

# **Determination Report**

Determination of the "Benaiciai Wind Power Project, Lithuania",

> Report No. 907778 Revision 2

> > 2008, May 5

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#### Summary:

The Certification Body "Climate and Energy" of TÜV SÜD Industrie Service GmbH has been ordered by the Nordic Environment Finance Corp.. in Helsinki, Finland, to determine the above mentioned JI project.

The determination of this project has been performed by document reviews, an audit at the location of the project and interviews at the offices of the project owner and its technical advisor.

The need for corrective action request (CAR) and clarification requests (CR) is described in the report and the attached determination protocol.

As result of this procedure, it can be confirmed that the submitted project documentation is in line with all requirements set by the Marrakech Accords and the Kyoto Protocol.

Additionally the assessment team reviewed the estimation of the projected emission reductions.

We can confirm that the indicated amount of 130 634 tons CO<sub>2</sub> (ERUs) during the Kyoto crediting period from January 1<sup>st</sup>, 2008 – December 31<sup>st</sup>, 2012 represents an estimation which is according to the forecast of the turbine supplier and using the assumptions given by the project documents. In the event that the Government of Lithuania agrees to transfer of Assigned Amount Units, it is foreseen to generate early credits in the amount of 26 127 for the year 2007 which are also estimated in the same way.

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## **Abbreviations**

**BM** Build Margin

**CAR** Corrective action request

**CR** Clarification request

**DFP** Designated Focal Point **DP** Determination Protocol

**EIA** Environmental Impact Assessment

**ER** Emission reduction

**ERU** Emission Reduction Unit

**GHG** Greenhouse gas(es)

**GSP** Global Stakeholder consultation Process

JI Joint Implementation

JISC JI Supervisory Committee

**KP** Kyoto Protocol

MP Monitoring Plan

MS Management System

NAP National Allocation Plan due the EU Emissions Trading Scheme

**OM** Operating Margin

PDD Project Design Document

PIN Project Idea Note

SCADA Supervisory Control And Data Acquisition

TÜV SÜD Industrie Service GmbH

**UNFCCC** United Nations Framework Convention on Climate Change

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## 1 INTRODUCTION

# 1.1 Objective

NEFCO Nordic Environment Finance Corporation, Finland, has commissioned TÜV SÜD Industrie Service (in short: TÜV SÜD) to make a determination of the "Benaiciai Wind Power Project" (in short: Benaiciai wind) with regard to the relevant requirements for JI project activities. The determination serves as a design verification and is a requirement for all JI projects submitted to the JISC. The purpose of a determination is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

## 1.2 Scope

The determination scope is defined as an independent and objective review of the project design document (PDD), the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of ERUs.

The determination is not meant to provide any consulting towards Achema Hydrostytis. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

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# 1.3 GHG Project Description

The project foresees the erection of a wind farm near the west coast of Lithuania, Kretinga district, near to the villages Benaiciai and Zyneliai, close to Latvian border. The Benaiciai wind will have a total installed capacity of 16.5 MW (6 Vestas V-100 à 2,75 MW) and qualifies as a Jl-project. It will feed into the Lithuanian national grid a total estimated supply of 44 400 MWh per year. The electricity generation by the wind turbines will replace energy which is produced in the "Lithuanian power plant (Lietuvos elektrine)".

Benaiciai wind farm should have been commissioned at the end of 2006. The generated ERUs are supplied by *UAB Achema Hidrostotys*, a private wind power development company, located in Kretinga, Lithuania. The project documentation has been developed by the project proponent, Ekostrategija, located in Vilnius, Lithuania, with additional support by other institutions.

## 2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where TÜV SÜD has documented how a particular requirement has been validated and the result of the determination.

The determination protocol for this project consists of three tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Appendix A to this report.

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Determination Protoco	l Table 1: Mandatory	Requirements	
Requirement	Reference	Conclusion	Cross reference
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report.  O is used in case of an outstanding, currently not solvable issue, Al means Additional Information is required.	Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.

Determination Protoco	ol Table 2: Req	uirement checklist		
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in six different sections. Each section is then further subdivided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to noncompliance with the checklist question (See below). Clarification or Additional Information is used when the independent entity has identified a need for further clarification or more information.

Determination Protocol	Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests							
Draft report clarifica- tions and corrective action and additional Information requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion					
If the conclusions from the draft determination are either a Corrective Action Request or a Clarification or Additional Information Request, these should be listed in this section.	Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification or Additional Information Request is explained.	The responses given by the Client or other project participants during the communications with the independent entity should be summarised in this section.	This section should summarise the independent entity's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".					

Figure 1 Determination protocol tables

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### 2.1 Review of Documents

A first PDD (final draft version, August 2006) were submitted to TÜV SÜD by Ekostrategija on October 27, 2006. As a result of the onsite-assessment the PDD was revised (version 2, January 2007 as pdf) and sent to TÜV SÜD on January 29, 2007 for publishing on the TÜV SÜD website <a href="https://www.netinform.net">www.netinform.net</a> and on JISC-website. The publishing on JISC-website was confirmed on January 30, 2007. After given comments from TÜV SÜD a renewed PDD-version (version February 2007, Benaiciai\_PDD\_2007-v02.doc) which served as the basis of this determination report. Review of additional documents led to more changes in the PDD, resulting in PDD version 3, 4 and version 5 (issued April, 2007).

Due to the reply from JISC further adjustments were requested regarding referencing of additional documents. On 15. April 2008 a new version 6 (April 2008) of PDD was provided. The version 6 of PDD is the actual version which serves as the version for the revised submission for registration.

# 2.2 Follow-up Interviews

On October 31, 2006 TÜV SÜD performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the project proponent Ekostrategija, the wind farm owner Achema Hydrostytis and the Municapility of Kretinga have been interviewed.

The main topics of the interviews are summarised in Table 1. The complete and detailed list of all persons interviewed is enclosed in Appendix B to this report.

**Table 1: Interview topics** 

Interviewed organi- sation	Interview topics
Achema Hydrostytis	Project design, monitoring plan, stakeholder comments, monitoring procedures, measurement equipment, documentation, archiving of data
Municipality Kretinga	Approval of the project, stakeholder comments, national and sectoral policy; approval procedure
Ekostrategija	Project design, baseline, monitoring plan and procedures, environmental impacts, stakeholder comments, additionality, business plan

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# 2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for TÜV SÜD's positive conclusion on the project design.

Most findings and comments during the follow-on interviews were immediately resolved and the result included into PDD version 2 (January 2007), which has been made publicly available for the consultation by global stakeholders on the JISC-Website. A determination protocol was sent to the Ekostrategija with 20 CARs. The most of the CARs were resolved by changes in the PDD version 3 (March 2007) others and the CAR#3 and CAR#11b were resolved by additional information and adjustments regarding production figures finally in the PDD version 5 (April 2007).

To guarantee the transparency of the determination process, the concerns raised and the responses given are summarised in chapter 3 below. The whole process is documented in more detail in the determination protocol in Appendix A.

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#### 3 DETERMINATION FINDINGS

In the following sections the findings of the determination are stated. The determination findings for each determination subject are presented as follows:

- 1) The findings from the review of the PDD (version 2) and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Appendix A.
- 2) Where TÜV SÜD had identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification, Corrective Action Requests and Additional Information Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A.
- 3) Where Clarification Requests and Additional Information Requests have been issued, the exchanges with Ekostrategija to resolve these Clarification and Additional Information Requests will be summarized in the determination report.
- 4) The conclusions of the determination are presented consecutively.

## 3.1 Project Design

# 3.1.1 Findings

The established wind turbines are of modern, state-of-the-art systems and amongst the few turbines in Baltic States with a capacity of more than 2 MW. The project reflects a professional standard scale wind park as it can be found in many European countries (where – in contrast to Lithuania - appropriate support mechanisms guarantee the profitability of such projects). In Lithuania, those wind farms was hitherto not in operation. Hence, the employed technology is good practice in the host country. It is, moreover, not likely that the project technology will be substituted by a more efficient technology.

The existing implementation schedule is ambitious but realistic. The implementation was already far advanced when the onsite-visit took place. Since end of 2006 the wind farm is in operation and the envisioned schedule has been met.

In the first five years the turbine manufacturer will be responsible for support and maintenance and the operation of the turbines is online monitored by the manufacturer's service centre in Germany. After the given time period Lithuanian company will be hired for maintenance tasks.

The project starting date is defined as start of construction works for the wind towers October, 2006. The crediting period is defined as being from January 1, 2008 to December 31, 2012 (additional period for early crediting from January 1, 2007 to December 31, 2007). Also the operational lifetime of the project is mentioned with 20 years and in accordance with international practice.

Lithuania has appointed a national focal point to UNFCCC and has ratified the Kyoto Protocol. Also a DFP is officially nominated. The project is approved by the Lithuanian government, represented by the Ministry of the Environment. Meanwhile the Lithuanian JI-Guidelines are published yet on the JISC-website.

The NEFCO is the Fund Manager of the multinational Baltic Sea Region Testing Ground Facility (TGF), and has been authorised by the governments investing in the TGF to participate on their

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behalf in actions leading to the generation, transfer and acquisition of ERUs under Article 6 of the Kyoto Protocol. Sweden as TGF members is now the designated project participant of this project. Sweden has already officially nominated the DFP. National JI-Guidelines from the investor country are also available.

## 3.1.2 Issued CARs / CRs

#### **CORRECTIVE ACTION REQUEST #1:**

The next versions of PDD should indicate the exact date and the version number.

Response: Revised PDD (version 02, Jan. 07) was provided. However the revised version sent in February 2007 indicates the same version number as the January version.

#### **CORRECTIVE ACTION REQUEST #2:**

The wind park calculation should be done once more with all current data. A correlation with the long term data should be included. It should be indicated which wind measurements were used. The calculation should be testified by signature of the respective expert of Vestas.

Response: Revised PDD (v. 02, Jan. 07) was provided. The power output was corrected according to new calculations.

#### **CORRECTIVE ACTION REQUEST #3:**

The PDD should explain which figures of production calculation were used and also how much was discounted from the result of wind park calculation.

Response: Revised PDD (v. 02, Jan. 07) was provided. The power output was corrected according to new calculations.

#### **CORRECTIVE ACTION REQUEST #4:**

Until submitting for registration of the project at the UNFCCC the table A.3. has to be completely filled out with the needed information regarding investor party.

Response: The current JISC-Decision on investor country approvals says that the approval from investor country is needed latest when submitting the first verification report for publication.

#### **CORRECTIVE ACTION REQUEST #5:**

The red circle in the overview map (page 3) is not exactly there where the project is located; this should be adjusted.

Response: Revised PDD (v. 02, Jan. 07) was provided. The indicated point in the map corresponds now to the real location.

#### **CORRECTIVE ACTION REQUEST #6:**

The tendering process and the support by feed-in-tariff system should be described.

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Response: Revised PDD (v. 02, Jan. 07) was provided. The tendering process and the support by feed-in-tariff system are sufficiently described.

#### **CORRECTIVE ACTION REQUEST #7:**

The version number and issuing date of baseline methodology should be mentioned in the PDD.

Response: Revised PDD (version 02, Jan. 07) was provided.

#### Corrective Action Request 11b:

"Crediting period" is only defined for the Kyoto-period and lasts 5 years. The additional period from Jan. 1, 2007 to Dec. 31, 2007 for generating early credits should be named differently.

Response: Revised PDD (version 05, April. 2007) was provided.

#### 3.1.3 Conclusion

The current PDD version is sufficiently identifiable.

The mentioned production figures in the revised PDD are now consistent to the calculations handed out during the onsite-assessment. There are now at least deductions made in order to regard the losses for transformation (2%) and technical availability (4%) of the wind turbines. These deductions are conservatively estimated. This is acceptable although further deductions are not foreseen in order to have a safety margin due to changing wind conditions.

The project itself fulfils the prescribed requirements completely. The foreseen technology does reflect current good practice for generation of electricity using wind power. The technical data are consistent and plausible. The crediting period is clearly defined.

The project uses technology that goes beyond the state of the art in the host country. It is moreover very unlikely that the foreseseen project technology will be substituted during the crediting period by a still more efficient technology .

The PDD contains information how training, operating, controlling, maintenance will be organized and managed. The aspects regarding future responsibilities and quality assurance are fixed.

Besides the Letters of Approval there are already published the National JI-Guidelines of Lithuania.

## 3.2 Baseline

## 3.2.1 Findings

The baseline of the Lithuanian JI-project "Benaiciai Wind Power JI project" is established in a project specific manner. The BASREC JI Project Guidelines (see section B.1) has been used as a basis for developing the baseline and monitoring methodology. Due to the country specific circumstances the CDM-Methodology ACM0002 is not proper to be applied. In Benaiciai wind power project baseline is calculated referring to historic data.

The baseline is based on the facts that

- the power plant of Lietuvos Elektrine is operating on the power grid as the sole marginal plant in Lithuania. Lietuvos elektrine has the biggest variable costs of electricity generation in Lithua-

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nia. It covers all power demand which is remaining after all other power producers have supplied their quota power to the grid and

- there is an overcapacity of installed power in Lithuania, so only very few new power plants are built.

Because of that, it can be assumed that Operating Margin and Build Margin emissions factor is more or less identical with the emission factor of the power plant of Lietuvos Elektrine. The determined baseline emission factor for the electricity grid corresponds also to the second NAP regarding new installations.

According to the PDD the sale of ERUs during 2008-12 improves the project IRR by ca. 0.3 percentage points and thus makes the project a bit more attractive for the investors to undertake.

Except above mentioned IRR-value the discussion and selection of the baseline methodology is transparent as all data used are specified and documented. Also the discussion and determination of the chosen baseline is transparent. Different approaches have been presented and plausible reasons for the approach chosen have been given.

In comparison to other support systems in Western Europe it is obvious that the existing Lithuanian feed-in tariff results in an inadequate rate of return and it is unsure whether the current feed-in-tariff is guaranteed for a longer term. No large wind turbine farm is operating in Lithuania which is not supported by a JI-project or other grants.

Benaiciai Wind can result in double counting due to the feeding of generated electricity into the national electricity grid and due to the grid-connected power plants which are covered by the EU Emissions Trading Scheme. Hence we checked during our determination whether the project is preliminary approved by the Lithuanian Government, represented by the Ministry of the Environment in order to be sure that the project is known. The preliminary approval by the Lithuanian government was given (Lithuanian Ministry of Environment, Letter of Endorsement of Benaičiai wind power-plant JI project, Nr. (10-5)-D8-7537 from 2006-09-19). Therefore it remains at the Lithuanian Government to take care for considerable action reflecting this double counting issue either by linking this project activity to any existing JI reserve within the second NAP or by deleting the respective amount of EUAs.

#### 3.2.2 Issued CARs / CRs

#### **CORRECTIVE ACTION REQUEST #8:**

It should be explained, why the used methodology approach is reasonable in comparison to the approach "Average emissions of similar projects undertaken in the previous 5 years, in similar social, environmental and technological circumstances, and whose performance is in the top 20 per cent of their category" and with the CDM methodology ACM0002 and why in comparison to them the used approach is conservative, too.

Response: Explanation is added in B.1.

#### **CORRECTIVE ACTION REQUEST #9:**

The additionality should be demonstrated acc. JI Guidance on criteria for baseline setting and monitoring see <a href="http://ji.unfccc.int/Ref/Documents/Baseline\_setting\_and\_monitoring.pdf">http://ji.unfccc.int/Ref/Documents/Baseline\_setting\_and\_monitoring.pdf</a>

To demonstrate financial additionality the financial analysis has to be provided to the audit team. Within the financial analyses it should be included a sensitivity analysis regarding higher or lower production (e.g.  $\pm$  12%) and higher or lower prices for carbon credits.

Response: B.2. is updated according to Tool for the demonstration and assessment of additionality. Sensitivity analysis is demonstrated.

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#### **CORRECTIVE ACTION REQUEST #10:**

A detailed list of those projects should be presented and it should be demonstrated that all of them suffer from the same barriers and need therefore support by external grants or the JI-program.

Response: Only two wind power parks of the commercial scale are developed at the moment. Both apply for JI support. It is mentioned in B.2.

#### 3.2.3 Conclusion

The additional explanations regarding baseline methodology are sufficiently. The baseline is established in a project specific manner and refers to the characteristics of the Lithuanian power plants. The baseline does take into account the major national and/or sectoral policies, macroeconomic trends and political developments. The determined baseline emission factor for the electricity grid is consistent with the NAP. Relevant key factors are described and their impact on the baseline and the project risk is evaluated. The baseline determination is compatible with available data and can be considered as conservative.

An excel file was provided where financial analysis including sensitivity analysis is elaborated. The mentioned IRR of investment for this project and a forecasted annual electricity generation of 41,700 MWh is about 6.2 % without ERUs.

The revenue of ERUs lifts the IRR about 0.3 % which makes the project a bit more attractive for the investors to undertake. However the mentioned benchmark for investments of gas-fired cogeneration plants is not reached 15 %.

The IRR-Benchmark on investment costs of 15 % is demonstrated with typical cogeneration plants, which are supported by the EU.

Additionally to the demonstrated Step 2 "investment analysis" it is shown in Step 3 "Barrier analysis" that the investment barriers are considerable, which are well known for Lithuania.

Taking to account the estimation of generation and the respective financial attractiveness the implementation of the wind park project can be considered as additional. The project fulfils all prescribed requirements completely.

# 3.3 Monitoring Plan

# 3.3.1 Findings

No separate monitoring plan exists but a detailed description of monitoring activities in section D of the PDD. During the initial verification audit it should be checked whether the PDD-description has been used as basis for a separate, detailed monitoring plan.

Section D.2. of the data lists only the data to be monitored during the operational phase of the wind farm ( $EG_y$  – amount of electric power supplied to the grid) but not the data needed to calculate the ex-ante emission margin.

The presented monitoring methodology does reflect current good practice and is supported by the monitored and recorded data. The monitoring methodology is in accordance with the chosen methodology. The monitoring provisions are in line with the project boundaries.

The project proponents decided to use the net energy production (energy which is fed into the grid minus energy which is taken from the grid in times where the wind farm does not produce enough energy to cover its auxiliary demand). Therefore no project emissions have to be taken into account for the externally provided auxiliary energy. No leakage exists. The baseline emis-

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sion factor will not be changed during the crediting period. The only remaining variable to be monitored is therefore  $EG_y$ . This parameter will be monitored and measured in a re-traceable and plausible way. The monitoring provisions are in line with the project boundaries. In case of meter malfunctions the internal metering system of the wind turbines (SCADA-systems) can serve as back-up.

#### 3.3.2 Issued CARs / CRs

#### **CORRECTIVE ACTION REQUEST #10:**

A detailed list of those projects should be presented and it should be demonstrated that all of them suffer from the same barriers and need therefore support by external grants or the JI-program.

Response: Few wind power parks of the commercial scale are developed at the moment. All of them apply for JI support. It is mentioned in B.2.

#### **CORRECTIVE ACTION REQUEST #11a:**

Additional to the contact information in section B.4. it should be explicitly indicated that Ekostrategija is not an project participant.

Response: Revised PDD (v. 02, Jan. 07) was provided.

#### **CORRECTIVE ACTION REQUEST #12:**

The mentioned amount of electric power has to be considered as baseline emissions. Hence this parameter should be cancelled in the section D.1.1.1 of the PDD.

Response: Revised PDD (v. 02, Jan. 07) was provided.

#### **CORRECTIVE ACTION REQUEST #13**

All parameters which are necessary to determine baseline emissions should be mentioned and explained, independently whether the parameter is a default value or has to be calculated once in advance or has to be monitored during the whole crediting period.

Response: Data from Annex 3 were put to D.1.1.3 and corrected/added new. D1.1.3 table was reduced for one factor (annual power production at Benaiciai power plant). Corresponding reasoning added to the end of B1.

#### **CORRECTIVE ACTION REQUEST #14**

For all parameters to be monitored the list regarding quality assurance and quality control in section D2 should be filled in.

Response: Table D2 is compiled

Table D2 is reduced according to changes to D1.1.3.

### **CORRECTIVE ACTION REQUEST #15**

The determination of the grid factor and the formulas used to estimate it has to be explained in the chapter D.1.1.4, too. In section B.1. only the description and justification of the baseline is

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expected there. At least in D.1.1.4 should be referred to section B.1. where the data and estimation of grid factor is provided.

Response: Added description of formulae that should be used for baseline monitoring during the project operation. B1 contains the description on how the baseline was set. D.1.1.4 now refers to B1, for explanation of one parameter.

#### **CORRECTIVE ACTION REQUEST #16**

The operational and management structure should be described.

Response: Have added description of management structure of Achema Hydrostytis and responsibilities for making the monitoring report.

#### **CORRECTIVE ACTION REQUEST #17**

Responsibilities for collecting the data, controlling/checking the data, calibrating the counters, and elaborating the monitoring report .....should be described.

Response: Responsibilities Added in D.3.

### **CORRECTIVE ACTION REQUEST #18**

The monitoring plan has to be revised in Annex 3 of the PDD.

Response: Similar table to the one in D1.1.3 is added in Annex 3 - for collecting the monitoring data.

Added short description to annex 3 on how monitoring will be performed. Maybe there is no need for excel spread sheet, as only two figures will have to be multiplied for calculation of emission reductions.

#### 3.3.3 Conclusion

The monitoring plan focuses on measurable parameter (annual power production). The parameter which are determined in advance and are valid for the whole crediting period are not mentioned separately. This approach is sufficient, as the current JI PDD format does not require indicating each parameter which is used to calculate baseline emissions.

It is clearly mentioned that annual power production means the net energy production (delivered electricity to the grid minus the demanded electricity from the grid).

The description of management structure is sufficiently described. All aspects regarding future responsibilities for registration, monitoring, measurement are already fixed in advance. The monitoring plan in Annex 3 is not comparable with a monitoring manual for the monitoring personnel. A printout of a pre-prepared excel-spread-sheet to ease recording and reporting is not amended. This could be accepted as only very few figures have to be recorded and multiplied for calculation of emission reductions and because no further requirements exist for Annex 3. Nevertheless it remains a minor risk that the monitoring is not traceable. Also a respectively prepared logbook to write down the read values can be very helpful for the monitoring staff.

Finally in the PDD version 4 in annex 3 the table there foresees now to enter the data from the indicated values of the electricity meter itself, the ID-number and the meter constant. Assuming that these data will be recorded accordingly, traceable values based on the relevant meters can be provided.

The above discussed issues are considered to be resolved. The project fulfils all the prescribed requirements completely.

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## 3.4 Calculation of GHG Emissions

## 3.4.1 Findings

The calculation is according to the approved methodology. Uncertainties in the GHG emissions estimates are addressed.

The project's spatial boundaries are clearly described. Regarding emission sources all aspects are covered. Only CO2 emissions have correctly been identified as relevant for the project. No aspects of leakage have been identified; hence a leakage calculation is not requested.

The project will definitely result in fewer GHG emissions than the baseline scenario. The used forecast of electricity generation is based on the delivered estimation by the turbine supplier. The calculation of emission reductions itself is correctly computed.

#### 3.4.2 Issued CARs / CRs

#### **CORRECTIVE ACTION REQUEST #19**

It should be reasonable explained which values are used here and which discounts are justified.

Response: Revised PDD (v. 02, Jan. 07) was provided. The power output was corrected according to new calculations.

#### **CORRECTIVE ACTION REQUEST #20**

The figures regarding to CO2 emissions are not completely consistent with the data given in B.1.

Response: That was an old table there because file has crashed. Respective tables in annex 2 and B.1. were updated.

## 3.4.3 Conclusion

The above discussed issues are considered to be resolved. The project fulfils all the prescribed requirements completely.

## 3.5 Environmental Impacts

## 3.5.1 Findings

The most relevant environmental impacts are sufficiently described in the PDD. An EIA was not necessary, which is confirmed by a letter from Ministry of Environment. The concerned municipality has also decided that an EIA is not necessary. In accordance with local and national laws the siting of the wind turbines has been chosen in such a way that no residents will be disturbed.

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It is not expected that there will be any adverse environmental effects. There are no transboundary environmental impacts by the wind farm project.

#### 3.5.2 Issued CARs / CRs

No such requests have been issued.

#### 3.5.3 Conclusion

The project fulfils all prescribed requirements.

## 3.6 Local stakeholder process

## 3.6.1 Findings

Beginning of preparation of project's detailed plan was announced in newspaper "Švyturys" Num. 58(7685) " on July 27, 2005. The last stage of public consideration of the project detailed plan was announced in the newspaper "Švyturys" Num. 65 (7692)", August 20, 2005. Public exposition of detailed plan took place in 2005-09-19 to 2005-10-03 in Kretinga region culture centre in S. Ipilties village. On October 4, 2005 detailed plan project was considered in culture centre in S. Ipilties village. Stakeholders have not expressed any objections.

There have been no comments, which would have required any further action.

Provided information deems that the consultation process was carried out according the national regulations. The conducted stakeholder process is sufficiently described.

#### 3.6.2 Issued CARs/CRs

No such requests have been issued.

#### 3.6.3 Conclusion

The project fulfils all the prescribed requirements.

# 4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD started to publish the PDD and the baseline study on its homepage and on the UNFCCC JI project site on January 31, 2007 and was open for comments until March 1, 2007.

Within this period no comments have been received.

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## 5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the "Benaiciai Wind Power JI Project, Lithuania".

The determination was performed on the basis of UNFCCC criteria as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project itself meets all relevant UNFCCC requirements for JI.

By building a wind farm with state of the art wind turbines the project results in reductions of CO<sub>2</sub> emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

The eligibility criterion regarding National JI-Guidelines of the host country is meanwhile fulfilled. The Letters of Approval of host and investor country are issued.

The determination is based on the experience of our own onsite visit and on the information made available to us and the engagement conditions detailed in this report. TÜV SÜD can not guarantee the accuracy or correctness of this information. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the determination opinion."

Munich, 2008-05-05

Munich, 2008-05-05

Werner Betzenbichler

Head of certification body "climate and energy"

Klaus Nürnberger

**Project Manager** 

# Annex 1



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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A. G	General description of the project				
A.1.	Title of the project activity:				
A.1.1.	Does the used project title clearly enable to identify the unique JI activity?	3	The project title clearly enables the identification of the JI activity. At this moment there are not any other wind farms near Benaiciai.	V	V
A.1.2.	Are there an indication of a revision number and the date of the revision?	3-5	The revision number and the date of the issuance of this revision are mentioned but not very detailed.		V
			Corrective action request:	CAR1	
			The next version of PDD should indicate the exact date and the version number.		
A.1.3.	Is this in consistency with the time line of the project's history?	3-5	The given dates are in consistency with the time line of the project development.	$\square$	V
A.2.	Description of the project activity:				
A.2.1.	Is the description delivering a transparent overview of the project activities?	3-5	The description of the project activity delivers a transparent overview of the project activities.	$\square$	$\overline{\checkmark}$
A.2.2.	What proofs are available evidencing that information provided in the description is in	1-27	A meeting with the representatives of the relevant Municipality Kretinga proved that the project is known.	$\square$	V
	compliance with actual situation or plan- ning?		Licences for construction described wind turbines.		
	Tillig:		Thewind park calculation done by Vestas was presented.		
			The Turbines were already prepared for erecting.		
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1-27	The information provided by the PDD corresponds not exactly with the information surveyed by the validation team. The estimated production of electricity in the PDD is a bit higher than in the wind park calculation. Further it was not clear whether the long term data of Palanga meteorological station were regarded.		V
			Corrective action request:	CAR2	

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
			The wind park calculation should be done once more with all current data. A correlation with the long term data should be included. It should be indicated which wind measurements were used. The calculation should be testified by signature of the respective expert of Vestas.		
			Corrective action request:	CAR3	
			The PDD should explain which figures of production calculation were used and also how much was discounted from the result of wind park calculation.		
A.2.4.	Is all information provided in consistency with details provided by further chapters of the PDD?		Detail information as well as summaries is consistent throughout the PDD.	N	V
A.3.	Project participants:				
A.3.1.	Is the form required for the indication of project participants correctly applied?	2-5	All relevant parties and entities are mentioned. Nevertheless it is not indicated yet which investor country wants to be project participant.		Ø
			Corrective action request:	CAR4	
			Until submitting for registration of the project at the UNFCCC the table A.3. has to be completely filled out with the needed information regarding investor party.		
A.3.2.	Is the participation of all listed entities or Parties confirmed by each of them?	1-5	All responsible persons of all involved entities have been contacted directly or by phone. The participation was confirmed orally.	Ø	Ø
A.3.3.	Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?		Name and function of project participants is consistently used throughout the PDD, including annex 1	V	Ø

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD		
A.4. 1	Technical description of the project act	ivity:					
A.4.1.	A.4.1. Location of the project activity:						
A.4.1.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1-5	The location of project activity is described briefly. In the PDD there is one overview map and one detail map which should indicate the position of the wind farm and even of the individual turbines.		V		
			Corrective Action Request:	CAR5			
			The red circle in the overview map (page 3) is not exactly there where the project is located; this should be adjusted.				
A.4.1.2.	How is it ensured, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	6-19	The ground needed for the turbines is leased or was bought by the wind park owner. The licenses for construction are already issued. Hence there are no indications of potential problems regarding implementation of the project at foreseen site.	Ø	V		
A.4.2.	Project activity type(s) and category(ies	:):			•		
	category(ies) is the project activity to? Is it correctly identified and indicated?	2-5	The project belongs to type I (renewable energy projects). For JI project there is no requirement to indicate explicitly the category of the project type in the PDD.	V	V		
A.4.3.	Technology(ies) to be employed, or me	asures,	operations or actions to be implemented by the project activity	· ':	•		

Page A-3 Table 1 is applicable to JI PDD form

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.3.1.	Does the project design engineering reflect current good practices?	1-5	The project reflects a standard wind park as it can be found in many European countries where appropriate support mechanisms guarantee the profitability of such projects. In Lithuania, hitherto those wind farms do not exist.		
A.4.3.2.	Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	1-5	The detailed data of the wind turbine, combined with the wind generation estimate, allow a reasonably solid estimation of the electricity production and thus the GHG reduction.	V	V
A.4.3.3.	Is the technology implemented by the project activity environmentally safe?	1-5, 12, 14	The only conceivable environmental influence of wind turbines is on noise and may be on birds. The environmental impacts are described plausible in the PDD. The Lithuanian Ministry of Environment declared the non-necessity of EIA.	V	Ø
A.4.3.4.	Is all information provided in compliance with actual situation or planning as available by the project participants?	2-5	The PDD reflects the actual situation correctly.		<b>V</b>
A.4.3.5.	Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	2-8	The planned wind turbines are modern state-of-the-art turbines. Turbines. In Lithuania such there are up to now very few wind turbines erected which are all quite new and therefore comparable to the planned turbines.	<u>S</u>	<b>V</b>
A.4.3.6.	Is the project technology likely to be substituted by other or more efficient technologies within the project period?		It is not expected that today's highly efficient wind turbines will be substituted by better technologies within the project period.	V	Ø
A.4.3.7.	Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	6, 7	As the first five years the turbine manufacturer will be responsible for support and maintenance. One person of Vestas will be located nearby in Kretinga who will be responsible for support and maintenance. 2 operators of Achema were trained in Denmark, by Vestas. Further is a project specific training on-site necessary.	V	<b>V</b>
A.4.3.8.	Does the project make provisions for	6,7	The provisions regarding training and maintenance are contracted	V	V

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD	
	meeting training and maintenance needs?		with the manufacturer of the wind turbines.			
A.4.3.9.	Is a schedule available on the implementation of the project and are there any risks for delays?	27	An implementation schedule does exist. The implementation is already far advanced. Nevertheless the schedule is quite tight. Especially bad weather conditions can be a risk for delay.	V	V	
A.4.4.	<b>A.4.4.</b> Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed project activity, including why the emission reductions would not occur in the absence of the proposed project activity, taking into account national and/or sectoral policies and circumstances:					
A.4.4.1.	Is the form required for the indication of projected emission reductions correctly applied?	2-5	The form is correctly filled out.	V	V	
A.4.4.2.	Are the figures provided consistent with other data presented by the PDD?	2-5	The figures in the form correspond to the other data presented in the PDD	V	V	
A.4.5.	Public funding of the project activity					
A.4.5.1.	Is the information provided on public funding provided in compliance with the	2-5	The information on public funding especially regarding tendering and feed-in-tariff system for renewable energies is not described.		V	
	actual situation or planning as available		Corrective Action Request:	CAR6		
	by the project participants?		The tendering process and the support by feed-in-tariff system should be described.			
A.4.5.2.	Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?		Information provided is consistent with the details given in remaining chapters of the PDD.	Ø	V	
A.5.	Project approval by the Parties involved	d:				
Open is	sues related to the approval of the Parties inv	olved aı	re covered in a separate "completeness checklist"			

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD					
B. B	B. Baseline									
B.1.	B.1. Description and justification of the baseline chosen									
B.1.1.	Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	2-5	The Baseline methodology is indicated as BASREC JI Project Guidelines (see section B.1). The version number is not mentioned.	CAR7	<b>V</b>					
			Corrective Action Request:							
			The version number and issuing date of baseline methodology should be mentioned in the PDD.							
B.1.2.	Is the applied version the most recent one or still applicable?	2-5	The used baseline methodology does not cover all requirements of BASREC JI Handbook (see 4.1.2 c) and CDM methodology ACM0002.							
			Corrective Action Request:	CAR8						
			It should be explained, why the used methodology is comparable with the approach "Average emissions of similar projects undertaken in the previous 5 years, in similar social, environmental and technological circumstances, and whose performance is in the top 20 per cent of their category" and with the CDM methodology ACM0002 and why in relation to this the methodology is conservative, too.							
B.1.3.	Is the applied methodology considered being the most appropriate one?		See above B.1.3.		<b>V</b>					
B.1.4.	Does baseline methodology apply to electricity capacity additions from wind sources?		Yes, the used methodology is in principle applicable for additional capacity from wind power plants. See above B.1.3		<b>7</b>					

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				mado	ule Service				
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B.1.5.	Can the geographic and system boundaries for the relevant electricity grid clearly be identified and is the information on the characteristics of the grid available		Yes, the geographic and system boundaries for the Lithuanian electricity grid can clearly be identified. Relevant information on the characteristics of the grid are available but not to this extent as required by CDM-methodology ACM0002. See above B.1.3		V				
B.2.	B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the project activity								
Descrip	tion of how the baseline scenario is identified a	nd desc	ription of the identified baseline scenario						
B.2.1.	Have all technically feasible baseline scenario alternatives (at least all scenarios listed under step 1a in the additionalty tool) to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?	2-5, 28- 31	In the published PDD version, the additionality is not demonstrated according to the "Tool for the demonstration an assessment of additionality". If other demonstration tools are used, the appropriateness has to be explained and justified.  Corrective Action Request:  The additionality should be demonstrated acc. JI Guidance on criteria for baseline setting and monitoring see <a href="http://ji.unfccc.int/Ref/Documents/Baseline setting and monitoring.pdf">http://ji.unfccc.int/Ref/Documents/Baseline setting and monitoring.pdf</a>	CAR9	V				
B.2.2.	Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?		See above B.2.1		V				
B.2.3.	Have applicable regulatory or legal requirements been identified?		See above B.2.1		V				
B.2.4.	In case of applying step 1 of the additionality tool: is the operating margin appropriately calculated?		See above B.2.1		V				
B.2.5.	In case of applying step 2 of the additionality tool: Is the analysis method appropriately identified (step 2a)?		See above B.2.1		V				

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.2.6.	In case of Option I (simple cost analysis): Is demonstrated that the activity produces no economic benefits other than JI income?		Not applicable		V
B.2.7.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified?		Not applicable		V
B.2.8.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified?	28- 31	IRR on investment is chosen as financial indicator which is suitable.		$\overline{\mathbf{A}}$
B.2.9.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	28- 31	The calculated IRR on investment for the JI project is compared to IRRs of cogeneration projects which are supported by the EU.		Ø
B.2.10.	In case of Option II or Option III: Is the analysis presented in a transparent manner providing public available proofs for data?		See above B.2.1		Ø
B.2.11.	In case of applying step 3 (barrier analysis): Is a complete list of barriers developed that prevent alternatives to occur?		Revised PDD (v. 02, Jan. 07) was provided.		Ø
B.2.12.	In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?		Revised PDD (v. 02, Jan. 07) was provided.		V
B.2.13.	In case of applying step 3 (barrier analysis): Is it transparently shown that at least one of the alternatives is not prevented by the iden- tified barriers?		Revised PDD (v. 02, Jan. 07) was provided.		V
B.2.14.	Have other activities in the host country / re-		Other wind farm projects are being planned.		

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
	gion similar to the project activity been identi-		Corrective Action Request:	CAR10	V
	fied and are these activities appropriately analyzed by the PDD (step 4a)?		A detailed list of those projects should be presented and it should be demonstrated that all of them suffer from the same barriers and need therefore support by external grants or the JI-program.		
B.2.15	If similar activities are occurring: Is it demonstrated that in spite these similarities the project activity would not be implemented without the JI (step 4b)?		As mentioned above, it should be made clear that none of the similar activities is expected to succeed without JI-support.		<b>V</b>
B.2.16	Is it appropriately explained how the approval of the project activity will alleviate the economic and financial hurdles or other identified barriers (step 5)?		See above B.2.1.		$\square$
В.3.	Description of how the definition of the	projec	et boundary is applied to the small scale project:		
B.3.1.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1-5	Spatial and technological boundaries comply with the statements in the PDD.	V	V
	ntion of the sources and gases included in the properties are the properties and comment at least ever		bundary (Fill in the required amount of sub checklists for sources and nswered with "No")	gases as	given
B.3.2.	Source: emissions from electricity generation in fossil fuel fired power plants of any connected electricity system Gas(es): CO2 Type: baseline emissions		Boundary checklist Source and gas(es) discussed by the PDD? Yes Inclusion / exclusion justified? Explanation / Justification sufficient? Consistency with monitoring plan? Yes	K	V

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B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline Emissions reductions								
B.4.1.	Is there any indication of a date when determining the baseline?	2-5	The date of the baseline setting is indicated (July, 2006)	V	V			
B.4.2.	Is this in consistency with the time line of the PDD history?	2-5	The date of the baseline study corresponds with the PDD date.	V	V			
B.4.3.	Is information of the person(s) / entity(ies) responsible for the application of the baseline methodology provided in consistency with the actual situation?	2-5	Ekostragija in Vilnius (Mr. Kuodys and Ms. Budryte) is named as responsible for the baseline study	Ø	Ø			
B.4.4.	Is information provided whether this person / entity is also a project participant?		This information is given; Ekostrategija is not a project participant and therefore it is not mentioned in Annex I.		V			
			Corrective action request:					
			Additional to the contact information in section B.4. it should be explicitly indicated that Ekostrategija is not an project participant.	CAR11 a				

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD			
C. I	C. Duration of the project activity / crediting period							
C.1.	Are the project's starting date and operational lifetime clearly defined and reasonable?	2-5	The project's starting date and the operational lifetime are correctly indicated and reflect the envisioned schedule for the implementation.	V	$\square$			
C.2.	Is the assumed crediting time clearly defined and reasonable (crediting period between 2008 and 2012)?	2-5	The Kyoto crediting period and is defined (from Jan. 1, 2008 to Dec. 31, 2012). Further an additional time frame for early credits is mentioned (from Jan. 1, 2007 to Dec. 31, 2007).	CAR 11b	<b>V</b>			
	,		Corrective Action Request:					
			"Crediting period" is only defined for the Kyoto-period and lasts 5 years. The additional period from Jan. 1, 2007 to Dec. 31, 2007 for generating early credits should be named differently.					
D. Mo	onitoring plan							
D.1.	Description of monitoring plan chosen:							
	s the applied methodology considered being nost appropriate one?	2-5	The used methodology is not based on any CDM methodology like ACM0002. The main requirements of the Kyoto-Protocol, Annex B of Chapter 6 are mentioned in the PDD.		Ø			
			The requirements are in principle fulfilled. see above B.2.1.					
D.1.	1. Option 1 Monitoring of the emissions in	the pro	eject scenario and the baseline scenario:					
In the following "data checklists" are shown for all data which are fixed at validation time, and "monitoring checklists" for all data which have to be monitored during the life-time of the project.								
D.1.1.1	Data to be collected in order to monitor emi	ssions f	rom the project and how these data will be archived					
	s the list of parameters presented by chapter I considered to be complete with regard to the		No project emissions are expected. Hence there is no need to monitor project emissions.					

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD	
requirements of the applied methodology?		Corrective action request:		CAR12		
		The mentioned amount of electric power has to baseline emissions. Hence this parameter shouthe section D.1.1.1 of the PDD.				
D.1.1.2 Description of formula used to estimate em	issions	from the project				
Are formulae required for the estimation of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		No project emissions are expected. Hence ther timate project emissions.	e is no need to es-	Ø	Ø	
D.1.1.3 Data to be collected in order to determine the baseline emissions within the project boundary how these data will archived						
Fill in the required amount of sub checklists for fixed da	ita para					
ID 1: Amount of electric power produced by AB "Lietuvos elektrine"		The project proponents decided to use the net (energy which is fed into the grid minus energy from the grid in times where the wind farm does enough energy to cover its auxiliary demand). Ject emissions have to be taken into account fo provided auxiliary energy. The baseline emission changed during the crediting period.	which is taken s not produce Therefore no pro- r the externally			
		Data Checklist Title in line with methodology? Data unit correctly expressed? Appropriate description? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described? QA/QC procedures described? QA/QC procedures appropriate?	Yes / No Yes			

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD				
	Is the list of parameters presented by chapter D.1.1.3		No, the list of parameter is not complete.		$\overline{\mathbf{A}}$				
	ered to be complete with regard to the require-		Corrective Action Request:	CAR13					
ments c	of the applied methodology?		All parameters which are necessary to determine baseline emis-						
		sions should be mentioned and explained, independently whether							
			the parameter is a default value or has to be calculated once in advance or has to be monitored during the whole crediting period.						
			Corrective Action Request:	CAR14					
			For all parameters to be monitored the list regarding quality as-	Critti					
			surance and quality control in section D2 should be filled in.						
D.1.1.4									
	it explained how the procedures provided by		In principle yes.		<b>V</b>				
	the methodology are applied by the proposed project			CAR15					
activity's	activity?		Corrective Action Request:	CARTS					
			The determination of the grid factor and the formulas used to es-						
			timate it has to be explained in the chapter D.1.1.4, too. In section B.1. only the description and justification of the baseline is ex-						
			pected there.						
D.2.	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `		A) procedures undertaken for data monitored:						
This as	pect is covered for the relevant data in section l	D.1.1.1 a	and D.1.1.3						
D.3.	Please describe the operational and mamonitoring plan:	anagen	nent structure that the project operator will apply in implem	nenting th	ne				
D.3.1.	Is the operational and management struc-	2-5	The operational and management structure is not yet described.		$\overline{\mathbf{A}}$				
	ture clearly described and in compliance	20	Corrective Action Request:	CAR16					
	with the envisoned situation?		The operational and management structure should be described.	G + D 1 =					
D.3.2.			Corrective Action Request:	CAR17	$\square$				
	rangements for data collection and archiving clearly provided?		Responsibilities for collecting the data, controlling/checking the data, calibrating the counters, and elaborating the monitoring re-						

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD			
			port should be described.					
D.3.3.	Does the monitoring plan provide current good monitoring practice?		See above section D.1.1.3		$\overline{\mathbf{A}}$			
D.3.4.	Does annex 3 provide useful information enabling a better understanding of the envisoned monitoring provisions?		The monitoring plan itself and the respective worksheets for filling in the measured/determined values of the monitored parameter and for easy computing the emissions and emission reductions is not yet enclosed to the PDD.					
			Corrective Action Request:	CAR18	$\overline{\mathbf{A}}$			
			The monitoring plan has to be revised in Annex 3 of the PDD.					
D.4.	D.4. Name of person(s)/entity(ies) establishing the monitoring plan:							
D.4.1.	D.4.1 Is information of the person(s) / entity(ies) responsible for the monitoring methodology provided in consistency with the actual situation?		The information is consistent with the actual situation.	V	V			
D.4.2.	D.4.2 Is information provided whether this person / entity is also a project participant?		The mentioned persons who are responsible for monitoring plan are not foressen as project participant.	Ø	V			
E. Es	timation of greenhouse gas emission	reduc	tions					
E.1.	Estimated project emissions and form	ulae u	sed in the estimation					
ing	Are formulae required for the estimation leakage emissions correctly presented, enablg a complete identification of parameter to be sed and / or monitored?	2-5	There are no project emissions in this wind power project		V			
E.2.	E.2. Estimated leakage and formulae used in the estimation, if applicable:							
<b>E.2.1.</b> of	Are formulae required for the estimation leakage emissions correctly presented, enabl-	2-5	There are no leakage emissions in this wind power project		V			

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD		
	g a complete identification of parameter to be sed and / or monitored?						
E.3.	The sum of E.1. and E.2.:						
	Is the data provided under this section in insistency with data as presented by other apters of the PDD?		The section is correctly filled out; the data are consistent with other data in the PDD and associated documents.		V		
E.4. Estimated baseline emissions and formulae used in the estimation:							
E	x-ante calculation of emission reductions						
E.4.1.	Is the projection based on the same procedures as used for later monitoring?	2-5	The projection is done by the same algorithms as used for later monitoring.		$\overline{\mathbf{A}}$		
E.4.2.	Is the data provided under this section in consistency with data as presented by other chapters of the PDD?		The estimated value of the wind farm production is consistenly used throughout the PDD but not consistently with the predicted energy production of the Wind Park calculation. The projection seems to be not very conservative.		$\square$		
			Corrective action request:	CAR19			
			It should be reasonable explained which values are used here and why such discounts are justified.				
E.4.3.	Are formulae required for the estimation of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		See above D.1.1.4.1		<b>I</b>		
E.5.	Difference between E.4. and E.3 repres	enting	the emission reductions of the project:				
<b>E.5.1.</b> tio	Are formulae required for the determinant of emission reductions correctly presented?		The formulae are correctly presented.	V	V		

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
E.6.	Table providing values obtained when	applyi	ing formulae above:		
E.6.1.	Will the project result in fewer GHG emissions than the baseline scenario?		The project activity will result in emission reductions	V	V
E.6.2.	Is the form/table required for the indication of projected emission reductions correctly applied?		The form is correctly applied	V	<b>7</b>
E.6.3.	Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?		The projection of emission reductions corresponds with the envisioned time schedule and the indicated crediting period.	V	<b>V</b>
E.6.4.	Is the data provided under this section in consistency with data as presented by other chapters of the PDD?		The data are consistent with other data in the PDD and associated documents.	V	<b>1</b>
F. En	vironmental impacts				
F.1.	Documentation on the analysis of the e cordance with procedures as determined		mental impacts of the project, including transboundary ime host Party:	pacts, in	ac-
F.1.1.	Has an analysis of the environmental impacts of the project activity been sufficiently described?	2-5, 12, 14	The most relevant environmental impacts are sufficiently described in the PDD. An EIA was not necessary, which is confirmed by a letter from Ministry of Environment.	V	<b>V</b>
F.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	2-5, 12,1 4	The concerned municipality has decided that an EIA is not necessary.	V	$\square$
F.1.3.	Will the project create any adverse environ- mental effects?		It is not expected that there will be any adverse environmental effects.	V	V
F.1.4.	Are transboundary environmental impacts considered in the analysis?		There are no transboundary environmental impacts by the wind farm project.	V	V

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		ocume	ficant by the project participants or the host Party, provision ntation of an environmental impact assessment undertaker lost Party:		
F.2.1.	Have identified environmental impacts been addressed in the project design?		In accordance with local and national laws the siting of the wind turbines has been chosen in such a way that no residents will be disturbed.	$\overline{\checkmark}$	
F.2.2.	Does the project comply with environmental legislation in the host country?		It can be assumed that the project complies with the environmental legislation in the host country. The planning process, however, is not yet so far advanced that the respective statement of the local environmental authority exists.	Ø	<b>V</b>
G. Sta	Information on stakeholders' comments	s on th	e project, as appropriate:		
G.1.1.	Have relevant stakeholders been consulted?	1-5	Yes.	<b>V</b>	$\overline{\mathbf{Q}}$
G.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1-5	Beginning of preparation of project's detailed plan was announced in newspaper "Švyturys" Num. 58(7685) " on July 27, 2005. The last stage of public consideration of the project detailed plan was announced in the newspaper "Švyturys" Num. 65 (7692)", August 20, 2005. Public exposition of detailed plan took place in 2005-09-19 to 2005-10-03 in Kretinga region culture centre in S. Ipilties village. On October 4, 2005 detailed plan project was considered in culture centre in S. Ipilties village. Stakeholders have not expressed any objections		<b>I</b>
G.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?		Provided information deems that the consultation process was carried out according the national regulations.	Ø	

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	CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
G.1.4.	Is the undertaken stakeholder process described in a complete and transparent manner?		The conducted stakeholder process is sufficiently described.	V	V
G.1.5.	Is a summary of the stakeholder comments received provided?		Minutes and public consideration report were published. Stakeholders have not expressed any objections.	V	V
G.1.6.	Has due account been taken of any stake- holder comments received?		There was no need to adjust the planning.	V	V

H. Annexes 1 - 4					
Annex 1: Contact Information					
Is the information provided in consistency with the one given under section A.3?	1-5	Yes.	V	V	
Is information on all private participants and directly involved Parties presented?		Yes.	V	V	
Annex 2: Baseline study					
If additional background information on baseline data is provided: Is this information in consistency	2-5	All information in Annex 2 is almost consistent with the PDD-information.		V	
with data presented by other sections of the PDD?		Corrective action request:	CAR20		
		The figures regarding to CO2 emissions are not completely consistent with the data given in B.1.			
2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?		The data provided have been checked against recent NAP. No discrepancies were found. The indicated allocation factor and the offered pollution factor per MWh (0,634 t/MMWh) is a bit higher than the determined grid factor of the baseline case (0,626 t/MWh), which also shows the conservative approach. It is also	V		

Table 1 is applicable to JI PDD form Page A-18

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		mentioned in the NAP that the power plants of Lietuvos elektrine has the biggest variable costs of electricity generation.		
Does the additional information substantiate statements given in other sections of the PDD?		There is no further information given.	V	V
Annex 3: Monitoring information				
4. If additional background information on monitoring is provided: Is this information in consistency with data presented by other sections of the PDD?	2-5	All information given in Annex 3 is consistent with the PDD information.  See also CAR13	V	V
5. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?		See above section D.3.4		V
6. Do the additional information / procedures substantiate statements given in other sections of the PDD?		There is additional information given regarding management of monitoring.  See above D.3.2.		V

Table 1 is applicable to JI PDD form Page A-19

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# **Table 2 Resolution of Corrective Action and Clarification Requests**

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
CAR1 The next versions of PDD should indicate the exact date and the version number.	A.1.2.	Revised PDD (v. 02, Jan. 07) was provided. Revised PDD (v. 03, March. 07) was provided.	This issue is considered to be resolved.
CAR2 The wind park calculation should be done once more with all current data. A correlation with the long term data should be included. It should be indicated which wind measurements were used. The calculation should be testified by signature of the respective expert of Vestas.	A.2.3	Revised PDD (v. 02, Jan. 07) was provided.  The power output was corrected according to new calculations.	This issue is considered to be resolved.
CAR3 The PDD should explain which figures of production calculation were used and also how much was discounted from the result of wind park calculation.	A.2.3.	Revised PDD (v. 02, Jan. 07) was provided.  The power output was corrected according to new calculations.	The mentioned production figures in the revised PDD are now consistent to the calculations handed out during the onsite-assessment. There are now deductions made in order to regard the losses for transformation (2%) and technical availability (4%) of the wind turbines. These deductions are conservatively estimated. This issue is considered to be resolved.

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CAR4 Until submitting for registration of the project at the UNFCCC the table A.3. has to be completely filled out with the needed information regarding investor party.	A.3.1.	The current JISC-Decision on investor country approvals says that the approval from investor country is needed latest when submitting the first verification report for publication.	These issues can be clarified according to the sixth JISC-Meeting at least when submitting the first verification report for publication.
CAR5 The red circle in the overview map (page 3) is not exactly there where the project is located;	A.4.1.1.	Revised PDD (v. 02, Jan. 07) was provided.	The indicated point in the map corresponds now to the real location.
this should be adjusted.			This issue is considered to be resolved.
CAR6 The tendering process and the support by feed-in-tariff system should be described.	A.4.5.1	Revised PDD (v. 02, Jan. 07) was provided.	The tendering process and the support by feed-in-tariff system is sufficiently described.
			This issue is considered to be resolved.
CAR7 The version number and issuing date of baseline methodology should be mentioned in the PDD.	B.1.1.	Revised PDD (v. 02, Jan. 07) was provided.	This issue is considered to be resolved.

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CAR8 It should be explained, why the used methodology is comparable with the approach "Average emissions of similar projects undertaken in the previous 5 years, in similar social, environmental and technological circumstances, and whose performance is in the top 20 per cent of their category" and with the CDM methodology ACM0002 and why in relation to this the methodology is conservative, too.	B.1.2.	Revised PDD (v. 02, Jan. 07) was provided.	The explanation is sufficiently. It is mentioned in the recent NAP that the power plants of Lietuvos elektrine has the biggest variable costs of electricity generation. The determined baseline emission factor for the electricity grid is consistent with the NAP.  This issue is considered to be resolved.
CAR9 The additionality should be demonstrated acc. JI Guidance on criteria for baseline setting and monitoring see <a href="http://ji.unfccc.int/Ref/Documents/Baselinesetting-and-monitoring.pdf">http://ji.unfccc.int/Ref/Documents/Baselinesetting-and-monitoring.pdf</a> To demonstrate financial additionality the financial analysis has to be provided to the audit team. Within the financial analyses itshould be included a sensitivity analysis regarding higher or lower production (e.g. ± 12%) and higher or lower prices for carbon credits.	B.2.1.	B.2. is updated according to Tool for the demonstration and assessment of additionality.  Sensitivity analysis is demonstrated.	An excel file where financial analysis including sensitivity analysis was provided. For the benchmark of 15 % for cogeneration plants the audit team received sufficient proofs (excel calculations). This issue is considered to be resolved.
CAR10 A detailed list of those projects should be presented and it should be demonstrated that all of them suffer from the same barriers and need therefore support by external grants or the JI-program.	B.2.1.4.	Few wind power parks of the commercial scale are developed at the moment. All of them apply for JI support. It is mentioned in B.2.	Issue is considered to be resolved.

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CAR11a Additional to the contact information in section B.4. it should be explicitly indicated that Ekostrategija is not an project participant.		Revised PDD (v. 02, Jan. 07) was provided.	This issue is considered to be resolved.
CAR11b "Crediting period" is only defined for the Kyoto-period and lasts 5 years. The additional period from Jan. 1, 2007 to Dec. 31, 2007 for generating early credits should be named differently.		Revised PDD (v. 04, Apr. 07) was provided.	This issue is considered to be resolved.
CAR12 The mentioned amount of electric power has to be considered as baseline emissions. Hence this parameter should be cancelled in the section D.1.1.1 of the PDD.		Revised PDD (v. 02, Jan. 07) was provided.	This issue is considered to be resolved.
CAR13 All parameters which are necessary to determine baseline emissions should be mentioned and explained, independently whether the parameter is a default value or has to be calculated once in advance or has to be monitored during the whole crediting period.	D.1.1.3.	Revised PDD (v. 02, Jan. 07) was provided.	As long as the current JI PDD format does not require each parameter which is used to calculate baseline emissions, we can accept the unique parameter "annual power production"  It is further clearly mentioned that the net power production is meant there.
CAR14 For all parameters to be monitored the list regarding quality assurance and quality control in section D2 should be filled in.	D.1.1.3.	Data from Annex 3 were put to D.1.1.3 and corrected/added new.  D1.1.3 table was reduced for one factor (annual power production at Rudaiciai power plant). Corresponding reasoning added to the end of B1.	This issue is considered to be resolved.

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CAR15 The determination of the grid factor and the formulas used to estimate it has to be explained in the chapter D.1.1.4, too. In section B.1. only the description and justification of the baseline is expected there.	D.1.1.4.	Added description of formulae that should be used for baseline monitoring during the project operation. B1 contains the description on how the baseline was set. D.1.1.4 now refers to B1, for explanation of one parameter.	This issue is considered to be resolved.
CAR16 The operational and management structure should be described.	D.3.1.	Description of management structure of project owner and responsibilities for making the monitoring report is added to the PDD.	The description of management structure is sufficiently described.
			This issue is considered to be resolved.
CAR17 Responsibilities for collecting the data, controlling/checking the data, calibrating the counters, and elaborating the monitoring reportshould be described.	D.3.2.	Responsibilities Added in D.3.	Sufficiently described This issue is considered to be resolved.

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CAR18 The monitoring plan has to be revised in Annex 3 of the PDD.	D.3.4.	Similar table to the one in D1.1.3 is added in Annex 3 - for collecting the monitoring data.  Added short description to annex 3 on how monitoring will be performed. Maybe there is no need for excel spread sheet, as only two figures will have to be multiplied for calculation of emission reductions.	The monitoring plan in Annex 3 is not comparable with a monitoring manual for the monitoring personnel. A printout of a pre-prepared excelspread-sheet to ease recording and reporting is not amended. This could be accepted in principle as only very few figures will have to be multiplied for calculation of emission reductions and because no further requirements exist for Annex 3. Finally in the PDD version 4 in annex 3 the table there foresees now to enter the data from the indicated values of the electricity meter itself, the ID-number and the meter constant. Assuming that these data will be recorded accordingly, traceable values based on the relevant meters can be provided.
CAR19 It should be reasonable explained which values are used here and why such discounts are justified.	E.4.2	Revised PDD (v. 02, Jan. 07) was provided.  The power output was corrected according to new calculations.	See above comment to CAR3: This issue is considered to be resolved.

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CAR20 The figures regarding to CO2 emissions are not completely consistent with the data given	H Annex 2	That was an old table there because file has crashed. Respective tables in annex 2 and B.1. were updated.	This issue is considered to be resolved.
in B.1.			

## **Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)**

Clarifications and / or corrective action requests by validation team	ld. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

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## Table 4 Completeness Checklist for Submission for Registration

	REQUIREMENT	COMMENT	CONCLUSION (at time of issuing validation report)	CONCLUSION (at time of requesting registration)
1.	The host country shall be a Party to the Kyoto Protocol	Lithuania is Annex I party and has ratified the Kyoto Protocol on 03 January 2003	☑	$\square$
2.	Parties participating in the JI shall designate a national authority for the JI	On UNFCCC website for Lithuania is published the designated focal point. Lithuanian JI-Guidelines are published already on the JISC-website.	$\square$	$\square$
		Sweden as TGF members will be the designated project party of this project.		
3.	The host country's DNA shall issue a confirmation that the project assists in achieving sustainable development.	Letter of Approval is issued.		
4.	The project shall have the written approval of voluntary participation from the designated national authorities of each party involved. (LoA)	Letter of Approval is issued.		
5.	Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	PDD is published. The comment period ended of 1. March 2007. No comments have been received.	$\square$	$\square$
6.	Is the version of methodology applied the most recent one or still valid?	BASREC methodology is used.	$\square$	$\square$
7.	Is it necessary to repeat a GSP due to changes of the revision of the methodology applied or a change of the me-	There is no need at this moment.		

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REQUIREMENT	COMMENT	CONCLUSION (at time of issuing validation report)	CONCLUSION (at time of requesting registration)
thodology itself.			
8. The project design document shall apply the most recent UNFCCC JI-PDD format or a version still valid at the date of submission for registration.	At this moment the used PDD form is valid.	$\square$	$\square$
9. The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration.	This requirement is not applicable for JI projects	$\square$	$\square$
10. Is the indicated starting date of the crediting period after the estimated date of registration?	Kyoto crediting period starts with beginning of 2008.	$\square$	
11. In case of bundled small scale activities: Is a bundling form duly filled and attached to the documents?	No SSC project.	$\overline{\mathbf{A}}$	V

## Determination Report of the JI-Project "Benaiciai Wind Power Project"

## Annex 2



Final Report	09.11.2007	Validation of the "Benaičiai wind power-plant project, Lithuania"	Page
		Information Reference List	1 of 3



Reference No.	Document or Type of Information			
1.	On-site interview at UAB Achema Hidrostotys. (Kretinga) by auditing team of TÜV SÜD			
	Validation team on-site:			
	Klaus Nürnberger TÜV Industrie Service GmbH TÜV SÜD Group			
	Madis Maddison OÜ Projektkeskus			
	Interviewed persons:			
	Monday and Tuesday, 30. and 31.10.2006			
	Linas Sabaliauskas, Vice Director, UAB Achema Hidrostotys.			
	Kestutis Zavarauskas, Environmental engineer, UAB Achema Hidrostotys.			
	Vaidotas Kuodys, Project Manager, Ekostrategija			
	Valerijonas Černeckis, Director of Administration, Municipality Kretinga			
	Juozas Mažeika, Deputy Mayor, Municipality Kretinga			
2.	Project Design Document "Benaičiai Wind Power-Plant Project", Final Draft August, 2006.			
3.	Project Design Document "Benaičiai Wind Power-Plant Project", version 2, January 2007 (published-version)			
4.	Project Design Document "Benaičiai Wind Power-Plant Project", version 3, March 2007			
5.	Project Design Document "Benaičiai Wind Power-Plant Project", version 4, April 2007			
6.	Wind turbine warranty, operation and maintenance agreement with Vestas, version 21.07.2005 (not copied)			
7.	Wind measurement data and comparison of power curves as attachment to Warranty, operation and maintenance agreement			
8.	Wind park calculation with WindPRO using wind statistics "040123lsw LT 70.0 Vezaiciai met. Mast 70m", 16.09.2005			
9.	Amendment of Contract no:12412 between Purchaser Achema Hidrostotys, UAB and Supplier Vestas Scandinavian Wind Technology A/S entered into the 03.08.05 and Amendment to the Warranty, Operation and Maintenance Agreement under Annex C (not copied)			

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Reference No.	Document or Type of Information
10.	Land lease agreement (an example) with landowners, scanned jpeg files
11.	Kretinga County Council Resolution for approval of land use detail planning, Nr.T2-45 from 23.02.06
12.	Lithuanian Ministry of Environment Klaipeda Department Resolution about environmental impact assessment on planned economical activities, Nr. (9.14.5.)-V4-3167 from 2005.09.06
13.	LITHUANIA'S NATIONAL ALLOCATION PLAN FOR GREENHOUSE GAS EMISSION ALLOWANCES FOR THE PERIOD 2008 TO 2012, version 30.06.06, pdf file
14.	Lithuanian Ministry of Environment, Letter of Endorsement of Benaičiai wind power-plant JI project, Nr. (10-5)-D8-7537 from 2006-09-19
15.	Licence for construction nr. 33 from 04.04.2006 issued by Kretinga County Government (for drainage systems)
16.	Licence for construction nr. 32 from 04.04.2006 issued by Kretinga County Government (for access roads)
17.	Licence for construction nr. 119 from 30.06.2006 issued by Kretinga County Government (for 20 kV cable line and 110/20 kV transformer substation)
18.	Licence for construction nr. 77 from 11.05.2006 issued by Kretinga County Government (for wind turbines)
19.	Grid Connection Agreement, scanned jpeg files
20.	Announcements of public consideration in local newspaper Šviturys 2005.07.27 and 2005.08.20 and official WEB page of Kretinga County Government ( <i>not copied</i> )
21.	Consultancy agreement with A.Abišala & Co, for preparation of EU structural funds application, Nr. 05/22, 04.05.04, scanned jpeg files
22.	Assignment of Contract No.LT020668/PPS-12412 for leasing (UAB Hansa Lizingas) the equipment signed at 03.08.2005 (not copied)
23.	Summary budget of the project from 2006.06.15, scanned jpeg file

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Reference No.	Document or Type of Information
24.	Letter from A. Abišala & Co, stating that Benaičiai wind power-plant project can not be financed by EU structural funds, 12.04.2006, scanned jpeg file
25.	Leasing Contract LT020668 Special Conditions, between UAB Achema Hidrostotys and UAB Hansa Lizingas, from 2005-07-28 (wind power generators), scanned jpeg file
26.	Leasing Contract LT034734 Special Conditions, between UAB Achema Hidrostotys and UAB Hansa Lizingas, from 2006-06-15 (110 kV connection cable line and 20/110 kV transformer station), scanned jpeg file
27.	Work's time schedule, Gantt chart, dated 01.07.05
28.	IRR Benchmark cogeneration plants, kogeneracijos_IRR_skaiciavimas1.xls, 20. Feb. 2007
29.	IRR for cogeneration plant Panevezys, Panevezys_CHP_cash-flow1.xls, 09. Feb. 2007
30.	Financial calculation tables (Benaiciai_budget_20years.xls), 18. Apr. 2007
31.	Letter from contractor Zilinskio ir Ko, UAB concerning electrical installation works in wind power-stations, Ref. No 07-168/382; 28.04.2006