



Wind power planning in Sweden: Public participation and local people's opposition

By

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Abstract

People's opposition towards wind power projects at the local level can hinder the development of this form of renewable energy. Earlier studies have recognized this opposition to be the result of inadequate involvement of local people in decision-making and planning. Based on this assumption this study seeks to evaluate the method of public participation employed in wind power planning in Sweden. It also investigates the consequences of local people's opposition on wind power projects as well as the ways to decrease this opposition. Three actors in the wind power development arena -developer companies, local governments and a state energy agency- were selected and six interviews performed among them. The findings show that the current employed participation method in planning for wind power lacks the positive attributes of the partnership and collaborative approach which are considered as more desirable approaches. Wind power projects in Sweden experience a lot of opposition that cause long delays in the planning process and implementation. Yet no need is felt to address this opposition by a more inclusive planning and decision-making approach. Given the insufficient participation, a loss of trust between people and other actors along with increase in opposition could be expected. Adopting a method of public participation which engages local people effectively in decision-making is recommended in order to decrease local opposition toward wind power at the local level in Sweden.

Key words: *wind power planning; participation; opposition; decision-making; collaborative approach; local people*

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1.Introduction

1-1. Wind power and local opposition

According to the International Energy Agency (Fact Sheet, 2009) in the period of 2007-2030 the demand for electricity will go up by 76 percent while fossil fuels will remain the main energy source of the globe. This calls for a collective effort for replacing fossil fuels with renewable energies. Otherwise the world will have to struggle with catastrophic consequences of climate change (IEA Fact Sheet, 2009). As a result, many countries worldwide are attempting to increase the share of renewable energy sources in electricity generation. Accordingly, wind energy, known as a clean renewable energy source, is increasingly taken into consideration.

In this attempt, Sweden is not an exception. Turning to renewable energy sources growingly has been emphasized in the energy policy of Sweden (Energy Indicators, 2009) and the Swedish government tends to raise the share of wind power in electricity production. From 2007 Sweden is determined to reach up to a 30 TWh per year of wind power-based electricity generation until 2020 (IEA, 2009). However, in 2008 with a total electricity generation of 1.97 TWh, the share of wind-based electricity production in Sweden has been 1.4% of national electric demand (IEA, 2009). This implies that there is a need to confront the existing barriers in order to facilitate the development of wind power.

With some other issues such as a long permit procedure, an insufficient economic support system and a problematic electrical grid connection (IEA, 2009), local oppositions could hinder the development of wind power. In a study on promoting the use of renewable energies in EU in 2004, local resistance has been considered as one of the barriers (Reiche and Bechberger, 2004). The researchers suggest reducing local resistance as a means of increasing the share of renewable energies in the energy system. Referring to this study, Soderholm and colleagues (2007) mention that the resistance and opposition of the local population can reduce the growth of wind power in Sweden and other countries. Devine-Wright and colleagues in a 2001 study of wind energy in England and Wales suggested more recognition of social and psychological aspects of “development process” in order to elevate the level of success in wind power projects (cited by McLaren Loring, 2007). This suggestion is supported by McLaren Loring’s findings in research about the factors of success in the planning for wind energy. Research in France, Germany and Netherlands also suggests that social acceptance is a way to increase the success of wind power development (Jobert et al, 2007; Wolsink, 2007).

Generally the majority of people support wind energy. The positive attitude towards wind energy is found in Sweden (Ek, 2005) and also broadly in Europe and North America (Krohn and Damborg, 1999). However, when it comes to a specific wind power project, local populations usually are against it (Ek, 2005; Breukers and Wolsink, 2007; Wolsink, 2007). There is a gap between the general acceptance and the local population's acceptance of wind power. Countries such as Sweden (Ek, 2005), Netherland, France and some cases in Germany (Breukers and Wolsink, 2007; Wolsink, 2007) have already experienced a lack of social acceptance from the local population.

The previous studies suggest that people's opposition which can cause social conflicts and delay in wind power projects (Jobert et al, 2007; Walker, 1995) is mainly caused by a lack of opportunity for people to participate properly in the process of planning and decision-making (Hammarlund, 2002; Wolsind, 2007). As a result it seems necessary to employ a method of public participation that lets people influence the decisions related to wind power projects. A collaborative approach is what researchers advise that can provide this opportunity for local people and increase the acceptance of wind power (Healey, 1998; Wolsink, 2007).

In Sweden wind resources are good and there is an ambitious national goal for developing wind power. However, at the local level there is opposition against wind projects and this opposition – as mentined earlier- is referred to as a hindrance for the development of wind power. This motivated me to focus my research on local opposition against wind projects in Sweden.

1-2.Aim and research questions

Considering the existence of a local opposition in Sweden, the assumption made for this research is that the degree of public participation in the planning and decision-making process for wind power development is low. This assumption is based on the comparison of the current situation with what it could be if collaborative approaches were employed and so-called true participation practiced. Therefore the overall aim of this study is to investigate the level of participation of local people in the planning process for wind power development and then suggest ways to decrease the local opposition.

In order to address the aim of this study the following more detailed research questions were developed:

- What is the degree of the participation of local people in planning and decision-making process for wind power projects?
- What is the impact of local people's opposition on the implementation of wind power projects?
- How can local people's opposition be decreased?
- Is the increasing of the involvement of local people in the process of planning and decision-making, considered a way to decrease the opposition?
- What are the barriers to increasing the involvement of local people in the process of planning and decision-making for wind power?

In order to answer some of these questions, first it is needed to learn how wind power planning at the implementation level is conducted in Sweden. This helps to understand the approach of public participation and investigate the impact of the local opposition to the wind power development trend. The actors this study focuses on are wind power developer companies, local governments and the Swedish Energy Agency. The first two do the planning for wind power development and the last one is a state agency assigned that one of its missions is facilitating wind energy development in Sweden.

1-3. Method

This study has employed a qualitative research approach. It seeks to investigate the attitudes of developers and municipal planners and understand the situation through exploring the perception of those who are a part of it. According to Bryman (2008) it is an epistemological aspect of the qualitative research strategy.

The method of this qualitative research is a case study which is a “comprehensive research strategy” according to Yin (2003). He suggests a case study method when the subject of study is highly related to the context. Here the opposition that the local population shows and the impacts it might have, are assumed to be related to the context that is the process of planning and decision-making. This needs to be examined through some cases.

Early in the process of this study a vast literature overview was conducted which covered research in public attitude towards and public participation in wind energy inside and outside Sweden. This helped to identify a framework for research. It also led to the choice of a proper concept/approach as a basis for evaluation of the level of public participation in the planning for wind power projects in Sweden. Following this, the research aim was finalized and the target groups were decided upon.

For the purpose of this study developers were selected among influential companies so that the result although is not generalizable for entire Sweden, can still be meaningful in terms of showing the present status of these actors. The two out of three selected companies were e.on and Vattenfall which are large international power companies. They have a high financial and infrastructural (grid ownership) potential, and many land-based wind farm projects in the course of planning. The third company is Eolus with experience in consulting, planning and building wind farms.

- e.on Wind Sweden AB is a branch of e.on, an international power company. e.on Wind both develops wind farms (onshore and offshore) and does research on wind energy. The research and development projects of e.on are not limited to Sweden and it is active in other countries such as Denmark. (the website of e.on, Sweden <http://www.eon.se/templates/Eon2StartPage.aspx?id=47565&epslanguage=SV>)
- Vattenfall is an international power company that has 30 years of experience in wind power development (onshore and offshore). This company which currently has 100 wind turbines is also active in research on wind energy and other renewable. Vattenfall is now building wind parks in Sweden and the Netherlands and possesses wind farms in Denmark, Germany, Poland, Netherlands, Belgium and Britain. (The website of Vattenfall <http://www.vattenfall.se/sv/om-vindkraft.htm>)

- Eolus Wind AB is a developer, owner and consultant of wind power in Sweden that has been established in 1990. The first project was built in 1991 and since then this company has had a role in the establishment of 200 wind turbines. It has experience in other countries such as Finland, Estonia and Poland. (The website of Eolus <http://www.eolusvind.com/English/tabid/4619/Default.aspx>)

The two selected municipalities were: Gotland and Falkenberg. They were selected because of the large number of erected wind turbines and the positive attitude of political authorities towards wind power. On the other hand both local governments have experienced local resistance so far (Khan, 2004; Eolus, interview). This is expected to give the necessary perspective to the municipal planners of municipalities of Falkenberg and Gotland to judge about the impact of local resistance towards wind power growth.

- The municipality of Falkenberg is located in the Halland County. This municipality on the west coast of Sweden with the area of 1 116 km², is inhabited by 40 739 persons (Swedish National Encyclopedia, 2010). In the local government of Falkenberg there is a positive attitude towards wind energy. This municipality also has a good resource of wind and 46 installed wind turbines.

In the Map (1) the municipality of Falkenberg is seen.



Map (1). Municipality of Falkenberg (Source: http://en.wikipedia.org/wiki/Falkenberg_Municipality)

- Gotland is an island 100 km from the east coast of Sweden. The municipality of Gotland with the area of 3151 km² has a population of 57 221 inhabitants (Swedish National Encyclopedia, 2010). In Gotland has a good resource of wind and welcomed the development of wind power in the late 1980s. Currently there are 150 wind turbines in Gotland that with the capacity of 90 MW supply around 20% of electricity consumption of the island. The municipality is highly interested in the further development of wind power up to production of 2.5 TW electricity per year and 500 wind turbines.(the formal website of the municipality of Gotland, <http://www.gotland.se/>)

The Island is seen in the map (2) located close to the east cost of Sweden.



Map (2). Sweden and the Municipality of Gotland (Source: http://sv.wikipedia.org/wiki/Fil:Sverigekarta-Landskap_Gotland.svg)

As for the third actor, a person in the wind power department of the Swedish Energy Agency was contacted. This agency is a government agency whose goal is to promote the energy system including wind power. They are conducting several studies on wind power in order to facilitate a rapid development of wind power in Sweden. (website <http://www.energimyndigheten.se/en/About-us/Mission/Wind-power-in-Sweden/>).

The sources of empirical materials in this thesis were reviews of previous relevant researches and written documentation (formal reports and official documents) along with interviewing target groups. Reports of environmental studies prepared by developers along with official documents such as the Wind Power Handbook prepared by Boverket (National Board of Housing, Planning

and Building), Environmental Code and Planning and Building Act were reviewed in parallel with establishing contact with the target groups.

The method of interviewing was semi-structured. There were certain questions, designed to respond to the research questions of the study although the interviewees were free to answer the questions in their desired order and bring up side- subjects (Bryman, 2008). The advantage of this method is an open atmosphere which eventually might open new horizons for the researcher.

The interviews were conducted both face to face and by phone and each took one to two hours. Overall six interviews were performed with three developers, two municipality wind power planners and a wind power investigator in the Swedish Energy Agency. Some details of these interviews are summarized in table (1).

	The Case of Study	Title of interviewee	Date of interview	Type of interview
Developer Companies	e.on	Project manager	Feb. 04, 10	Face to Face
	Vattenfall	Project manager	Feb. 16, 10	Face to Face
	Eolus	Project manager	Feb. 18, 10	By Phone
Local Governments	Falkenberg municipality	Municipal wind power planner	Mar. 15, 10	By Phone
	Gotland municipality	Municipal wind power planner	Apr. 06, 10	By Phone
State Level Agency	Swedish Energy Agency	Wind power unit administrator	Apr. 19, 10	By Phone

Table (1). Details of interviewees and interviews

The planning process for a wind farm from the first step to the construction phase, the methods of public participation, local people’s opposition and its impact on the project as well as the remedy for the opposition were the general outline of questions posed to developers in this study.

Questions asked to municipal wind planners were about the existence of local opposition against the municipal wind power plan and wind power projects in the municipality, impacts of this opposition on the implementation of projects and the barrier to a more inclusive participation method. The interview with the person in the Swedish Energy Agency was focused on local people’s opposition in general.

In the last stage of the study, the findings (interviewees' responses) were categorized and analyzed. The analysis was carried out based on secondary data and the theoretical framework in order to examine the assumption and answer the questions that this study was determined to reply.

As Yin (2003) argues it is difficult to conduct a good case study and I also don't claim that my study is without any shortage. In this thesis six interviews were performed as discussed earlier. This might be considered as a limitation. However, I decided to have few in-depth interviews. The purpose was digging in the issue more thoroughly to be able to analyze it better. Kvale (1996) believes that interviewing should be continued until the researcher reaches the answers she was searching for. In this sense six interviews were recognized enough for the purpose of this thesis. There was also the problem of accessibility and willingness of interview subjects to participate. In addition the great amount of data usually gathered in qualitative research - which demands a lot of time for analyzing - was among the factors that determined the number of interviews.

Another limitation could be the critique that according to Yin (2003) case studies receive: the result of a case study is not generalizable. His response to this concern is that a case study's aim is to "generalize theories" not to "enumerates frequencies". As I discussed earlier I may not be able to generalize the finding of this study, not even for all over Sweden. However, since the developers subject to this thesis have proceeded/ are proceeding with many wind power projects, their attitudes and experiences could indicate the status to some extent. On the other hand, the findings could show whether the findings of researchers in other countries apply to the cases of this study or not.

1-4.Scope and limitations of the study

Wind power is not only related to the energy section, but rather it involves and affects many sections and groups in a society. Therefore there are many stakeholders in this arena. This study investigated the attitudes of just three of the stakeholders (which are referred to as three actors) in wind power development: developer companies, local governments and the Swedish Energy Agency, a state level agency.

So far in Sweden some social studies have focused on people's attitude towards wind power. Ek's research (2005) is one example. Soderholm et al (2007) studied wind power policy in Sweden, public attitudes, economic impacts and legal requirements. Hammarlund (2002) conducted a survey of public opinion towards wind power.

This research is going to look at this issue from a different perspective. My intention is to focus not at the national level nor on policy issues but at the local level, on a scale that wind farms are implemented. This is where the implementation of the national and international policies conflicts with local benefits; where local people have the burden, costs and unwanted impacts in order for national sustainability goals be reached (Walker, 1995; Khan, 2003). And conflict of interest usually leads to opposition.

Therefore wind farm developer companies and local governments were first chosen as two of the main actors in wind power development. Wind farm developer companies which are referred to as developers from now on, usually do the planning and construction of a wind project and operate it afterwards. Therefore they are in direct interaction with local people in which there could always be conflicts.

The second target groups are planners in local governments (municipal planners). By preparing the map of suitable site for wind farm development as a part of the Municipal Comprehensive Plan and by possessing the right to veto the approved wind projects, they are in direct contact with the local population's interest. Finally for having a broader view of the subject, the Swedish Energy Agency was added to the target groups.

It might be appropriate to remind that in this study the local opposition is investigated as a probable hindrance to the development of wind power in Sweden. However, it is among many other factors such as the long permit procedure, insufficient economic support systems, and grid connection problems and so on, which are not in the scope of this study. It is also necessary to mention that there are some other factors that might raise local opposition against wind power projects such as visual intrusion, noise, the shadow of turbines, and concerns about the natural environment and wildlife. However, what this study focuses on is the insufficient involvement in the process of planning.

There were some other limitations on the course of this study like difficulties in regard to finding wind planners who were willing to take part in the interview. This was one of the factors that limited the number of interviewees of this study among wind power developers. The accessibility was another problem since the offices of the interviewees were located in different cities far from each other. Therefore most of the interviews were performed over the phone.

Language barrier was another limitation in both performing interviews and extracting data from the official documents and other written material. Both the interviewees and the interviewer were not native English speakers which might have led to some misunderstanding. The official documents were mostly in Swedish language and the translations might not be free from mistake. The exception was the laws that their formal translations were available. As a result their translated version is cited in this thesis.

Finally, the term “local people” in “local people’s opposition and resistance”, includes two groups of stakeholders, local citizens and local organizations. An example of a local organization is a bird-supporter organization and other similar ones.

1-5. Thesis layout

This thesis proceeds with the following sections. The first section introduces the planning of wind power in the Swedish context, the legal grounds of permit procedures, public participation and the description of the cases of this study. The next section gives an overview of relevant previous studies in Sweden and other countries. This section goes forward to the theoretical basis for the current research. Then In the next section the findings and results are presented. It consists of an evaluation of the method of public participation employed by developers and municipalities, the impact of the insufficient participation of local people, ways to address the opposition and barriers to a more inclusive method of participation. This section leads to discussion. The last section concludes from the discussion and ends with some suggestions.

2. Background ¹

2-1. Wind power planning and the legal ground in Sweden

The planning for wind power development has different levels. This study focuses on two of these levels, wind power companies and local governments (municipalities).

In Sweden the Planning and Building Act and the Environmental Code are main regulators of the planning and building of a wind farm. Environmental Code is the body of the Swedish Environmental laws that regulates the management of land, water and nature along with human health issues. The Planning and Building Act controls land-use and development on land and water. On August 2009 these laws have been amended in general and as a result the development of wind power is facilitated to some extent.

2-1-1. Wind power planning and developer companies

The planning at the project level is conducted by wind developer companies and consists of several stages (which will be further elaborated later). Applying the permission for construction and exploitation of wind farm is one of these stages.

Before the amendment of the environmental Code and the Planning and Building Act came into force on August of 2009, a developer needed an environmental permission granted by County Administrative Board or Environmental Court and a building permission that local government decided about it. The latter is required by Planning and Building Act while the former is regulated by Environmental Code. If a project imposed considerable changes² on the physical

1. The information of this section except for the description of the cases, comes from:

- Wind Power Handbook prepared by National Board of Housing, Planning and Building (Boverket) in cooperation with the Energy Authority, Environmental Protection Agency, National Heritage Board and National Land Survey (Boverket, 2009)
- Legislation: The Planning and Building Act, The Act on Technical Requirements for Construction works, The Environmental Code (Boverket, 2006)
- The Environmental Code, Ministry of Environment.
- The amendments of the Environmental Code and the Planning and Building Act, came into force on first of August, 2009.

2. The environmental impacts that necessitate a Detailed Development Plan are less important in comparison with the environmental impacts that call for environmental permit.

and natural environment, the municipality asked the developer to prepare a Detailed Development Plan instead of the building permit. The permit application for the wind farms with less than 1 MW production were handled by municipalities, between 1 to 25 MW by County administrations and more than 25 MW by the government.

The Planning and Building Act requires the developments with considerable changes and impact on the physical and natural environment, local residents and neighboring municipalities to have a Detailed Development Plan. This plan enables the local municipality to regulate the use and change of the land in which the development is going to happen. The Detailed Development Plan should be prepared by the developer. The preparation of it is complex and sometimes it takes up to three years to be adopted.

From August 2009 the criteria for authorization of municipality or County Board is height and number of turbines. Wind farms with 7 or more turbines need only environmental permit which is handled by the County administrative Board. A building permission is not required anymore since the project is subject to authorization under the Environmental Code. However, the municipality is given a veto right to overrule the permissions that are in contradiction with the local development policies. Moreover, a Detailed Development Plan is asked by municipality if there is a great demand for different land-uses for the suggested land for wind farm.

After the amendment, Wind Power Master Plan in which suitable places for wind power development is mapped, still has important role in decisions on permission applications. This will be explained in the following.

2-1-2. Wind power planning and local governments

In Sweden every municipality prepares a Master Plan (Municipal Comprehensive Plan) which is a decision on the use of land and water areas in the entire territory of the municipality. It has a long term perspective of 10 to 12 years and has no binding effect on either the authorities or individuals. A Wind Master Plan is prepared as a supplement to municipal Master Plan. Some municipalities are preparing or have prepared a new MCP including wind power section.

A wind Master Plan includes a wind map with wind measurement (preferably), areas of national interest for wind power and areas with conflicting interests. The plan should indicate the restrictions (if any) for wind power development. It should also show the areas in which wind erection is not allowed and the reason for it.

2-2. Wind power planning and public participation in Sweden

Public participation or as it is called in the Swedish planning and development context, public consultation, is regulated by both the Planning and Building Act and the Environmental Code. The minimum consultation procedure required by the law consists of public hearings, exhibitions and written comments; should be performed in several rounds and should include all affected groups (Khan, 2004). The degree of influence of the public on the final decisions varies based on the availability of information and the stage of planning in which the consultation starts. However, the law doesn't guarantee the citizens' influence.

In the process of preparing Master Plan and also for Detailed Development Plans, municipalities (local governments) are responsible for consultation with affected groups. This consultation process is regulated by the Planning and Building Act. On the other hand, wind power companies are required by the Environmental Code to carry out the public consultation before applying for environmental permit.

2-2-1. Public consultation and developers companies

Environmental Code obliges any developer who is involved in large-scale energy facilities to study the environmental impacts of the project. The result should be handed in as an Environmental Impact Statement enclosed to the permit application. The Environmental Impact Statement explains the impacts of the project on the human health and natural environment. It also consists of a public consultation process in which the developer must: (1) draw together data on the planning, site, design and impacts of the project, (2) consult the project with the public, authorities and organizations, (3) receive comments and (4) adjust the project based on the comments. The process is reported in the Environmental Impact Statement and is handed in with the application for the environmental permit.

2-2-2. Public consultation and local governments

The consultation starts when a draft of Master Plan is ready. The draft is consulted with county authorities, associations, urban planning agencies, concerned municipalities and the public. The draft is revised based on the received comment and then is exhibited. After another revision it is adopted. The exhibition is carried out more than one time. Some municipalities carry out the minimum required public consultation and some improve it by providing room for people to be more involved.

A Detailed Development Plan is consulted with concerned municipalities, County Board, affected parties and those citizens who have an interest. The process of consultation is similar to consultation for Municipal Master Plan.

For a Detailed development Plan, the consultation process aims for only those citizens who are affected by the development project. On the other hand, Municipal Master Plan is prepared for the entire territory of the municipality and potentially affects all people. Moreover, it consists of a broad range of issues and wind power is just one part of it.

3. Theoretical framework

3-1. Previous studies

Local opposition against wind power projects at the implementation level is an important issue in the development of this renewable energy source. Local populations are those who have to live with the negative impacts of a wind farm e.g. visual intrusion, noise, shadow, disturbance of wildlife and so on. Hence local populations' reaction to wind farms needs to be studied in order to understand its roots and consequences. This will assist to identify effective ways to resolve the conflict and the opposition. Fortunately the opposition against wind power is studied extensively. In the following I will discuss some of these studies that inspired the idea of this study in my mind and guided me throughout the research process.

Different studies show a positive attitude towards wind power between people which can be considered as social acceptance of wind power. This general supportive standpoint dates back to the 1990s, when the result of surveys in different countries showed the intention of people for developing wind energy (Krohn & Damborg, 1999). In Sweden wind power is generally acceptable and supported by people (Hammarlund, 2002; Ek, 2005).

However, wind power development in some countries incites negative reactions and lack of social acceptance at the local scale. A gap between the general acceptance of wind power and local people's acceptance has been reported by different studies (Bell et al, 2005 cited by Breukers and Wolsink, 2007). Countries such as Sweden, the Netherlands, France and some cases in Germany have already experienced cases of resistance from the local population (Ek, 2005; Breukers and Wolsink, 2007; Wolsink, 2007).

Efforts for searching the roots of this problem resulted in finding the central problem in something beyond the usual complains against wind turbines. In Europe the first and most important impact of a wind farm that leads to conflict and opposition is visual intrusion (Breukers and Wolsink, 2007; Jobert et al, 2007; Hammarlund, 2002; Wolsink, 2007). Ek (2005) in her survey on public attitudes towards wind power in Sweden found out that to 75 percent of respondents visual impact on the landscape is significantly a negative factor. Despite this, studies show that it is not the wind turbines *per se* that people are against, but rather it is the decision-making approach and planning process that raise opposition (Wolsink, 2007; [Thayer and Freeman, 1987; Wolsink, 1990, 2007] cited by Breukers and Wolsink, 2007). Hammarlund (2002) in her studies in Sweden supports this concept.

This has been discussed by other researchers in the wind power arena earlier. Walker (1995) in a study of renewable energy remarks the importance of public approval in decision-making for site selection for any type of land-use.

A study by Erp in 1997 in Germany also recognizes that the decision process outlines the people's attitude towards a wind project. The study concludes "involvement of the local population in the siting procedure, transparent planning processes, and a high information level" increase the acceptance from the public. (cited by Krohn and Damborg, 1999)

Khan (2004) brings an example in the Municipality of Falkenberg in Sweden in which neighboring residents not only didn't agree with the wind power project but also didn't see the decision process as legitimate and democratic. They felt that local authorities ignored their thoughts and standpoints. Therefore they protested to the authorities and it ended up at the state level.

Similarly in another study in Sweden about a biogas plant, he shows that lack of an "early and substantial citizen partnership" ended up with an "initially skeptical attitude" among the neighborhood which turned into a "strong local opposition". In this case the project eventually failed. (Khan, 2004)

Jobert and colleagues (2007) believe that people's opposition toward a wind energy project might not be able to shut it down but can cause social conflicts and delay. Although the rejection of some wind power projects was reported in the U.S. (Bosely and Bosely, 1990 in Walker, 1995). Loss of trust that leads to a costly and time-consuming planning process is another consequence of the lack of public acceptance (Hammarlund, 2002). Finally, Wolsink (2007) in studying some cases in Europe sees the lack of support of local collaborative approaches by political systems as one of the factors that "reduce the success of national wind power programs".

All this evidences implies that the method of participation of local people in the process of decision-making and planning needs to be enhanced. This is emphasized by earlier studies. Walker (1995) points out that "decide-announce-defend" is a method that ends up with mistrust and conflicts. Hammarlund (2002) argues that public hearings and announcing "ready-made plans" is not considered public involvement.

Looking for an appropriate way to enhance the participation method that helps to resolve the conflict, increase social acceptance and proceed wind projects successfully, many researchers recommend increasing the degree of public participation (Walker, 1995; Khan, 2003; Jobert et al, 2007; MacLaren Loring, 2007). They suggest that the local population should be involved more effectively and meaningfully in the process of wind power planning.

Wolsink (2007) suggests an open and fair decision-making as a strategy for improving the development of wind power. He highlights a collaborative planning approach as one of the tools for achieving agreement and resolving conflicts for both policy actors and wind power developers (Rydin&Holman, 2004 cited by Wolsink 2007). He emphasizes that collaborative approaches are extensively approved as a tool for a successful wind power development.

Before proceeding to the next stage it is necessary to point out that the financial participation of the local population in wind projects – e.g. the local ownership or the investment in the wind farm- most of the time comes hand in hand with the collaborative planning approach as a solution to opposition. This can be seen in wind power studies such as Krohn and Damborg's (1999), Khan's (2003), Jobert and colleagues' (2007), Breukers and Wolsink's (2007), and McLaren Loring's (2007).

3-2. Participation in public planning

Public participation is one the important principles of democracy. Arnstein (1969, p.01) defines public participation or as she puts it “citizen participation”, as a power-redistribution mechanism with which excluded citizens obtain a voice in political and economic processes. This mechanism enables them to participate in political and economic processes and influence them.

In the process of planning, public participation dates back to the 1970s when according to Healey (1998) in European and US planning discourse, the need for involving an extensive range of stakeholders for consultation and participation was understood. She says (Healey, 1998, p. 1537):

It recognized the political reality that people cared about what was happening to the places where they lived. They were prepared to make proposals and object where legal or procedural opportunities were available, and to organize protest movements to put pressure on politicians.

The participation of citizens in public planning is advantageous for all stakeholders. It leads to more democratic, legitimate and rational decisions, increases the acceptance of decision and builds up trust between stakeholders. (Khan, 2004; [Fiorino, 1990] in MacLaren Loring, 2007; Inver et al, 2010). In making collective decisions, a democratic system gives the opportunity of participation to all affected groups.

However, degree of partnership in the public planning varies and as a result changes the extent of the influence of the public on the collective decisions. Arnstein (1969) categorizes the level of citizen participation illustrating them in a ladder (Figure 1).

Ladder of Citizen Participation		
8	Citizen Control	Degrees of citizen power
7	Delegation power	
6	Partnership	
5	Placation	Degrees of tokenism
4	Consultation	
3	Informing	
2	Therapy	Non-participation
1	Manipulation	

Figure(1). The ladder of citizen participation (Source: Arnstein, 1969)

In the “Manipulation” power holders educate citizens and obtain their support by placing them on “rubber stamp advisory committees or advisory boards” (Arnstein, 1969). In the “Therapy” experts cure citizens in an unreal process of participation. The concept is that the experts are able to heal the powerlessness. These two levels are not considered participation.

The rung 3, 4, and 5 – “Informing”, “Consultation” and “Placation”- are categorized degrees of tokenism. In “Informing” citizens are provided with information without any possibility to have a dialogue and giving feedback. Therefore there can’t be any influence. Informing citizens in news media is one of the tools for “informing”.

“Consultation” as she explains is a type of participation in which the public hears and is heard. The information flow is not one-way, but there is no guarantee that citizens’ views and concerns be considered and makes any change. Similarly in “Placation” although citizens are able to give advice and do planning the final decision is made by powerholders.

“Partnership”, “Delegation power” and “Citizen control” are three rungs that Arnstein names as degrees of citizen power. “Partnership” is based on the negotiation between citizens and powerholders. In “Partnership” citizens and powerholders both do the planning and decision-making. In this level of participation the real power-redistribution happens and conflicts can be resolved.

If citizens become the more powerful party in the negotiation and the decision-making, the decision will be certainly accountable for them. This is “Delegation power”.

The last rung represents the “Citizens control” which enables citizens to gain full control of a program or institution. The demand for this level of participation is being increased.

Overall, according to Arnstein (1969) degrees of citizen power are the three level of real citizen or public participation. The redistribution of power starts in “Partnership” with fair share in decision-making through negotiation, increases in the higher levels and leads to the establishment of the accountability of decisions and outcomes. On the contrary degrees of tokenism don’t cause any power-redistribution. Based on her definition of the citizen partnership, it could be inferred that tokenism is not a true participation. However, a collaborative approach that is suggested by the previous studies for wind power planning, is similar to partnership and delegation of power.

3-3. Collaborative participation

Collaborative planning [approach] that is also called consensus-building or collaborative decision-making emerged in the 1960s and 70s (Ambruster, 2008). Collaboration or consensus-building refers to a practice that attempts to achieve an agreed decision on an issue in which a broad range of interests are engaged. In the decision-making process, this approach is able to take into account a greater range of interest. Participants accept the final decision -even if it is not desirable for some of them- because they have witnessed the existence of a fair opportunity for all interest. (Boxer-Macomber, 2003; Ambruster, 2008)

Healy (1996: 213) describes the requirements of a collaborative approach as:

“...first, ... designing arenas for communication and collaboration which give access to all those who have a stake in an issue; second, finding ways of conducting discussion and shifting decisional power as close as possible to those who will experience, and ‘live with’ the consequences of strategic choices; and third, fostering styles of discussion which allow the different points of view of diverse stakeholders to be opened up and explored.”

This is in line with the attributes of partnership and delegated power, outlined by Arnstein (1969).

Innes and Booher (2004) after a critical analysis of traditional participation suggest collaborative participation as a more efficient method of public participation. They argue that a collaborative participation is not reactive³. In the contrary, it is a way to predict potential conflicts and avoid them by achieving an agreement. A collaborative approach provides all stakeholders with an equal opportunity unlike the usual methods in which decision-makers evidently are more powerful. A collaborative participation process even if does not lead to an agreement, builds mutual understanding and intellectual capital. A collaborative participation method appears to achieve the purposes of public participation - perceiving the people's preference and achieving a higher quality of decisions along with a fair legitimate decision- effectively. (Innes and Booher 2004)

In a collaborative practice the citizens' influence on the decision improves the fairness of the procedure of participation and the final decision is more acceptable overall. A step by step model of collaborative approach is introduced briefly in order to provide a basis for the evaluation of the method of public participation employed in wind power planning in Sweden. This outline is the result of reviewing several pieces of literature by Gunton and Day (2003).

- **Pre-negotiation**

1. Identifying all potential stakeholders.
2. Identifying their concerns and potential conflicts as well as potential resolutions.
3. Finding out which stakeholder groups are willing to participate and selecting a representative for each group. The number of representatives can be 6 to 75.
4. Preparing terms of reference that outlines goal, rules and responsibilities of participants throughout the procedure. The terms of reference needs to be approved by all participants in the procedure.
5. Gathering necessary information to help all groups have the same understanding of the issue.

³. For example in public hearing the role of participants is making comments on previously-decided attributes of a plan.

- **Negotiation phase**

1. Using brainstorming and idea mapping to identify interests of the participants (the representatives of stakeholder groups). It probably results in many options.
2. Narrowing the options down and trying to direct negotiations towards an agreement.
3. Achieving an agreement and making sure that this agreement is approved by representatives and those who are represented by them.

Subgroups always can help with more detailed discussions.

- **Post-negotiation**

1. Ratify the agreement by the legally designated approval authority in order to be able to implement the agreed decision.
2. Designing a monitoring system for implementation and continuing negotiation on parts of the agreement that might change as time passes.

4. Results

4-1.Planning and participation

4-1-1. Planning wind power projects

When wind power developers decide to build a wind farm, they have a long way ahead. It begins with finding a site, and then continues with applying for legal requirements for construction and exploitation of wind farm (permission) and then conducting different types of studies and investigations along with carrying out various arrangements for technical issues and equipment, until it finally proceeds to the construction phase. The steps before construction, is referred to as the planning process. The planning process also consists of a number of decision-making and it is a long way that a developer has to go through in order to be able to start constructing a wind farm.

Public participation, or as it is called in Sweden public consultation, occurs in a few steps during the course of the planning of a wind project. The minimum requirement for public consultation is regulated by the law as I mentioned earlier (please refer to the Background). However, the planning process is designed by developers. The process is customized by each developer in order to move projects forward as effectively as possible.

The developers subject to this study were asked about the procedure of planning. Every developer has its own specific planning procedure for all projects and with slight changes case by case. However, in general, they follow almost the same procedure. As for public consultation, depending on whether there are other wind farms, how densely an area is populated and how much opposition exist it is carried out a little differently.

The planning starts with site selection for the wind farm. It is carried out by going through wind maps, land-use maps, internet websites, Cartography maps, Municipal Comprehensive Plans (MCP) and other sources. This is to find an open space with available wind resources and a legal distance from neighbors where there is no other national interest. By selecting a site within the area suggested by the municipality (in MCP) a wind power project could have a better chance for receiving permission. National interest varies from archeological values, army, and cultural sites to environmentally protected areas and so on. As for the legal distance turbines are not allowed to be closer than 400 meters from residential buildings (Boverket 2009). Primary technical issues such as electricity grid connection, road construction and so on, are also of early stage of planning.

Now it is time to contact the landowner. The length of negotiations with the landowner can vary because the landowner receives other offers from other developers as well. After signing the contract with the landowner, it is time to announce the wind project.

The developers at this point send neighbors and local people letters to inform them about the project. The letters also contain contact information of the project team to let people ask their questions and send their comments. This could be considered the beginning of public consultation. So far neighbors and local people are informed about the decisions which have been already made about project and its location.

The developers usually prefer local people to be informed by them rather than reading about the project in newspapers. It is probably a way to show respect that is employ by experience to make the rest of the procedure smooth.

The evaluation of the wind resource which is of high importance for the whole project is carrying out now. Later on in a meeting with authorities in the county administrative board (lansstyrelse) and/or municipality the project is introduced (please refer to the Background). In this meeting, authorities require the developers to conduct necessary studies such as environmental studies and so on.

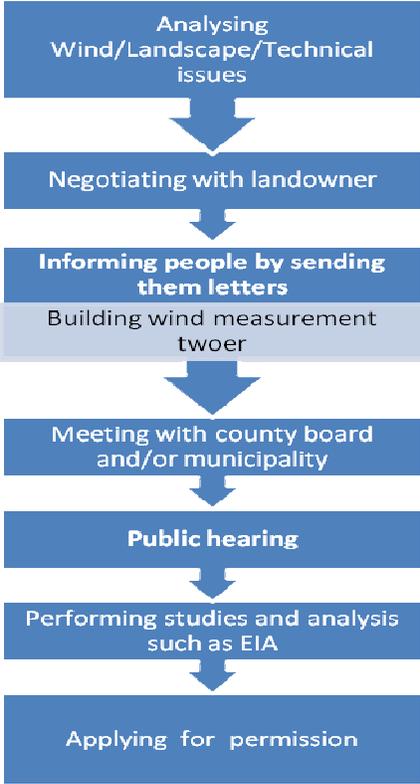
Then next stage of public consultation which is the public hearing is carried out by developer at this point. Before the meeting invitation letters are sent out to the neighbors and local residents with some information about the project. In the meeting the developer team describes the project and explains the expected impacts like noise, shadow and visual impacts. They listen to comments from local people, answer their questions and clarify the issues that are unknown for the local community and cause worries. They believe that one of the reasons of resistance and opposition is a lack of knowledge. In some cases based on the request of neighbors and their comments, slight changes or even removing a turbine might happen. However this happens rarely.

At this point 4 to 6 months or even more, have passed, depending on project and selected site. Measuring wind speed, examining the possibilities for grid connection and ordering turbines are going on. The studies which are ordered by the authorities have been started as well. One of them is the Environmental Impact Statement obliged by the Environmental Code. The process of public consultation, comments and feedbacks received from neighbors and local people and answers or actions from the developer must be included in the Environmental Impact Statement.

As for the public consultation process, the developers receive people's comments during the planning process and one of them even continues sending out informative letters every three months to those who live very close to the site, local organizations and the landowner.

Another 4 to 6 month passes before the required studies are done and the application package for the permit is ready. Again this varies depending on the type and number of studies that the developers are asked to conduct and the type of site. The application is sent to the authorities and it can take up to one year for getting permission.

figure (2) demonstrates an overview of the planning process in which the public consultation is shown.



Figure(2). An overview of wind power planning in three wind power Developer companies in Sweden

After receiving permission there might be another meeting with neighbors to update them and explain about the construction phase. Finally construction gets started.

The developers always welcome comments from local people during the entire process and some of them do extra activities to reassure the local population. One of the developers during the planning process has extra small meetings with concerned and worried neighbors and local organizations (like bird organizations). In some cases one of them decides to arrange an early meeting for the announcement of the project instead of sending out letters. Of course the meeting will be more of introducing the developer and the general steps of planning for a wind project. In

fact, it could be an appropriate beginning for shifting toward a more inclusive approach since this meeting happens before any decision is made.

Another extra activity in the public consultation process by one of the developers is conducting a survey in some wind power projects. This survey is carried out after an announcement, before or after handing in the permit application and after constructing of wind farm. Local people are asked over the phone how they think about the project. This is to examine how positive local residents are towards the wind farm and also how successful communication with local people has been.

During the planning process and after receiving permission there always is a high possibility that local people (neighbors) are against the project and appeal to the higher authorities like the county administrative board and if it can't be settled it goes to higher ranking authorities like the environmental court or the supreme court. Interviewees acknowledged that this happens most of the time.

To sum up, the public consultation in wind power planning - performed by the cases of this study – generally:

- Starts with informative letters sent to neighbors;
- Continues with holding a public hearing meeting and receiving comments from local people during the process;
- Ends with holding another meeting after receiving permit.

The developers, all see the process of public consultation [what they do] as very sufficient and ambitious. In their opinion, the participation of local people is equal to informing, listening to comments, and convincing people that the project is good. After all this is what the law requires them to; it is called “Public Consultation”. Some of them even go further and make extra effort but of course it is limited to their perspective of participation rather than letting people influence the decisions.

4-1-2. Wind power Master Plan

In the municipality of Gotland a new Master Plan (MCP) is being prepared in which a section is allotted to wind power. The public consultation which is carried out by the municipality includes the wind power plan as well. It occurs after the plan is prepared by the planning team of the municipality.

The method employed for public consultation in this municipality (which is the same in others) includes exhibitions in which the plan is presented to the public. The planning team is invited to

the meetings which are arranged by various concerned local organizations for presentation and discussion of the plan. They receive comments in meetings and exhibitions. Also there is a possibility to send comments by filling out the relative forms in the website of the municipality or sending the comments via email and mail. The planning team changes and modifies the plan using the received comments and presents it to the political authorities. After receiving the approval from political authorities, again the plan is exhibited for the public in order to obtain new comments. After the last adjustments the plan is passed to the local authorities for approval. At the time of the interview, the second exhibition round of the master plan was going on.

The municipality of Falkenberg does not have a wind power Master Plan for the whole municipality. Instead the municipality asks developers to prepare a Detailed Development Plan (DDP). The process of public consultation that is carried out for wind power projects in DDP is the same as the one carried out for a Master Plan, and the municipality is responsible to organize it.

The presentation and exhibition which is the beginning of the consultation with the local people occurs after the Master Plan is prepared and the proper sites for wind power are mapped. Hence all the decisions are already made and the participation of the local population in the process is limited to requesting some changes. In a Detailed Development Plan there is a similar limitation. The municipal planners interviewed in this study share the same perspective about public participation with the developers. They similarly consider it as a process of giving information to people about the ready plan.

The process of public consultation in wind power planning in Sweden sounds like “decide-announce-defend” a term which was used by Walker (1995)⁴. Hammarlund (2002) argues that public hearing and announcing “ready-made plans” are not considered public involvement. Based on Arnstein’s (1969) criteria in participation ladder (Figure 1), the method of public participation in wind power planning would be considered a degree of tokenism. It is authorities that do the decision-making. The participation is limited to a dialogue that begins after the site is selected and local people have hardly any chance to influence other decisions. The reason is that there is no guarantee by law that their views make any change in the outline of a project. Therefore this type of participation seems more symbolic rather than being real.

4. Here the method of public consultation was generalized since it is the legally required method of public participation in wind power planning in Sweden.

The most important decision in the planning process for wind power is the site selection for turbines. In the process of site selection people are not involved. The decision is already made when public consultation begins. Wolsink (2007) argues that most of the time in decision-making for renewables, people's attitude about the location of the project is not asked so their concerns and sensitivity about landscape and visual impact are not seen. Visual impact on the landscape is the most important concern of people about wind turbines (Ek, 2005 ; Breukers and Wolsink, 2007; Wolsink, 2007 and Jobert et al, 2007; Hammarlund, 2002). This makes the site selection an important decision in wind power development. However, the developers don't have any dialogue with local community when they are deciding on the location of the turbines.

Doing a simple comparison between the process of public consultation and the steps of collaborative approach –suggested in this study-, it can be easily concluded that there is a great difference. The collaborative participation provides a broad range of local stakeholders the opportunity of being a part of the decision-making process. It enables them to defend their views and concerns before any decision is being made. A broad range of interests leads to a lot of options that are discussed and an option is agreed upon by means of negotiation. In collaborative participation local people and developers are in an equal position and have equal opportunities. Information is shared so all stakeholders have the required information.

In the process of the current public consultation method, people ask questions from a team of experts that have much more information. In order to defend their interests, local people can only make comments and in case of conflict, appealing is the only way to influence a decision that is already made.

As I discussed earlier, a planning procedure in which people can't participate in decision-making adequately, is considered a central driving force of the opposition against wind power projects (Wolsink, 2007; Hammarlund, 2002).

4-2. Local people's opposition and the consequences

Some local residents appeal to authorities and Environment Court in order to overrule the permission of a wind project. They usually appeal after the project receives permission. In this case, if the developer has performed all the required studies, if all regulations have been followed and all impacts of the wind farm are within the legal range, at the end the developer wins and the local residents have to accept the decision.

e.on experiences appeals both before applying for permission and after receiving permission. Both cases can prolong the planning process and delay construction. Appeals happen nearly always for e.on's wind projects. Even one appeal can delay the project one year or two.

There are many projects (more than 10) in e.on that have already received permit but are facing delay caused by appeals. In one on-going case after preparing environmental studies due to existence of so much opposition from local people they decided to arrange another meeting to convince them. This is an example of the delay before asking for permission. In both cases – before and after permit- e.on can win and proceed to the construction stage however after long delays.

Vattenfall is a young company⁵ and most of the projects in this company are still in the planning stages. However, even before receiving permission many of these projects received appeals from local people. This interviewee admitted that when local people appeal against a wind project its implementation takes a lot of extra time.

Eolus also has been experiencing appeals and delay in wind projects. They have two projects that have received permission but now are in a legal process in a court of law. One of them has been waiting for 3 years and the other is expected to wait at least for another two to three years. Another wind farm was built recently after 2 years of delay caused by neighbors' appeal. There were more cases of delay among the wind power projects of Eolus.

In Falkenberg the opposition was estimated little because there is local ownership. However, still there is local resistance against some wind projects. In the Municipality of Gotland, the feedbacks that people leave on the website of the Municipality show their positive attitudes towards wind power in Gotland. The new master plan has received quite little opposition. However, there is opposition against wind power projects and many of them have been appealed by some local people and local organizations. As a result, some of the wind projects have been stopped. Those that despite the appeals have got the chance to be built, have experienced delay that in some cases have been long.

This positive attitude towards wind energy and then opposition against a specific wind power project by those who live in nearby is reported by many researchers. Wolsink (2007) points out that the positive attitude applies to wind energy and opposition applies to the wind farm. Thus it could be concluded that people support wind energy as a clean energy resource. However, building wind power plant in their neighborhood when all decisions are being made behind closed doors probably is undesirable for them. An important change is going to happen in their daily lives and they have not had the opportunity to bring up their worries and get to know the impacts before any decision is made; not to mention lack of opportunity to influence the decision. Among these unhappy people some decide to appeal against this unfair situation.

5.The interviewee claimed that the Vattenfall Wind is relatively young in performing the planning from zero till receiving permission. Vattenfall buys many wind projects that have already received permission and are ready for construction

Therefore, the wind Master Plan in the Municipality of Gotland which is a matter of wind energy probably raises quite little opposition. But still there is possibility that in future wind projects which are located within municipal wind map, incite opposition.

According to the interviewee who works in the Swedish Energy Agency, appealing to authorities is very easy in Sweden. It doesn't cost anything and usually happens a lot. In case of wind projects she concluded that people who are not happy with construction of a wind farm in their neighborhood appeal in order to prolong the procedure and delay the construction. If her reasoning is true, the result is the same anyway and appeals lead to delay.

Delays caused by local people's appeals in wind power projects, are also reported by Jobert (2007) and Wolsink (1995) in other European countries. All in all, these appeals might not stop the project eventually, but because of them the implementation of wind projects would take a lot more time. Although, at the moment the interviewees didn't see the local opposition as a key problem, it is highly probable that the delays affect the trend of wind power development in the long run.

4-3. Addressing local people's opposition

Given the negative effect of the opposition on the implementation of the wind project, the solutions were investigated. The interviewees had various suggestions for decreasing the local people's resistance. However, all the suggestions were within the borders of a giving-information mode along with economic benefits for local community.

Educating people, having an early dialogue and face to face explanation, answering questions, caring about local people and their concerns, employing visualization techniques to show the impacts beforehand, doing small changes in the layout (changes that may not affect the project too much but means a lot to local people), and being honest about consequences were the solutions that interviewees named. The suggestions for financial participation include local ownership or the investment of local people in the wind farm. Here the opportunity of investing in the wind farm and having economic benefits is considered a way for increasing the local acceptance. These solutions aim for facilitating the "Consultation" (Arnstein, 1969) type of participation.

The developers that are in charge of the planning for a wind power project do not believe in a higher degree of involvement of people in planning. According to them the increasing of the role of local people in the process of planning is not pragmatic. One of the municipal planners similarly considered the higher degree of the involvement of local people not-pragmatic and the other declared that the municipality can do better but he didn't know any way to involve the local population more effectively.

The reasoning behind such attitudes is related to the technocratic attitudes of interviewees. It also has to do with their fear of chaos in the process of planning. Another reason is the uncertainties that exist in early stage of planning that make involving people in the planning difficult. The uncertainties are about things like availability of wind resource, agreement with landowner, reaction of local/regional authorities (if they have positive attitudes towards wind power), and technical and economic details of the project.

Technocratic attitude here is the belief that local people cannot be any help in the measurement of wind speed or calculating the exact location of turbines (using technical rules such as turbulence and legal regulations such as legal distance and so on); that the technical analysis project team does, the data they collect and other necessary studies they conduct make them more qualified than local people to do the planning.

Moreover, a wind farm is huge and affects many people. It is impossible to involve them one by one not to mention that it is infeasible to convince every single one of them. Instead it would be better to let their representative (i.e. politicians) be involved. Besides, if people participated in site selection they would change the location of turbines based on personal preferences several times. Probably the fear is that the location will never get finalized.

For involving people more you need to provide them with details of the project. But in reality there are many details that take project team a couple of years to decide about. They highly depend on the duration of the permission process which affects the layout and other characteristics of the wind park (like the type, size and the exact position of turbines) as well as the procurement (ordering/buying turbines and other equipments). However, people would want to know the details of the project to be able to imagine and predict the impacts of the wind farm on their lives, views, value of their property, possible disturbance and so on. In the beginning the project team doesn't know much about the project and that's why involving people is not possible.

Financial participation that was suggested by half of the interviewees as a way of increasing social acceptance, has been pointed out in earlier studies as well (Krohn and Damberg's, 1999; Khan, 2003; Jobert et al, 2007; Breukers and Wolsink, 2007; McLaren Loring, (2007). However, it can be considered a conditional and temporary solution for decreasing local opposition. The possibility of investment in a wind farm or local ownership depends on many factors such as the willingness of local people, the policy of developer for investment and so on. On the other hand, if the policy or regulations that support local ownership or investment change, this solution won't work anymore. In Denmark the government supported the cooperative ownership of wind turbines by the late 1990s via economic supportive systems. After that new targets and different systems of economic support were adopted. This led to an increase of

single-owner projects and a decrease of cooperatively owned projects. Simultaneously local opposition to new wind projects increased. (McLaren Loring, 2007)

Collaborative participation has an answer to all these barriers. All stakeholders will not take part in the negotiation, they will be divided in groups and each will have a representative in the main table. And all the information (technical, legal, local knowledge and so on) will be exchanged between all representatives. Developers perform the technical and other analyses and prepare the possible options. The flow of information can be continued during the entire planning process for all decisions that affect local residents in one way or another. On the other hand, collaborative participation is a dynamic and continuous method. Therefore it can be organized during the planning procedure. Whenever there is enough information for making a decision, the decision-making is done through the collaborative approach. This also can be practice for making decisions on subjects that are changeable during the time.

5. Discussion

What I understood from the findings of this research is that the employed method of public participation has important limitations in comparison with the partnership and delegation power (two rungs of citizen power in the ladder of participation) –suggested as a desirable participation approach- and similarly with the collaboration participation.

The developers who were interviewed in this study, are in fact very ambitious in regards to consultation with the public and some of them do extra activities such as sending out extra informative letters and organizing extra meetings with the local population. However, none of these activities does change the limitation of the consultation procedure, the fact that the law doesn't assure any influence of citizens on the final decision. At the local government level there is similar problem. A technocratic attitude leads to the top-down system of wind power planning in these two municipalities.

Whereas, failure to provide local people with the opportunity of participating in a real sense (have influence) in decision-making as Arnstein (1969, p. 02) says could end up with frustration among local people.

Participation without redistribution of power is an empty and frustrating process for the powerless. It allows the power-holders to claim that all sides were considered, but makes it possible for only some of those sides to benefit.

This frustration and disappointment can make people uninterested in taking part in the meetings and the routine method of consultation in future. However, this doesn't mean that they won't appeal. There might be even more opposition against the future wind projects. More importantly, this frustration can ruin their trust in authorities and decrease the legitimacy of local and regional authorities' decisions. In the long run, the lack of legitimacy and mistrust can affect negatively the development of wind power.

Given the effort is put in the wind power development in different levels from national to implementation; it is advisable to be concerned also about the social arena and local people's attitudes. An improvement of the current participation approach can result in a smoother and easier development. Arnstein (1969) believes that methods like neighborhood meetings and public hearings -which are used currently in public consultation-, need further steps, otherwise they remain symbolic and no improvement in the *status quo* can be guaranteed. Hence, changing the currently used participation approach to a more inclusive one seems necessary.

However, developers and municipal planners are not expert in social issues. It is not their job to find the reasons behind local people's opposition. The result of this study showed that they don't

know the driving force behind the opposition. Also they don't know how it could be related to the degree of public participation or what type of participation method is better. Moreover, most of the appeals can only prolong the planning process and wind projects usually are very profitable, so it is worth waiting for the legal procedures of appeals to end (interview with Eolus). As a result the opposition doesn't motivate developers sufficiently to change the method of public participation for a more inclusive one. Hence any change in the currently used consultation approach doesn't seem possible to be started at the project level. At the municipality planning level it seems not possible either. Municipalities have the possibility for allowing more public participation and some municipalities involve the public in the planning process further. However, not all of them have obtained the insight and feel the need for further involvement of local people in decision-making.

On the other hand, the current dominant paradigm in public participation arena -judged by the current legally required participation method- doesn't seem to encourage the partnership or the collaborative participation. Any change in the public participation method in wind power calls for a different understanding and a new perspective by which legislators and policy actors recognize the necessity of an improvement.

In the end, the remained question is that what kind of participation approach can result in the necessary improvement and also fits the best in the Swedish wind power context. Partnership and delegation power are introduced as the participation methods which lead to the redistribution of power (Arnstein,1969). Collaborative participation is suggested as an approach that suitably engages [local] people in the decision-making process (Innes & Booher, 2004). For sure the currently used public consultation method has its own advantages, as well. It can be concluded that the best approach is the one that moves toward a real redistribution of power between all affected groups and works the best under the current circumstances and constraints.

6. Conclusion

This research focused on the link between local people's opposition and their degree of involvement in the process of wind power planning in Sweden. First, by using the benchmarks of the ladder of citizen participation and collaborative participation, current public participation methods employed in the planning of wind power projects was evaluated. This was motivated by earlier studies' claims that local opposition against wind power projects arose from a lack of fair opportunity to influence implementation decisions. Then, in searching for a way to decrease local opposition, the prospect of the application of a more inclusive public participation method by developers and municipal planners (subjected to this study) was investigated.

The results show that the method of public participation used in the planning of wind projects - both during the permit procedure and in the process of preparing the wind Master Plan by municipalities - is greatly different from partnership/delegation power (sufficient participation level) and collaborative participation. It was also found that, despite the long delays caused by local people's opposition which happen quite often, planners expressed no intention to improve the method of public participation. The absence of intention relates to the technocratic attitude of planners. However, it can also be inferred that the link between participation method and the opposition against wind farms is not acknowledged.

An inadequate involvement of people in decision-making for wind projects can have serious consequences such as mistrust, increased conflicts and opposition. Furthermore, it is no longer acceptable to tell people that their preferences in a wind project are recognized by the knowledge and expert of planners (Hammarlund, 2002). Local people cannot be kept away from the procedure of making a decision -that affects their lives- solely because they are not experts in the field. Therefore a more inclusive public participation in wind power planning is suggested in which people can influence the decision.

Certainly there will be obstacles to adopting a more inclusive participation. One obstacle identified in this study is that developers and municipal planners who have been interviewed, believe that a higher degree of peoples' involvement in decision-making is neither needed nor practicable. Unless there is a change in their perception there will be no willingness to plan for wind projects collaboratively. Educating actors at the level of planning can build the vision and provide encouragement.

In addition, a more inclusive participation method needs to be adjusted to the context of wind power projects. The permit procedure that is a great part of planning process leaves developers with many uncertainties. Besides, sometimes intensive competition among wind developer

companies makes it risky to disclose information transparently (what is needed in a collaborative approach). Therefore the method of participation should be designed in a way that both developers and local people are provided with a fair situation.

However, most importantly, the question is how to create the need and change the perspective at the policy-making and legislation level. The implementation of a more inclusive participation method is more likely when it is legally required rather than when it is accepted as a better method.

This study focused on only three actors in this arena and was limited to a few cases among them. Clearly more research is needed to give us further evidence and to motivate policy actors. Investigating the local people's attitude towards different participation approaches can also increase our understanding of the issue. Finally, further research on the constraints and the necessary capacity building in this issue is recommended.

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Appendices

A. The question of the interview with the project managers of wind power companies:

1. What is the process of planning for developing a wind farm from the first step in your company?
-Is this procedure followed generally in this company?
2. What is the procedure of public consultation carried out in your company?
- Do you consult solely because you are obliged by law?
- In what stage of planning or decision-making you consult with locals?
- Do they show interest in participation?
- Usually what are their concerns?
- Do you modify the outlines of the project in respond to their comments?
3. Did you use landscape analysis for site selection?
- What are the criteria for site selection?
- Do you consult with local people in site selection? Do you asked them to participate in site selection?
- If yes, do/have you consider/ed their advice when site selecting?
-.what is the role of municipality or county board in the site selection?
-. what is the role of landowner in the site selection?
4. The opposition of local people against a wind power project has ever ended up with delay or stop of a project in Sweden? Example please?
5. Do you think local people's opposition slows down the development of wind power?
6. What solution do you suggest for decreasing this opposition?

7. Is the increasing the involvement of people in planning and decision-making is a solution?
8. How can the role of local people in planning and decision-making be increased?
9. If yes, how could your company increase the involvement of local people in decision-making and planning?
10. If no, why not? What is the barrier?
10. If you were to decide about any changes in the wind power planning procedure, what would it be?

B. The question of the interview with the municipal planners

1. What is the criteria for site selection and drawing wind map?
2. What is the procedure of public consultation? Do you do an extra activity?
3. In the course of planning, when exactly you start the consultation?
4. Have you seen any opposition towards wind Maser Plan?
5. If yes, what was the driving force behind the opposition?
6. What was the respond of the municipality?
7. Have people showed opposition against wind power projects in this municipality?
8. Has the municipality ever refuse to grant permission to a wind project because of local opposition?
9. What are the concerns of local people about wind farms?
10. Is there any case of appeal in this municipality?
11. What was the impact of appeal on wind project? example please?
12. Do you think the local people's opposition slows down the development of wind power?
13. What solution do you suggest for decreasing this opposition?
14. Is the increasing the involvement of people in planning and decision-making is a solution?
15. If yes, how can the role of local people in planning and decision-making be increased?
16. . If no, why not? What is the barrier?

C. The question of the interview with the person from the Swedish Energy Agency

1. How do you evaluate the current procedure of public consultation in Sweden? Do you see it enough?
1. Given the existence of opposition, do you think a more inclusive approach is necessary for public consultation?
2. Do think that the appeals slow down the wind power development in Sweden?
3. Do you think engaging people effectively in planning and decision-making could decrease the number of appeals? (Influence on the final decision)