Determination Report

Determination of the ”Tooma Wind Power Joint Implementation Project, Estonia”

Report No. 1224981

2009-22-05

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Industrie Service

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Client:	OÜ Nelja Energia Mr. Martin Kruus Estonia pst 1/3 - Tallinn 10143 - Estonia
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Summary:

The Certification Body "Climate and Energy" of TÜV SÜD Industrie Service GmbH has been ordered by OÜ Nelja Energia in Tallinn, Estonia, to determine the above mentioned Track 2 JI-project in Estonia.
The determination of this project has been performed by document reviews, interviews by e-mail and by telephone and on-site inspections, audits at the locations of the project and interviews at the office of the project owner.
As the result of this procedure, it can be finally confirmed that the submitted project documentation is in line with all requirements set by the Marrakech Accords and the Kyoto Protocol as well as all further JI related decisions.

Thus TÜV SÜD will recommend this project for registration in accordance with the rules of track 2 of the JI Supervisory Committee after the open issue (OI) – issuance of the LoA by the Estonian MoE – has been closed.

The assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 112,901 tons CO_{2e} (to be issued as ERUs) in the intended first crediting period from 2008 - 2012 (first Commitment Period of the Kyoto Protocol), resulting in annual average emission reductions of 28,225 tons CO_{2e}, represents a reasonable estimation using the assumptions given by the project documents.

Work carried out by:	Klaus Nürnberger (project manager, lead auditor), Ranno Mellis (local expert and GhG auditor), Georgios Agrafiotis (project coordinator and trainee)	Internal Quality Control by: Thomas Kleiser

Abbreviations

AAU	Assigned Amount Unit
AE	Applicant Entity
AIE	Accredited Independent Entity
CAR	Corrective Action Request
CEF	Carbon Emission Factor
CR	Clarification request
DFP	Designated National Focal Point
DP	Determination Protocol
ERPA	Emissions Reduction Purchase Agreement
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
ERU	Emission Reduction Unit
GHG	Greenhouse gas(es)
GSP	Global Stakeholder Consultation Process
IRR	Internal Rate of Return
JI	Joint Implementation
KP	Kyoto Protocol
LoA	Letter of Approval
MP	Monitoring Plan
MS	Management System
NGO	Non Governmental Organisation
NPV	Net Present Value
OI	Outstanding Issue
PDD	Project Design Document
SC	Supervisory Committee
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The Estonian company OÜ Nelja Energia in Tallinn has commissioned TÜV SÜD Industrie Service GmbH (TÜV SÜD) as Accredited Independent Entity (AE) to conduct a determination of the "Tooma Wind Power Joint Implementation Project, Estonia" with regard to the relevant requirements for JI project activities. The determination serves as a conformity test of the project design and is a requirement for all JI projects. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC, Joint Implementation Supervisory Committee (JI-SC) requirements for Track 2 projects and host country criteria for the acceptance of JI projects are determined 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 necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions (in particular ERUs in the first commitment period under the Kyoto Protocol).

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 scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of JI project activities the scope is set by:

- The Kyoto Protocol, in particular § 6
- Decisions 3/CMP.3, Decision 2/CMP.2 and Decision 3/CMP.2, Decision 9/CMP.1 and 10/CMP.1
- Furthermore relevant aspects of Decision 12/CMP.1 and Decision 13/CMP.1
- Decisions by the JI-SC published under http://ji.unfccc.int
- Specific guidance by the JI published under http://ji.unfccc.int
- Guidelines for Completing the Project Design Document (JI-PDD), and the Proposed Baseline and Monitoring Methodology, also with reference to CDM - Proposed New Baseline and Monitoring Methodology (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

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, based on the recommendations in the Validation and Verification Manual (see for further information:

http://ieta.org/ieta/www/pages/index.php?IdSitePage=392), employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of emission reductions.

This report is based on the 1st PDD version (PDD version No. 1), submitted to the AIE on July 21st, 2008 together with corresponding annexes (e.g. Baseline Study). A marginally revised PDD version was submitted to TÜV SÜD on September 26th, 2008. This PDD then was submitted to JI-SC for publishing in the 30-days Publication Period lasting from 09 October 2008 until 07 November 2008.
http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=5449&Ebene1_ID=26&Ebene2_ID=1697&mode=1
Potential stakeholders have been officially invited for commenting via JI-SC. No comments on this project have been received.
On basis of this published PDD an on-site visit has been conducted. The latest version of PDD is Version 3, May 22nd, 2009.

Studying the existing project documentation, it was obvious that the competence and capability of the validation team has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Knowledge of all regulations and criteria set up by the JI-SC such as criteria for baseline setting and Monitoring for JI projects
- Environmental and Social Impact Assessment
- Skills in environmental auditing (ISO 14000, EMAS)
- Quality Assurance
- Wind energy technologies and processes
- Baseline concepts in general
- Monitoring concepts in general
- Political, economical and technical random conditions in host country

According to these requirements TÜV SÜD has assembled a project team in accordance with the appointment rules of the TÜV certification body “Climate and Energy”:

Name	Qualification	Coverage of technical scope(s)	Coverage of sectoral expertise	Host country experience
Klaus Nürnberger	ATL	☑	☑	☑
Ranno Mellis	GHG-Auditor Local expert	☑	☑	☑
Georgios Agrafiotis	Trainee	☑	-	-

Klaus Nürnberger is head of the division energy certification at TÜV SÜD Industrie Service GmbH. In his position he is responsible for the implementation of verification and certifications processes for electricity production based on renewable sources. The division has assessed more than 600 plants and sites all over Europe in particular hydro power plants. He has received extensive training in the CDM and JI validation and verification processes and participated already in several CDM and JI project assessments.

Ranno Mellis is environmental engineer from Estonia. Ranno has received extensive training in the CDM and JI validation (determination) processes. He is a GHG auditor for sectoral scopes 1, 2, 13 and country expert for projects in Estonia. He has already been involved in several determinations and verifications of Estonian JI projects starting from 2004.

Georgios Agrafiotis is environmental engineer. He has work experience in the field of industrial environmental technology and protection and also in technical environmental projects. As GHG trainee he has been appointed scopes 1,5 and 13 as per UNFCCC definition.

Furthermore further experts of the Munich team of carbon management service in TÜV SÜD have been partially involved in the project.

The audit team covers following requirements:

- Knowledge of Kyoto Protocol and the Marrakech Accords (all)
- Knowledge of all regulations and criteria set up by the JI-SC such as criteria for baseline setting and Monitoring for JI projects (all)
- Environmental and Social Impact Assessment (all)
- Skills in environmental auditing (ISO 14000, ISO 9000, EMAS) – (Nürnberger)
- Quality Assurance (all)
- Wind energy technologies (Nürnberger, Mellis)
- Energy Efficiency (all)
- Baseline concepts (all)
- Monitoring concepts (all)
- Political, economical and technical random conditions in host country (Mellis)

In order to have an internal quality control of the project, a team of the following persons has been composed by the certification body “climate and energy”:

Thomas Kleiser – Head of the Certification body “Climate and Energy”.

1.3 GHG Project Description

The core of the proposed JI-project is to displace carbon intensive electricity produced from fossil fuel (mainly from oil shale) and supplied to the Estonian grid with the CO_2-free renewable electricity produced by the wind power plant.
The proposed project activity is the development of a wind power project at the western coast of Estonia at the municipality of Hanila. The wind farm will consist of six 2.0 MW ENERCON E-82 wind turbines and will thus have a total installed capacity of 12 MW.
The chosen wind turbines are well suited for the site’s wind conditions as they enable to maximise the green electricity output from the site and to benefit from economies of scale as ENERCON is also servicing four similar E-70 2,0 MW wind turbines at the nearby Esivere site, three E-70 2,3 MW wind turbines at Virtsu II site and four E-44 wind turbines at the Virtsu I site, both located at the same region as the Tooma project.

The expected net output of Tooma project is 31,536 MWh per year and the annual operation hours 2,628 h/y.

Contract with ENERCON for the delivery and erection of wind turbines has been signed. The wind park is expected to be commissioned in November, 2009, thus, the production of wind energy and generation of ERUs will start from 1st of October 2009. In the period January 1st, 2008 - December 31st, 2012 (first commitment period under the Kyoto Protocol) the project will generate ERUs, which can be transferred to other Annex I countries according to article 6 of the Kyoto protocol.
The generated ERUs will be supplied by OÜ Tooma Tuulepark (Tooma Wind Park Ltd), the Estonian project participant.

The project documentation has been developed by an Estonian company Nelja Energia OÜ in cooperation with LHCarbon OÜ. Nelja Energia OÜ acts as the project operator in several wind power plants in Estonia and Lithuania, including Tooma Wind Park. Nelja Energia OÜ and Tooma Wind Park have signed the operational and management agreement and have partly the same management board members (Mr. Martin Kruus).

The location is suitable for wind power due to its good wind conditions (verified by near-by operating Esivere wind farm), nearby technical infrastructure (grid, ports, roads) and absence of enviromental or other constraints. Good soil conditions exist for the establishment of foundations, access roads and other necessary infrastructure. The land-units at the wind farm territory are owned by the project company.

2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual (VVM, IETA 2003). 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 consists for this project of three tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Annex 1 to this report.

Determination Protocol 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, **AI** 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 Protocol Table 2: Requirement 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 sub-divided. 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 non-compliance 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 Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications 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".*

2.1 Review of Documents

The project participants submitted in July 2008 a PDD and additional background documents related to the project design and baseline as well as monitoring concept (monitoring plan). A review for all these documents has been performed in order to identify all issues for discussion during the follow-up interviews on-site and by phone or email.

2.2 Follow-up Interviews

In October, 2008 the audit team of TÜV SÜD performed on-site audit and subsequently additional e-mail interviews with the project developer to resolve issues identified in the document review. Representatives of Estonian companies Nelja Energia OÜ as project developer, LHCarbon OÜ as responsible company for the PDD development and Nordic Power Management OÜ as the energy trading company 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 2 to this report.

Table 1: Interview topics

Interviewed organisation	Interview topics
Nelja Energia OÜ	o Project design, detail planning and design drawings and approvals o proofs regarding land ownership (land register) o grid connection agreement with Main Grid o supply contract with Enercon o EIA reports, approvals, minutes of meetings of public hearings o building permits o project financing o implementation time schedule o monitoring plan, o training plan and needs, o environmental impacts, o stakeholder comments, o monitoring procedures, o calibration of the measurement equipment, o documentation, archiving of data
LHCarbon OÜ	o project design, o baseline, o additionality, feasibility (business plan), o monitoring plan, o environmental impacts, stakeholder comments, monitoring procedures, calibration of the measurement equipment, o approval of the project, o JI-Guidelines, national policy, o all directly to PDD and JI related topics
Nordic Power Management OÜ	o energy trade o ERU trade o project financing

Further interviews via telephone and e-mail have been conducted with Estonian Ministry of Environment since one department of the ministry is dealing with all issues relating to climate protection projects, Lääne County Environmental Department and Estonian Competition Authority.

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 in order to achieve a positive conclusion during the assessment process. Clarification Requests raised by TÜV SÜD have been resolved in the answers to the draft determination protocol (submitted from TÜV SÜD to the client in the end of October 2008). The answers have been prepared by Nelja Energia OÜ in cooperation with LHCarbon OÜ.

Corrective Action Requests raised by TÜV SÜD were resolved by additional documents and additional information. The final PDD (Version 3, dated 22nd of May 2008) and additional background documents related to the project implementation and stakeholder process were submitted by LHCarbon OÜ in December 5th, 2008. In total there have been posed 9 Corrective Action Requests and 7 Clarification Requests.

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 final determination protocol in Annex 1 (with additional information in the attached Information Reference List - Annex 2).

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

Totally there have been raised 10 Corrective Action Requests and 7 Clarification Requests.

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 desk review of the project design document 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 Annex 1.

2) Where TÜV SÜD has 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 and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Annex 1.

3) Where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in the current determination report.

4) The final conclusions of the determination are presented consecutively.

3.1 Project Design

3.1.1 General Findings

The PDD correctly applies the current valid format for JI projects. The project design fulfils all current valid requirements for JI projects.

The planned wind turbines are amongst the most modern world-wide. Hence, the employed technology goes even beyond established good practice in the host country. It is, moreover, not likely that the project technology will be substituted by a more efficient technology. The operation of the turbines is online monitored by the manufacturer's service center. On-site support is guaranteed by the manufacturer's specialists from Germany and local specialists, who are already thoroughly trained as there exist some wind parks with Enercon turbines in Estonia.

Estonia has appointed a national focal point and designated focal point DFP to UNFCCC and has ratified the Kyoto Protocol. The project was presented to the responsible national authorities and is preliminarily approved by the Estonian government, represented by the Ministry of Environment. A Letter of Endorsement exists and the roject is fully in line with these requirements. Specific national guidelines and procedures (G&P) for JI projects in Estonia have been incorporated in 2007. The National Registry for GHGs also exists in Estonia.

The project starting date is clearly defined (February 1st, 2009). The crediting period is defined as being from October 01st, 2009 to December 31st, 2012. Also the operational lifetime of the project is clearly defined and in accordance with international practice.

Thus all basic requirements for the approval of the project as JI track 2 project on a national level are fulfilled except one issue identified as outstanding issue (OI) in the protocol – the Estonian MoE is in the position, that LoA can be issued after the National Allocation Plan 2008-2012 is finally approved by the European Commission. However, the reserve for JI projects of 0,6 Mt CO2eq/year is already foreseen in the NAP. The final approval between Estonian Government and European Commission is expected to be reached at mid 2009.

The donor country is not finally selected. Currently the project is designed as unilateral JI Track 2. In accordance with the JI rules, a donor (Annex I) country will be identified and an ERPA signed at latest before the finalization of the Initial Verification.

Besides this the project description is clear, transparent, elaborated and re-traceable and fulfils all the requirements for a well-developed JI-Project.

3.1.2 Issued CARs/CRs and Outstanding Issues

Outstanding Issue No. 1:
Currently there are no Letters of Approval available from the Estonian MoE as the NAP 2008-2012 is not approved by European Commission yet.

Response:

The LoA from Estonian MoE still has to be submitted before the project can be uploaded for registration.

Clarification Request#2

As the turn-key contract with Enercon is signed, which covers also the construction of access roads and power lines, it should be clarified, is there any sub-contract already signed with the company(ies), who have respective registrations and licenses for the specific work in Estonia (construction of power lines or/and roads) or does Enercon itself has the registration in corresponding Estonian register (RETTER). The Estonian legislation requires, that the construction work can be performed only by companies, which are registred in the special register (called RETTER). Also foreign companies, which are planning to carry out the construction works by themselves, must get registered in the named register (other possibility is to hire sub-contractor, who has corresponding registration in RETTER)

Response:

With Enercon a turn-key contract has been signed. The roads, substation and cable lines are outside the contract and thus the responsibility of Tooma Tuulepark. Enercon or its subcontractors have all licenses for their scope of work.
Contracts have not yet been signed with the road construction companies. Wind turbines are planned to be constructed in two land plots (cadastres) - called Rebasekivi and Tooma, which are owned by Tooma Tuulepark. On Tooma cadastre there already exist roads which need some improvement before it is possible to start the foundation building. For Rebasekivi cadastre it is planned to start the tender procedure for road construction/improvement by latest at the beginning of February. This gives sufficient time to build the roads so that the turbine foundations construction can start in May. Tenders for road construction will be invited from the following companies: ASPI, Arieks Teenindus, Lääne Teed, etc. The legal basis for road construction is the detailed plan approved by the municipality.

Conclusion:
This issue is resolved.

Clarification Request #4:
It shall be clarified is there any contradictions between the overall time schedule and Enercon's detailed time schedule after the submission of the last mentioned one.

Response:

Enercon's time-schedule foresees to construct the wind turbine foundations in May-June 2008 and to install the wind turbines in August-September 2008. There are no contradictions when compared to the (revised) time-schedule in PDD.

Conclusion:

This issue is resolved.

Corrective Action Request #2:

The evidence regarding building permissions of access roads and power cables (between wind turbines and 110 kV sub-station) should be presented and the corresponding description added in the PDD, demonstrating, that there are no additional restrictions from the side of land owners or any others.

Evidences should be presented at the end of the determination, that there is no any restriction from land owners, which can delay the implementation of the project.

Response:

The specific permits for construction of access roads and power cables are missing at the moment as their engineering design has not yet been finalized. It is expected to obtain the permit for power cables by latest April 2009. The necessity of a permit for the access roads will yet be discussed with the local municipality as the right to establish the roads is already foreseen in the approved local plan. If the permit is necessary, it will be obtained also by latest April 2009.

Tooma cadastre is just next to the municipality owned road, Rebasekivi cadastre is connected with municipality owned road through Allani cadastre, which also belongs to Tooma Tuulepark OÜ. No restrictions from land owners are foreseen.

Conclusion:

This issue is resolved.

Corrective Action Request #3:

The principles of separate measurement of wind energy production between 1st and 2nd stage wind turbines shall be described more exactly, which demonstrates, that is no chance to confusion the production from different turbines after the implementation of the 2nd stage.

Response:

The project-specific monitoring plan was revised and elaborated.

Conclusion:

The monitoring plan has been checked. The issue to secure separate measurement of wind energy between 1st and 2nd stage is covered.

This issue is considered to be resolved by now. During the verification the actual situation shall be checked.

Corrective Action Request #4:

The ownership status, the operational process and any other relevant aspects shall be clarified more exactly in the PDD, showing, that the Tooma Wind Park is not the debundled component of a larger project

Response:

The clarification has been extended in PDD. Further to what is stated in the revised PDD it should be noted that:

- Esivere wind farm was put into operation already in 2005.
- The owners of the wind farms at the area are different:
  - Tooma - Tooma Tuulepark OÜ
  - Esivere&Virtsu2 – Roheline Ring Tuulepargid OÜ
  - Rõuste – Skinest Energia AS

Conclusion:

The PDD was checked and information verified. This issue is considered to be resolved

3.1.3 Conclusion

The revised PDD (Version 3, May 22nd, 2009) contains all required additional information and the requested corrections and clarifications for this section.

All given responses to the indicated CARs and CRs are resolved the relevant issues.

The project itself fulfils the prescribed requirements completely. The planned turbines are modern state-of-the-art turbines and represent current good practice for generation of electricity using wind power.

The technical data are consistent and plausible. It is not expected that planned turbines will be substituted by better technologies within the project period.

The project time schedule is clear now and based to the signed contracts with contractors and suppliers. There is sufficient time foreseen for the design, supply and construction of the turbines and auxiliary installations. The crediting period is clearly defined.

The PDD and project-specific monitoring plan contain information how training, operating, controlling, maintenance will be organized and managed. The aspects regarding future responsibilities and quality assurance are fixed.

The still open stated ”Outstanding Issue No. 1” is out of the direct influence of the project participants.

3.2 Baseline / Additionality

3.2.1 Findings

Approved CDM methodology AMS-I.D./Version 14: Grid connected renewable electricity generation” has been applied. For baseline calculation option (a) of AMS-I.D. has been followed. As defined in the methodology the baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO2e/kWh) calculated in a transparent and conservative manner as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin.

The Operating and Build Margins have been calculated on the basis of detailed electricity generation and fuel consumption data from years 2003-2005 of 19 Estonia’s oil shale, natural gas and other fossil fuels consuming as well as renewable energy plants supplying power to the grid. The most recent data has not been used due to the fact that it is not available from public

sources. The earlier study was prepared by an NGO Stockholm Environmental Institute. The emission factor from that extensive study, utilizing then confidential detailed plant-level data, is still applicable as no changes have occurred in the Estonian energy policy that may reduce the share of oil-shale power based power generation during the crediting period of the JI project (2008-12).

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. Possible baseline alternatives have been plausibly and re-traceably elaborated and transparently discussed. The final baseline scenario is the continuation of the current situation is the baseline scenario. All assumptions for the baseline calculation are well-proven, clearly defined and sourced correctly.

In accordance with the Electricity Market Act the tariff is currently fixed at level of 1.15 EEK/kWh (7.35 Euro cents/KWh)

Financial calculations are based on a long-term prediction of the feed-in tariff for green electricity, based on the amendments of the Estonian Electricity Market Act, entered into force on May 1 2007. The act prescribes the operators of renewable electricity to sell green power either at a fixed feed-in tariff of 1.15 EEK/kWh (during the fixed period until total annual wind power generation reaches 200 GWh which corresponds to ca. 75 MW of installed wind power capacity which is almost reached today as over 60 MW has been installed) or at a market price while receiving a subsidy of 0.84 EEK/kWh (until annual wind power generation reaches 400 GWh).

Additionality of the project is proven using the ver. 5.2 of the CDM Tool for the Demonstration and Assessment of Additionality as approved by the CDM Executive Board. The additionality of the project is proven by the benchmark analysis and additionally through demonstrating barriers - limited access to financial resources (as a financial barrier) and demonstrating common practice – no any wind parks constructed without financial assistance and support (mainly JI) in Estonia. There are several wind parks, which have got JI assistance already or are under the JI development (e.g. in the planning or determination phase).

It could be confirmed that JI was considered in the early decision for this project. As proof, a copy of the Council meeting of Freenergy Ltd has been provided. According to the minutes JI has been considered already in 2007.

3.2.2 Issued CARs/CRs

Clarification Request #1:

Please clarify, why in the baseline calculations the data from the most recent years (2006-2007) are not used and the baseline study is not clearly project-specific?

Response:

The PDD was elaborated (Version 3, May 22nd, 2009).

The most recent data has not been used due to the fact that it is not available from public sources. The earlier study was prepared by an NGO Stockholm Environmental Institute. The emission factor from that extensive study, utilizing then confidential detailed plant-level data, is still applicable as no changes have occurred in the Estonian energy policy that may reduce the share of oil-shale power based power generation during the crediting period of the JI project (2008-12). In contrary, Eesti Energia has during recent years increased the power production at the Narva Power Plants and utilizing the oldest and most polluting power blocks.

Due to the EU directive concerning large combustion plants, the Iru Power Plant had an obligation to close its 1st block from January 2008 (85 MW, 50% of the net capacity of the plant). In addition the price of natural gas has increased remarkably compared to period 2003-5, thus the production at Iru Power Plant has diminished.

In connection with establishment of a cable connection between Estonia and Finland and an increase of consumption, the sale of electricity by Eesti Energia has increased compared to period 2003-5

Year	GWh
2002/2003	6 931
2003/2004	7 674
2004/2005	7 983
2005/2006	8 002
2006/2007	7 841
2007/2008	9 716

Source: Eesti Energia 2007/2008 annual report, page 2

As the 1st energy block at Iru Power Plant was closed (where the CO2 emission factor was ca. 3 times lower than at oil shale based power plants), and as at the same time the electricity sale of Eesti Energia increased, the Narva Power Plants had to use at a larger extent its older and less efficient production facilties (also emitting more CO2) the CO2 emissions per MWh of generated electricity have not decreased when compared to the emission factor as given in the baseline study used for this JI project.

The baseline study is not project specific as the study is applicable for use by all renewable energy JI projects that feed power to the Estonian grid and thus displace the more CO2-intensive power production of the energy mix supplied to the grid from Estonian power plants.

Conclusion:

The annual report of Eesti Energia was verified, available in the web-page:

http://www.energia.ee/index.php?id=141

(status in 08.12.2008)

This issue is considered to be resolved

Clarification Request #5

Some additional clarifications and evidences are needed, which shows, that JI has been considered before the starting of main supplies (grid connection agreement, supply contract)

Response:

As proof, a copy of the Council meeting of Freenergy Ltd has been provided

Conclusion:

According to the minutes JI has been considered already in 2007.

This issue is considered to be resolved.

Clarification Request #6:

It shall be clarified and explained why the percentage of unexpected costs is relatively high in financial calculations? What categories of other costs/unexpected costs are included?

Response:

The unexpected costs are not high and based on exprience also real. They comprise 5% of total costs and include among others: accounting, auditing, legal advice contract fees, bank fees, fees of technical consultants (incl. ERUs verification)

Conclusion:

This issue is resolved

Clarification Request #7:
Some evidences are needed, which shows that Estonian authorities in the energy sector foresee the use of JI as recommendable (e.g. in the development plan of the energy sector).

Response:

As stated in Estonia's Long Term Plan for Fuel and Energy Sector, the following support is utilized for the development of renewable electricity:

….Joint Implementation mechanism of Kyoto Protocol

Source: https://www.riigiteataja.ee/ert/act.jsp?id=829062

Conclusion:

The Estonia's Long Term Plan for Fuel and Energy checked during the determination. The JI mechanism is mentioned as interest for Estonia.
This issue is considered to be resolved

Corrective Action Request #5:

Additional proofs have to be provided and discussed in the PDD, which shows, that use of data from the period of 2003-2005 for the calculation of emission factors is more conservative approach.

Response:

See answer to CR1 and an amended PDD.

Conclusion:

Additional clarifications have been verified.

The electricity production has been increased during recent years and oil-shale based power plants had to use at a larger extent its older and less efficient production facilities (also emitting more CO2) and therefore use of data from the period of 2003-2005 can be considered as more conservative approach.
This issue is considered to be resolved.

Corrective Action Request #6:

The benchmark analysis has to be applied with the comparison of the IRR of the project if the only other option is the continuation of the current situation. NPV alone does not provide sufficient proof.

Documented proofs, that calculated IRR is the widely used benchmark, should be presented.

Also, it should be demonstrated in the PDD that the impact on IRR due to additional revenues for ERUs is sufficient to pass the financial hurdle.

Response:

Documentary proof has been forwarded to the validator.

Conclusion:

Estonian Competition Authority has been contacted by the validator as well. The WACC for energy sector is calculated and presented evidences and clarifications are considered adequate.
This issue is considered to be resolved.

Corrective Action Request #7:

It should be clarified and demonstrated, that there is no similarities between Rõuste and Tooma wind parks or demonstrated, that in spite these similarities the Tooma project activity would not be implemented without the JI.

Response:

Rõuste wind farm is also implemented as a Joint Implementation project and thus depends on the additional cash-flows from the sale of ERUs.

Conclusion:

Justifications are presented also in the revised PDD. The developer of the Rõuste project has submitted the order to TÜV in 2008 to carry out the determination.

This issue is considered to be resolved.

Corrective Action Request #8:

It should be mentioned in PDD who decided to use the SEI baseline study and that he or she is responsible for proper application of it.

Response:

Justifications are presented in the revised PDD (Version 3, May 22nd, 2009).

Conclusion:

Justifications are presented in the revised PDD.

This issue is considered to be resolved

3.2.3 Conclusion

It has been clearly demonstrated in the revised PDD (Version 3, May 22nd, 2009) that credible economical barrier exists preventing the implementation of the proposed project activity from being carried out if the project activity was not registered as a JI activity.

The given responses to the indicated CARs and CRs are resolving the belonging issues. Estonian Competition Authority has been contacted by the validator to check the WACC in the energy sector.

The project fulfils the criteria on baselines and additionality as set for the approval of JI-projects.

3.3 Duration of the Project

The starting date and crediting period is clearly and retraceably stated in the PDD.

3.3.1 Findings

Corrective Action Request #1:

The start of the crediting period and respective energy production and emission reduction calculations shall be adjusted accordingly with the principles stated in signed agreements. The start of crediting period cannot be earlier as 1st of October 2009

Response:

The necessary corrections have been done in the revised PDD (Version 3, May 22nd, 2009).

Conclusion:

The crediting period and respective energy production and emission reduction calculations are revised in the PDD.

This issue is considered to be resolved.

3.3.2 Conclusions

The given response to the indicated CAR is resolving the belonging issue. The project fulfils the criteria on baselines as set for the approval of JI-projects.

3.4 Monitoring Plan

3.4.1 Findings

CDM methodology AMS-I.D./Version 14 – Grid connected renewable electricity generation – has been applied for the monitoring, which is suitable for such kind of activity (section D and Annex 3 Monitoring Plan of Tooma Wind Power JI Project, Version 1,0 October 7, 2008).

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

Net electricity supplied to the grid is the key parameter to be monitored. The meters will be bi-directional. The electricity transmission and measurement system will also be able to measure the amount of electricity imported from the national grid for self-consumption (e.g. in case of stoppage of turbines).

Also some other parameters are defined for monitoring, which are aimed for plausible check or/and double-control purposes or in emergency cases. In case of meter malfunctions the internal metering system of the Enercon turbines (SCADA-system) can serve as back-up (taking into account also grid and sub-station losses).

Baseline emissions are re-calculated based on ex-ante fixed emission factor of the grid; hence there is no need to monitor baseline emissions during the crediting period.

Leakage emissions are not monitored according to the monitoring plan as there are no leakage emissions to be expected.

The description of the monitoring concept as well as responsibility, necessary trainings of employees, maintenance requirements etc. are fixed in the monitoring plan.

3.4.2 Issued CARs/CRs

No such requests have been issued.

3.4.3 Conclusion

The current available monitoring plan (Version 1,0 October 7, 2008) fulfils all requirements for monitoring for such type of project.

3.5 Calculation of GHG Emissions

3.5.1 Findings

The project's spatial boundaries are correctly described.

Uncertainties in the GHG emissions estimates are addressed in the documentation.

Discussion of the carbon emission factor of the Estonian grid is presented and justified.

The project will result in fewer GHG emissions than the baseline scenario.

3.5.2 Issued CARs/CRs

No such requests have been issued.

3.5.3 Conclusion

The GHG calculations are documented in a complete and transparent manner. Regarding emission sources all aspects are covered. Conservative assumptions have been used when calculating baseline emissions. Further the possible uncertainties in the GHG emission estimates are properly addressed in the documentation.

Windpower does not create any anthropogenic greenhouse gas emissions in operation.

Thus the project does fulfil all the prescribed requirements for JI projects completely under this topic.

3.6 Environmental Impacts

3.6.1 Findings

The analysis of the environmental impacts is deemed sufficient. The project will improve the current environmental situation. Trans-boundary impacts do not exist.

The EIA has been carried out according to Estonian law and requirements. The relevant assessment and the results are described completely, sufficiently and re-traceably in the revised PDD and attached documents.

3.6.2 Issued CARs/CRs

Clarification Request #3:

It shall be clarified, are there any additional requirements, which arise from the fact that the current Estonian EIA and Environmental Management System Act came into force in 2005 and Natura 2000 sites have been designated in 2006, but EIA for the project was carried out in 2002 and 2003.

Response:

There are no additional requirements as the legislation on EIA was changed after the detailed land use plan and EIA for the project were approved by local municipality. As a rule, changes in legislation cannot have a retroactive effect.

Conclusion:

During the determination the validator contacted with Läänemaa County Environmental Department as well and got the feedback, that there is no any additional requirements.

This issue is considered to be resolved

Corrective Action Request #9:

The definition in the PDD should be justified – EIA despite SEIA

Response:

Justifications are presented in the revised PDD.

Conclusion:

Justifications are presented in the revised PDD.

This issue is considered to be resolved

3.6.3 Conclusion

During the determination the Läänemaa County Environmental Department has been contacted by the determination team and feedback have been received, that there is no any additional requirements.

The project fulfils all prescribed requirements completely. The open issues have been clarified sufficiently.

3.7 Local stakeholder process

3.7.1 Findings

There are no project-specific requirements how to conduct a Local Stakeholder Process for this project. However, there are requirements regarding public consultations during the EIA and detail land use planning.

Relevant authorities have been consulted, incl. local municipality and county environmental department. Also public meetings have been carried out, minutes of the meeting with the lists of participants are available.

3.7.2 Issued CARs/CRs

Corrective Action Request #10:

Please provide evidence regarding public announcements (announcements in local newspapers etc)

Response:

The evidence has been forwarded to the audit team.

Conclusion:

Presented evidences have been checked by the validator. This issue is considered to be resolved.

3.7.3 Conclusion

Presented evidences have been checked.

The project fulfils all requirements completely.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD has been made publicly available on the UNFCCC JI website (http://ji.unfccc.int/JI_Projects/Verification/PDD) from 09 October 2008 until 07 November 2008.

TÜV SÜD published the project design document also on its own website www.netinform.net for 30 days. The publishing has been announced worldwide via Climate-L server. This is a widespread approach used for many such Global Stakeholder Processes (GSPs).

No comments on the project has been received.

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5 DETERMINATION OPINION

TÜV SÜD has performed a determination of "Tooma Wind Power Joint Implementation Project, Estonia". The determination was performed on the basis of all currently valid and relevant JI criteria.

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.

It is our opinion, that the project meets all relevant UNFCCC requirements for JI. TÜV SÜD can and will recommend this project for registration at the JI Supervisory committee after the Letter of Approval from the Estonian Ministry of Environment has been issued.

The determination is based on the information made available to us and the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use during the registration process as JI project. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Additionally the assessment team reviewed the estimation of the projected emission reductions: We can confirm that the indicated amount of emission reductions of 112,901 tons CO_{2e} (to be issued as ERUs) in the intended first crediting period from 2008 - 2012 (first Commitment Period of the Kyoto Protocol), resulting in annual average emission reductions of 28,225 tons CO_{2e}, represents a reasonable estimation using the assumptions given by the project documents.

Munich, 2009-05-22

Thomas Kleiser

Head of Certification Body "Climate and Energy"

Munich, 2009-05-22

Klaus Nürnberger

Responsible Project Manager

Annex 1 of 2

Determination Protocol

Industrie Service

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities, Completeness Checklist

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	**O1**	PDD A.5 The project is not yet approved by the Parties involved. Approval is expected after successful determination of the PDD by an Independent Entity accredited by the JISC. Existence of a positive draft determination report is one of the pre-requirements of the approval. The Project is presented to the Focal Point of Estonia, but the Letter of Approval can be issued by the MoE after the National Allocation Plan is approved by European Commission. Estonian Government approved Estonia's National Allocation Plan (NAP) for 2008-2012 on 28.12.2007. Remark: This **open issue (O1)** is beyond the influence of the project partners. The unconditional letters of approval by the involved Estonian bodies should be added as soon as possible.
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	Yes	PDD, Section B.2
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	Mainly yes See O1	Estonia is implemented its obligations required in Articles 5 and 7. However, the NAP is not approved by EC yet

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	Yes	NAP includes JI reserve of 3 000 000 ERUs for the five year period
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	Yes	Estonian Ministry of Environment is designated Ms Karin Radiko as focal point in Estonia. National guidelines are available, see web-page http://www.keskkonnainfo.ee/failid/kliimaveeb/juhised.pdf (status in 10.10.2008)
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24,21	Yes	Estonia has ratified the Kyoto Protocol at October 14th 2002.
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	Yes	The system is in place in Estonia.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24, 10	Yes	Estonian national registry is kept by Estonian Environment Information Centre (EEIC), see web-page http://register.keskkonnainfo.ee/envreg/main (status in 10.10.2008)
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	Yes	Version no 1, 21.07.2008
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Marrakech Accords, JI Modalities, §32	Yes	The PDD has been made publicly available on the UNFCCC JI website from 09 October 2008 until 07 November 2008
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be	Marrakech Accords, JI Modalities, §33(d)	Yes	PDD, Section F The EIA has been carried out separately in two parts – for Tooma land plot (4 wind

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out			turbines) together with Esivere wind park and separately for turbines located in Re-basekivi land plot.
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	Yes	PDD, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	**CR#1** -resolved-	No. A JI Project Development Baseline Study is used, compiled by Stockholm Environmental Institute in 2006, which is hard to consider as a project specific. The baseline data is taken from years 2003-2005, which is not most recent. Clarification Request #1: Please clarify, why in the baseline calculations the data from the most recent years (2006-2007) are not used and the baseline study is not clearly project-specific? See response in Table 3. The PDD was revised and elaborated. This issue is considered to be resolved.
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	Yes	PDD, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	Yes	The draft Monitoring Plan was presented just after the onsite visit. Monitoring and organisational principles defined in the MP were discussed during the visit

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Table 2: Checklist for Determination of JI-Projects

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of the project					
A.1. Title of the small-scale project:					
A.1.1.	Does the used project title clearly enable to identify the unique JI activity?	1, 2	Yes	☑	☑
A.1.2.	Are there any indication concerning the revision number and the date of the revision?	2 15	PDD version no 1, dated 21.07.2008 During the determination period some elaborations has been included in the PDD according to the CAR's and CR's. The last version (no 2) of the PDD is dated 4. December 2008.	☑	☑
A.1.3.	Is this consistent with the time line of the project's history?	1	Yes	☑	☑
A.2. Description of the project:					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1, 2, 3, 6, 7	Yes. During the on-site visit supporting documents were reviewed and personnel interviewed See also below A.4. technical description	☑	☑
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	6, 7, 8, 9, 10, 11, 12	During the on-site visit the personnel was interviewed and supporting documents were reviewed, including following documents: • detail planning drawings and approvals • proofs regarding land ownership (land register)	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			• grid connection agreement with Main Grid • supply contract with Enercon • EIA reports, approvals, minutes of meetings of public hearings; • building permits		
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2, 6, 7, 15	It was examined during the onsite visit that the project activities are mainly in line with the description in the PDD. However, the starting date of the crediting period cannot start from 1.07.2009, as the supply of turbines and construction of grid connection is planned to finalize in 4th Q 2009. Corrective Action Request #1: The start of the crediting period and respective energy production and emission reduction calculations shall be adjusted accordingly with the principles stated in signed agreements. The start of crediting period cannot be earlier as 1st of December 2009 See response in Table 3. The PDD has been revised as well. This issue is considered to be resolved.	**CAR#1**	☑
A.2.4.	Is all information provided consistent with details provided by further chapters of the PDD?	2, 6, 7,15	In item A4.3 it is said, that the reconstruction of Main Grid substation will be finalized in Q4 2009, but according to the schedule it is expected to start operation of the wind park in Q2 2009? Please, see the CAR#1 in item A.2.3 The schedule of reconstruction works and start of the wind farm have to be adjusted and contradictions eliminated See response to CAR#1 in Table 3. The PDD has been revised.	CAR#1	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		This issue is considered to be resolved.		
A.3. Project participants:				
A.3.1. Is the form required for the indication of project participants correctly applied?	1, 2	It is named only the developer – Tooma Tuulepark OÜ	☑	☑
A.3.2. Is the participation of all listed entities or Parties confirmed by each one of them?	1, 2, 4, 13	During the onsite visit the overall organizational-operational-management setup was introduced by the developer. The roles of all main entities/bodies are introduced also in the Monitoring Plan.	☑	☑
A.3.3. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2, 4	Yes.	☑	☑
A.4. Technical description of the project:				
A.4.1. Location of the project:				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	2, 8, 10	Yes.	☑	☑
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 2, 6, 7, 8, 9, 10, 11, 12, 15, 16	Mainly yes. During the on-site visit the personnel was interviewed and supporting documents were reviewed, including following documents: - building permits issued buy the local municipality for the erection of the wind turbines - printouts from the state land register	**CAR#2** **CR#2**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		- detail land use plans for the sites - signed supply and installation contract with Enercon - signed grid connection agreement with Main Grid - EIA reports and their acceptance by Lääne County Environmental Department Minutes of the public meetings regarding the EIA and detail land use planning However, it was recognized, that some open questions have to be clarified by the developer to be entirely confident about the smooth project implementation. <u>Corrective Action Request #2:</u> The evidence regarding building permissions of access roads and power cables (between wind turbines and 110 kV sub-station) should be presented and the corresponding description added in the PDD, demonstrating, that there is no any additional restrictions from the side of land owners or any others <u>See response in Table 3.</u> This issue is considered to be resolved. <u>Clarification Request#2</u> As with the Enercon the turn-key contract is signed, which covers also the construction of access roads and power lines, it should be clarified, is there any sub-contract already signed with the company(ies), who have respective registrations and licenses for the specific work in Estonia (construction of power		

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		lines or/and roads) or does Enercon itself has the registration in corresponding Estonian register (RETTER) See response in Table 3. This issue is considered to be resolved.		
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the small-scale project:				
A.4.2.1. To which category(ies) is the project activity belonging to? Is it correctly identified and indicated?	1, 2	The project belongs to the sectoral scope 1 – energy industry. The renewable electricity produced by the wind power plant will displace carbon intensive electricity produced from fossil fuel sources in the Estonian grid. It is correctly identified and indicated.	☑	☑
A.4.2.2. Does the project design engineering reflect current good practices?	2, 6, 7	Yes. The project reflects a professional standard scale wind park as it can be found in many European countries. The planned wind turbines are modern state-of-the-art turbines. It is, moreover, not likely that the project technology will be substituted by a more efficient technology	☑	☑
A.4.2.3. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the green-house gas balance?	1, 2, 4, 5, 6, 15	In principle yes. It is agreed in the grid connection agreement, that the 110 kV sub-station will be reconstructed in such way, which allows to connect 12 wind turbines, a' 2 MW. The JI project covers 6 turbines, which means, that there may be possibility to extend the wind park in the next 2nd stage. Corrective Action Request #3: The principles of separate measurement of wind energy production between 1st and 2nd stage wind turbines shall be described more exactly, which demonstrates, that there is no any possibilities to mix the production from different turbines after the imple-	**CAR#3**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		mentation of the 2nd stage. See response in Table 3. The justifications are presented in the elaborated PDD and project-specific Monitoring Plan. This issue is considered to be resolved.		
A.4.2.4. Is the technology implemented by the project activity environmentally safe?	1, 2, 9, 11, 12, 15	Mainly yes. The EIA has been carried out separately for Tooma (together with Esivere wind farm) and Rõuste wind farm in 2002 and 2003. Lääne County Environmental Department has issued his approvals without any additional special requirements. There is just recommended to carry out bird surveillance, but this is not stated as obligatory action. Clarification Request #3: It shall be clarified, are there any additional requirements, which arise from the fact that the current Estonian EIA and Environmental Management System Act came into force in 2005 and Natura 2000 sites have been designated in 2006, but EIA for the project was carried out in 2002 and 2003. See response in Table 3. The determinator had a telephone conversation with the representative of Lääne County Environmental Department, who confirmed, that there is no additional requirements regarding EIA. This issue is considered to be resolved.	**CR#3**	☑
A.4.2.5. Is the information provided in compliance with actual situation or planning as available by the project participants?	1, 2, 6, 7, 15	Mainly yes. However, see CAR#1, CAR#2	CAR#1 CAR#2	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.2.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2, 6	Yes. The planned wind turbines are modern state-of-the-art turbines.	☑	☑
A.4.2.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 6	It is not expected that today's highly efficient wind turbines will be substituted by better technologies within the project period.	☑	☑
A.4.2.8. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1, 2, 13	The additional extensive training is not necessary, as operational-maintenance-management set-up is foreseen to operate several wind parks in Baltic states by the same entities/ people. Although, in other wind parks the JI projects are developed as well. Also, some training is foreseen to be provided to the operating staff by Enercon according to the supply (turn-key) contract.	☑	☑
A.4.2.9. Is information available on the demand and requirements for training and maintenance? Explanation how the needs for training and maintenance are covered? Are there any evidences for them (Contracts, Manuals...?)	7	Yes. Main part of the training will be carried out in frames of turn-key contract.	☑	☑
A.4.2.10. Is a schedule available for the implementation of the project and are there any risks for delays?	2, 6, 7, 13, 15	Yes, a rough time schedule is provided in PDD. During the site visit it was examined, that some adjustments shall be provided in the time schedule based to the agreements with supplier and contractors. Please, see also the CAR#1 in item A.2.3 According to the information provided during the site-visit, it is expected to receive more detail time-schedule from the turn-key supplier in the near future.	CAR#1 **CR#4**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		Clarification Request#4 It shall be clarified is there any contradictions between the over-all time schedule and Enercon's detailed time schedule after the submission of the last mentioned one. See response in Table 3. This issue is considered to be resolved.		
A.4.3. Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed small-scale project, including why the emission reductions would not occur in the absence of the proposed small-scale project, taking into account national and/or sectoral policies and circumstances:				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	2, 4, 5	Yes.	☑	☑
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	2, 4, 5, 6, 7, 15	Mainly yes. However, see CAR#1 in item A.2.3	CAR#1	☑
A.4.3.3. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2, 3, 5	Not applicable	☑	☑
A.4.3.4. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2, 3, 4, 15	Mainly yes. However, see CR#1 and CAR#5	CR#1 CAR#5	☑
A.4.4. Not applicable				

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.5. Confirmation that the proposed small-scale project is not a debundled component of a larger project				
A.4.5.1. Is there any wind farms in the neighborhood, which has the same participants?	1, 2, 6, 15	There exist wind turbines in the neighborhood and, in principle, there is considered to continue with the 2nd stage of the Tooma Wind Park in the future. Corrective Action Request#4 It shall be clarified more exactly the ownership-, operational- and any other aspects in the PDD, showing, that the Tooma Wind Park is not the debundled component of a larger project See response in Table 3 This issue is considered to be resolved.	**CAR#4**	☑
A.5. Project approval by the Parties involved:				
Open issues related to the approval of the Parties involved are covered in a separate "completeness checklist" – see Table 1				
B. Baseline				
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?	1, 2	Yes. The Baseline methodology is indicated as AMS-I.D. The version number 14 is mentioned.	☑	☑
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	2	Yes	☑	☑
B.1.3. Is the methodology sufficiently described?	2, 3	Yes	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
B.1.4.	Is the applied methodology considered being the most appropriate one?	1, 2, 3	Yes. The methodology AMS-I.D/Version 14 is the most appropriate.	☑	☑
B.1.5.	Does baseline methodology apply to electricity capacity additions from wind sources?	2, 3	Yes, the used methodology is in principle applicable for additional capacity from wind power plants.	☑	☑
B.1.6.	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	1, 2, 3, 15	Yes, the geographic and system boundaries of the project and the Estonian electricity grid can clearly be identified. Relevant information on the characteristics of the grid are available but not for recent years. Data from the period 2003-2005 is taken into consideration in calculation of baseline emissions. See CR#1 in Table 1. Corrective Action Request #5: Additional proofs have to be provided and discussed in the PDD, which shows, that use of data from the period of 2003-2005 for the calculation of emission factors is more conservative approach. See response in Table 3. This issue is considered to be resolved.	CR#1 **CAR#5**	☑
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 small-scale project					
Description of how the baseline scenario is identified and description of the identified baseline scenario					
B.2.1.	Has JI been considered before the starting date of the project activity and which evidence has been delivered?	1, 2, 5, 14	JI has been considered in Feasibility calculations. Clarification Request #5 Some additional clarifications and evidences are needed, which	**CR#5**	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			shows, that JI has been considered before the starting of main supplies (grid connection agreement, supply contract) See response in Table 3. This issue is considered to be resolved.		
B.2.2.	Is a description of the baseline scenario, (b) a description of the project scenario, and (c) an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario.	1, 2, 3, 5	Yes	☑	☑
B.2.3.	Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD?	1, 2, 3, 5	Yes. Also described in PDD Annex 2 Baseline Study (SEI, 2006) There are no other realistic alternatives	☑	☑
B.2.4.	Does the project identifies correctly and excludes those options not in line with regulatory or legal requirements?	1, 2, 3	Yes	☑	☑
B.2.5.	Have applicable regulatory or legal requirements been identified?	1, 2, 3	Yes	☑	☑
B.2.6.	In case of applying step 2 of the additionality tool: Is the analysis method appropriately identified (step 2a)?	2, 3, 5, 15, 17	No. There is discrepancy between PDD and Baseline Study. In PDD Option II (investment comparison analysis) is used, in Baseline Study Option III (benchmark analysis) is recommended as most suitable? Corrective Action Request #6: The benchmark analysis has to be applied with the comparison of the IRR of the project if the only other option is the continuation of the current situation. NPV alone does not provide sufficient proof. It is necessary to demonstrate how the used dis-	**CAR#6**	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		count rate was calculated. Also, it should be demonstrated in the PDD that the impact on IRR due to additional revenues for ERUs is sufficient to pass the financial hurdle. Clarification Request #6 It shall be clarified and explained why the percentage of unexpected costs is relatively high? What categories of other costs/unexpected costs are included? See responses in Table 3. The determinator also contacted Estonian Competition Authority by phone and got the confirmation regarding the WACC in energy sector in Estonia. These issues are considered to be resolved.	**CR#6**	
B.2.7. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2, 3	The investment barriers are mentioned in the PDD	☑	☑
B.2.8. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2, 3, 15	No evidences are referenced. Clarification Request #7 Some evidences are needed, which shows that Estonian authorities in the energy sector foresee the use of JI as recommendable (e.g. in the development plan of the energy sector). See response in Table 3. This issue is considered to be resolved.	**CR#7**	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
B.2.9.	In case of applying step 3 (barrier analysis): Is it transparently shown that at least one of the alternatives is not prevented by the identified barriers?	1, 2, 3	Yes, continuation of existing situation in Estonia does not face any of the mentioned barriers.	☑	☑
B.2.10.	Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1, 2, 3	Yes, similar project activities have been identified. All of them are foreseen receiving JI support (LoA's are issued by the MoE of Estonia) and this is mentioned in the PDD as well	☑	☑
B.2.11.	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)?	1, 2, 3, 15	One other wind park is developed in the neighborhood – Rõuste WP (developed by Skinest company). Corrective Action Request#7: It should be clarified and demonstrated, that there is no similarities between Rõuste and Tooma wind parks or demonstrated, that in spite these similarities the Tooma project activity would not be implemented without the JI. See response in Table 3. This issue is considered to be resolved.	**CAR#7**	☑
B.3. Description of how the definition of the project boundary is applied to the project:					
B.3.1.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	1, 2, 3, 5, 6, 7	Yes	☑	☑
Description of the sources and gases included in the project boundary (Fill in the required amount of sub checklists for sources and gases as given by the methodology applied and comment at least every line answered with "No")					
B.3.2.	Source: Emissions from electricity generation in fossil	1, 2, 3, 5,	Boundary checklist | Yes / No	☑	☑

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
fuel fired power plants of any connected electricity system Gas(es): CO2 Type: baseline emissions	6, 7	Source and gas(es) discussed by the PDD? Yes Inclusion / exclusion justified? Yes Explanation / Justification sufficient? Yes Consistency with monitoring plan? Yes		
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, 3	The date of the baseline report is indicated (November, 2006)	☑	☑
B.4.2. Is this in consistency with the time line of the PDD history?	1, 2, 3	Yes	☑	☑
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?	1, 2, 3, 15	Nobody is mentioned who is responsible that the used baseline study is applicable and accordingly used. See also CR#1 Corrective Action Request #8: It should be mentioned in PDD who decided to use the SEI baseline study and that he or she is responsible for proper application of it. See response in Table 3. This issue is considered to be resolved.	CR#1 **CAR#8**	☑
B.4.4. Is information provided whether this person / entity is also a project participant?	1, 2, 3	It is mentioned in the PDD, that Stockholm Environmental Institute is not a project participant	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
C. Duration of the project activity / crediting period					
C.1.	Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 2, 4, 6, 7, 13, 15	No. See CAR#1 See response in Table 3. The PDD has been elaborated as well. This issue is considered to be resolved.	CAR#1	☑
C.2.	Is the assumed crediting time clearly defined and reasonable (crediting period between 2008 and 2012)?	1, 2, 4, 6, 7, 15	Yes, the crediting time is clearly defined. However see CAR#1. See response in Table 3. The PDD has been elaborated as well. This issue is considered to be resolved.	CAR#1	☑
D. Monitoring plan					
D.1. Description of monitoring plan chosen:					
D.1.1.	Is the applied methodology considered being the most appropriate one?	1, 2, 4	Yes CDM methodology AMS-I.D./Version 14 – Grid connected renewable electricity generation – has been applied, which is suitable for such kind of activity.	☑	☑
In the following "data checklists" are shown for all data which are fixed at determination 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 emissions from the **project** and how these data will be archived					
D111.1 Is the list of parameters presented by chapter D.2. considered to be complete with re-		1, 2, 4	Yes. Net electricity supplied to the grid is the relevant parameter to be monitored.	☑	☑

<table>
<tr><th>CHECKLIST TOPIC / QUESTION</th><th>Ref.</th><th>COMMENTS</th><th>PDD in GSP</th><th>Final PDD</th></tr>
<tr><td>gard to the requirements of the applied methodol-ogy?</td><td></td><td>No project emissions are expected. Hence there is no need to monitor project emissions.</td><td></td><td></td></tr>
<tr><td>D.111.2 Parameter Title:
EG_y
Net electricity supplied to the grid</td><td>2, 4</td><td><table>
<tr><th>Monitoring Checklist</th><th>Yes / No</th></tr>
<tr><td>Title in line with methodology?</td><td>Yes</td></tr>
<tr><td>Data unit correctly expressed?</td><td>Yes</td></tr>
<tr><td>Appropriate description?</td><td>Yes</td></tr>
<tr><td>Source clearly referenced?</td><td>Yes</td></tr>
<tr><td>Correct value provided for estimation?</td><td>See CAR#1</td></tr>
<tr><td>Has this value been verified?</td><td>-</td></tr>
<tr><td>Measurement method correctly described?</td><td>Yes</td></tr>
<tr><td>Correct reference to standards?</td><td>Yes</td></tr>
<tr><td>Indication of accuracy provided?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures described?</td><td>Yes</td></tr>
<tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr>
</table></td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">D.1.1.2 Description of formula used to estimate emissions from the project</td></tr>
<tr><td>Are formulae required for the estimation of project emissions correctly presented, enabling a com-plete identification of parameter to be used and / or monitored?</td><td>1, 2, 3</td><td>Yes</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">D.1.1.3 Data to be collected in order to determine the baseline emissions within the project boundary how these data will archived</td></tr>
<tr><td></td><td>1, 2, 3</td><td>Baseline emissions are calculated based to the baseline data. Hence there is no need to monitor baseline emissions during the crediting period.</td><td>☑</td><td>☑</td></tr>
<tr><td colspan="5">D.2. Quality control (QC) and quality assurance (QA) procedures undertaken for data monitored:</td></tr>
<tr><td colspan="5">This aspect is covered for the relevant data in section D.1.1.</td></tr>
</table>

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
D.3. Please describe the operational and management structure that the project operator will apply in implementing the monitoring plan:				
D.3.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2, 4, 13	Yes.	☑	☑
D.3.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2, 4, 13	Yes	☑	☑
D.3.3. Does the monitoring plan provide current good monitoring practice?	1, 2, 4, 13	Yes	☑	☑
D.3.4. Does annex 3 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 4	Yes Monitoring Plan, Version 1.0, October 7, 2008	☑	☑
D.4. Name of person(s)/entity(ies) establishing the monitoring plan:				
D.4.1. Is information of the person(s) / entity(ies) responsible for the monitoring plan provided in consistency with the actual situation?	1, 4, 13	Yes	☑	☑
D.4.2. Is information provided whether this person / entity is also a project participant?	1, 2, 4, 13	Yes. Tooma Tuulepark OÜ is listed as a project participant.	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
E. Estimation of greenhouse gas emission reductions					
E.1. Estimated project emissions and formulae used in the estimation					
E.1.1.	Are formulae required for the estimation of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3, 4	No project emissions are expected. Hence there is no need to monitor project emissions.	☑	☑
E.2. Estimated leakage and formulae used in the estimation, if applicable:					
E.2.1.	Are formulae required for the estimation of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 4	There are no leakage of emissions in wind power utilities, therefore formulae are not required	☑	☑
E.2.2.	Why are the leakage emissions not constant over the years?	1, 2, 3	Not applicable. There is no leakage expected	☑	☑
E.3. The sum of E.1. and E.2.:					
E.3.1.	Is the data provided under this section in consistency with data as presented by other chapters of the PDD?	2, 4	Yes	☑	☑
E.4. Estimated baseline emissions and formulae used in the estimation:					
E.4.1.	Are formulae required for the estimation of baseline emissions correctly presented, enabling a complete identification of para-	1, 2, 4, 15	Yes However, see CAR#5	CAR#5	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	meter to be used and / or monitored?				
Ex-ante calculation of emission reductions					
E.4.2.	Is the projection based on the same procedures as used for future monitoring?	1, 2, 3, 4	Yes.	☑	☑
E.4.3.	Is the data provided under this section in consistency with data as presented by other chapters of the PDD?	1, 2, 3, 4, 15	Mainly yes However, see CR#1, CAR#1 and CAR#5	CR#1 CAR#1 CAR#5	☑
E.5. Difference between E.4. and E.3 representing the emission reductions of the project:					
E.5.1.	Are formulae required for the determination of emission reductions correctly presented?	1, 2, 3, 4	Yes	☑	☑
E.6. Table providing values obtained when applying formulae above:					
E.6.1.	Will the project result in fewer GHG emissions than the baseline scenario?	1, 2, 3, 4	Yes, the project emissions and leakages are zero. Hence in comparison to the baseline scenario the project results in fewer GHG emissions.	☑	☑
E.6.2.	Is the form/table required for the indication of projected emission reductions correctly applied?	1, 2, 3, 4	Yes	☑	☑
E.6.3.	Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2, 3, 15	No see CAR#1 Response – the time schedule and crediting period have been revised	CAR#1	☑
E.6.4.	Is the data provided under this section in	1, 2,	Yes	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	consistency with data as presented by other chapters of the PDD?	3, 4			
F. Environmental impacts					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party:					
F.1.1.	Has an analysis of the environmental impacts of the project activity been sufficiently described?	1, 2, 9, 10, 11, 12, 15	As mentioned in the PDD, the strategic EIA (SEIA) is carried out in 2002 and 2003, separately for Tooma land use plan (together with Esivere) and Rõuste land use plan (for Rebasekivi land plot). During the site visit the EIA reports in paper format were reviewed. Corrective Action Request #9: The definition in the PDD should be justified – EIA despite SEIA See response in Table 3. The PDD has been elaborated as well. This issue is considered to be resolved.	**CAR#9**	☑
F.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1, 2, 9, 10, 11, 12, 15	EIA reports are approved by Lääne County Environmental Department However, see CR#3	CR#3	☑
F.1.3.	Will the project create any adverse environmental effects?	1, 2, 9, 10, 11, 12	The project will not create any substantial negative effects	☑	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
F.1.4.	Are transboundary environmental impacts considered in the analysis?	1, 2, 9, 10, 11, 12	Yes. No any substantial negative transboundary environmental impacts are foreseen	☑	☑
F.2. If environmental impacts are considered significant by the project participants or the host Party, provision of conclusions and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party:					
F.2.1.	Have identified environmental impacts been addressed in the project design?	7, 8, 12	Yes.	☑	☑
F.2.2.	Does the project comply with environmental legislation in the host country?	8, 9, 10, 11, 12	Yes However, see CR#3	CR#3	☑
G. Stakeholders' comments					
G.1. Information on stakeholders' comments on the project, as appropriate:					
G.1.1.	Have relevant stakeholders been consulted?	1, 2, 12	The public meetings have been carried out during the detail planning and EIA in 2002-2003 and results are described in PDD	☑	☑
G.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 2, 12, 18	Not finally clear Corrective Action Request #10: Please provide evidence regarding public announcements (announcements in local newspapers etc) See response in Table 3. This issue is considered to be resolved.	**CAR#10**	☑
G.1.3.	If a stakeholder consultation process is required by regulations/laws in the host coun-	1, 2, 12, 18	Mainly yes	CAR#10	☑

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
	try, has the stakeholder consultation process been carried out in accordance with such regulations/laws?		However, see CAR#10		
G.1.4.	Is the undertaken stakeholder process described in a complete and transparent manner?	1, 2, 12, 18	Mainly yes However, see CAR#10	CAR#10	☑
G.1.5.	Is a summary of the stakeholder comments received provided?	2, 12	Yes	☑	☑
G.1.6.	Has due account been taken of any stakeholder comments received?	2, 12	Yes	☑	☑

H. Annexes 1 – 4					
Annex 1: Contact Information					
H.1.1.	Is the information provided in consistency with the one given under section A.3?	2	Yes	☑	☑
H.1.2.	Is information on all private participants and directly involved Parties presented?	1, 2	Mainly yes	☑	☑
Annex 2: Baseline study					
H.1.3.	If additional background information on baseline data is provided: Is this information in consistency with data presented by other sections of the PDD?	1, 2, 3, 15	Yes However, see CR#1, CAR#1 and CAR#5	CR#1 CAR#1 CAR#5	☑

H.1.4.	Is the data provided verifiable? Has sufficient evidence been provided to the determination team?	1, 2, 3, 15	see CR#1 and CAR#5	CR#1 CAR#5	☑
H.1.5.	Does the additional information substantiate statements given in other sections of the PDD?	1, 2, 3, 15	see CR#1, CAR#1 and CAR#5	CR#1 CAR#1 CAR#5	☑
Annex 3: Monitoring information					
H.1.6.	If additional background information on monitoring is provided: Is this information in consistency with data presented by other sections of the PDD?	1, 2, 3, 4, 15	Yes However, see CR#3	CR#3	☑
H.1.7.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2, 3, 4, 15	Yes However, see CR#3	CR#3	☑
H.1.8.	Do the additional information / procedures substantiate statements given in other sections of the PDD?	1, 2, 3, 4, 15	Yes However, see CR#3	CR#3	☑

Table 3 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by determination team	Ref. to table 2	Summary of project owner response	Validation team conclusion

Clarification Request #1: Please clarify, why in the baseline calculations the data from the most recent years (2006-2007) are not used and the baseline study is not clearly project-specific?	Table 1	See revised text of PDD. The most recent data has not been used due to the fact that it is not available from public sources. The earlier study was prepared by an NGO Stockholm Environmental Institute. The emission factor from that extensive study, utilizing then confidential detailed plant-level data, is still applicable as no changes have occurred in the Estonian energy policy that may reduce the share of oil-shale power based power generation during the crediting period of the JI project (2008-12). In contrary, Eesti Energia has during recent years increased the power production at the Narva Power Plants and utilizing the oldest and most polluting power blocks. Due to the EU directive concerning large combustion plants, the Iru Power Plant had an obligation to close its 1st block from January 2008 (85 MW, 50% of the net capacity of the plant). In addition the price of natural gas has increased remarkably compared to period 2003-5, thus the production at Iru Power Plant has diminished. In connection with establishment of a cable connection between Estonia and Finland and an increase of consumption, the sale of electricity by Eesti Energia has increased compared to period 2003-5 (Source: Eesti Energia 2007/2008 annual report, page 2) **Year** / **GWh** 2002/2003 — 6 931 2003/2004 — 7 674 2004/2005 — 7 983 2005/2006 — 8 002 2006/2007 — 7 841 2007/2008 — 9 716 As the 1st energy block at Iru Power Plant was closed (where the CO2 emission factor was ca. 3 times lower than at oil shale based power plants), and as at the same time the electricity sale of Eesti Energia increased, the Narva Power Plants had to use at a larger extent its older and less efficient production facilties (also emitting more CO2) the CO2 emissions per MWh of generated electricity have not decreased when compared to the emission factor as given in the baseline study used for this JI project. The baseline study is not project specific as the study is applicable for use by all renewable energy JI projects that feed power to the Estonian grid and thus displace the more CO2-intensive power production of the energy mix supplied to the grid from Estonian power plants.	The annual report of Eesti Energia was verified, available in the web-page: http://www.energia.ee/index.php?id=141 (status in 08.12.2008) This issue is considered to be resolved

Clarification Request#2 As with the Enercon the turn-key contract is signed, which covers also the construction of access roads and power lines, it should be clarified, is there any sub-contract already signed with the company(ies), who have respective registrations and licenses for the specific work in Estonia (construction of power lines or/and roads) or does Enercon itself has the registration in corresponding Estonian register (RETTER) Clarifications and evidences should be presented regarding the signed or planned contracts for road construction, incl. time schedule, corresponding licenses etc, which proofs, that there is no any contradictions with the project implementation plan.	A.4.1.2	With Enercon a turn-key contract has been signed. The roads, substation and cable lines are outside the contract and thus the responsibility of Tooma Tulepark. Enercon or its subcontractors have all licenses for their scope of work. Contracts have not yet been signed with the road construction companies. On Tooma cadastre there already exist roads which need some improvement before it is possible to start the foundation building. For Rebasekivi cadastre it is planned to start the tender procedure for road construction/improvement by latest at the beginning of February. This gives sufficient time to build the roads so that the turbine foundations construction can start in May. Tenders for road construction will be invited from the following companies: ASPI, Arieks Teenindus, Lääne Teed, etc. The legal basis for road construction is the detailed plan approved by the municipality.	This issue is considered to be resolved
Clarification Request #3: It shall be clarified, are there any additional requirements, which arise from the fact that the current Estonian EIA and Environmental Management System Act came into force in 2005 and Natura 2000 sites have been designated in 2006, but EIA for the project was carried out in 2002 and 2003.	A.4.2.4	There are no additional requirements as the legislation on EIA was changed after the detailed land use plan and EIA for the project were approved by local municipality. As a rule, changes in legislation cannot have a retroactive effect.	During the determination the validator contacted with Läänemaa County Environmental Department as well and got the feedback, that there is no any additional requirements. This issue is considered to be resolved

Clarification Request #4: It shall be clarified is there any contradictions between the overall time schedule and Enercon's detailed time schedule after the submission of the last mentioned one.	A.4.2.10	Enercon's time-schedule foresees to construct the wind turbine foundations in May-June 2008 and to install the wind turbines in August-September 2008. There are no contradictions when compared to the (revised) time-schedule in PDD.	This issue is considered to be resolved
Clarification Request #5 Some additional clarifications and evidences are needed, which shows, that JI has been considered before the starting of main supplies (grid connection agreement, supply contract)	B.2.1	As proof, a copy of the Council meeting of Freenergy has been provided	According to the minutes JI has been considered already in 2007. This issue is considered to be resolved
Clarification Request #6: It shall be clarified and explained why the percentage of unexpected costs is relatively high? What categories of other costs/unexpected costs are included?	B.2.6	The unexpected costs are not high and based on experience also real. They comprise 5% of total costs and include among others: accounting, auditing, legal advice contract fees, bank fees, fees of technical consultants (incl. ERUs verification)	This issue is considered to be resolved
Clarification Request #7: Some evidences are needed, which shows that Estonian authorities in the energy sector foresee the use of JI as recommendable (e.g. in the development plan of the energy sector).	B.2.8	As stated in Estonia's Long Term Plan for Fuel and Energy Sector, the following support is utilized for the development of renewable electricity: ….Joint Implementation mechanism of Kyoto Protocol Source: https://www.riigiteataja.ee/ert/act.jsp?id=829062	The Estonia's Long Term Plan for Fuel and Energy checked during the determination. The JI mechanism is mentioned as interest for Estonia. This issue is considered to be resolved

Corrective Action Request #1: The start of the crediting period and respective energy production and emission reduction calculations shall be adjusted accordingly with the principles stated in signed agreements. The start of crediting period cannot be earlier as 1st of December 2009	A.2.3	The start of crediting period in the revised PDD has been fixed as of December 1 2009.	The crediting period and respective energy production and emission reduction calculations are revised in the PDD. This issue is considered to be resolved
Corrective Action Request #2: The evidence regarding building permissions of access roads and power cables (between wind turbines and 110 kV sub-station) should be presented and the corresponding description added in the PDD, demonstrating, that there is no any additional restrictions from the side of land owners or any others Evidences should be presented at the end of the determination, that there is no any restriction from land owners, which can delay the implementation of the project.	A.4.1.2	The specific permits for construction of access roads and power cables are missing at the moment as their engineering design has not yet been finalized. It is expected to obtain the permit for power cables by latest April 2009. The necessity of a permit for the access roads will yet be discussed with the local municipality as the right to establish the roads is already foreseen in the approved local plan. If the permit is necessary, it will be obtained also by latest April 2009. Tooma cadastre is just next to the municipality owned road, Rebasekivi cadastre is connected with municipality owned road through Allani cadastre, which also belongs to Tooma Tuulepark OÜ. No restrictions from land owners are foreseen.	This issue is considered to be resolved
Corrective Action Request #3: The principles of separate measurement of wind energy production between 1st and 2nd stage wind turbines shall be described more exactly, which demonstrates, that there is no any possibilities to mix the production from different turbines after the implementation of the 2nd stage.	A.4.2.3	See revised monitoring plan.	The monitoring plan has been checked. The issue to secure separate measurement of wind energy between 1st and 2nd stage is covered. This issue is considered to be resolved by now. During the verification the actual situation shall be checked.

Corrective Action Request #4: It shall be clarified more exactly the owner-ship-, operational- and any other aspects in the PDD, showing, that the Tooma Wind Park is not the debundled component of a larger project	A.4.5.1	The clarification has been extended in PDD. Further to what is stated in the revised PDD it should be noted that: - Esivere wind farm was put into operation already in 2005. - The owners of the wind farms at the area are different: Tooma - Tooma Tuulepark OÜ Esivere&Virtsu2 – Roheline Ring Tuulepargid OÜ Rõuste – Skinest Energia AS	The PDD was checked and information verified. This issue is considered to be resolved
Corrective Action Request #5: Additional proofs have to be provided and discussed in the PDD, which shows, that use of data from the period of 2003-2005 for the calculation of emission factors is more con-servative approach.	B.1.6	See answer to CR1 and an amended PDD.	Additional clarifications have been verified. The electricity production has been increased during recent years and oil-shale based power plants had to use at a larger extent its older and less efficient production facili-ties (also emitting more CO2) and therefore use of data from the period of 2003-2005 can be considered as more conservative approach. This issue is considered to be resolved

Corrective Action Request #6: The benchmark analysis has to be applied with the comparison of the IRR of the project if the only other option is the continuation of the current situation. NPV alone does not provide sufficient proof. Documented proofs, that calculated IRR is the widely used benchmark, should be presented Also, it should be demonstrated in the PDD that the impact on IRR due to additional revenues for ERUs is sufficient to pass the financial hurdle.	B.2.6	See revised PDD. Documentary proof has been forwarded to the validator.	Estonian Competition Authority has been contacted by the validator as well. The WACC for energy sector is calculated and presented evidences and clarifications are considered adequate. This issue is considered to be resolved
Corrective Action Request #7: It should be clarified and demonstrated, that there is no similarities between Rõuste and Tooma wind parks or demonstrated, that in spite these similarities the Tooma project activity would not be implemented without the JI.	B.2.11	Rõuste wind farm is also implemented as a Joint Implementation project and thus depends on the additional cash-flows from the sale of ERUs.	Justifications are presented also in the revised PDD. The developer of the Rõuste project has submitted the order to TÜV in 2008 to carry out the determination. This issue is considered to be resolved
Corrective Action Request #8: It should be mentioned in PDD who decided to use the SEI baseline study and that he or she is responsible for proper application of it.	B.4.3	See revised PDD	Justifications are presented in the revised PDD. This issue is considered to be resolved
Corrective Action Request #9: The definition in the PDD should be justified – EIA despite SEIA	F.1.1	See revised PDD	Justifications are presented in the revised PDD. This issue is considered to be resolved

Corrective Action Request #10: Please provide evidence regarding public announcements (announcements in local newspapers etc)	G.1.2	The evidence has been forwarded to validator.	Presented evidences have been checked by the validator. This issue is considered to be resolved

Table 4 Unresolved Corrective Action and Clarification Requests (in case of denials)

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

Annex 2 of 2

Determination Reference List

Reference No.	Document or Type of Information
1	On-site interview at 4Energia OÜ and site-visit by auditing team of TÜV Industrie Service GmbH **Verification team on-site:** Ranno Mellis — GHG auditor Georgios Agrafiotis — TÜV SÜD, trainee **Interviewed persons:** Martin Kruus — 4Energia OÜ Kalle Kiigske — 4Energia OÜ Raimo Pirksaar — 4Energia OÜ Piret Loomets — 4Energia OÜ Hannu Lamp — LHCarbon OÜ Raul Kivari — Nordic Power Management Tiit Nigul — Nordic Power Management Tuesday, 07.10.2008
2	Project Design Document for “Tooma Wind Power Joint Implementation Project, Estonia”. Ver.no.1, July 21 2008
3	Project Design Document for “Tooma Wind Power Joint Implementation Project, Estonia”. Ver.no 03., 22 May 2008
4	Estonian JI Project Development Baseline Study. Stockholm Environment Institute Tallinn Centre, November 2006
5	Monitoring Plan of Tooma Wind Power JI Project, Version 1,0 October 7, 2008.
6	Tooma JI Feasibility Study (Excel file)
7	Signed grid connection agreement between Tooma WP and Main Grid (in Estonian)
8	Supply contract between Tooma WP and Enercon

Reference No.	Document or Type of Information
9	Construction permits for turbines issued by local municipality (Hanila Municipality) – in Estonian Printouts from the land register regarding land ownership – in Estonian
10	Letters from Lääne County Environmental Department regarding the approval of EIA reports – in Estonian
11	Detail land use plans separately for Tooma and Rebasekivi land plot – in Estonian
12	EIA reports separately for Tooma (together with Esivere) and Rebasekivi (Rõuste) land plot
13	Minutes of the public meetings concerning EIA and detail land use plans
14	Presentation of development of Tooma Wind Park – slide show Presentation of organisational set-up of 4Energy – slide show
15	Minutes of the Freenergy Ltd council’s meeting (dated 30.08.2007)
16	Construction permit for sub-station (issued by Hanila Minicipality Government on 17.10.2008)
17	Example of WACC calculation in energy sector issued by Estonian Competition Authority
18	Public meeting announcement, Minutes of the public meetings