on fait ? Et même moi, si je venais habiter ici, je ne pourrais pas y vivre, c'est plus cher qu'à Paris. Il y a des frais...de voiture, entre autre...il y a le gaz, il n'y avait pas l'adsl il y a deux ans....C'est très compliqué...C'est très cher ! La vie est aussi chère qu'à Paris, pour le prix meilleure qualité, incomparablement meilleure qualité pour le prix ! Le poisson est meilleur, les légumes sont meilleurs, ...l'air ! En fait à Veulettes on vend...là je la vends ! Mais la plage est un prétexte, un bien-être climatique qui pourrait presque faire que...qui pourrait presque être exploité commercialement. Je veux dire, vous mettez des enfants 15 jours ici, ils sont pas malades pendant 4 mois après ! Vous mettez des vieux, ils sont retapés ! L'air contient...il est iodé, et les mouvements dans la commune, et dans d'autres communes aussi, ce sont des promenades petites, mais faciles à faire, et qui ne sont pas plates. Donc tu es obligé de faire marcher tous les muscles, ne serait-ce que pour promener le chien. Ça change tout ! Et encore ! Je ne sais pas comment c'était à Paris, mais nous avons passé les 10 derniers jours à déjeuner au soleil ! Tous les jours ! Tous les jours ! Jusqu'à avant-hier ! Alors à 5 heures...bon moi j'ai vécu sans chauffage, j'ai une grande maison il n'y a personne...et, évidemment il faut mettre la cheminée. L'humidité augmente, avec les marées. C'était impressionnant, en février ! Et même eux sur la plage, ils ne sont pas équipés pour sortir les chaises, les tables, les parasols, mais ils ont été obligés ! Ah c'était...Veulettes est complètement magique parce que c'est comme les pierres que vous portez au doigt, de votre fiancé, ça ne s'allume que s'il y a de la lumière ! Mais alors ! Et on vous vend du propre, plus beau que cette lumière de Veulettes ! de la Normandie Haute, qui est une lumière bleue, parce que les galets sont bleus... c'est éblouissant, tous les peintres l'ont dit, et on ne peut pas ne pas y être sensibles ! Les gens viennent parce qu'il y a une réverbération particulière qui fait que les mômes, quand ils sortent de la pêche à la crevette, ils ont des joues comme si on les sortait du soleil des Antilles. Or ils n'ont été que deux heures sur les cailloux !

Bon, vous allez me dire, moi je vous donne même l'avocat du diable, alors...21 éoliennes en travers...si ce n'est pas 100, parce que s'il y en a 21 il y en aura 100...enfin, pour le moment...ça n'empêche pas de se baigner, ça n'empêche pas de pêcher la crevette, vous êtes d'accord ? Ça n'empêche pas de prendre son petit bateau pour faire de la planche à voile, ça n'empêche pas de prendre un autre petit bateau pour aller chercher un crabe, à la pêche. Ça n'empêche pas de jouer au tennis, et ça n'empêche même pas de recevoir ses copains sur sa terrasse, parce que la moitié de la table sera de dos, non mais c'est vrai ! Finalement, ça pourrait être considéré comme un « non-dommage » et je pense que la plupart des habitants ici le voient comme ça. Eux sont des cultivateurs. Si on peut faire que le galet rapporte de l'or, on voit pas très bien pourquoi on s'y opposerait.

-Il y a quand même beaucoup de commentaires, d'après les rapports que j'ai consultés ou les personnes avec qui j'ai pu parler...Les gens disent que « de toute façon, la moitié du temps on ne verra rien, il y aura le brouillard, la pluie,... »...

- Bon alors c'est vrai que nous sommes là en Manche et que la météo, puisqu'elle prend un pourcentage, vous expliquera qu'il ne fait pas toujours beau. Et ce qui est faux, vu de note point

*de vue c'est que c'est pas un temps moisi comme en Angleterre, c'est-à-dire, qui s'installe et qui reste 3 mois. Même en Lorraine, où j'ai été la femme du député, et vous avez 3 mois splendide, de climat continental allemand et puis 9 mois de pot de chambre. Même à Rouen vous avez ça ! L'hiver est sombre, gris, moisi. Ici, il y a la marée. Ce qui fait que même un jour comme aujourd'hui...bon c'est raté pour aujourd'hui. Mais même hier, il y a eu 3 heures de soleil ! SI bien que nous, c'est pas vrai qu'il y a de la brume. Même s'il y avait de la brume 85% du temps, ça n'est jamais toute la journée ! Il y a eu des années noires. Je me souviens de l'année 63 où il a plu au mois d'août tous les jours une heure. Tous les jours. C'est marrant quand on a des enfants ! C'est une année, comme ça, bon. Il y a des années noires. L'année dernière nous avons eu un été médiocre. Et c'est très déprimant pour une station comme celle-ci, puisque l'on vit dehors. Et c'est pourquoi je crois qu'il est urgent de faire des investissements qui justement ajoutent à cette qualité du dehors le « dedans », des investissements « à l'allemande », c'est-à-dire la piscine d'eau de mer avec le petit bar, sauna, à l'allemande ou à la norvégienne, ça doit être bien chez vous aussi. Moi j'ai vu l'Allemagne, la Hollande et les Danois, c'est très bien c'est super joli, l'été tu enlèves le toit, les gosses ils vont faire pipi dans l'eau, voilà, et l'eau, ça monte ça descend, voilà. Ca, des locations de vélo, un vrai parcours pour courir...y a pas, il y a plusieurs chemins !*

-il y a le chemin pour vélo sur la côte....

*- on ne peut pas rentrer, tu vois, la falaise, hop, c'est fini...oui bon on pourrait toujours faire le tour. Mais il y a un agriculteur avec sa clé. Il a beau être tombé du toit, il a toujours sa clé. Bon. Donc, un vrai chemin pour courir...dire qu'on pourrait, il faudrait être créatif. Mais ça...*

-Donc à votre avis, qu'est-ce qui pose problème ici ? Par comparaison, au Danemark, ils ont des éoliennes à 3km de la côte et ils sont ravis !

- Ils sont ravis ?

- Oui !

*- Qu'ils me le disent. JE n'ai pas été au Danemark. Les Anglais ont refusé, les Allemands de Borkum ont refusé...Les Allemands de Brême, avec ce grand chenal, qui est non pollué, il faut bien dire...bon, ben ils ont refusé.*

- Comment réagit la population...

*-Attendez ! Je vous l'ai dit, la population, ici c'est de 276 ou 316 votants, donc vous en comptez 250...qui sont totalement pour et totalement en confiance avec leur maire.*

- Par manque d'information et...

*- Ils croient tous qu'on va faire de l'énergie propre, qu'ils sont les premiers à le montrer, et que ça c'est chic, ça les valorise, on peut le dire. Non mais attend, ce n'est pas idiot ! Qu'on va parler de Veulettes beaucoup, c'est pas idiot. Ils ne sont pas bêtes, hein, du tout ! Mais l'énergie propre, ça repassera, c'est véritablement une imposture. On n'a jamais entendu parler de la centrale de Fécamp, et bien elle est là, quand même. Ils croient que les câbles on les verra pas donc ce n'est pas important, c'est beaucoup mieux que les pilonnes. Ils ne sont pas bêtes ! Et ils croient que venir voir des moulins qui tournent ça va faire comme une*

*nouvelle série télé ! C'est-à-dire qu'il se passera quelque chose dans la mer ! Parce que eux ils ne se baignent pas, ils pêchent pas, ils...*

- Beaucoup disent que cela va même attirer les touristes et les curieux...

*- Oui... Les curieux, une saison ? Une saison. Et les touristes, ils seront partis. Parce que je moi je m'appuie pas 2 ans de travaux, hein. Moi je ferme la maison. Je la loue pas, je la ferme carrément et je viendrais l'hiver, quand on viendra pas nous mettre de contraventions, quand on viendra pas nous faire chier avec je ne sais pas quoi, quand je pourrais cultiver mon jardin sans qu'on vienne m'embêter... donc, ils ont perdu. JE dépense chaque été 6000€ chez eux ; chaque petite vacance 1700€ chez eux, et la maison me coûte beaucoup plus cher que d'aller au Club Med où j'ai travaillé plus de dix ans. Ou d'aller chez les copines en Bourgogne, ya pas la mer, mais bon... chez ma sœur, dans le midi. Alors ça ne me coûte rien, et je peux même emmener mes petits enfants ! Suffit que je divise.*

*Alors il faut VOULOIR venir à Veulettes et avoir choisir Veulettes, et vouloir y vivre. Et que ce soit une occasion de mépris m'a paru extrêmement choquant, et pas qu'à moi. JE veux dire, je représente une association de 60 personnes, qui sont devenus 120 en 6 mois, et qui éprouvent une sorte de crève-cœur esthétique, mais mélangé avec le crève-cœur du mépris avec lequel ils ont été traités, parce que c'est plus de 50% de la recette des communes. Alors ce n'était pas très compliqué de sortir le cadastre, je vais être obligée de le faire, et de sortir le relevé électoral, même, simplement.*

- Donc vous faites partie d'une association de défense contre les éoliennes....

*- j'ai créé une association qui s'appelle « Vent de Travers »... non, de défense, mon cœur, à quoi ça sert de dire « non » si on ne peut pas dire quelque chose d'autre ? Il ne faut pas ! Je veux dire, il faut grandir, dans ce pays ! Alors, défense, je n'aime pas ces éoliennes je ne crois pas que ce soit la bonne idée. Premièrement j'ai réuni tous les gens pour voir ce qu'ils en pensaient, puis ensuite pour s'asseoir quelque par s'ils voulaient en penser quelque chose. Puis ensuite pour pouvoir les mobiliser. Ça c'est la première étape. La deuxième, tout le monde s'est mis à envoyer des dossiers, à lire des dossiers, j'ai réparti les tâches. Et puis je ne sais pas tout faire, il faut être honnête. Et la troisième, qu'est-ce qu'on pourrait faire pour Veulettes, qu'est-ce que vous vouliez faire, qu'est-ce qu'on aurait pu faire ? Alors on... on a l'avantage de représenter beaucoup d'argent extérieur. C'est-à-dire que ce n'est pas un problème, pour aucun d'entre nous, d'aller voir, pas un préfet seulement, mais un élu. C'est pas un problème d'aller voir des entrepreneurs qui ont de l'argent, dehors ou dedans, mais qui sont prêts à faire 41 chambres dans les arbres avec montée du petit déjeuner au lit dans un panier. Et bien oui, pourquoi pas. C'est une idée que j'ai lancée il y a 10 ans et ça ne marche que dans un seul endroit, et ça marche génialement, dans un camping en Bretagne, à 12km de Saint-Malo. Et bien là personne n'a idée d'aller mettre des éoliennes ! Devant toutes les plages du Club Med où j'ai travaillé, qui sont au nombre de 120, pas idée de mettre une éolienne !*

- Donc il faudrait trouver une alternative qui soit économiquement plus favorable ?

*- Ce ne sera pas plus favorable, vous voulez que je vous explique pourquoi ? Faire travailler des machines pour faire entrer de l'argent dans la caisse, comme les machines à sous, ça a toujours paru ici mieux : la moissonneuse-batteuse est quand même mieux que le faucheur. Et moi je dois dire que la machine à laver la vaisselle me paraît mieux... Non mais c'est vrai ! Cela dire elle est plus écolo, à condition de s'en servir bien ! Alors prenons dans le sens inverse, le*

*tourisme c'est un métier auquel ils ne sont pas préparés, duquel il ne connaisse rien, qui...qui exige une excellente coordination des populations. Par exemple au Club Med, quand vous avez des Italiens, des Anglais, des Esp et des Français, vous avez un problème ! Parce que, moi j'ai créé le service d'accueil des enfants, les mères viennent et vous disent...les Belges « pourquoi il n'y a pas de frites ? », les Anglais vous disent « pourquoi il n'y a pas de pommes de terre bouillies ? », les Italiens vous disent « pourquoi il n'y a pas de nouilles ? », etc....et ça devient une rigolade, « pourquoi est-ce qu'il n'y a pas de tortilla ? », « pourquoi y a pas », « pourquoi y a pas »...coordonner des populations qui n'ont ni les mêmes heures, ni les mêmes désirs, ni les mêmes besoins, et qui sont indispensables les unes aux autres, parce que nous, le village de Veulettes, s'il n'y avait pas d'habitants, ça deviendrait un Pierre et Vacances ! Est-ce qu'on a envie d'habiter à Pierre et Vacances ?! Ben non ! Donc ! Veulettes a un charme fou parce qu'il y a des habitants, des vrais, bien plantés dans la terre, même s'ils sont vieux, si leurs enfants sont partis ailleurs, etc....et parce qu'il y a des résidents vrais, fidèles, qui sur 3 générations rapploient, entretiennent, coupent les machins, amènent les petits enfants, les neveux,...et on peut faire des choses mais ça exige une forte coordination, une vraie mobilisation. Il faut que les gens soient mobilisés parce qu'ils ont failli le perdre, si tu veux. Sinon, si t'es sûr que tu l'as on s'en fout, faut dire la vérité ! Et puis après il faut des projets qui permettent à la population là de travailler...or elle n'est pas très bien formée, et elle est surtout très retraitée, mais elle doit quand même pouvoir trouver là de quoi faire...gagner ailleurs...Et qui permette à la commune de trouver non pas autant...parce que c'est le pb...il n'y aura pas 1,4 millions d'euros de recettes.*

*Avec le tourisme ? si on prenait ce que le département investit pour faire des conneries pour faire ce que nous pensons qu'il faut faire, c'est-à-dire en gros il manque une quarantaine de chambres d'hôtel...une animation de plage décente...et des vélos à louer... c'est quand même pas exagéré, c'est rien quoi. Et j'ai l'argent. Enfin, je ne l'ai pas, mais je sais que je l'ai...LE vrai problème des activités touristiques, c'est dramatique, c'est que ça passe par de la créativité perso. Quand je faisais toutes les messes de minuit, les messes de Pâques, costumées, illustrées....quand j'ai marié mon fils, c'était un mariage rock, tout à fait étonnant...alors le journal en parle quand on fait des courses au canal. Le journal en parle...et bien j'avais trouvé, j'étais jeune, j'étais jeune et j'étais riche, je faisais. ON arrive en plus dans un creux de génération. J'ai 70 ans. Je veux bien organiser un concours de sculpture moderne, sur toute la ville. Mais bon, on a volé la statue de la Mairie ! Je comprends que le Maire ait peur ! on lui a volé une statue qu'on lui a offert il y a 50 ans, et tout d'un coup elle est volée ! c'est pas sympa ! Mettez-vous à sa place aussi !*

*Bon on peut tout faire, mais il faut beaucoup d'énergie. Et ça, ça s'improvise pas. Ca se gère comme un Club Med...et ça suppose qu'on ait un turn-over de 1800 lits, parce que sinon ce n'est pas amorti. Moi je connais le métier. But it can't be done. Sauf que c'est un truc risqué, fatigant, contraire à l'esprit français d'aujourd'hui. T'as des machines qui moulent le vent à 6km de là, ils font chier les résidents avec leurs conneries, voilà. On comprend assez vite, voilà. Mais c'est un vrai goulot d'étranglement. Un Vrai. Même pour un préfet décisionnaire. Alors maintenant, moi, maintenant, je suis le client moyen. On m'a piqué de l'argent sur ma facture EDF pour faire de l'énergie renouvelable qui ne renouvelle rien du tout. Et qui salit. Et pour que je reste à Veulettes, on va encore me piquer de l'argent, on va pas me baisser ma taxe, on va rien faire. Donc je vais caler à un moment c'est sûr. Ce qui est intéressant, personne n'a vu que le prix de l'électricité est monté au niveau du prix du charbon allemand, au lieu de rester tranquillement au prix au cent près du nucléaire français. Et maintenant on est tous au prix du charbon en Europe. Alors on a augmenté de 23%, plus la taxe...Personne n'a vu ça, et c'est pas grave. Mais ce qui est violent c'est de mettre des éoliennes au lieu de dire aux gens « écoutez,*

*Veulettes va devenir une station balnéaire ». Tous les essais qu'on peut faire sur les lampes extérieures, solaires, tous les machins... On va les faire à Veulettes, et ça va devenir le lieu modèle. Le parc à visiter pour arranger les veilles de télévision, pour , on va vous servir le soir les moules avec des lampes à pétrole, on va on va on va... on pouvait tout inventer. ON n'a même pas essayé. Alors tu me diras la même chose que tout à l'heure, « qu'est-ce qui empêche Madame d'essayer avec la barrière d'éoliennes devant ?! » Hein ? C'est ce que va me dire le préfet, il aurait raison ! C'est pas un méchant homme. Et ben n'empêche ça ne donne pas envie.*

*Et j'ai mis 6 mois à trouver la réponse que j'ai trouvée, par pour le commissaire d'enquête, tout l'heure, parce que je suis allée le voir... Alors ça m'est arrivé en me lavant les dents. J'arrive devant la glace, et je vois quelqu'un que je connais bien, mais que je ne connais pas, qui ne correspond pas avec toutes les photos qu'on m'a foutues devant les yeux pendant 30 ans, qui a vieilli, qui ne se maquille plus, qui va se coiffer chez le coiffeur tous les 100 ans... et qui n'a pas de poche à son manteau ce qui l'agace au plus haut point. Et je me dis « voilà, j'ai compris ! ». L'horizon, ça a une qualité essentielle : d'abord c'est vide, et dans tout ce qu'on reçoit en pleine figure, on a besoin d'endroits où il n'y a rien. C'est ça qu'on vient chercher ! Mais rien de rien ! Juste rien ! Quand il y a quelque chose, c'est par hasard : c'est un bateau qui passe... et quand il y a autre chose, c'est les gosses qu'on doit surveiller, c'est les crevettes qu'on ne trouve pas... il faut qu'il n'y ait rien. LA merveille du rien c'est très important. Mais pourquoi c'est si important ? C'est ce que je me disais en me lavant les dents. C'est parce que tout ce qu'il y a, quand il y a, est complètement impermanent. Nous savons que dans les 70-80 ans que nous avons à vivre... on compte 50 ans parce qu'avant on ne voit rien et après on ne comprend rien... donc 50 ans de jouissance de ce privilège inouï qu'est la vie, nous verrons beaucoup de choses changer : nos parents vont vieillir, nos maisons vont déménager, nos voitures vont se cabosser, nos chiens vont mourir. EN fait, nous sommes soumis tout le temps à l'impermanence, et désespérément en quête de lieux où, de génération en génération, et depuis 1000 ans, ça change pas ! et bien c'est ça qu'on veut nous enlever ! et je vais te dire, c'est probablement pour ça que nous sommes inconsolables !*

- Pensez-vous vraiment que ce genre de commentaires sera considéré comme crédible ?!

- Surement pas. Je vais vous dire la vérité toute pure. Les gens ici ne savent ni lire ni écrire, comment voulez-vous qu'ils arrivent à avoir ce genre d'idées en tête ? ils ne peuvent pas voir plus loin que la barrière de leur champ, de leur jardin.

**(end of the recording : after the end of the first part, the recorder did not start again. The end of the interview has thus been done without being recorded. The following information was made with the use of hand notes according to the comments of Ms. Servan-Schreiber)**

Many crucial factors that can explain the differences between the perceived information and the opinions of the local inhabitants in Veulettes-sur-Mer:

**Level of education and cultural background of the local inhabitants:** *les habitants, qui sont majoritairement pêcheurs et agriculteurs, ne sont pas intéressés par les rapports puisque de toute façon ils ne savent pas lire ni écrire, et ne sont pas capables de penser au-delà de la limite physique de leur jardin ou de leur champ. Pour eux les éoliennes sont un bien puisque la commune va toucher 1,4 million d'euros, c'est tout ce qui les intéresse, l'argent. De fait ils croient tout ce qu'on leur dit sur les bienfaits des éoliennes, ils ne réalisent pas qu'on va leur ruiner le paysage.*

**Budget and municipal duties :** *que voulez-vous ? Vous savez, comment voulez-vous que les gens refusent de recevoir 1,4 million d'euros, comme ça ? Vous savez, les gens sont coincés ici, comment voulez-vous que Monsieur le maire refuser autant d'argent ? C'est une petite commune ici, et autant d'argent sur un plateau d'argent, on ne peut pas facilement refuser. Il y a des obligations municipales, il faut bien faire tourner la mairie, donc on est bloqué dès le départ. Et c'est à double tranchant, voilà, on ne peut pas faire sans, la Mairie est piégée. Et c'est pour ça que la situation va être difficile pour les élections municipales, parce que le maire n'a pas le choix, c'est accepter un projet qui n'est pas bon mais qui va donner de l'argent à la commune.*

**Investing in « human power »:** *je pense sincèrement que ce qui se passe ici n'est pas une bonne chose. La seule chose qui serait bien, bénéfique pour une commune comme Veulettes-sur-Mer, ce n'est pas investir dans des machines qui vont détruire le paysage, massacrer l'horizon et la vue de la plage, mais investir dans l'humain, dans des projets créatifs. Améliorer les structures qui existent déjà, des loisirs pour les enfants, des clubs, ce genre de choses ! C'est ce que les gens attendent, c'est ce qui serait bien pour la région, pour le tourisme ! comment voulez-vous que des machines attirent les touristes comme ils le prétendent ? Moi je loue ma maison à des Hollandais, si vraiment ils voulaient voir des éoliennes comme ça en mer, et bien ils resteraient chez eux ! par contre si on investissait dans des projets créatifs, dans des structures d'accueil pour les touristes, on dynamiserait la commune et la région, et les touristes viendraient ! en saison pleine, Veulettes est pleine de touristes qui viennent profiter de l'environnement, de la vue, de l'air pur, du calme ! Bon et bien voilà, maintenant, avec les éoliennes, ils iront ailleurs, et c'est bien dommage. Ce n'est pas que l'on manque d'idées non plus, mais c'est tellement plus simple, finalement, d'investir dans des machines que de proposer des projets nouveaux et créatifs. Mais voilà, la durée de vie d'une éolienne c'est quoi, 15-20 ans, et après c'est fini. Alors qu'ici ce sont des familles entières qui viennent pendant les vacances, et ce qu'on crée avec les différentes générations qui sont là, c'est du patrimoine, de l'attachement à l'environnement. Et si on investissait dans ce genre de choses, dans l'humain, on arriverait à quelque chose de beaucoup plus fort pour la région, mais aussi pour l'économie. Mais ce n'est pas facile, on le sait, je le sais très bien, avec mon expérience de gestion au Club Med. Pour qu'un projet soit efficace, à ce jour, pour que la commune s'y retrouve financièrement, il faudrait couvrir l'équivalent de 1800 chambres d'hôtel. Alors que voulez-vous...on n'a hélas pas le choix. Mais selon moi, investir dans l'humain et dans des projets créatifs serait bien plus valorisant et bénéfique.*

**« Plan B » and project's alternatives:** *de plan B ? bien sûr que non, il n'y a pas d'alternative ! comment vous expliquer. Ce n'est pas une histoire de chance ou de manque de chance, la situation est telle quelle. Voilà, en mer, le terrain sur lequel la compagnie veut implanter les éoliennes est le seul dans la région qui puisse les accueillir. Je ne sais pas, le sol a une caractéristique spéciale à cet endroit-là, quelque chose d'idéal qui correspond parfaitement à leurs attentes. C'est ainsi, parfaitement à 6km, pas plus près, pas plus loin, c'est comme ça on n'y peut rien. Donc bien sûr que non il n'y a pas d'alternatives, ils ne peuvent les installer que là, en face de notre belle commune de Veulettes!*

*Après, et ça j'en suis désolée, nous avons reçu le dossier, et nous n'avons rien proposé d'autres. C'est dommage mais c'est ainsi. Et c'est hélas trop tard maintenant. Nous aurions pu proposer d'investir dans d'autres projets, plus créatifs et dynamiques, qui auraient vraiment valorisé Veulettes.*

**Issues related to knowledge on wind power and communication with the political authorities :** *Nous avons essayé de monter plus haut, au niveau de la présidence de la*

*République, pour évoquer la question des éoliennes de Veulettes, et trouver des solutions. Je sais qu'il y a eu les élections, qui ont été difficiles partout et pour tout le monde, y compris ici, et cela n'a malgré tout pas aidé. Sauf que bon, si j'ai bien compris, visiblement ils n'y connaissent strictement rien sur la question des éoliennes, et personne n'a pu nous répondre. Le Président a fait passer le dossier au préfet, puis à la sous-préfecture, ce qui finalement est revenu strictement au même qu'au départ. Bon à présent à Veulettes on paye les retours des présidentielles, on a voté pour lui, c'est bien normal ! mais maintenant les éoliennes on va les appeler les « sarkozettes », c'est la chose dont on se souviendra ici. Et croyez-moi, vu comment c'est parti il ne fera pas un deuxième mandat.*

**Wind power vs. Geothermal power plant** : *oui, comme je vous l'ai dit, nous avons le sens de l'intérêt général dans la région, dans la commune. Nous avons accepté la centrale nucléaire sans broncher. Mais dans le cas des éoliennes, quel est l'intérêt de polluer notre paysage, notre vue, ici, pour fournir de l'électricité pour l'ouest de Paris ? nous n'en voyons pas la raison ni l'intérêt. Nous aurions bien plus besoin d'une centrale géothermique, cela serait bien plus efficace en termes de production et d'utilisation d'électricité. Il y a bien d'autres endroits où les éoliennes pourraient être installées, par exemple, prenez la zone industrielle de Fécamp, qui est grise, triste, sale. Il y aurait totalement la possibilité d'en installer quelques-unes là bas sans que cela dérange qui que ce soit, et cela pourrait même donner un nouveau dynamisme à la zone. Bon, après, dû à la zone de chaleur créée par les turbines, il y aurait un risque plus élevé d'explosion dans la zone industrielle. Mais jamais le projet n'a été envisagé de cette façon, c'est très dommage. On devrait utiliser les structures déjà existantes, plutôt que de foutre en l'air notre horizon pour le peu qui va être produit.*

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**Transcription of the interview with Mr. Hans C. Soerensen in Copenhagen, Monday, March 31<sup>th</sup>, 2008 (in English).**

- Good morning, thank you for accepting to answer my questions. To start this interview, can you please introduce yourself and tell me more about your background and your speciality?

*-Yes! My name is Hans Christian Soerensen. I work since 1994 as an independent consultant in a company, where we bring information to the public when they buy energy, especially wind, wave energy, and maybe solar...today the main activity is offshore wind, where I've special competence, and ocean energy. I work as a consultant for a commission, often...companies around the world to deal with this. I'm also a member of the Danish wind turbine association...so from that job I know quite a lot about wind energy in general. And my specialities, i have been...I'm not really a technician in wind, I'm more interested in public acceptance, and in environmental issues.*

-I saw you wrote many articles about the concept of “public acceptance” and “public involvement”, what is your definition about “public involvement”?

*- yes it's right...well...we have a special term in Denmark, a situation in Dk, where many people from the very old times get involved as owners in wind turbines projects...but public involvement could be just more simple like consultants talking to people and discuss with them about a wind project. The ownership is just one part of that of course. But it's quite an important part, I have learned, because the ownership seems to change people's attitudes to*

wind, quite a lot. I have a few examples about it... i have one example from Sweden, I have... Well we have several examples in DK, often not really reported but examples like, if you don't involve one family in the village because you may not like them, and you involve the others, you have created an enemy in the project. And I believe personally it's more an enemy because he's not involved and it is an enemy of the wind project...but it has not been shown very clearly, and I believe that Danish high acceptance of wind energy is really that the ownership is forcing people at very early stage to think about the project, which means get involved in the planning process, or get involved on where we have to place the turbines or not have to place the turbines...and then create this kind of consent...where you feel you have an influence...and this can surely change the attitudes.

-don't you think it is mainly for economic reasons? Because as soon as you put money on the table from one side and the other side, they people start thinking about their way of behaving, accepting the project or not...

- Sure, that's a part of it. But I believe the psychology by involving people in the decision process has...is more dominant and...because you have...we have good examples where people get involved in the local projects, even though they could should projects with higher profitability, but they don't do it... so, there are some things with the ownership of the project that I believe would be more important to use rather than profit itself. Of course the profit may play a role...

- but don't you think it is a bit hypocritical then from the company to ask people to be involved from the beginning instead of just saying at the end "we sell you a part of the company"...?

-well of course it is very important to be involved from the very beginning, because that is a part of the planning process. We have 2 examples, 2 recent examples, we started a cooperative in the southern part of Copenhagen Hellerup, in November, and there we have this situation where the public used ...But on the other hand we have already now...we have discussions on how we can buy shares, one of the three turbines...but already now we have formed the project group where we discuss things and we involve the people from the cooperative in the planning decisions. I believe it works quite well, I saw it very clearly when we invited the local county and representatives from the local commune and...and the planning authorities of the local city, to a ship tour out of the Middelgrunden wind farm, to convince them about noise issues. Because the last turbine you can see from the Middelgrunden farm is pretty close and the same size as the new turbines. And the people were afraid of noise. And noise seems to be a ghost in wind energy since 1997 where we had some pb with noise. But after 1992 noise is not being a problem, because noise is just a bad turbine! (laughs) And manufacturers don't like to have noise because it means it's bad turbines, because the turbine is not very effective anyway! But by having that...

I was part of that tour on the sending to the local area close to Dong Energy...on the other hand I know because I was working very close to the utility for long long time so...these people and...it was so clear that, from the cooperative, we were talking with the people from the local planning outdoors, and the committee, and the members of the board, but the persons from Dong Energy was only talking when they were asked. Let's say, they would not...it was just a one-way communication, on this side. And I believe that...maybe they were afraid, they were not used to talk that language, and I believe that's where you have an extremely important part of the acceptance of the project because we could discuss, we could show the measurements and the instruments about the sound, people could listen, and then they said "well ok, there's

no problem”...but...i believe that the success of that tour was really based on not only having the technicians participating but also ordinary people like...well I may not be the ordinary people but I think it’s important to have everyone in this kind of process, not only the technicians...

- You talked about noise, but do people react about visibility? Because in France it’s one of the main questions when you talk about wind power... When you look at the Middelgrunden farm, it’s just “there in the middle” I would say...

- Yes sure. Well...I believe we have an open attitude to wind in Dk because most people have get used to look at the wind turbines maybe, because they started up, were accepted...but the general attitude of people is clearly ...quite interesting. We have a case in an area where it would destroy the landscape and people have been particularly aware about that in the 1990’s. Before 1992 the planning was system was really... non existent. That means you could see today in some areas from that time eventually...you have turbines with one rotation, then an other rotation, the size, the places...in a non-planned way. And we have had problems about this topic...But even though this part of the country, people are very opposed for more wind energy, they just now take some more attention to see where and how to place the wind turbines. But people got used and say “well the alternative is to place an incineration plant”... and I mean we had to take that decision... and that is, in fact, my background, of being involved in the Copenhagen project, it has really been an important issue...we have to influence the people, to take actions to say “well we want electricity, how do you want that produced? and I mean, you can put your plug in the wall, but what is behind the wall?! That is...it’s your decision, not my decision!” it’s a decision from all of us, because Copenhagen is a bad place to put wind turbines, I mean. The wind is better on the west coast rather than on the east coast. That’s how it is! And if you take the last poll...we had a poll, just one week after we had this interesting view on television of this turbine exploding,...

-I saw this one, it’s quite impressive!

- It’s fantastic! And a lot of people get nervous, especially politicians. But even ...after that there was even a higher percentage, 91% of people were still in favour of more wind power! And, so, it has been the highest figure ever recorded! In DK it has been more that 80% in all years of people for more wind... and I believe the attitude is...Well ok it should not be just outside my living room where I may see the wind turbines in the sunset...but of course you try to avoid that during the planning process. And we do that individually, we do calculations on where you would produce a shadow, at what time of the day or the year you have shadows and other things like that. That is simple calculations; the people have accepted that you can do things like that. Of course you take that into account in the planning.

-So you think that it’s a more cultural criteria? For example in France, even if you propose “greener” alternatives, people are still reluctant about it. Do you think that people in DK are more ready and prepared for renewable energies? it’s always said that Scandinavian countries are greener...

-I believe it’s a combination. You have to accept to do something about pollution and...energy security...We may be more in DK positive in general because we have this experience from 1974, when we had the oil embargo. And people, at least the parents, can tell their children that you can have days when you’re not allowed to go by car because there was no petrol and you had to cut down appliances and things like that. And that has underlined on the time before we

*found the oil and the gas in the North Sea, that you really have to be careful. That's a part of the energy policy that you accept, you have to find different sources, to utilize other things. About pollution, it has been a general tendency in the northern countries more than in the southern countries, it's quite a simple explanation for that. I did a study 15 years ago for the World Energy Council about why, and it was quite difficult! Because...why do we have in the Scandinavian countries a higher tension, why did we start in the beginning of the 1970's...and it turned out by looking at different case studies in Finland, in Norway, Sweden, Dk,...that it was not a common attitude. You have to go further back. It happened in 1904, when a manufacturer, a director of an electricity plant said "well, why do I use coal for heating up our apartments for the workers when I can just use the waste steam from the factory?" And then he started creating a district system plant. It happened in few other places, it happened in Sweden, then third in Norway.*

*So when we came to the conclusion saying "there might be something"...going further back....and (laughs) I used some years to do that and ...and first when I came in contact with some universities, Roskilde University and some others...I learned about one study about this kind of attitudes...dating back to a thousand years after Christ. And the reason for that is simple, in fact. If you don't care about your neighbours, in almost everything...it also affected the creation of the social welfare, social networks...behind that...you may die the next winter! Because the only way to survive the winter seasons in these countries is to save, to have some grains, some seeds for the next year, to have food for yourself, for your animals, things like that...This is never the case in southern France, you can survive without any planning. And also you put...it changes quite a lot! And you can find things about that...people working in this area have explained that this should be the background for people to...taking care about your neighbours... and taking about your neighbours is also something that you can see very easily that lakes get acid in Sweden after using coal power plants in Dk and other thing of this kind...Suddenly people start to realize that there might be possibilities to eliminate or at least limit this type of pollution. So it was a better surprising conclusion with that study, that it wasn't like we have expected. There were some good case studies, but the case studies were very individual actions from different persons. You could take that as going back in consciousness, in the mind of some technician freaks or whatever! (laughs)*

- What do you have to say then to people...for instance people I met in France... who say, when talking about wind power, that it's bad, especially if we consider DK: they have a lot of wind power, but they are also the biggest emitter of CO<sub>2</sub>? This is often used as a counter argument to criticize wind power and justify why we don't need a further development...What do you have to say about that?

- *Yes...that's far too simple because...they are right in a way that as long as Dk is using coal power plant and...it's a strange thing that....that we are emitting some much carbon dioxide...compared with the fact that we have the highest rate of integration of wind in the system in Europe. But it's a question about time. And of course the time...the time the government needs to eliminate CO<sub>2</sub>, it takes time...and that's the reason why...it's the only explanation for that. It's a choice or opportunity to replace...it's a very good question! (laughs) and a very good statement also!*

-I don't know...I think it's a bit "easy" to say that...

-*well yes! It's the same when I discuss with people about nuclear power, they say "so well, look at the French, they have an extremely good system in nuclear power...there were just a few*

accidents"...but we still don't know how to solve the pb of wastes...it will be, as far as I remember, it will be in the French Parliament next session to discuss what to do with the wastes. And when I asked where...now they are in temporary deposits. So I mean, that's the strange thing! Also, how can you take responsibility about problems of this kind when you have to look up a thousand years ahead? Without knowing the solutions...and on the other hand...I'm quite relaxed in my way but...it should not be like we are not able to accept the waste of people in places where we can take care of it...instead of sending everything in places where people don't have the technologies for it...so coal cannot be outreached from one day to another it would need to change the attitudes of the politicians (laughs) I don't believe in that! So it has to be an evolution and not a revolution, it will take time.

- To go back on what you said, would communication be the key factor?

-In my opinion yes. I feel...in France I completely understand why the decisions are like that because, as long...my experience from working for years in France, it has been...the French are very much pro-technicians...positive for technical high-tech and they also accept, in contradiction to the Danish people and the Nordic countries, that decision is taken central. But the decision is central. EDF has never decided to build up a huge amount of wind in France...so, why should the population be positive about that? Even with a traditional French attitudes... the thing, as I have learned, as long as it hasn't been convincing...I mean, as a French man, why should I accept that? "Nobody has explained to me it is a good idea!" Everybody has explained that nuclear power is a good thing, and you accept that.

-but there is a big problem of communication between the different levels of politics, during the decision-making...for example when I went to Veulettes-sur-Mer, the mayor told me they got informed about the project in the press...

-Yes...exactly...

- they were not directly informed...But how is it working in Denmark? Who is concretely in charge of the projects? Is there any general authority?

-No. The Danish planning system is quite simple in the way that the little counties have to point and plan where to put wind turbines. And they point out that "this region is not good there because, there are problems here; it's not possible in this are..." so they declare on the planning meetings they have every...5 years maybe that in this region, this region and this region, it's positive for wind. And then when having done that, the people can apply to set up a wind farm. And that could be done by everybody, by you and me, and...local people or people from outside. What the energy corporation...companies have learned, it's that it's a good idea to do that in cooperation with local people, because it is very typical that people ask "why do these people come and want to set up wind turbines there in my backyard?" if you do it together with some local people, they will just say "well ok we can authorize them". It's not a good idea here, even though it's included in the planning documents that there could be turbines here, and at the same time you get this attitude, you get involved, you get asked, you get the communication. And...there is an extremely large amount of psychology in there...

we saw it in Sweden in one place, on Gotland, where they had more or less the same planning system...and you have a huge amount of wind turbines there, it's terrible sometimes (laughs) and there was a project just outside, in the sea, similar to the Middelgrunden wind farm... just one turbine more, because they want to be the biggest (laughs) and everybody...and it was

*created by the local planning group there. It was a...in fact a kind of...it was a filiation supported by the producer...they planned it and then they invited people, who were waiting all the time. With this project they sold it to a Norwegian company. And suddenly the local people, from going to a very positive attitude to the project, the local fishermen and all the other people, already involved in many other...just started being negative about the project. And they were running one court-case after each other. It's still not produced! The project has been supported by the government, by all what you need, but it's still not there. And...it's really the best example in my opinion about how local ownership or involvement...in this case it was no doubt about that...can change a project. We had it...I saw it in Norway also...there was a project proposed in the mountains in the east of...it was too...putting 5 or 6 turbines only. And it was impossible to see that project, except from their farms. But the local village of 800 people voted "no" because they really did not want to disturb their land. It was a flat area so it was not a very attractive, from that point of view...but it was like that! Also some people told them during that discussion that...well if this project would be accepted, it would allow these farmers to stay in the farm, it would then avoid closing down the local school, because this local school would be too small...and then suddenly people realized it was not only just a question about...could they....this narrow area where the wind turbines could disturb the view, could that be acceptable or not...and in fact they change the attitudes to this project. So now it has been established and...so...it's another question about the economic impact of course. This is shown quite clearly if you get into a situation when you have an economic...you can see the economic impact giving you some positive feedbacks when changing attitudes...*

- To go back on what you said about Gotland, do you think the companies are really eager to listen to these people? Because most of the time they already know the benefits of their own projects....Do they really care?

*- On the general level, we have in Dk based on that experience we have seen...also the situation today is completely different from the situation 10 years ago. Wind turbines projects are much larger today, which means it's not just easy. You cannot just form a small group with a school teacher, the local engineer maybe or other people famous locally to discuss how to set up that wind turbine, make a small budget...But today a project is probably 400 millions! So it's not that small economically, which means that you get players into the project from the entrepreneurs because they can pay that cost, you cannot do that as individual people of course...which means that our energy companies have realized it would be a good idea to make a cooperation, so they did a formal contract with the Danish Wind Turbines Association, to work together. So they have accepted as the only way to get through this coming from CPH attitudes and...*

*We have seen that in Hellerup clearly...we knew from the beginning that there was a very negative attitude towards the DONG Energy project. They started the project as the same time when we started it with 2 pieces of land, we started on each piece...and then we realized it was maybe...somewhat nicer to work together on it and...and the big company realized they had no chance to go through the public people without getting the local people on their side. So...I never met that in...really in Sweden...not by discussing with Vatenfall or E-On...I never heard that attitudes... I have heard people explaining about it, for example, Karin Hammarlund, she's also working on public acceptance....and...I believe sometimes they are hard times but they, by convincing them that it is really important to use a lot of time for that.*

-Do you see problems or challenges that are related to this communication?

- Well, we have to be aware and notice also that this attitude is much easier in DK because we have tax systems that make easier the ownership. We have discussions with the UK government about this... Well it's not possible there because they don't have that...the legal framework in place, which means that asking 700 people to be part in a wind project is really not possible...and you have to understand that, by definition, part ownership of the turbines is a part ownership of the production of the facility. Which means that you have to go through a lot of annual accounts, everything as a part owner, and all profits will be eaten up by the account. So if you don't have a very simplified system for a part ownership to present to the people involved, then it's not possible...so that is a special things allowing that kind of projects in Dk. And this is...I guess it's possible in Norway also...I've seen this kind of system but I haven't seen that in other countries...this is one, in my opinion, one part of the positive attitudes because that allows people to be in in a particular way...I'm not specialist in the French system, I don't know the type of legal structures there...

-I don't think there is anything like that...

- no I haven't seen in it any other place and...every time we have people visiting DK...it's...I know the Scottish have tried...there is an open session now called "cooperative ownership of energy plan" including heating plants, and wind plants also...it's very small but they have started I think...

- in the case when you meet people to discuss about projects, for the local planning for example, according to you, who are the most influential actors? The ones who push the decision, for instance local "random" people, associations, companies....?

- there is really no list because...it's...it's different from time to time. You have...it's really why you have to go out in my opinion. You start a cooperative, invite people to be involved, who could be involved in the ownership or just being involved as participants. And you never know who is...you can't do some basic selection. By going out and getting involved the people, you ask them: who is writing letters in the local newspapers? Or who is in front when things are happening? And then you have to take any change and invite people, that's the easiest way. Let me explain about the Middelgrunden project where our closest neighbour was a beach project at the east coast of Amager, on the planning at that time. We knew that it was an NGO project and...so we did not know the people, we had no idea who was behind this project because we are not involved in all the plannings. And you never know, it could be the department of the planning system, it could be the head department of an extremely important institution, which means you could have, if you create an enemy, it's a very strong enemy! I mean, without knowing it, because NGO associations are private people, and you don't know what they do in their life! So what we did was in fact very typical, saying "well our closest neighbours will be this farm so let's invite them to a meeting, and talk to them before they know about it and read about it". So one day 2 members came to a meeting, and they...they said "so well we don't care about the wind project from the issue point of view", which was a surprise in one way (laughs) "but we care about the noise". So we had to invite them to a wind farm and have them convinced that there was no noise. It was quite easy (laughs) we went to a wind farm really close and they said "wow we didn't know that!" and then they invited us to present the project to the whole board of this NGO organization, and in fact what happened was a very positive and creative dialogue which is in fact... you can see...now in the project because in the beginning, because of this situation we had placed all turbines in the northern part...and first afterwards, after these discussions with these groups, we realized that we could use the whole

reef for the project. And that allows the one-line arch instead of three rows of turbines, which has really been a fantastic innovation!

So...it's very clearly, you never know, you have to look in your paper you have to find in your documents, to discuss with the local people, who will be around here and of course, like I usually say, when people ask me on small local projects, "please be aware, invite all the people in the village and don't say "this is our friend this is not our friend" because you'll leave some out and you'll create enemies". And it happened several times, that you had situations of this kind...so...you have to look locally, you have to discuss if you come from outside...the only way to know that is to involve so many people! From Copenhagen you don't have the chance to realize who could be against the projects, and most of the people who are against...I have no problems with the people who are against the wind projects, it's up to you! But I feel it's stupid if people are against the project because of fear of something like noise, when noise is not an issue any longer. It's more difficult with visual impacts because that's more or less depending on you (laughs) you cannot avoid that! You can make it better but you cannot avoid it!

- have you ever experienced any protest from fishermen, or other groups? I mean, stronger protest than writing a letter and saying "I'm against"...

-well if you respect fishermen and take them seriously I feel we have no problem. In the Middelgrunden project wind had local fishermen fishing, and I must say I fell myself very extreme...highs compensations for the Danes... during the processs you have to accept that you are doing a lot of sedimentation with the construction, and that destroys the fishermen's used area for a period. Here we find the compensation, the one was very under a time when they could not go back in that area, and what we did was that we asked them about the public figures about what had be fished and then we used that figures...and it was...it created a more positive atmosphere. But we have a contract in the North Sea, the situation where the local fishermen get compensations from the community...There was no problem with the Danes, but the Dutch fishermen don't like that, they don't get any compensations but they are also fishing there. And they did some sabotage like...they moved some protection barriers and warnings boards and things like that, from time to time, just as a kind of protest.

So the attitude of course is important but...first of all in my opinion it's important, you have to accept that fishermen came first! And I mean they make their living out of this! So if you destroy the way they can make their living...then of course you get a problem. With the "Wave Dragon"...it's a wave project...We have experienced a situation when we get very good friends among the fishermen because we offered them an opportunity, by a floating platform, to put ropes and grow muscles on the ropes there. And as local fishermen are only catching muscles in other parts because there are other areas for fishing, it was expending their activities! And I realized when we put that idea in front of them in our first hearing, so "well it's interesting because one time we have been discussed with people about wind, offshore wind, we fell it's like a fight! Here you invite us in parts of the project!" it was easier after that to discuss about the project because we had to pay them certain compensations, but it was very fair, the way we set up the compensations. We had to ask them to move some of the gates during the process when we did the scanning of the sea bed in order not to getting into problems, with all the lines and wires and so on. So in my opinion it's an attitude issue. But of course it is a fight, there is economy involved and when you have economy involved it's very easy to get into kinds of fights that may not easy to solve. But...

-Were there any problems that were not solved?

- No I'm not...in the projects I was involved in Denmark and some of the UK projects. We have been very upfront positive with the fishermen. It is...there is a lot of psychology in that because it's difficult to be...to get into fights when you are positive with people because...when it comes to the final decision about compensations, in my opinion you should bring that up to the decision where the only discussion is how the value, the money is organized. And then you can put that with arbitration or whatever...when you cannot agree. But I mean you don't need to be upfrontly you can discuss it. You can let them explain, the fishermen, what is the problem and how we can avoid it. Can we do something to avoid? I mean we can do something. You can avoid being in that area or that area at a time where it's maybe the key fishing time, you can give them warning like we did in Middelgrunden to say "well ok we are sailing out that day, we do ditching in that 2 weeks" so that they can move their baits... In Middelgrunden they were afraid to get a lot of pollution. They got warnings in due time so they don't get bad. A lot of simple planning issues like that in my opinion. But I know there have been a lot of problems going on in many countries.

-This is the thing. When I talked to people in France, one of my hypotheses was that people were just fighting against the project because they did not have the knowledge about it. But then I realized that, in the village especially, the inhabitants are so much in favour of the project, but all the critiques actually come from outside of the place. Most of the critiques come from villages or associations or even countries that are not concerned by the project. Do you have this kind of....

-Oh yes! the turbines from Middelgrunden, this was the key objection to the project, also from the Swedish fishing associations. And they don't fish there at all! I mean, it was a principle. I talked with them and it was some kind of..."well we want to show that we're against to use the sea bed for anything". Full stop. And so they came up with proposals of doing...well I usually say one thing like "impacts from cables, electric cables in the sea bed, it will cost me 100 PhD students for 100 years and I may not have any answers. People have already discussed that for many years! So we cannot solve that part of the project, but of course we can do as much as possible what we know today, and I mean...We know today it's a good idea to bury the cable, you have half a meter above, the magnetic fields are just very low; And in this case the Danish government was quite relax, "well we cannot solve that kind of problem". We are working on an other project on the eastern coast, working on that question. And in fact there is no fish breeding in this area, it's only eels in this area, they stay there only quite a limited time. So they don't see...don't find problems. But it was quite a typical attitude from an other country's administration which wants to be a part of the standard statement. I guess they would be prepared to upfront all the development, prepare people...(laughs) So...yes....if you have these attitudes of "no" then of course it's difficult and it takes time.

- Did you feel any pressure? is there any lobbying that is pushing to promote wind power and then people feel very choked. For example when I contacted associations in France to ask for information ...these were associations against the project...and I said "I'm a student I am doing that", the first things they told me...the answers were very aggressive, saying "no we don't care, we're not going to talk to you, because you're a spy from the big industrial wind power lobby, we don't care!" Concretely, that's what I got...is there anything like that here?

- ah! (laughs) no I never get that attitude. OF course we have people in Dk, we have an association in DK against wind turbines and...they had till 1999-2001...it was a chairman and he was extremely like that and it was impossible to discuss anything. Then they got a new chairman and I remember: I was together with him out at the Middelgrunden with Norwegians

*and it was interesting! We discussed what was pro, what was negative about wind, and I organize in fact to bring on the boat how difficult, how unpleasant it could be to have a low sun just behind the turbines and by getting the turbines' blades getting like that...So the television got that...so in my opinion it was just a very typical situation, if you don't want that of course...that's just a planning thing, we can easily do that! But if you, as a developer, the few you're discussing, then of course you create a group of people that won't talk to you. I believe that this is maybe the situation in France...I've never been involved in a French project. But I can imagine it ends up like that (laughs)*

-You actually answered all of my questions in a quite random way (laughs), but do you have anything to add? Something to summarize? Something you think is the most important according to the questions I've asked?

*- well in my opinion really, you have to do your basic work, if you take from the point of view of the developer. If you don't do your basic work, I mean...doing an assessment on what is negative and what is positive in things... you cannot expect people to get in the dialogue. I mean that's in my opinion the basic. Then of course you are in the situation when you still don't get the dialogue! And you still have to explain the battle frames! But I mean if you're not open yourself you cannot...then if eel one good thing we have created in DK, and it could work, could be recommended in other countries...It's that, as soon as you have a larger project, a too large offshore project, we could create quite a comprehensive pursuit programme, and...it was founded by the government in a way that in fact it was founded by me and you, because...you jut a little higher price for the electricity for a period, and it has been founding this programme, But by doing like that and creating a committee to follow that, you at least get some more knowledge, and it gets easier next time to discuss what is maybe a problem, what is not a problem...as long as you don't know it's easy to create a fear. It's really what I feel is the most difficult thing in wind, it has been that people fear more than...as soon as you get close to people and you can explain "this is really not a problem", you can see here and here that you can take action to assess that. But things like noise, which is not a real problem...if you show people the distance with the turbines in the region where they are living...then you have it much easier. But of course you have to do the basic work. And don't try to "jump" over the easiest way, maybe do something under the table...*

- How would be the development of wind power in Dk without your work?

- Sorry?

- If you were not there to organize all these meetings, how would it be?

*- I feel, if we start today...let's say we have no power and we have to start creating wind energy in Dk today...because we had...economic turbines, when you calculate, would be 1 MW or more...which means large projects...then you are...We may be in a situation where we are getting to some kind of fights like you see in some countries...because large projects are difficult to absorb in a small village, a small group of people, in the countryside. It's also...easier to let's say...if a farmer has a piece of land which is good for a wind turbine, why should he then share? You have situations today, compared to 20 years ago, that you can create quite a good profit from a wind turbine if you have the right place to put it and if you're one or two persons to create the project. Especially if you are a farmer, if you can combine some of the economic long-term depreciation like that....then you may create some kind of attitudes from local people that will say "farmer Olsen had been able to do that? Oh! We're not involved in*

*the local village, why should we look at his profit?!” (laughs) every day we’re getting any kind of...so it may be difficult...if we don’t have that history, if we don’t have that experience today, we may do the same mistakes that were done before...like maybe in France! But the French culture is different from the Danish culture...we have seen in Portugal or Spain, where the cultures are also much more different...I can see Portugal, most of the wind projects are created by developers, and not involving a lot of local people at all. And it has had quite a lot of impact in the nature...but maybe the nature is not as rich, we have to accept that...But now the Portuguese people are not that happy. Maybe also because Portugal had the same situation as we had in DK at the time when we started. That they don’t have any oil or gas...I mean they have to rely on energy from outside when wind can supply that in a way from the inside. It’s the same in Spain, maybe... SO...where wind is very the key component...So that may change the attitude, but that means also complication issues from the government people. I’m not sure I really answered the question (laughs)*

- Yes! Well thank you very much!

*-You are welcome; I hope to see your thesis when it’s done!*

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**Transcription of the interview with Mrs. Mette C. Buch at the Danish Energy Agency Copenhagen, Monday, March 31<sup>th</sup>, 2008 (in English)**

- Good morning, thank you to answer my questions...i will put it [the recorder] here I think it should work, is that ok?

*- yes that’s fine!*

- ok! First of all can you please introduce yourself, tell me what you do at the Danish Energy Agency?

*- My name is Mette Buch, and I’m affiliated to the unit for renewable energy. My primary work is offshore wind, but I also deal with renewable energy in general, in some extent, and wave power projects. But we only have three demonstration projects for offshore waves, so that’s not a big deal. Wind power is the most important.*

- What is your primary background?

*-I’m an economist.*

- So why did you turn...

*-I was an economist! (laughs) after 10 years in a public administration you become very much a generalist I think. Well, I was an environmental economist, that’s what I studied. And...i...I think it’s a very interesting field, it’s necessary...for the future development of the energy sector to become sustainable. That’s quite an important thing.*

-Do you think that offshore wind power is one of the solutions?

- Yes. But I think we do need a mix, a mix of different technologies. As long as we move away from the dominant fossil fuels then we will be good on track. But of course it's limited, on how much onshore and offshore wind we can place in Dk. It's already quite packed, especially onshore. There is still a lot of potential offshore. But onshore...I think we reached the limit on how much we can place.

-So... I gave you a list of questions, we can go through them one by one...So the first one is about the acceptance of offshore wind power in Dk...According to statistics, polls, it seems that the majority of the Danes are in favour of it. In comparison to other countries, for instance in France where people say "ok" but as soon as you want to start a project it doesn't work, Why do you think Dk like it? Why do you think the Danes are so much in favour of renewable energies and especially offshore wind power?

- I think Danes in general are very much in favour of renewable energies, of the whole concept and the idea. But still we see more...there is a strong tendency...I know the researchers have been talking about but... a strong...opinion in favour of offshore wind, and that's still the case...you see a tendency to...that DK is becoming a little bit too packed. We don't want turbines in our backyards and...that tendency is getting stronger and stronger ...that's why I said that, if we reached the limit on how much more wind power we can place onshore, what you can do is to replace the turbines that are already there, with bigger and more powerful turbines...but those are just much bigger and much taller, you see different noise...at least...the neighbours perceive different problems with that...so I think we reached the capacity onshore. Offshore...offshore you don't see...offshore wind to the extent that you see onshore...the neighbours typically are much better with ...a mapping exercise was carried on last year in 2007, and placed almost all of these parks 20 km from the shores, and then they are not very visible. I mean you can see them of course, but we don't have a sense that they are very visible. Offshore...is often discussed. It's not always a clear sunny weather when they would be out there, you don't see them very clearly when the weather is not optimum. So I think the visibility is a huge factor for ordinary people who don't have any ownership, any sort of stake like I do in renewable energies.

-Why do you think then that people are still very happy to see that? For example, Middelgrunden is just 3-5km away from CPH...

- Oh, we do also have near-coast projects that are reasonably well perceived, offshore, only a few kilometres away from the shores as you said. And Middelgrunden has become...Middelgrunden is quite a beautiful park, farm, you saw the pictures, you know...the bow shape...you see if when you fly from Copenhagen, and you see it out there. But still, I think it's because you are used to see an industrial picture. You don't see a natural landscape when you're in Copenhagen. It's all some kind of human-made, and part of that is industrial. And wind power is industrial, it's nice industrial we can say (laughs) but it's still industrial. And that doesn't...you don't expect to see beautiful sunsets in the same frame as if you go to the west coast of DK. And the well-perceived projects that are near-shore are often placed near large industrial cities and...close to large factories, power plants...you know...that makes a huge difference, the place...next to a national park for example I don't think it would be perceived very well.

- So in this case, people are ready to have something like that, just in terms of visual habits? Is it just because they are used to industries that they will accept it?

- No, I think....we need to be realistic and turn it around. People would accept it because they are used to see an industrial site when they look at the sea or when they're near the coast or other particular places. But when they are used to see trees, sand, and waves...nothing else...then it's not acceptable, and I think it's also becoming a stronger tendency. It's my sense...It's only a sense I haven't had any research but...it's my sense that wind power and offshore wind have pretty much be embedded in Dk. It's been developed and it's a huge industry for Dk. And up to the 70's, the 80's and the 90's, it's more, you know, a "little men projects", the "inventor type". And people...have shared...it's like Middelgrunden and other projects...you see a lot of them owning the project as share owners. But now it's too big, it's...it's huge power companies that own the park, that get the park. And of course it's necessary. You can't erect a huge 200 MW park offshore, 20km away from the coast, with Mr and Ms Olsen, it's not possible. You need big bucks to do this. And I think that this historic development is less appealing...because they don't feel the same ownership. And I saw that as one of your questions concerning public priorities, and participation... We're not really....we're not, at the DEA, actively promoting any particular ownership structure because we don't feel it's our job. I mean, we would like... most of the smaller parks that would be publicly owned come to us on private initiatives. And investors come to us, and that's when they can be representing a whole group of people. And...that's fine, we encourage that, because it often makes the project more likeable, and that's fine. We don't want to push something that is not addable for people of course it's necessary to have some sort of acceptance of this project. And that goes for anything, a pig farm, wind turbines...

-what you said about "big business", that's what I heard in France when I did my comparative study, and the people of the local region would not accept big projects because they won't get any money back, any feedbacks. They realized as you said the importance of "big business", and I think it is an important criteria, this "capitalist thing" going on within the energy system...people don't feel concerned and then they reject the project....

- and I think it's the same here for offshore...When it's near coast there is a strong public interest because of the visual effects and the noise effects. And...often I think it's not an issue when you prove that...But we cannot approve a project if there is a strong local opposition, it's just not possible, it needs to be a criterion that there is no strong opposition. And if there a strong local opposition comes along the project, and for that reason the investor must try again and create a project where the local population...that they can accept, and that's, if it takes an other ownership structure, which is often the case, that's what is necessary.

-So the Danish Energy Authority does reject or accept project?

-yes, yes.

-That's all? Is there anything else?

- For offshore projects we have 2 aspects. We have the tendering procedure, if the state makes the initiative to do a project, then we decide "we want a project in this particular location" or they bring a location...if we know it doesn't seem to be any evident problem we think we can place the project there. Of course there might be some impact assessment, to approve or disprove this project. But so far it looks fine and we let the tender open a certain amount of time. And then we do a EU tender and we find somebody who will build the project, and then...it may or may not be with public participation, it could be a criteria in a tender procedure, but so far it hasn't been. But in all the tender procedures that we did there had been

*some kind of public participation. But it hasn't been a criterion from our side. The other track we want to regulate for offshore in DK is called "open door", when the investors with their own initiative bring the project to us. And then we will look at it to make sure that the impact assessment had been carried out, and if that's acceptable then the project will be put on the side. The "open door" is in fact...the way...the payment you get from the 2 tracks are different. If you do a tendering it's easy, you can set a price. But if you do...if you go through the "open door" you get a...a very good price, plus the set premium which is today, on the 31 of February, it was set to be 25 öre/KWh. So that's a variable price...so we have to see if that encourages people more to invest in offshore through that track. There are also significant, very significant differences if you go through the tendering procedure. The cable to shore is paid by the government. But if you do your own project you would have to pay the cable to shore. That's...if you're far from shores it can be a significant primary investment.*

- You talked about public acceptance as one of the main criteria for the DEA to accept or reject a project. What are the other criteria that are considered?

*- as part of the environmental assessment, we also want visual impact...besides from the obvious environmental impacts, you know, the birds, the fishes, the seals, all these sorts of things...all the things you could do, for example a commission risk about collisions with the vessels, the ships...that's very important issues to do assessments about, fishery, assessment of...the visual as I said, the visual impact....those are the most important as I remember right now, the main things to look at. We have a list that we need to go through.*

-But do you also consider economic factors?

*- No, because we do not have any economic interests in that way, because for the "open door" we have a politically determined price...on top of the market price. And for the tendering track, the price is interesting there, because it's too expensive for the politicians, for the political decision...that price, which is the best price that we get at a day will be accepted. That's politically risky I would say, but beside from...if that price is paid, it's acceptable for the politicians, that's it then and you don't go any further in the economic....we don't have any economic interests in the projects, we're not involved in any business at all.*

- But can a project be accepted without your decision?

*- No. Not offshore. We have in Dk what we call a "one stop shop", which means that we are a planning authority, which means...if you're interested in placing an electricity producing power plant...it would be wave, it could be wind...they need to contact the Danish Energy Authority. The Danish...no! the Danish Energy Agency! Sorry we just changed our name! the DEA is the way you get your permission, the only way you get your permission. We do...we do the coordination between all the authorities the shipping authority, the fishery, you know, all the central actors that have interests in the project. We coordinate with them, we can get this permit. So basically of course we're interested in promoting offshore energy, because it's renewable and because it's...with the political decisions of reaching our CO2 targets and things like that....but we do not say whether the environmental assessment is good enough or not or whether the sailing risk is good enough. We make sure that the other authorities can prove the researches that have been done. And if they can approve, and if there is public acceptance of the project, then we give the permission for the project to go again. We have actually 3 levels...well let me say...the advantage of having this particular set up is that you don't to take the risk of getting your permit from the maritime authority, then from the energy*

*authority, and not getting your permit from the environmental authority, which could be a very possible scenario. I know you do it in England but I don't know how it is in other countries...you need to go to different authorities to get the different permits and some permits are...as you get quite far into the project, when you don't get that permit, then it's all lost you know. So it's much easier in Dk you just need to get one permit.*

*We have 3 main permits related to offshore wind or wave as well. The first permission is to get the permit to do the pre-research stage when you carry out the assessment and...Once you've done that you should get the actual application, which...it is how we imagine the project will look like, this is the basic for my application. Will we be able to accept that? We put it under a minimum 8 weeks public hearing, and that public hearing, with of course... well all the authorities are looking at the project as well... We ensure that everybody has heard, and when everybody has heard then it's an acceptable project to go ahead. And, what we can also do is to negotiate, you might say...ask them to modify the project if there are birds in the way, or if they need to move because of some sort of...if it's not an ultimatum project then we will try to find with them ways of modifying the project and moving it...in order to mitigate the problems. And then they get the 2<sup>nd</sup> permit, which is the permit to build, and once they've built the project, before they finish that thing, there is the 3<sup>rd</sup> permit, which is the permission to produce electricity. And the very last permit we give is permission, after you look at all the other permits, when everything is done we look at them and say "have you actually done what you were supposed to? Have you changed the project? Have you avoided that sailing road? Have you made sure that you can...that you have insurances and that you can collect...?"*

- But they started building already, installing everything! What if they don't get the last one...

- *We've told them exactly how they had to do it, and if they don't do that they will have to put down all that! (laughs) you know it's...we give the permissions through a long list, a very very long list of conditions we collected from all of these authorities, and they are supposed to follow that list. If they don't follow that list then they can't get the permission to produce.*

- It's like a threat, or...Do people react?

-*Yes...Well...we're in contact in the different steps within the process to make sure they...you know they can ask questions, "what do you mean by this? How can we do that?" and of course since not all of the conditions come from the DEA you would still need to contact the maritime authority, the environmental authority, and so on...whatever specialist you talk to, to be able to know whether you have to be collecting the spilled oil or...that you are actually...whatever! But it's a very long process and it is very...it's important for us to signal all the way that if you do not respect these conditions... I mean it's not an option, there are no compromises here. We can't because...where would we be at the end? you know...*

-it's normal! I just had the problem of understand why this comes at the end...

- *well it's only to check everything again.*

- you talked about public hearings. Is anyone, any public customer, allowed to come and listen, are is it mainly for professionals, the stakeholders that are really involved in the project?

- *basically what we do is sending all the material to...we publish the fact that we have a hearing in the local and national newspapers. And we publish in these ads in the newspapers that*

people can go and get information about the project. And we distribute it to local libraries, the local city halls. And of course we...the material is highly available for everybody, for neighbours, or for people who have a general interest... researchers...anybody can see the material and comment on it. And then we collect all the comments at the end and we see how people are in favour of not of this project.

- Do you think this communication has a lot of influence in the project?

- It can, absolutely, yes. it can have. We have... We've seen... We had projects that died in this process, because public opposition was too big or...yes. Public opposition is a serious threat! It's a necessary...we don't want to push any project that is not publicly acceptable.

- Were there any strong protests, for example for the projects that were “dying at this stage”?for example, you know, when the French are not happy with a project, they go to the city hall, demonstrate, it can even turn violent sometimes (laughs)...

- *Even about offshore wind?!*

- yes! there is...for example the other case I'm working on will be the first case of offshore wind power in France, but there were also other propositions. All of them were rejected. But this one still...the last public hearing finished a month ago. But people are still demonstrating...you know the French way, people are really “fighting” I would say and...do you have the same kind of things in Dk? Maybe not that violent I would say!

- (laughs) *For this particular project I think there was...it was a near-coast, near-shore project. There was a large opposition...Generally what you would do for large projects, you would have a meeting, for neighbours basically, close to the siting of the park. At this particular meeting there were around 300 participants in all, and they were against the projects, and that's not a good start. So basically that project did not happen. And...what also happened is that local opposition was really quickly rubbed off on the political opinion, the local political opinion from the municipality. And then from there, it can become a very big issue. So yes there are projects that have died, but often what happened...the hearing phase is basically the last phase before you approve a project. And what happened before is that...a lot of projects have been rejected because they were...for some reasons they are in a...natural area or something...where the project developers hadn't been researching enough throughout...it's too much...So a lot of projects are rejected there...in that phase. But the public hearing phase seems very very...massive because sometimes it happens that...3 people saying “we don't want that thing to happen here”...that's not going to make the project out.*

- but what do you think then is missing to make the project work? Because...I met at the beginning of the week M. Soerensen who is specialised in public acceptance, he's a consultant for offshore projects...he told me that...if you communicate very well with the local populations, if you...a dialogue between, the companies, the politicians and the inhabitants...then everything is fine, it's a lot of people changing their minds, fishermen, etc...At the beginning some were very angry at the project, and then, as soon as they realize they can talk to each other, it's the “magical solution”, everyone is happy and everything works!

- I don't really know whether that is...because I think they're involved...I mean that's a choice to do this, it takes a lot of time to do this...I think, yes it has an effect of course, it needs to be tried. And you can also modify a project according to the local wishes...and often what happens

is that the local people find out it's not only a matter of looking at wind turbines it's also a matter of new business for your harbour and the island, and, you know...things like that, it can actually create jobs...

- So you think also that the economic factor is very important, when people get benefits from it?

- I think it's quite an issue for local politicians. Maybe not for the people who have to look at it everyday from their house. This might not be an issue but...it's certainly an issue for the region development. But I won't say anything officially about the effects of it because it's not our domain; it's an expertise that would need to figure out...

- So the Danish Energy...Agency, not Authority!

-Yes (laughs) it changed just a month ago, it's very new!

- Do you have any...communication between the different authorities to get the permits, any discussions with the investors, local people...Do you have any other people to communicate with, for example NGOs, associations...

- No...they're part of the public hearings. We send material to all the NGOs we think are involved into this project...particularly all the environmental NGOs. But also the fishermen associations...unions...yes...also the...the organizations for the benefits of the investors they are also there, they're also included...they don't have comments they're fine but...(laughs) but we said it to anybody who might have interests there.

-And according to you, who are the most important in terms of influence they have on the others?

Well we have a very strong wind turbine industry. Because as I said before wind turbines...offshore turbines...were practically invented in DK, it's a huge one. It's one of the largest export industries of DK. So it is also a very important actor. And...I can give you some figures that might have seemed very large...but in the Danish context it's a huge industry. I think, a few years back, about 90 % of all that was produced from wind energy was exported. It's definitely higher now because there's not that much happening in other places...and...particularly in the western parts of Dk, in a region far away from the large cities, there's a huge industry. We have about...21 000 people employed in the wind turbines industry, that's quite important, definitely, compared to the Danish population. The turn over makes it a huge industry in DK. So of course industries are very...very vocal. It has this strong lobby that tries to influence politicians and also benefits from researches, like you said earlier, that there is this large public acceptance. And also argumentations, arguments like "it's necessary for the Danish industry, for DK, to serve as a "window" for the surrounding world, and they become a scene about the wind development in DK. But DK still wants to benefits from the industry, to give a favourable terms, and show that we can be able to put up turbines, and that that it looks good if we put turbines...how we're going to convince other countries that this it a good idea. That sort of argumentation is important. So that's very significant...the NGOs are also very important. They have sort of conflicting views because...there are evidences that wind turbines are not damaging for birds and fishes and seals. But it's also very site-specific. And it is necessary to be very observing on all the places of wind power, in order not to abuse of the areas for bird protection, and so on. So...but on the other hand, the environmental groups think also very important to reduce the CO2 emissions. So they have sort of conflicting issues...but in

*the hearings we also get a lot of answers from environmental associations. And...were you talking about any specific group?*

- I was talking about everything. What you just said, about what the NGOs say about the siting, where to put the turbines...I got some critiques, especially on the French case. People who are against wind power claim that wind power is not renewable enough. Maybe it's also because they are in favour of nuclear power, and we're not investing in this kind of research, this kind of technologies, but...A lot of people told me that wind power...putting a turbine in the middle of nowhere is really unsustainable, because you have to produce it, because you have these magnetic fields, and things like that...Do you have any comment on that?

- *Onshore?*

-Onshore and offshore.

- *Economically unsustainable?*

- Both, environmentally and economically. It's destroying the landscape, it makes noise, it creates magnetic fields that can be dangerous for the future. But just to produce it, all the emissions when you produce it, when you install and put away the wind turbine, cancel the positive effects you would get from it.

- *I think the very last argument is not at all an issue now. For a modern turbine that has a life expectancy of 20-25 years as far as we know, because of course we don't know all yet...we haven't had turbines for that long...we had turbines for 16 years and that's functioning well but...the point is that they have a long life stand and things about...the emissions that you can subtract as you wish...because of the emissions you emitted...the CO2 emissions produced from constructing and transporting the wind turbines...all that is cancelled after 8 months of use...So that's not real...from a CO2 perspective this is definitely a good deal. And from an environmental perspective, 7 years of research on 2 large scale parks, currently in offshore...7 years demonstration programmes that show that they are absolutely no significant...problems with the environmental issues related to offshore projects. Maybe...I know this is an issue in France but I don't know where it comes from, it would never be an issue in Dk! I mean, people have...this cables on the ground, underground and over-ground and...in Dk there is a scare for mobile phones, whatever. But...electrical wires, I don't know it never had been an issue in Dk...and I think it would...if it was really dangerous it would have been known but...it's true that offshore...you can measure the magnetic fields around the cables to shore, near them on the ground. But fish don't seem to be particularly disturbed. There are certain...some of the larger fishes they feel and use the magnetic electricity by...to communicate with each other and try to find their way...but they survive. The fishes really don't seem to be affected at all by this. You might even say that the artificial reefs that you get from having foundations under sea could be positive for the fishes, because they can go in there, they can feed from the sea shells...whatever...for the fish it's...generally positive...for the birds it's so-so...it doesn't seem to disturb them a lot but it also depends on the siting because...it could be straight on a migration road or food that the birds are collecting at this particular point, but if it's all the year...it's just a question, you need to do your siting properly. But if you do that then you don't have any environmental effects. What our researches have shown is that it's not...a problem. Then the visual thing... But to me I always find it difficult to discuss that...*

-it's a very personal issue...

-very much so, yes. Some people like it, some people find it disgusting, some people think it's beautiful, some people think it's ugly...(laughs)

- to go a bit further on the critiques about offshore wind power, as you said, Dk would like to be a window to show that wind power is good, to promote it...

- The industry does it, yes...

- What people answered me in France was that Dk is the main CO2 emitter in Europe; though they have one of the highest wind power rate going on, they are still the "bad guys", in terms of emissions. What is the position of the DEA?

- It's true. It's because we are....one of the reasons why we need to promote renewable energies is because that...the central power plant in DK are based on fossil fuels, particularly coal, it's very large...we don't have any nuclear power at all, we have a ban on nuclear, it's a decision back in 1973. France has nuclear power...Sweden and Norway have high hydro...we don't have any of them. What we have is this integrated market with Sweden and Norway and Dk...which we use...we have larger bits of export...We have for many years now a net exporter of electricity and...large amount of that is of course the coal power production but it seems to be working very very well with the large offshore power we have and...large hydro that they have in Sweden and Norway, when the wind isn't blowing they can sell the hydro. The hydro it's easy because you can turn it on and off, you can decide that...the only problem is when it doesn't rain much, if you don't have enough water in your reservoirs then you see spikes in the price because of that particular effect...but the integration in the market with...large amount of wind and large amount of hydro is actually a very good combination. And I think the only reason why we have so much wind in DK, and we still talk about expending the amount of electricity produced by wind...is the fact that we're integrated with Norway and Sweden.

- Do you think that wind power will compensate the reduction of use of coal power plants?

- Yes. Yes, that's the whole idea.

- is it organized in the future? I mean...are there any energy plans for the future, saying concretely that we're going to reduce the use of fossil fuels?

- We have a very strict CO2 target, one of the most ambitious in the world. And...We're doing...it's not only offshore...biomass is also very good in Dk...other initiatives will have to be taken. As I said in the very beginning, maybe in the non-recorded part, it's very important for any electrical system to have a mix of different types of technologies. Except if you have of course....the reason why we have so many coal power plants is that they are easy to regulate, that you can turn them um and down depending on demand. You can't regulate wind. That is a huge...that is probably the biggest issue with large scale wind power right now. What we're also trying to do is to spread out some of the wind ownership that we have in Dk...that when the wind blows there the way to give energy to the other regions and...the offshore wind power, the large scale offshore wind power are also used as regulated power. If you get too much wind you can actually stop them, or you can...I mean there are a lot of issues with the integration of the market. And it is definitely an issue to reduce our CO2 emissions. And it is also happening...since 1990's...reduce them by 30% I think. And we need to get that much better now because we have very very strict targets.

-My last question is about a specific culture that could be turned towards renewable energies and sustainable development. Do you think that Dk is more in favour of renewable energies for cultural reasons rather than for any benefits people could get from it?...Compared to other countries...

- *As I said I think, DK has had great abilities for wind turbines because it was pretty much a technology that was invented there...basically invented but developed as a huge industry as we talked about. And that of course makes it very present in the mind of the Danes, that we are a very big "wind nation" though...we still have more installed capacity per capita than any other European countries. But...offshore, even offshore...we have actually the greatest number of installed MW offshore of any countries in the world. And that's not going to end. Well not for long if UK goes for more...UK is really getting offshore and a lot of things are happening there...and...but yes I think it's very present in the minds. Are you talking about renewables in general, or...?*

- Both. I mean, generally speaking, I was wondering how much the culture can impact the individual perceptions, behaviours...

- *it's difficult to talk about that...if you talk about the parameters that influence this particular area, I think that wind turbines as one technology is really is very present in the minds. And I think that climate change is a big issue in DK. Both because we're going to have the conference at the end of next year but also...generally I think that DK is...The Danes are generally very worried about climate change. It's a sort of "come back" as well, as we said before the tape had started, that there had been...there was an environmental movement that sort of relaxed and...didn't die but slowed down, and waking up again. I think there is a awakening of the environmental issues. And in both sides of the political spectrum, as we also talked about, which is quite an interesting development that you don't have to be a socialist to protect the environment. So I think there is generally a great awareness. One of the most important evidences...I think we can call that evidence of climate change...it's also the great ice melting in Greenland everyday...and Greenland is a former Danish colony, it's still one of the parts of Dk so...maybe that is also a...this is only my own theory...it's also a thing...because Greenland is more present to DK than for many other countries...it is part of the Danish kingdom. So these things all make it more present for the Danes...but I think a very few Danes would actually...if you did a "willingness to pay" type of analysis, I'm not sure they would be willing to pay that much extra. And I don't think that Danes are aware at all of how much they're paying for the renewable energy that the system is based on. I'm not sure that this...the whole environmental perception is going much further than your little household...there are a lot of campaigns to save, energy save, water save...no not so much water that's long time ago...but saving energy...and I think people notice but I'm not sure they always...they're always present to...to go that way...I don't know...Does that answer your question? (laughs)*

-yes, yes, sure! (laughs) I was wondering if the Danes have a specific culture that is...

-*But I don't know how much...how strict this is...I mean it's...definitely our culture is different and it could be more related to...sort of the energy side, the energy saving, renewable energies, that sort of things, to connect with the turbines, probably... Well for example in England you could be more looking at the health aspects, the vegetarian movements, the health...they don't look at...they don't save energy at all...no double glass at the windows, no insulation of the houses...so that's not very energy related I think... maybe they are both scared, related to health and environmental things...they're more afraid of pesticides, anything...Germany, it's an*

*other thing, waste is a big issue, and things like that. So yes I'm sure there is a cultural difference. But with our environmental awareness, it's greater I think that Great Britain and Germany...I can't say...*

- I was thinking about the common idea that Scandinavian countries are "greener" than any other parts in Europe...

*-Yes possibly from an energy perspective, but I'm not sure if it's from all the other environmental perspectives...so maybe that is...what is significant for environmental movements in DK but I don't know...it's only my own sort of ideas about what I see...maybe it's useless! (laughs)*

- So, as a last question...do you have anything to add, any comment, anything?

- *Have you seen...on our website...have you had a look on a research that was done, as I mentioned...a part of that was a sort of...about public acceptance...?*

- I checked a lot of documents that were available in English...Do you have its name, or...?

- *No I would...if we had the website I would be able to navigate...*

- But I went through many of them...

*-Ok...Because it's not something that had been researched thoroughly. I think that's the only one and...I think there is a significant different between how close, how visible these projects are...but we do actually have a few near-shore projects that are...one of the biggest unknown is how this would be perceived by the public because...even...the local politicians for all of these projects they are very much in favour of these project. But it can change as quickly as this (claquement de doigts) if they don't spread the message. And this really becomes...at least it's not our initiative that these...that the message is spread to as much of the public as possible. I think it is a very very good idea, and I know that the investors of the projects that we have now, they're very closely involved with the local politicians but also with...trying to communicate this, the benefits...the facts about these projects, what it is going to mean to the local people...and I think it's a very important factor. But it's not something that I can officially say, because it's not our issue...!*

- Well that's what I'm trying to investigate now so...I will let you know what's going on then, if I have any special incomes!

*-Yes! I'll be very interested in seeing what you'll come up with in your final report!*

- Well, thank you very much!

*-You're welcome!*

Veulettes-sur-Mer and Middelgrunden, 2008.

