



Environmental, Health and  
Safety  
Annual Report  
for the year 2010

Prepared for:  
**EDP Renovaveis**



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# 1 Introduction

EDP Renováveis (further referred to as EDPR) is a world leader in the renewable energy sector in Europe and America. Among others, the company develops and operates wind farms in Poland.

The Margonin wind farm project development was granted a financial support from the EBRD and other banks of International Finance Corporation. The financial involvement of the banks was preceded with the Environmental and Social Due Diligence and elaboration of two documents, Stakeholder Engagement Plan (SEP) and Environmental and Social Action Plan (ESAP), which both constitute the “road map” on the company way to fulfill the requirements of good management practice and internal rules and policies of the Banks.

This reports has been prepared in order to present to the Banks the status of the project and EHS issues as well as the level of implementation of SEP and ESAP. Following the Bank’s expectations, the report presents:

- information on the status of the project, any changes to the project as well as information on environmental performance, mainly compliance with the contractual specifications as well as National and EU environmental standards (section 2).
- Information on compliance with the ESAP and on any new projects or changes to planned investment (section 3)
- information on post-construction monitoring results (sections 3.2 and 4);
- summary of any material changes in law significantly affecting Environmental or Social Matters, that has a material (above 100 K EURO) impact on the Company (section 6)
- a summary of any areas of material non compliance with Environmental Laws (section 5),
- Information on material social matters (section 7)

This report, after approval by the Banks will be posted on the project website.

## 2 Current Status of the EDP Projects

### 2.1 Margonin Wind Farm

Construction works of Margonin wind farm commenced in July 2008 with construction of 110/30 kV electrical substation. In early spring of 2009, first turbines were delivered to the site. Between June 2009 and November 2009, construction of 110 kV overhead line was carried out. In August 2009 investor signed an agreement with local utility ENEA for the temporary connection of Margonin farm with the grid. Thus, investors was able to commission electrical station and several turbines while the overhead line was constructed. In December 2009 the construction works at the Margonin wind farm were practically completed and the wind farm was waiting for completion of construction works carried out by transmission grid operator (PSE)



*Margonin wind farm*

In the 2010, the commissioning works at the wind farm as well as the activities aimed at the formal acceptances were carried out. On February 26, 2010 the transmission grid operator (Polskie Sieci Elektroenergetyczne) provisionally accepted a power connection field at the main switching station (GPZ) in Piła and accepted provisional power supply to the main farm. This acceptance made possible trial runs and commissioning works at the wind farm and the on-site switching station.

In February 2010 the consecutive parts of the Margonin wind farm were granted by the County Building Supervision Inspectorate in Chodzież the following operational permits:

- on January 26, 2010 – for the wind turbine No. 11;
- on January 26, 2010 – for the Margonin Zachód wind farm;
- on January 26, 2010 – for the Margonin Wschód wind farm, section No. V;

- on January 26, 2010 – for the Margonin Wschód wind farm, section No. III;
- on January 29, 2010 – for the Margonin Wschód wind farm, section No. IV;
- on February 17, 2010 – for the Margonin Wschód wind farm, section No. II;
- on February 24, 2010 – for the Margonin Wschód wind farm, section No. I

The official trial run of the wind turbines started on March 2, 2010 and was gradually continued until April 26, 2010, when the concession (license) for power generation was granted to EDPR and trial run was officially completed. By June 2010 commissioning of the wind turbines was conducted which was finalized with an issue of a Provisional Acceptance Certificate for all of the wind turbines. The Final Acceptance Certificate will be signed after the guarantee period of the turbines is finished, i.e. in two years.

Since June 2010, the Margonin wind farm is recognized in terms of the environmental law as fully operational, i.e. should operate under the regime of valid environmental permits. Due to the type and character of the operations, the wind farm does not fall under a need for any environmental permits, except for approved by the authorities hazardous waste management program. Such management program was approved by the Head of Chodzież County on March 25, 2010. According to the program the site is allowed to generate seven different hazardous wastes and two types of non-hazardous wastes. Both types of wastes are generated during the service and maintenance operations. The amounts of wastes are recorded by the company, as required by environmental law. The wastes are transferred off the site by a certified waste handling company (Remondis) for final treatment. The wastes are temporarily stored at a designated place arranged at the switching station. As required by law, each waste transfer for final treatment is accompanied by an issue of a waste transfer manifest.

The wind turbines were in 2010 and will be by 2012 subject to the guarantee service and maintenance provided by the manufacturer of the turbines, the Gamesa company. Individual wind turbines are subject to regular revisions and adjustments.

The on-site switching station is maintained by an external contractor – the company EWINN, while EDPR maintains its operational management.

In 2010 (i.e. from the first day of commissioning until the year end), the wind farm generated 193,824.59 MWh net of electricity and received 196,358.11 MWh of Property Rights (green certificates – equivalent to gross energy production by the wind turbines).

## **2.2 Pawłowo Wind Farm**

In December 2009, the Pawłowo wind farm was assumed to comprise three separate projects which had been distinguished due to land zoning conditions and geographical location of the wind farm on the territories of two different communes. The original project assumed construction of:

- 60 wind turbines of a total capacity of 90 MW, in the Gołańcz commune in the area, where the local zoning plan was not existing and it was going to be based on Construction Conditions decisions;
- 5 wind turbines of a total capacity of 7.5 MW in Gołańcz commune in the area, where the local zoning plan needed to be elaborated;
- 31 wind turbines in the Wagrowiec commune, where the local zoning plan was not existing and needed to be elaborated.

Current status of these sub-projects is presented below.

### **Development of the 60 MW wind farm**

The 90 MW project was granted by the Mayor of Gołańcz Town and Commune the environmental decision on January 7, 2010. The decision allowed construction of 52 wind turbines (the Company decided to reduce original number of turbines due to noise impact and wild nature protection needs) of a total capacity of 78 MW. However, this decision was complained by a group of individuals to the Self-Government Appealing Board (*Samorządowe Kolegium Odwoławcze*) in Piła. The complainers raised a number of objections to the administrative procedure course, among which the most critical one was that some of the wind turbines were to be constructed on a land that belonged to the Mayor's relative. The Appealing Board found the later justified and ultimately cancelled the environmental decision. At the same time, the Appealing Board assigned a Mayor of Margonin Commune as relevant to proceed the environmental impact assessment of the subject wind farm and issue environmental decision.

FARMA WIATROWA GOŁAŃCZ 121,5 MW



**Current layout of the Pawłowo wind farm**

The company applied to the Mayor of the Margonin Commune for the environmental decision already in May 2010. On May 24, 2010, the Company provided the Margonin authorities with a Development Information Card that summarized the project assumptions and expected environmental impacts. The Company also explained reasons for reduction of number of wind turbines from 60 to 52. The rationale for this was as following:

- location of two turbines had been complained by the individuals during the public consultations within the primary environmental impact assessment;
- one turbine had been resigned of due to geological conditions;
- remaining five wind turbines were located at the area for which a change of the local zoning plan was started.

The turbines to be located at the wind farm were assumed to be of the same type (Acciona AW 82/1500 IEC IIIb T80A LM40.3P) and height (hub height at 80 m asl).

The formal administrative procedure was commenced by the Mayor of Margonin Commune on June 14, 2010, after provision of the supplementary information and documents to the EDPR application. The Mayor of Margonin Commune informed the parties subject to the proceeding by individual notifications as well as by the notification letters posted on the informational boards of the Commune and village authorities. Proper notifications were also published in the local newspapers and magazines as well as in the internet. In reaction, a number of comments and protests were submitted by the local NGOs and individuals.

As required by the environmental law, the need for environmental impact assessment report was consulted by the Mayor of Margonin with the Regional Environmental Directorate (Polish abbreviation RDOŚ) in Poznań and State Sanitary Inspectorate in Wągrowiec (Polish abbreviation SANEPID). Both authorities deemed the EIA report necessary. Ultimately, the Mayor of Margonin issued on August 31, 2010 a resolution that required EDPR to prepare the EIA report which scope should follow the requests of RDOŚ and SANEPID and should properly address the comments and protests submitted by the interested parties.

The EIA report was submitted to the Mayor of Margonin on September 6, 2010, and the same day the Mayor of Margonin announced the 21-day long period of public consultations. This period was extended by the authorities due to the procedural reasons. As part of the public consultations a public hearing was arranged by the Mayor on October 26, 2010. EDPR was represented by project management team as well as by the experts-authors of the EIA report. The meeting was attended by the representatives of Margonin and Gołańcz authorities, citizens of Gołańcz commune and representatives of NGOs. After the meeting, additional consultation points were arranged by EDPR in four villages on 27 and 28 October.

By the end of March 2011, the environmental decision for the 52 turbines of the Pawłowo wind farm has not been issued yet. The technical solutions and impact on nature and environment have been widely discussed between RDOŚ and EDPR since October 2010. As a result of these discussions another three wind turbines have been excluded from the original wind farm layout, thus the total capacity of the farm amount at the moment 73.5 MW. EDPR believes, that all environmental issues have already been clarified to the satisfaction of the authorities and that the environmental decision will be issued soon.

### ***Development of the 7.5 MW wind farm***

The local zoning plan for the area planned for the wind farm was established by the Gołańcz authorities on 28.12.2010 with a resolution No. III/14/10 which allowed EDPR to continue project development activities. In a meanwhile, EDPR decided to reduce number of planned wind turbines from 5 to 4, since one of the turbines was found to cause excessive noise impact.

On August 18, 2010 EDPR applied to the Mayor of Gołańcz Town and Commune for environmental decision for development of a 6 MW wind farm. After consultations with SANEPID in Wągrowiec and RDOS, the Mayor issued a resolution stating that the EIA procedure should be conducted. The EIA report provided to the authorities was finally accepted for further proceeding on October 20, 2010. By the date of this report completion, the environmental decision has not been issued yet.

### ***Development of 31 wind turbines in Wągrowiec Commune***

The Council of Wągrowiec Commune decided not to allow the wind farm developments at the territory of the commune. In such circumstance EDPR decided to stop temporarily any activities related to development of this project.

### ***Supplementary developments***

As the project supporting the development of the Pawłowo wind farm, EDPR developed sub-projects of a 110 kV overhead power line between Rybowo and Sypniewo and main switching station in Rybowo – both aiming at connection of the future Pawłowo wind farm with the national power grid.

The environmental decision for the overhead power line was issued by the Mayor of Gołańcz Town and Commune on February 14, 2011 (although this report aims at presentation of the activities undertaken by the end of 2010, this decision is presented here due to its importance for the overall project development). The environmental decision for the switching station was issued by the Mayor of Gołańcz Town and Commune on December 23, 2010. Both decisions were issued without a detailed environmental impact assessment procedure, since the consulting authorities (Regional Environment Protection Inspectorate in Poznań and State Sanitary Inspectorate in Wągrowiec) acknowledged such as unnecessary.

## **2.3 Other Wind Farm Projects**

EDPR is currently developing a few wind farm projects in Poland. The projects comprise both own developments and construction of the wind farms developed to the stage of construction permits by the third party.

Since EDPR is a joint stock company active in many countries, detailed information on currently on-going development activities cannot be distributed and made publicly available without a written permission of the company headquarters. Since this report is in principle going to be publicly available, information on other than subject projects can be provided to the Banks on a separate request.

### 3 Implementation of the Stakeholders Engagement Plan and Environmental and Social Action Plan

The contract between the banks and EDPR laid a duty upon EDPR to implement actions necessary to meet international standards and banks' requirements, which were listed out in the agreed between the parties Stakeholders Engagement Plan (SEP) and Environmental and Social Action Plan (ESAP). The sections below present how the company implemented both SEP and ESAP.

#### 3.1 Actions Undertaken to Meet the SEP Requirements

The SEP was elaborated in order to formalize communication of EDPR with the project stakeholders and to develop a grievance mechanism.

Following the SEP requirements, EDPR maintained internal and external stakeholders dialogue. The internal dialogue was based on routine exchange of information between different organizational units of the Company and individual involved in the project development. The email exchange, organization of periodical meetings and notifications posted on the information boards were commonly used to assure undisturbed flow of information between the employees.

The external communication was focused on building a good understanding of the Margonin and Pawłowo projects among the local society, NGOs and authorities.

The information about the Margonin wind farm project was published on the EDPR website [www.edprenovaveis.com/Sustainability/EDPRintheCommunity/PoloniaSustainability/Margonin](http://www.edprenovaveis.com/Sustainability/EDPRintheCommunity/PoloniaSustainability/Margonin). Following the Banks recommendations, a disclosure package for the Margonin project, comprising of:

- basic administrative decisions;
- non-technical summary in English and Polish;
- SEP in English and Polish;
- ESAP in English and Polish;
- Environmental and Social Due Diligence report in English;
- Public grievance form;
- The results of noise monitoring at the wind farm;
- The EDPR company results for the first 9 months of 2010.

Moreover, the Environmental Impact Assessment report for the 6 MW wind farm development within the Pawłowo project was published on this website.

Due to the internal corporate standards, the subsidiary offices of EDPR are not allowed to create their own websites. Also the official language of the company website can be chosen between English, Portuguese or Spanish only, thus the Polish version of the website is not available.

Apart from the project website, the company also arranged the Project Information Points (PIP) at the authorities' offices of Margonin and Gołańcz. Copies of documents comprising the disclosure package are available there for review. The PIPs are maintained by the authorities, no EDPR staff is involved directly there. Public grievance forms are also available at the PIPs as well as contact details to the company.

In order to improve communication with the stakeholders, in mid 2010 EDPR hired a public relations company "Q&A Consulting" (Q&A) to maintain in a professional way all activities related to public consultations, disclosure of information to the stakeholders and public opinion researches. Due to the fact, that the Pawłowo project was intensively developed in 2010, the external communication dialogue was concentrated mainly on this project.

The Q&A activities in 2010 were concentrated on co-operation with the "opinion leaders", i.e. local authorities at the Commune and village levels as well as with the local society. Regular meetings in approximately two-weeks intervals were arranged at the Commune offices of Margonin and Pawłowo, to present and discuss status of the projects.

In September 2010, a site tour at the Margonin wind farm was arranged for the officials from the Commune office and village heads from the Gołańcz commune. The site tour was aimed at presentation of the wind farm operational aspects, benefits, risks and impacts to the decision makers and "opinion leaders" from the planned location of the Pawłowo wind farm.

As part of the social support project, EDPR founded the multimedia classrooms for foreign languages teaching in four schools of the Gołańcz Commune. Information about that was published in the local newspapers (Głos Wągrowiecki and Tygodnik Wągrowiecki).

In order to keep the local society up-to-date about the project development, a periodical bulletin is published and distributed per free to all households in the Gołańcz commune. The bulletin, which is published on average every two months, presents facts about the wind energy and project development. In each edition also all contact details to EDPR are provided.

Apart from the bulletins, the information about the project was also published in the local newspapers (Głos Wągrowiecki and Tygodnik Wągrowiecki), in a form of ecology-oriented, four-page pull-outs.

Important part of the communication with the external stakeholders was active participation of EDPR in the public consultations being a part of the administrative environmental impact assessment procedure. Within this activities, EDPR participated in the public hearing meeting at Gołańcz commune on October 26, 2010 and then arranged consultation points at four villages during the next two days. Similar public hearing for the 6 MW part of the Pawłowo wind farm was organized in December 2010. In both cases, information about the public hearings and distribution points was widely spread by means of:

- announcements on the Communes websites and in local press, managed by the authorities;
- announcements in the periodical bulletins, in a two week advance before the events;
- announcements in the local newspapers in a one week advance before the events.

In order to research the community attitude to the wind farms, on request of EDPR the Q&A together with Pentor (public research company) arranged a public opinion poll in the communes of Margonin and Gołańcz. The research proved, that the local society opinion about the wind farms was evenly distributed (approximately 1/3 of interviewees expressed their positive, neutral and negative attitude respectively), however, more than 80% of interviewees assessed the wind farm as generating positive impact on local economy and society. Results of the research were published in the local newspapers.

EDP in its efforts to build positive relationships with the local society arranged in June 2010 an event aimed at popularization of “ecological thinking”, mainly among children. Such action was focused on primary school children and comprised ecology-oriented quizzes and plays. The event was presented in the local newspapers.



*Educational event organized in schools*

At the Margonin wind farm the contacts with the administrative stakeholders followed mainly requirements of the building and environmental laws and comprised required by law notifications before commissioning of particular parts of the development. In case of the Pawłowo wind farm, the communication with these stakeholders comprised also, apart from the activities described above, participation in clarification meetings (in the Commune offices and Regional Environmental Protection Directorate).

The Margonin and Pawłowo projects are also widely presented and discussed in the internet. Some of the related articles can be found at the following websites:

- [http://margonin.pl/index.php?option=com\\_content&task=view&id=170&Itemid=26](http://margonin.pl/index.php?option=com_content&task=view&id=170&Itemid=26)
- [http://margonin.pl/index.php?option=com\\_content&task=view&id=203&Itemid=26](http://margonin.pl/index.php?option=com_content&task=view&id=203&Itemid=26)
- [http://energetyka.wnp.pl/ruszyla-najwieksza-elektrownia-wiatrowa-w-polsce,92762\\_1\\_0\\_0.html](http://energetyka.wnp.pl/ruszyla-najwieksza-elektrownia-wiatrowa-w-polsce,92762_1_0_0.html)

- <http://www.focus.pl/newsy/zobacz/publikacje/wietrzny-margonin/>
- [http://www.wiadomosci24.pl/artykul/w\\_margoninie\\_powstanie\\_farma\\_wiatrowa\\_o\\_mocy\\_120\\_mw\\_162234.html](http://www.wiadomosci24.pl/artykul/w_margoninie_powstanie_farma_wiatrowa_o_mocy_120_mw_162234.html)
- [http://www.elektro.info.pl/index.php?option=com\\_content&view=article&id=4571:farm\\_a-wiatrowa-w-margoninie&catid=1:aktualnoci&Itemid=100016](http://www.elektro.info.pl/index.php?option=com_content&view=article&id=4571:farm_a-wiatrowa-w-margoninie&catid=1:aktualnoci&Itemid=100016)

### 3.2 Actions Undertaken to Meet ESAP Requirements

The actions undertaken by EDPR to fulfill obligations of approved action plan are described below. For convenience, each action required by the ESAP is described individually.

#### ***Development of the ESHS annual report***

This report has been prepared to fulfill this obligation. After the Bank's approval, the report will be published on the company website

([www.edprenovaveis.com/Sustainability/EDPRintheCommunity/PoloniaSustainability/Margonin](http://www.edprenovaveis.com/Sustainability/EDPRintheCommunity/PoloniaSustainability/Margonin)).

#### ***Monitoring of avifauna after completion of each phase of the project***

Based on the ESAP clauses, the monitoring of birds and bats should be conducted within a two-year period after completion of each phase of the project. By the end of 2010, only Margonin wind farm was completed thus this requirement apply to this part of the project only.

The official commissioning of the Margonin wind farm took place in June 2010, however, by the end of the year the wind farm was not fully operational since adjustment of particular wind turbines as well as some additional trial runs were still necessary, thus the wind farm was actually conducting a trial run. Therefore instead of conducting regular avifauna monitoring in 2010, EDPR decided to concentrate its activities on selection of professional team to conduct such monitoring and to plan it in a detailed way. The selection of the monitoring contactor was done based on the bids, which presented also proposed methodology. A group of top quality experts was selected for monitoring execution. The monitoring has started in January 2011 and will last for three years. During this time EDPR will receive quarterly monitoring reports.

#### ***Monitoring of noise impact***

The post-construction monitoring of the Margonin wind farm noise impact was conducted by the company Eko-Pomiar in March and April 2010. The measurements were conducted at eleven observation points located on the border levels of the villages of Margonińska Wieś (1 point), Lipiny (2 points), Kowalewko (1 point), Kowalewo (2 points), Studźce (3 points) and Radwanki (2 points). The measured noise levels did not reveal any breaches of the noise standards for the night time (which are more restrictive than these for the daytime).

The noise measurements were also conducted by WIOŚ (Wojewódzki Inspektorat Ochrony Środowiska – Voivodeship Inspectorate of Environmental Protection) in May 2010. The

measurements were conducted at 15 observation points during the day and night. No breaches of the noise standards both for the daytime and nighttime were indicated.

Both Eko-Pomiar and WIOŚ measurements were conducted during the summer time, where noise propagation conditions are favorable for noise level reduction due to presence of intensive vegetation and lack of snow cover. In order to evaluate the noise impact during a presence of snow cover, EDPR requested another noise impact analysis in January 2011.

Although this report aims at presentation of activities undertaken in 2010, the last noise analysis that were conducted By Eko-Pomiar company in January 2011 are also presented below, due to their importance for the entire project. The full version of the noise analyses report is available on the company webpage.

The January 2011 analyses were aimed at identification of an economical impact of a potential excessive noise generated by the wind farm at the acoustically protected, residential areas, during the weather conditions favorable for long-distance propagation of noise, i.e. during the presence of snow cover. The analyses comprised:

- measurements of noise generated by a single turbine under different wind conditions;
- measurements of actual noise level at the border of Radwankowo village;
- mathematical modeling of the noise impact generated by the wind farm ;
- analyses of possible mitigation measures and its financial consequences.

The measurements of noise generated by a single turbine indicated that the noise level increases from 93.6 dB at a wind speed of 3 m/s (i.e. lower operational range of a wind turbine) to a maximum level of 106.1 dB, for wind speed 7 m/s and above. The noise measurements at the observation point in Radwankowo were then used to calibrate the numerical noise distribution model, which was used to simulate different scenarios of the wind farm operations. The numerical calculations took into account different meteorological conditions (wind speed, temperature, snow cover, etc) and revealed that the most unfavorable conditions at the site occur during 3 winter months of the year. Numerical calculations revealed also that the noise standards at night may be exceeded at most of the observation points (borders of the acoustically protected areas) during the winter time and at some during the rest of the year. Further, mathematical simulation indicated that in the worst case reduction of noise generated by 45 and 11 turbines respectively for winter and summer time, is sufficient to eliminate a risk of excessive noise levels at the protected areas. These may be achieved either by installation of noise reducers at the turbines, or, by turning some of the wind turbines off at night during certain meteorological conditions. In both cases, the annual wind farm productivity will be decreased by approximately 1390 MWh.

The company has not decided which mitigation measure will be implemented at the Margonin wind farm. The decision will be taken after another set of noise measurements aimed at verification of the theoretical analyses, likely still in 2011.

### ***Cumulative impact of the wind farms***

Due to development of the Pawłowo wind farm in the vicinity of the Margonin wind farm, an assessment of the cumulative impact of the farms was required by the ESAP.

The EIA reports prepared for both 73.5 and 6 MW subprojects relate to assessment on cumulative impact of EDPR wind farms and planned in the vicinity wind farm "Kcynia – Zadanie IV" on nature and environment. No negative cumulative impact was identified by the EIA reports.

### ***EH&S management systems***

During the 2010 the company was subject to re-organization and significant management changes. In such circumstances implementation of a formalized EH&S management system was postponed to the year 2011, and the environmental and health and safety issues were managed based on corporate policies and routine, day-to-day practice.

EDPR is implementing a formal environmental management system according to ISO 14001 standard in 2011 and 2012.

### ***Monitoring of the project***

The Margonin wind farm is technically operated by the company headquarter, supported by the on-site representatives (2 people). The Polish branch of the company is in general responsible for management of economical aspects. During the guarantee period, the on-site service is provided by manufacturer of the wind turbines. Overall management of the environmental issues is provided by Ms. Paulina Szuliga-Piętka.

Due to the re-organization and personal changes in the company that took place in 2010, the monitoring of the project was not formalized.

### ***SEP development***

The SEP was implemented by the company. For details please refer to section 3.1.

## 4 Margonin Wind Farm Environmental Issues

In 2010 the development of the Margonin wind farm was completed and the project was gradually turned to operational phase. The environmental issues related to the operations of the wind farm were continuously monitored and any identified issues were managed.

The following environmental issues occurred in 2010:

### ***Complaints on the noise level***

In 2010, the citizens of Adolfowo village complained to the WIOS a noise nuisance related to operation of the wind turbines. In reaction, WIOS conducted control noise measurements, which did not reveal any breaches of the noise level standards.

The company identified a potential for excessive noise occurrence at night during the winter time and is currently selecting the mitigation measures to be implemented in the nearest future (see also section 3.2).

### ***TV signal disturbed***

The citizens of the villages of Lipinki, Radwanki and Kowalewo complained to the company that the analog TV signal was disturbed by operation of the Margonin wind farm. As a mitigation measure the company purchased satellite TV signal receivers for all of the households in these villages. The receivers as well as a pre-paid fee for a two year period were given to the citizens per free. No further complaints related to the quality of TV signal were submitted.

### ***Damage of wind turbines blades***

In April 2010 and October/November 2010, two accidental damages of wind turbine blades took place. In both cases, the turbines were automatically turned off, however, damaged parts of the blades were thrown around in a distance of a few dozen meters. No personal injuries or damages were noted.

Both accidents were deeply analyzed by the manufacturer (Gamesa). In both cases, the technical reports revealed faults that arise during manufacturing. As reported, similar accidents happened with four out of a



***Damaged blade of a wind turbine***  
 (source: Gamesa technical report)

1500 pieces manufactured within the same blades production lot.

Knowing the reasons of the accidents, EDPR decided not to take any particular actions against the manufacturer. The wind turbines are under continuous manufacturers supervision and are subject to regular maintenance program conducted by Gamesa.

***Ice throw effect***

Although no accidents as a result of ice throw have been noted during the winter since the beginning of the Margonin wind farm operation, the company decided to mitigate related risk by placing warning signs on the access roads to each of the operating turbines. The signs inform about entering dangerous area, where falling ice pieces may occur.

## **5 Changes in Environmental Law Affecting the Project**

In 2010 no significant changes which would materially affect Margonin and Pawłowo projects were introduced into the Polish environmental framework.

## **6 Material Project Compliance with Environmental, Social and H&S Regulations**

The company acts in accordance with all applicable Polish regulations and laws.

During the construction phase of the Margonin wind farm, although the works were conducted with reasonable care, some damages and temporary exclusions of the ground from its normal use appeared. During the entire period of construction works, the company paid to 56 individuals 196 compensations for a total amount of 555 004,84 PLN. The compensations were made in majority due to temporary exclusion of ground from its normal use or as a ground-tax refund, and in several cases also for damages of crops. No court trials against the company were instituted because of the construction damages.

No other material non-compliances with environmental, social and H&S regulations or law appeared in 2010.

## **7 Material Social and H&S Matters**

No material social and H&S issues were noted at the Margonin wind farm. In particular, no prosecutions due to social or H&S issues were instituted to the company and no accidents affecting human health or life or damages to material goods belonging to third parties took place at the site in 2010. As established based on the public opinion research (see section 3.1), the project created positive attitude of the society with respect to benefits related to wind farm presence, and number of individuals having neutral or positive attitude exceeds the number of these with negative attitude.