Work package 2- Historical and recent attitude of stakeholders

Case 13:
Suwalki region wind project

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*C*ultural Influences on *R*enewable *E*nergy *A*cceptance and *T*ools for the development of communication strategies to promot*E* ACCEPTANCE among key actor groups

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1. Introduction

The Suwalki Region in the Pommerania Region in the North of Poland, which covers the area of at least 1,600 km^2, is a prevailingly agricultural land that has potentially substantial wind energy resources. A map of Poland showing the location of Suwalki County is presented in Figure 1.1. This is where problems in reference to wind energy investments with public acceptance were measured during the realisation of two international projects in the years 1999-2005.

Figure 1.1 *Map of Poland showing to location of Suwalki County*

2. Country context

Poland is the largest country in the Central Europe with the area of 311,904 km^2 and the population of 38.2 million[1]. Forests cover 29.9% of the country's land area, *i.e.* 8.97 Mhectares[2]. Agricultural areas are a vital element of the Polish economy and occupy about 54% of total land. About 38% of the population live in the rural areas. Poland is the third largest greenhouse gas emitter in Central and Eastern Europe, after Russia and Ukraine. Polish economy is highly carbon intensive. Almost 70% of Polish energy needs is covered by coal, with a significant share of a highly CO_2 intensive lignite. Coal also dominates the final energy consumption structure, and it constitutes over 35% of the energy delivered to consumers (an average for the European OECD countries is 8 to 9%). It means that coal is not only burnt in power plants but a significant amount of it is used directly by various branches of industry, over a million of small local heating units and boiler houses and several million households.

[1] Central Statistical Office (GUS): 2003. *Statistical Yearbook of the Republic of Poland.* GUS: Warsaw.
[2] Central Statistical Office (GUS): 2005. *Forestry 2005.* GUS: Warsaw.

The late 1990s mark the start of political interest in creating conditions for renewable energy development. The *Resolution on the Increase of Utilization of Renewable Energy Sources*[3] approved by the Parliament in 1999 was a milestone. Subsequently the Parliament called on the Council of Ministers to prepare the *Development Strategy of the Renewable Energy Sector* in Poland. The *Strategy*[4] adopted by Parliament in 2001, is a key document supporting renewable energy in Poland, it stipulates short-, mid- and long-term objectives for renewable energy. Its objective is to increase the share of renewable energy in Poland's primary energy balance from 2.5% in 1999 to 7.5% in 2010 and to 14% in 2020.

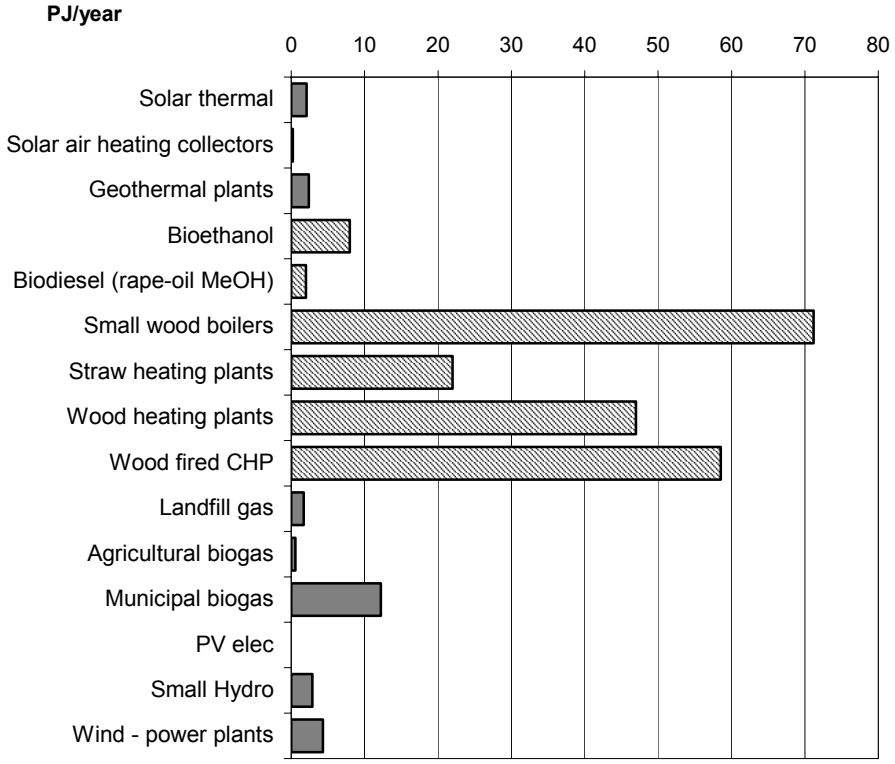

Figure 2.1 *Targets of renewable energy production in 2010 assumed in the Development Strategy of Renewable Energy Sector*[4]

'Energy Act' approved in 1997 is the basic legal framework for the regulation of the Poland's energy sector. It provides the necessary legal conditions for businesses in the field of energy production, transmission, distribution and trade.

Targets have been set to increase the contribution of renewable electricity to 7.5% in 2010, in accordance with the ***'2001/77/EC Directive'***[5]. Electricity suppliers are obliged to provide an increasing share of electricity from renewable sources in the electricity sales to end-consumers, increasing stepwise from 3.1% in 2005 to 9.0% in 2010, which corresponds in TWh to the obligation under the *2001/77/EC Directive*. The Polish system is based on the trade of certificates of origin, which play also a role of tradable green certificates. According to the opinion of the

[3] Polish Parliament. 1999. *Resolution on the Increase of Utilization of Renewable Energy Sources* of 8th July 1999.
[4] Council of Ministers. 2000. *Development Strategy of Renewable Energy Sector*. Document No 2215.
[5] *Directive on the Promotion of Electricity Produced from Renewable Energy Sources in the Internal Electricity Market'* of 27th January 2001 No 2001/77/EC *(O.J. L 283, p. 33 of 27th October 2000).*

Ministry of Economy and Labour[6] *ca.* 4% of the 7.5% of the electricity required by the *2001/77/EC Directive*[5] should come from the biomass utilisation.

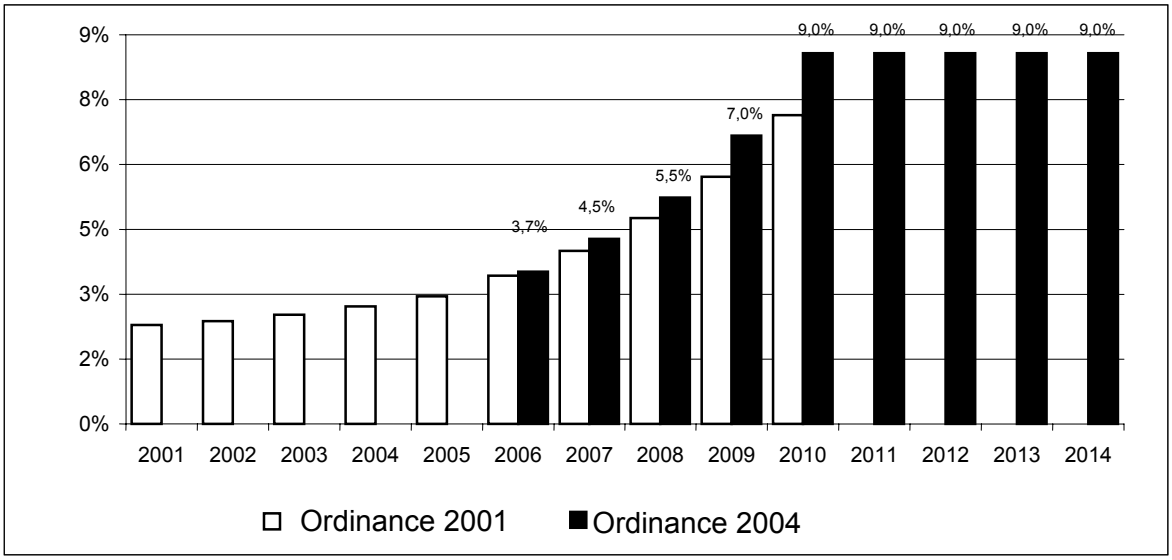

Figure 2.2 *Targets for RES electricity sales to end-consumers, as per the Ordinance of the Minister of Economy and Labour*[7]

3. STEP ONE: Vision of the project

The 1,308 km^2 area of the Suwalki region in the North-East of Poland is characterised with good wind conditions. Relatively high wind speeds are common in the post-glacial landscape with patches of open space and hills. Favourable topography, compatible land uses, and large open areas elevated 200 meters above terrain provide ideal conditions for the development of wind energy there.

The 'Preparation of the Wind Energy Project in the Suwalki Region' was carried out in the period 2000-2002. The project was carried out by the Suwalskie County authorities and the U.S. Trade and Development Agency. The partners of the project were the AWS Scientific Consulting Company and the EC BREC IEO Ltd. Its direct aim was to identify the most favourable areas for the development of wind energy plants and to design a 50 MW wind park in the best wind speed areas.

A forerunner to the commercial utilization of wind energy on a large scale in the municipalities of Suwalki County in 2002 was the preparation of a feasibility study for a pilot investment project with a total installed capacity of up to 60 MW. This study was the necessary first step for the investments follow-up in the region. The study included an assessment of the wind energy resource in the Suwalki region; identification of grid, environmental and landscape issues; outreach to local residents likely to be affected by wind plant development; elaboration of preliminary pro forma cash flows; conceptual wind plant design and energy production estimates; and

[6] Minister of Economy and Labour. 2005. *Announcement of the Minister of Economy and Labour on the Report on the Indicative Targets for RES on the Territory of Poland in the Domestic Electricity Use in the Years 2005-2014 of 31st August 2005. Monitor Polski No 53, position 730-731 pp. 1723-1729.*

[7] Ordinance of the Ministry Economy and Labour of 19 December 2005 on the detailed scope of submission of certificates of origin, payment and purchase of electricity and heat form renewable energy sources. O.J. 2005 No 261 pod. 2187.

the preparation of documents to support a tender for engineering, procurement, and construction services and financing applications. The study also included an estimate of local economic benefits and the elaboration of a business plan, assuming County's equity shares in the investment.

The preparation phase f the project consisted of the following 12 tasks:
- Task 1 - Site identification
- Task 2 - Wind speed monitoring
- Task 3 - Wind resource characterization
- Task 4 - Long-term wind resource assessment and mapping
- Task 5 - Infrastructure assessment
- Task 6 - Environmental Impact Assessment
- Task 7 - Final wind plant design and energy production estimates
- Task 8 - Consultations with the community
- Task 9 - Tender documents and financing
- Task 10 - Pro Forma cash flow analysis
- Task 11 - Local economic development benefits
- Task 12 - Elaboration of a business plan.

An investment of this scale (up to 60 MW) required physical measurements of the wind speed in the area of interest. One-year of actual wind speed data was collected from the monitoring stations and correlated with long term data from other regional meteorological stations to provide an accurate assessment of the long term wind resource in the region. The study also provided a technical assessment of the electric grid in the municipalities of Suwalki County with respect to possible connections of large scale wind turbines.

Considering the possibilities of transmission limitations of the electricity grid and visual intrusion on the landscape, the most likely future development scenario was chosen: a number of small wind farms, each consisting of 3 to 20 turbines, distributed throughout the region. The resulting number and size of the wind parks included in the business plan was optimized based on the economics of the total investment constraint: up to 60 MW of installed capacity.

In the period 2003-2005 another project: SIWERM (Altener) was carried out as a follow up of the process undertaken in the previous TDA project. Its aim was to develop a proven process that was supposed to support local governments to carry out wind energy investments. The SIWERM approach was developed in an international context with partners from Greece, Poland, Italy and the Netherlands. It included following actions:
- addressing barriers related to implementing wind energy on a local scale,
- effectively bridging the gap between national policy incentives,
- local take-up through constructing a neutral facilitative framework around the process.

Special attention was paid to the high cost of electricity in Suwalki County compared to other counties in Poland, and the ecological value of clean energy production in the County located in the so-called 'Green Lungs of Poland'.

4. STEP TWO: What were the various expectations of the case?

The various actors involves in both the TDA and SIWERM project in the period 1999-2005 are presented in the below Especially interesting are the motives of participation, which are mostly of economic-financial nature. It is either financing or developing financial investments or obtaining additional profits from such in the form of local taxes or direct payments for land utilization. The only institution not interested in the economic-financial aspects of the project were the authorities the National Park. The majority of the local actors were involved in the project from

the very beginning, the only exception is the local media which showed interest in the project only occasionally. Actors from outside of the region were interested only in the specific stages of the project- for financing institutions the project milestones were the most interesting. The active participation of developers was allowed only at the end of the project as the binding decisions concerning the project siting were taken without the presence of the potential investor. This was a though decision taken before the project to keep the investors out of the discussions in order to assure the unprejudiced outcome of the consultation process and to avoid extensive lobbing during the project preparation phase.

In both of the above mentioned projects a consultation process was applied to identify the actors:, a local authority with no experience but a motivation to develop a wind park on its territory and possibly an additional local authority with more experience as an advisor and finally the investor and/or a wind developer. The co-ordinators of the project adopted the role of independent counsellors in this process. The following aspects were considered:

- national policy and legislation
- political context
- local policies and legislation
- moving forces for wind energy
- cultural differences
- self supportiveness of stakeholders
- roles of consultants in the process.

Table 4.1 *Forms of participation in the a project*

Name	Type	Involvement	Purpose
Suwalki County and 9 Municipalities	President of the Suwalki County Council Dep. of Real Estate Management and Architecture Geodesy Kadaster Dep. of Building and Architecture Dep. of Environment Protection, Agriculture and Forestry	Initiation of the project, issuance of building permits, mediator between the outsiders and local population, owner of commercial results of project (wind measurements, economic analyses)	Attract energy investments in a highly unindustrialized region, improve poor electricity grid infrastructure in the region, additional income from the local investment tax payment (2% annually), increased value of land in the region, improved roads, maximize benefits for local community.
US Trade and Development Agency	Donor of the preparation phase of the project	Financing of the project preparation and supervision of progress; dissemination of project results to US companies as potential investors/developers	Promotion of the American know-how overseas
AWS Scientific	Consultant	General project management	Extend wind business overseas
EC BREC IEO Ltd.	Consultant	Local partner responsible for project development, contacts with local actors, maintenance of wind measurements, coordination of activities carried out in Poland, dissemination activities, project co-ordination, feasibility study, organization of information campaign, preparation and moderation of project group meetings, preparation of exclusion zones maps for wind energy	Initiate pilot big wind farms in Poland, gain experience and knowledge from American partners
Wigry Lake National Park and Suwalki Landscape Park	Administrators of nature protected areas	Consultation on the stage of preliminary selection of wind farms location, participation in EIA procedure (scoping), participation in planning process of wind farms.	Ecological concerns: birds, landscape; protection of environmental value of the area.
Local population	Inhabitants	Sale/lease of land, participation in the consultation process; target group of information campaign about wind energy.	Expectation to gain additional income via sales/leases of land and increase of income taxes to the local budget, compensations for environmental hazards, prevent negative economic impacts: decrease of land value, and abridgement of farm land during construction of wind farms.

Name	Type	Involvement	Purpose
Media	Local TV, newspapers	Reporting on mast installation and future wind energy prospects in the region.	Making regional news, informing the community about the issues of high importance for the region.
Project group	Participants and advisory group	Participation in project meetings locally, technical and other advice.	Being informed about progress of the project and providing important information necessary for completion of the project
Utility Company in Bialystok Ltd.	Distribution system operator and regional Utility	Technical assistance with the elaboration of feasibility study, advice concerning interconnection issues and sale of green energy; preparation of Utility development plans including future wind investment.	Being involved in the activities of high importance for the exploitation of management of regional electricity distribution system; being informed about business opportunities (investment in wind energy, PPA for green energy); include interconnection infrastructure in own the development plans.
Suwalki district energy network	Local scale grid operator	Technical assistance with the elaboration of interconnection study, providing information about the current status of local grid	Supporting Utility in Białystok to assure avoiding negative technical consequences of interconnection of wind farms to the local grid.
Regional and County Funds for Environmental Protection	Potential donors	Providing input to economic analysis	Statutory financing of green energy
Pro Polska Energia, Gamesa Eolica, Dipol Ltd. Polish Energy Partners	Investors/ developers	Invest in wind energy projects	Increase profits, searching for business opportunities

5. STEP THREE: Understanding 'participatory' decision-making: negotiation expectations

Preparation of the TDA project included wide public consultation phase. Broad scale research on public acceptance within the project preparation phase was the first of that type in Poland. Due to the administration system in Poland and uniform regulations on investment preparation and performance for all regions its results were expected to be extrapolated to the whole country. The project was entitled: 'Preparation for the construction wind farm Suwalki County. Information campaign and surveying local communities opinion'. The project was prepared for the Council of Suwalki County (Podlasie Region) and aimed to support planning and realisation of the wind farm investments.

An information campaign and public opinion survey was conducted in September 2003, which targeted the following groups:

1. County council and municipal authorities, and directors of national parks, landscape parks, and other protected areas.
2. Inhabitants and owners of land suitable for wind turbine location, according to the wind plant layouts developed as part of this study.
3. Local residents who may otherwise be impacted by the proposed wind farm developments.

Lead administrators of all 9 communes within the County of Suwalki, representatives of the County Council and relevant departments, and the lead administrators of Wigry Lake National Park and Suwalki Landscape Park attended the first consultation meeting. During the meeting, the attendees were asked to express their opinions as well as reservations or expectations they had concerning future wind energy development. The attitudes of the first target group were generally positive, expressing hope that wind development would increase the attractiveness of the area and create additional sources of revenue for local communities. General knowledge of the proposed wind investments among local government officials previous to the meeting was not high, as a majority of them had no prior introduction to the project.

Lead administrators and employees of Wigry Lake National Park and the Suwalki Landscape Park were well aware of the issues related to the construction and operation of single wind turbines and wind farms. However, they admitted that many of the problems experienced in the past resulted from improper preparation of the environmental impact assessment, and in particular, improper analysis of the wind farm's influence on birds' migration. Representatives of the parks agreed that in the case of a properly prepared investment, any possible threats to wildlife and birds would be minor in comparison to the benefits that the local communities could gain from wind development.

All of the local authorities, which were present at the meeting were requested to share their views concerning the likely response of their communities towards the potential wind projects. To illustrate their views, the authorities used the example of investments in mobile communication towers. Conflicts that had occurred in the past were reflected in the claims for compensation, with objections raised by landowners whose lands had been excluded from the investment area resulting in the lost opportunity for additional income. Thus, the conclusion of the group was that the success of future wind project development would be reflected in compensations given to a wider group of actors and not limited to just those landowners with turbines located on their property.

Initial contacts with individuals within the local communities were informal in nature and infrequent during the first two years of the study period. The first contact took place during the installation of the wind speed monitoring equipment, when individuals interested in the work go-

ing on in the fields asked questions about the masts themselves and the purpose of their installation. This information channel proved to be very useful as information on the project spread quickly throughout local communities. The local TV station immediately prepared a report on the wind energy feasibility study prepared in the Suwalki County and later broadcasted it in the evening news. The experts and technicians installing the equipment were questioned by reporters and explained the aims of the project and plans for the future. The informal contacts between the experts, technicians and local residents also contributed to the safety of the measurement equipment, as the locals watched out for any signs of tampering. As a result, only a single insignificant case of vandalism occurred over a two-year period and the event was immediately reported to the in-country manager for this project.

A mail survey of public opinion was sent to 120 households in the four proposed wind farm locations. The total response rate was 49%. Among those that responded to the questionnaire, attitude towards the project was very favourable. Out of the 59 responses received, 55 were in favour of developing the wind farms, 2 were against, and 2 were neutral. Furthermore, 55 families expressed interest in the development taking place on their land under various conditions (5 indicated a desire to sell their land, 48 wanted to lease the land, and 2 chose 'other'). The remaining 4 responses expressed opposition to the location of wind turbines on their property. If the developer prefers to lease the land rather than acquire it, 75% of the respondents preferred long-term payments as opposed to a one-time payment (19%).

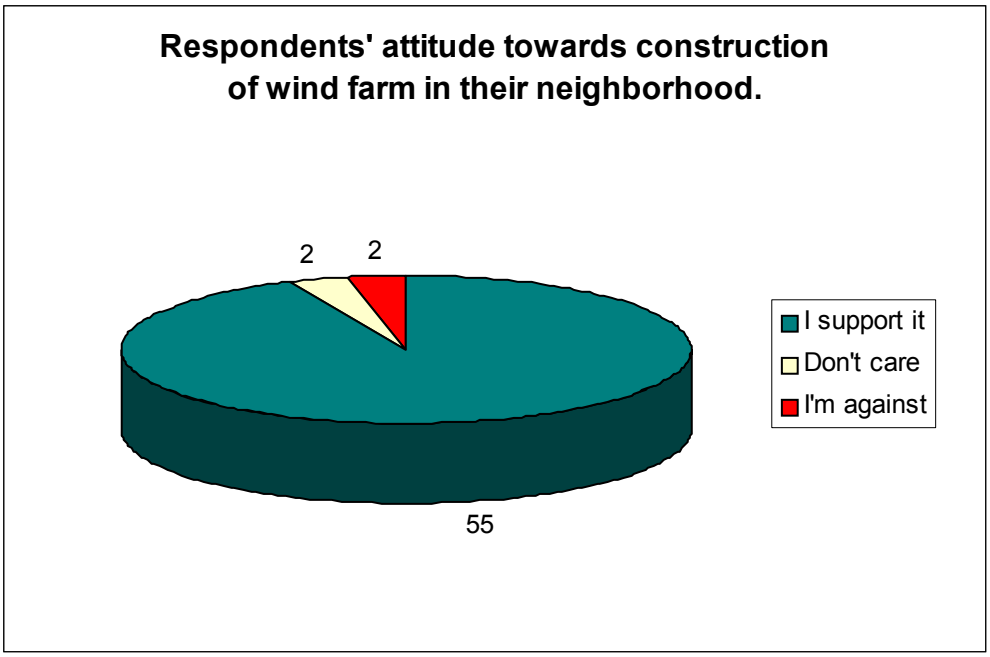

Figure 5.1 *Attitudes towards wind development*

Some respondents might have perceived the project favourably only if they realized an additional source of revenue as a result of the project.

The survey also asked respondents about the perceived economic benefits of future wind development and quantified concerns among the local population arising from the development of the wind farms. Figure 5.2 presents a summary of responses to the question concerning future economic benefits. Figure 5.3 provides a list of concerns related to wind farm development.

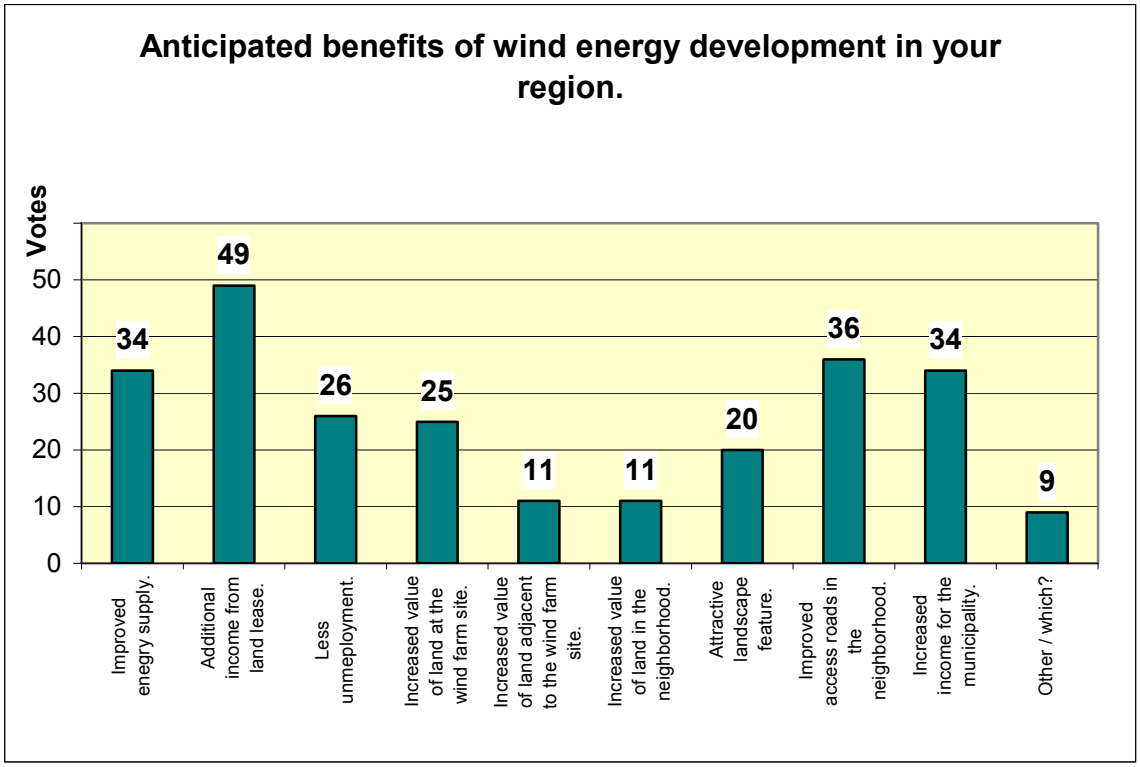

Figure 5.2 *Perceived economic development benefits*

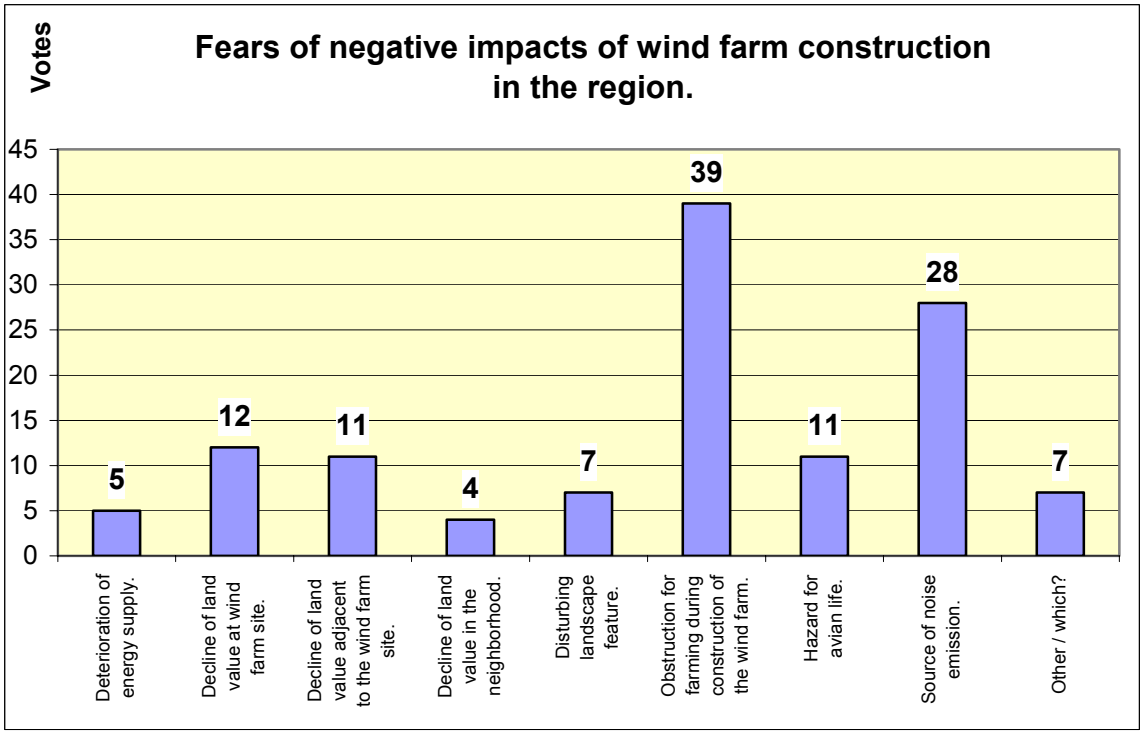

Figure 5.3 *Concerns related to wind development*

Four public consultations (meetings) were organized with the second target group. Invitations were sent to individuals whose land was considered suitable for the location of wind turbines. Each meeting was attended by 20 to 30 landowners. An indication that interest in wind development in the municipalities of Suwalki County is very high is the fact that high attendance was achieved in spite of the harvesting period. Landowners either stopped working in order to attend

the meetings, or sent a representative from their family. Experts from EC BREC IEO Ltd. and Head of the County Department of Environmental Protection, led the meetings. The presence of the later was important to the attendees because it showed them that the County Authority supported the reliability of the expert presenters and the project.

The majority of the attendees were very supportive of the project, however some expressed scepticism whether they would receive fair compensation for the use of their land (the level of compensation that would be received was not stipulated at that stage of the project, which was acceptable). Farmers were advised to use caution when approached by investors seeking to take out long-term leases for speculative wind development. Attendees were provided with a package of educational materials that consisted of a leaflet describing the Suwalki County project concept and general information about wind energy development in Poland. The concept of the establishing a common legal body to represent the interests of all landowners to potential investors, ensuring the optimal benefit for all and easier co-operation, was also discussed.

This second stage of public consultations took place after the preparation of the environmental impact assessment report. Presentation of visualisations of the proposed wind farms on the landscape and data on the spatial dissemination of noise during their operation proactively addressed concerns resulting from negative experiences with two existing wind turbines in one of the communes.

The results of the consultations were summarized in terms of the local communities' attitudes and expectations towards the proposed project development and provide insight into the design of specific measures to increase public acceptance of wind farms in the local communes. The research showed that some opposition to the projects might occur among landowners whose lands are not occupied by turbines, but are nonetheless impacted by the development (*e.g.*, visually), unless appropriate compensation would follow.

Figure 5.4 *Meeting with landowners*

Figure 5.5 *Meeting of the community at a local primary school*

In the SIWERM project he project group was formed from representatives of Suwalki County and interested local authorities (municipalities Wizajny, Jeleinewo, Filipow, Przerosl and Suwalki). The Advisory Board included the local decision makers (county representatives), environmental authorities (National Park and Landscape Park), local utility authorities, land owners and representatives of interested investors. Wind energy in Poland was perceived as a boost for labour and economic growth. This was the main reason why locals would support wind energy.

Table 5.1 *Types of participation*

Types of participation	Timing	Purpose
Information campaign	Beginning of the project	Increase acceptance for wind projects among local population
Meeting with first target group	End of project	
Initial informal contacts with the local communities	Before the project	
Mail survey of public opinion	End of the project	
Four public consultations	The whole project	
Financing	The whole project	Preparation of favorable conditions for American companies
Wind measurements	The whole project	Identification of best sites
Project development	The whole project	Assessment of the wind energy resource in the Suwalki region; identification of grid, environmental and landscape issues; outreach to local residents likely to be affected by wind plant development; elaboration of preliminary project pro forma cash flows; conceptual wind plant design and energy production estimates; and the preparation of documents to support a tender for engineering, procurement, and construction (EPC) services and financing applications
Mediation between the local population and outsiders	The whole project	Alleviate the opposition to the project
Technical advice	End of the project	Facilitate project integration with the grid
Financing of the project	End of the project	Secure financial resources for the investment

6. STEP FOUR: From visions to actualities

The TDA project did not lead to a realization of any wind farm investments, although the overall atmosphere could be described as positive. The reasons for that are summarized below.

The fall of the interest in wind energy investment in Poland. In 2003 only one wind farm was built. Most of the interested investors (and local authorities) temporarily stopped their activities concerning development of wind energy projects. They were looking for the political decisions on the national level (the implementation of EU directives and changes in Polish law before the accession to the EU). Only the Suwalki County decided to continue with the project and to look for an investor.

Another main obstacle to the successful implementation of wind projects on a local level is the lack of directly useable data on wind resource, taking also into consideration environmental and economic conditions. There are no financial sources for local authorities for wind resource assessment, essential for further planning procedures. The case of Suwalki County, where such assessment was prepared was unique in Poland and could have served as a good practice exapmle for other local authorities.

The increase of acceptance of wind energy among citizens was evident. The discussions were not focused on pro's and contra's, but on a good conversation about the common goals. Critical

citizen were invited to share their reservations towards the proejct. Problems with investors, municipalities, national law and land owners were addressed in a constructive way and all led to progress in the process.

SIWERM project has strived to optimize the approach through bringing in many parties to and lead them through consultation process. The approach has proved to be successful in this way. However, the very nature of public consultation is nature and associated with a risk of failure.

A preliminary site evaluation and selection trip took place in Suwalki County in February 2003. Four sites were selected as the most desirable locations for a two year data collection programme, and the monitoring towers were located in the framework of the TDA project. The site selection was continued in 2003 on completion of the wind resource monitoring.

The scope of feasibility study was established and the procedure of gathering data to feasibility study was confirmed with municipalities and advisory board members. The municipality of Filipow was chosen as an example for presentation of a detailed procedure of wind energy planning in municipality (main criteria was the starting of local spatial plan preparation procedure in that municipality). The representatives of the Utility Company in Bialystok (members of advisory board) suggested also the next steps to further development of the investment. During November 2004 - February 2005 period EC BREC IEO Ltd. has assisted the Suwalki County in contacts with investors and developers. EC BREC IEO Ltd. representatives answered about 20 requests of investors, mainly consisting technical issues connected with project development. Also the proposal of tendering procedure was prepared and accepted by the County.

The Polish Wind Scan was carried out between June 2004 and 15 September 2004. According to the data provided by the municipality on wind energy sources and some aspects as grid connection in the territory of Suwalki county, locations were chosen based best suited to wind conditions. Exclusion zones (birds, houses, danger) and good wind energy zones were identified and marked on the topographic map. The map with zone exclusions, in topographic form, serves as the basis for the municipality in defining the areas, capable of wind energy development.

The siting of the prospective wind farms in Suwalki County as proposed in this study accommodated the project's economic objectives with a minimum impact on the environment.

- The use of best available technology.
- The projects, as proposed, will have no significant impact on soils, vegetation, water, and cultural values.
- Noise levels at all residences in all locations would be below the permitted level of 40 dB. Also, no risk of flicker or shadow effect is expected.
- Based on current knowledge and the research conducted at the proposed wind plant locations, the risk of negative impacts on bird populations was rated as low.
- The visual impact of the wind turbines on the local landscape was rated as low.

The scope of the feasibility studies included an assessment of the wind energy resource in the Suwalki Region: identification of electrical, infrastructure, environmental and landscape issues; estimates of the economic impacts of wind plant development on local communities; conceptual wind plant design and costs; and pro forma cash flow analysis. The study concluded that the development of wind projects at three sites - Potasznia, Piecki, and Bialorogi - totaling 40.5 MW of installed capacity would be technically, economically and environmentally viable. This proposed development represented the necessary first steps for the expected follow-up investments in the region. To reach this goal, the County was responsible for completing the project development, organizing landowners, implementing the necessary changes to spatial plans, and organizing a tender for strategic (equity) investment in the project. They finished it at the beginning of 2005. Initially, the County proposed to offer shares to local enterprises and businesses or small enterprises and private investors to raise the capital necessary to further develop the project and complete necessary changes in spatial plans. In this scheme, local municipalities are

able to receive shares in the wind company equal to the value of the revenues they would normally receive from an investor to make the necessary changes in spatial plans. Landowners were also targeted to turn the value of their land into shares in the future of the project, or to secure them in exchange for an up-front payment and future dividends. However, due to the lack of experience in the project development in the county and municipalities, the final decision was to organize a public tender for wind projects. This solution was most suitable for that moment and in that case.

The Suwalki County authorities started contacting interested companies The potential investors have also started the discussion with municipalities and land owners. The most advanced activities referred to the municipalities of Suwalki and Jeleniewo, where the preliminary agreements between landowners and developer were finalized. The final investment decisions were expected in the second half of 2005, because of current amendments in Energy Law, creating a new system of Renewable Energy support in Poland (green certificates system), which are supposed to have a significant impact on the economic part of the project. Currently (July 2006) there are two mayor developers still active in the County. In the municipality of Filipow the Spanish investor (Gamesa Poland) is developing the 32 MW project. The changes in local building and development plans are in final stage and the permitting procedure (interconnection application submitted to the Utility in Bialystok). Gamesa is considering also larger scale investment on the area, however there are problems with limited interconnection possibilities. Municipality of Filipow was previously not considered as the preferential area for wind farm development (relative weaker wind conditions), however, the main decision factor for developer becomes the active participation of the Municipality in SIWERM project and existing exclusion zone maps (reduction of investment risk and possible social and environmental conflicts). In Municipalities of Jeleniewo and Suwalki there is 42 MW project prepared by EPA (developer working for Polish Energy Partners Ltd). Changes of building and development plans are finalized, and land lease agreements with landowners signed. Also the interconnection application is in final stage (preliminary interconnection contract expected in July). There are also other potential developers interested in use locations in the northern part of the Suwalki County, however, the investment has been blocked by environmental and grid limitations.

The advisory board members played a significant role in preparation of feasibility study. There were several mail and phone contacts with particular AB members during data collection. Especially valuable were the contacts with the Utility Company in Bialystok, which provided data concerning possibilities of interconnection of planned wind farms to the grid and some economic data to the feasibility study. They also advised EC BREC IEO Ltd. and the County on technical issues connected with tendering procedure. Also local environmental authorities consulted all stages of environmental impact assessment and suggested some additions to it. AB members also evaluated the final version of feasibility study and the methodology of preparation of exclusion zones map for the municipality of Filipow.

Consultations with members of the local community, local authorities, and administrators for the Wigry National Park, Suwalki landscape park, and other protected areas indicate broad-based support for the pilot wind energy investment, and hope that wind development would increase the attractiveness of the area and create additional sources of revenue for local communities. Representatives of the parks agreed that in the case of a properly prepared investment, any possible threats to wildlife and birds would be minor in comparison to the benefits that the local communities could gain from wind development. Presentation of visual projections of the proposed wind farms on the landscape and data on the spatial dissemination of noise during operation proactively addressed concerns resulting from negative experiences with five existing wind turbines in one of the communities under study.

The results of the consultations were summarized and provided insight into the design of specific measures to increase public acceptance of wind farms in the local communes. The research showed that some opposition to the projects might occur among landowners whose lands are not

pinpointed as the potential location of turbines but are nonetheless impacted by the development (*e.g.*, visually), unless appropriate compensation is made. Some skepticism was also expressed concerning the level of payment that might be received in exchange for long-term wind rights.

The main obstacle appeared in the interaction between the County and the municipalities. The different interests of the different authorities made it difficult to accelerate the process at several moments. EC BREC brought together the different interests, but found it quite difficult. As they were not present at the municipalities weekly or monthly meetings, it became difficult to guide the process in an adequate way. Also private investors appeared to have problems during the process. Investments are not coordinated and this implied some misunderstandings during the process. Both those elements implied that the process ended in a suboptimal way, through the difficulty in bringing different interests together. However, we reached targets above expectations.

7. Lessons learned

As can be concluded from this report: there are several reasons why the development of wind energy turned out to be quite difficult. What is the role of the consultant (or other stakeholder) in the process? Do they have a commercial dependency in the process? Are they independent towards all parties? And how do other stakeholders experience this? When a consultant has any interests in the process, he has to be clear about that and keep the process transparent. It was recommend to:

- Make sure local, regional and national politicians are aware of the need to think in terms of over four years for developing renewables in their area.
- Always involve all stakeholders in the communication process amongst wind energy, even if it is a difficult process in the beginning. It pays back later on.
- Make sure national legislation is smooth enough to support the development of wind energy.
- Reduce the Advisory Board to a number of people who can discuss the essentials of the project and the process.
- Make sure the Advisory Board and Project Group have mandates to act and handle in an accurate way.
- Stay in close contact with all stakeholders during the entire project. In case you can not, find alternative ways (local representative, frequent calling etc).
- Convince all stakeholders of the benefits of cooperation, good guidance by a consultant and the need for a common goal in the process.
- Improve knowledge in municipalities about wind energy and its benefits and possible disadvantages (important at the early stage of wind energy development), direct contacts of local authorities with investors are still a weak point of the whole procedure.
- Look for possible funding sources for professional consultants and expertise for municipalities, making spatial planning of wind energy effective and professional (wind resource assessment, environmental assessment).
- Being in touch with local community is essential: the dialogue needs time and the presence of the person who guides the process. The local presence increases the support from local actors.
- Positive attitude towards wind energy can lead to spin-offs. If stakeholders are interested in wind energy they are in fact interested also in realizing renewable energy in general. This could result in other RE-investments are after the good experiences.
- The consultation process increases the credibility of the work and results produced, does not accelerate the process so much and it is a bit cumbersome.
- Time consuming: to increase individual involvement, the consultation involved more hours during the day. But for sure it was worth it.

The main advantage of the method is the thorough attention to communication and in this way the large involvement of all kinds of stakeholders. It also became clear that in many cases legislation and the availability of money are the main problems.

Some stakeholders are not able to participate in the discussion without obtaining good information on wind energy. To ensure all stakeholders can play their role in a good and satisfying way, it is required that they all are familiar with the topic and the relevant points of discussion. A thorough analysis or this situation is relevant for a good base of the process *e.g.*:

- Green organisations often have contradictory feelings about wind energy, but can we rely on the completeness of their information?
- Bird watchers are not known with all aspects of wind energy and birds, how can we support them?
- Is the local organisation of volunteers able to express their interests in the right way at the right moment?

The attitude of policy makers towards wind energy depends on different factors. They briefly can be divided in the 'Triple A' for wind energy.

- *Acceptance* Do policy makers accept that wind energy can contribute to their policy for renewable energy?
- *Ambition* Do policy makers have ambitions regarding the realisation of wind energy in their region?
- *Attention* Do policy makers pay attention to the opportunities and barriers for wind energy in their region?

The acceptance of wind energy is the most important element in the process. It all starts with acceptance. If policy makers translate their acceptance into ambition, a decision is made and the ambition is stated in a policy paper. Afterwards, it is necessary to keep paying attention to the realisation of the ambition.

The final decisions will be taken at the political level based on official suggestions but other actors can largely influence the realisation of wind energy. Some parties will try to influence the selection of wind energy locations in their favour, even if these deviates from agreements earlier in the process. Other actors, especially pressure groups, can delay or even stop realisation at locations they find unsuitable. Opposition should be minimised in order to implement wind energy successfully. This makes it essential to gather information about the attitude of all pressure groups towards wind energy and anticipate on their objections.

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