Final Determination Report

Estonian JI-Project
"Esivere and Virtsu II Wind Power Developments"

Determination of
the
"Esivere and Virtsu II
Wind Power Developments" JI-Project,
Estonia

Report No. 592837

2005, March 11

TÜV Industrie Service GmbH,
TÜV SÜD Group
Carbon Management Service
Westendstr. 199 - 80686 Munich - GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
592 837	15th of February 2005	0	11th of March 2005	-

Subject:	Determination of a JI Project
Executing Operational Unit:	TÜV Industrie Service GmbH TÜV SÜD Group Carbon Management Service Westendstr. 199 - 80686 Munich - GERMANY
Client:	OÜ Roheline Ring Rootsi 7 93811 Kuressaare, ESTONIA
Contract approved by:	Michael Rumberg
Report Title:	Determination of the JI-Project: "Esivere and Virtsu II Wind Power Developments", Estonia
Number of pages	15 (excluding cover page and annexes)

Summary:

The Certification Body "Climate and Energy" of TÜV Industrie Service GmbH, TÜV SÜD Group, has been ordered by the Estonian company OÜ Roheline Ring in Kuressaare, Estonia, to determine the above mentioned project.

The determination of this project has been performed by document reviews, interviews by e-mail and on-site inspections, audits at the locations of the project and interviews at the offices of the client's technical advisor.

There are no unresolved corrective action requests (CAR) or clarification requests (CR)/ additional information requests (AI). There is one outstanding issue (O), which can not be influenced by the project partners and which is not directly under the control of the project participants.

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

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

We can confirm that the indicated amount (reduction in the worst case) of 73.627 tons CO_2 (AAUs) during the intended crediting period from October 1st, 2005 – December 31st, 2007 and of 191.443 tons CO_2 (ERUs) during the intended crediting period from January 1st, 2008 – December 31st, 2012 represents a conservative estimation using the assumptions given by the project documents.

Work carried out by:	Thomas Kleiser (Project manager, GHG auditor) Thyge Weller (Technical Expert, GHG auditor - trainee)	Internal Quality Control by: Werner Betzenbichler

Abbreviations

AAU	Assigned Amount Unit
AOE	Applicant Operational Entity
CAR	Corrective action request
CR	Clarification request
DP	Determination Protocol
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
ERU	Emission Reduction Unit
GHG	Greenhouse gas(es)
JI	Joint Implementation
KP	Kyoto Protocol
KPC	Kommunalkredit Public Consulting GmbH
MP	Monitoring Plan
MS	Management System
PDD	Project Design Document
TÜV SÜD	TÜV Industrie Service GmbH (TÜV SÜD Group)
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

Table of Contents Page

1 INTRODUCTION

1.1 Objective

The Estonian company "OÜ Roheline Ring" in Kuressaare, Estonia, has commissioned TÜV Industrie Service, TÜV SÜD Group (in short: TÜV SÜD) to make a determination of the "Esivere and Virtsu II Wind Power Developments" JI-project with regard to the relevant requirements for JI project activities. The determination serves as a design verification and is a requirement for all JI projects submitted to the Austrian JI / CDM programme. The purpose of a determination is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of assigned amount units (AAUs) and emission reduction units (ERUs).

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

1.2 Scope

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

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

1.3 GHG Project Description

The project foresees the erection of one wind farm in Virtsu („Virtsu II") and north of Virtsu („Esivere"). Virtsu II will have a capacity of 6 MW (3 turbines à 2 MW). Esivere will have a capacity of 8 MW (4 turbines à 2 MW). The wind parks will feed into the Estonian national grid a total estimated supply of 36.637 MWh per year, at a projected load factor of 30 percent. The CO_2-free electricity generation by the wind turbines will replace energy which is to its largest part produced in the oil shale plants in Narva, East-Estonia.

The project is submitted to the Austrian JI / CDM programme for evaluation.

The first wind park (Esivere) will be commissioned October 1, 2005. Virtsu II will be commissioned June 1, 2006 .

The generated AAUs and ERUs are supplied by OÜ Roheline Ring. The project documentation has been developed by ECON Analysis a.s. with headquartes in Oslo, with additional support by other institutions and experts. ECON Analysis a.s. acts as a technical advisor to the project, and is not formally a project participant.

2 METHODOLOGY

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

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

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

The completed final determination protocol is enclosed in Appendix A 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 subdivided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to 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".*

Figure 1 Determination protocol tables

2.1 Review of Documents

The original PDD and additional background documents related to the project design and baseline were submitted by OÜ Roheline Ring January 18th, 2005. Those documents were reviewed and served as the basis for the follow-up-interviews, the on-site visit and this draft determination report.

2.2 Follow-up Interviews

From February 9, 2005 to February 11, 2005 TÜV SÜD performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the project applicant OÜ Roheline Ring, the technical advisor ECON Analysis a.s., the Estonian Ministry of the Environment, the Estonian Wind Power Association and the Estonian energy utility Eesti Energia have been interviewed. After returning from Estonia, an additional telephone interview was held with the representative of the sponsor country Austria.

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

Table 1: Interview topics

Interviewed organisation	Interview topics
OÜ Roheline Ring	Project design, monitoring plan, environmental impacts, stakeholder comments, additionality, monitoring procedures, calibration of the measurement equipment, documentation, archiving of data
ECON Analysis (technical advisor)	Project design, baseline, monitoring plan, environmental impacts, stakeholder comments, additionality (business plan)
Estonian Ministry of the Environment	Approval of the project, stakeholder comments, national and sectoral policy; approval procedure
Estonian Wind Power Association	Project design, environmental impacts, stakeholder comments, public acceptance, additionality (business plan)
Eesti Energia (utility)	Project design, environmental impacts, monitoring procedures, measurement equipment, documentation, archiving of data
Kommunalkredit Public Consulting GmbH (KPC, Austria)	Approval of the project, stakeholder comments, national and sectoral policy; approval procedure

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for TÜV SÜD's positive conclusion on the project design. TÜV SÜD's draft determination report was sent back February 15th, 2005. It contained one outstanding issue, 3 CAR's and 3 CR's.

Corrective Action Requests / Clarification Requests raised by TÜV SÜD were resolved by additional documents and additional information between February 15th, 2005 and March 10th, 2005. The final PDD and the additional background documents related to the project design and baseline were submitted by OÜ Roheline Ring March 10th, 2005.

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 original project design documents and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Appendix A.

2) Where TÜV SÜD had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification, Corrective Action Requests and Additional Information Requests are stated, where applicable, in the following sections and are further documented in the Draft Determination Protocol in Appendix A.

3) The exchanges between OÜ Roheline Ring or its advisor ECON Analysis a.s. to resolve these Clarification and Additional Information Requests are summarized.

4) The conclusions of the determination are presented consecutively.

3.1 Project Design

3.1.1 Findings

The planned wind turbines are amongst the largest and most modern world-wide and are the first turbines of the 2-MW-class in Estonia. 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 Latvia and local specialists, who will be thoroughly trained.

Estonia has appointed a national focal point to UNFCCC and has ratified the Kyoto Protocol. The official nomination of a DNA is still outstanding. 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 Preliminary Approval exists. Specific national guidelines and procedures (G&P) for JI projects in Estonia have to be incorporated as soon as they are defined and communicated by the Estonian Government.

The project starting date is clearly defined (April 1st, 2005). The crediting period is defined as being from October 1st, 2005 to December 31st, 2012. There is a clear separation between AAUs (October 1st, 2005 – December 31st, 2007) and ERUs (January 1st, 2008 – December 31st, 2012). Also the operational lifetime of the project is clearly defined and in accordance with international practice.

The project applicant, OÜ Roheline Ring, cooperates with the owner of the wind park Esivere, OÜ Harington. Written statements / contracts regarding this cooperation are not available so far.

3.1.2 Outstanding Issues, issued CRs

Outstanding Issue No. 1 (O 1):

Specific national guidelines and procedures (G&P) for JI projects in Estonia have to be incorporated as soon as they are defined and communicated by the Estonian Government.

A formal, written Letter of Approval of Estonian Government should be provided.

Response

A letter of Preliminary Approval exists, dated February 15th, 2005. Specific national guidelines and procedures (G&P) for JI projects in Estonia have to be incorporated as soon as they are defined and communicated by the Estonian Government.

Conclusion:

This open issue has been resolved to the extent to which it is under the influence of the project partners.

Clarification Request No. 2 (CR 2):

A document is required which defines the roles and rights of OÜ Roheline Ring and OÜ Harington in writing. In particular the rights of OÜ Roheline Ring to market the electricity production of the wind park Esivere has to be documented.

The document should be provided until the end of the public consultation period (March 9th, 2005), when the final determination report will be released.

Response

The roles and responsibilities of OÜ Roheline Ring and OÜ Harington have been clarified in a letter to C. Ploechl, Austrian JI/CDM programme.

Conclusion:

The open issue was resolved.

3.1.3 Conclusion

The project fulfils the prescribed requirements completely.

3.2 Baseline

3.2.1 Findings

Approved consolidated baseline methodology ACM0002 was applied. "Simple operating margin" is used with the three years average option, and built margin option 1 was used (ex ante calculation). Outside activities have therefore no influence on the baseline.

The baseline of the Estonian JI-project "Esivere and Virtsu II Wind Power Developments" is established in a project specific manner and is based on the assumption that the Narva power plants are upgraded and partially closed (refurbishing of 200 MW units at Eesti and Balti power stations from pulverized bed to circulating fluidized bed combustion technology by 2005/2006, and closing down of units 1 - 8 at Balti power station). These upgrades are contained in the National Fuel and Energy Development Plan. The baseline is a plausible assumption and appropriate.

The (implementation of the) envisaged wind park project is additional. Detailed financial modelling and sensitivity analysis shows that the existing Estonian feed-in tariff results in an inadequate rate of return. No large wind turbine exists in Estonia which is not supported by a JI-project or other grants. It is the sale of AAUs / ERUs during 2006-12 which improves IRR of both projects by about 15% (1,2 percentage points) and thus makes the projects viable.

The discussion and selection of the baseline methodology is transparent as all data used are specified and documented. Also the discussion and determination of the chosen baseline is transparent. Different approaches have been presented and plausible reasons for the approach chosen have been given. The baseline calculation, however, uses a rounding approach which is not compatible with a conservative assessment.

The baseline is established in a project specific manner and refers to the characteristics of the Estonian power plants. The baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated. The baseline determination is compatible with available data.

3.2.2 Issued CARs / CRs

Corrective Action Request No. 3 (CAR 3):

The baseline calculation has to be changed in order to avoid rounding effects which are not compatible with a conservative assessment.

PDD and baseline study have to be changed to reflect the results of that change. The new versions should be provided until the end of the public consultation period (March 9th, 2005), when the final determination report will be released.

Response

The baseline was newly calculated without rounding. The results were used to update the baseline study, the PDD and the business plan.

Conclusion:

The open issue was resolved.

3.2.3 Conclusion

The project fulfils all the prescribed requirements completely.

3.3 Monitoring Plan

3.3.1 Findings

The presented monitoring methodology does reflect current good practice and is supported by the monitored and recorded data. There are no project emissions to be expected and no leakage. The baseline emission factor will not be changed during the crediting period. The only remaining variable to be monitored is therefore the electricity supplied by the project activity to the grid. This parameter will be monitored and measured in a re-traceable and plausible way. The monitoring provisions are in line with the project boundaries. In case of meter malfunctions the internal metering system of the wind turbines (SCADA-systems) serves as back-up.

There is, however, not yet a written description of the monitoring plan and its implementation. The monitoring and archiving of the electricity generated by the wind parks must be elaborated in detail. The requirement of a more detailed elaboration refers to the measurement (methodology) of the parameters necessary for the adjustment, the detailed workout of the formula and the responsibilities/frequencies of data collection for the adjustment.

No written statement exists with respect to the procedures identified for internal audits of GHG project compliance with operational requirements, the procedures for project performance reviews and the procedures for corrective actions.

3.3.2 Issued CARs / CRs

Corrective Action Request No. 1 (CAR 1):

The monitoring plan has to be defined in writing, including the processes for monitoring, measurements, reporting and archiving.

Response

A monitoring document has been written which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document and in a letter to the Austrian JI/CDM-programme.

Conclusion:

The open issue was resolved.

Clarification Request No. 3 (CR 3):

A document is required which defines the procedures identified for internal audits of GHG project compliance with operational requirements, for project performance reviews and for corrective actions

The document should be provided until the end of the public consultation period (March 9th, 2005), when the final determination report will be released.

Response

A document has been produced which outlines the details of a management and operational system for internal audits, for project performance and for corrective actions.

Conclusion:

The open issue was resolved.

3.3.3 Conclusion

The project fulfils all the prescribed requirements completely.

3.4 Calculation of GHG Emissions

3.4.1 Findings

The project's spatial boundaries are clearly described. GHG emission calculation is quite simple and – once the baseline emission factor is determined - restrained to measuring the electricity supplied by the wind farms. The electricity supplied by the project to the grid needs to be calculated in a more precise way in several aspects.

Regarding emission sources all aspects are covered. Only CO_2 emissions have correctly been identified as relevant for the project.

Leakage calculations are not requested.

3.4.2 Issued CARs

Corrective Action Request No. 3 (CAR 3):

Based on the onsite-inspection of the planned wind turbine sites the calculated energy production has to be reduced by a safety margin of 3%. Further on, the accuracy of the meter should be known and checked against national requirements. It should also be documented how the net energy production is measured.

Response

A 3% safety margin has been built into the business plan. A document from the national electricity company exists stating that the meters comply with all standards and that two-way-meters will be used, metering production as well as internal demand.

Conclusion:

The open issue was resolved.

3.4.3 Conclusion

The project fulfils all the prescribed requirements completely.

3.5 Environmental Impacts

3.5.1 Findings

The description of the environmental impacts is sufficient. The project does comply with the environmental legislation in Estonia. Negative environmental impacts requiring a monitoring provision are not expected. The EIAs for the wind parks require ongoing bird surveillance for 3 years. The detailed process how this is being done is still to be documented.

3.5.2 Issued CRs

Clarification Request No. 1 (CR 1):

A document is requested which defines how the EIA-monitoring requirements are fulfilled.

This EIA-monitoring document should be provided until the end of the public consultation period (March 9th, 2005), when the final determination report will be released

Response

A document has been written which details the responsibilities and activities of Roheline Ring with respect to EIA monitoring

Conclusion:

The open issue was resolved.

3.5.3 Conclusion

The project fulfils all the prescribed requirements completely.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD started to publish the PDD and the baseline study February 7, 2005. No comments have been received during the period of 30 days.

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the Estonian JI-Project "Esivere and Virtsu II Wind Power Developments" in Estonia.

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

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

There is one constraint:

One outstanding issue (O 1) has been requested, which influences the fulfillment of three mandatory requirements for Joint Implementation (JI) project activities. The Outstanding Issue refers to questions which depend on decisions of the national and international climate protection policy and cannot be solved currently. Missing guidelines and institutions and a missing unconditional Letter of Approval are not directly under the control of the project participants and should not effectuate an adverse evaluation. By the time the corresponding documents are submitted / institutions are in place and regulations have become effective, the project does fulfill all these requirements.

By building two wind parks with state of the art wind turbines, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment barrier demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

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

Munich, 2005-03-11

Werner Betzenbichler

Head of certification body "climate and energy"

Munich, 2005-03-11

Thomas Kleiser

Project Manager

Industrie Service

Annex A:

Final Determination Protocol of JI-Project ”Esivere and Virtsu II Wind Power Developments”

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

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	**O 1**	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 Preliminary Approval exists (ref. #9). Existence of a positive draft determination report is one of the requirements of the Estonian and of the Austrian government. The unconditional letters of approval by the involved Estonian bodies should be added to the PDD as soon as possible. Remark: This open issue is beyond the influence of the project partners. There exists not yet an approval of the Austrian government, but the project fol-

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			lows the process foreseen by the Austrian JI / CDM program. A positive recommendation to the Austrian Commission for the JI / CDM program is being prepared.
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)	☑	Table 2, Section B.2.
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	☑	Estonia has submitted its third national communication in November 2001.
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)	**O 1**	This issue can not be answered by now as such as the JI system is not installed yet.
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	**O 1**	Austria has designated a national authority, Estonia a national focal point (in both cases the Ministries of the Environment). Specific national guidelines and procedures (G&P) are available in Austria (ref. 11). In Estonia national guidelines

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			and procedures for the approval of JI projects are just being worked out. Remark: National political trends are out of the influence of the project partners.
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	☑	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	☑	The Estonian assigned amount of emission reductions is 92 %.
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	☑	Estonia has set up a national registry and is just implementing the databases needed to administer the registry.
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	☑	A PDD has been submitted in February 2005
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	☑	The PDD had been entered on the TÜV SÜD website February 7th for 30 days. Parties, stakeholders and UNFCCC accredited observers had been invited to provide comments. No com-

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			ments were received. The chosen approach can be considered as sufficient at this point in time.
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 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.	Marrakech Accords, JI Modalities, §33(d)	☑	Table 2, Section F
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	☑	Table 2, 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	☑	Table 2, Section B.2
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	☑	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	**CAR 1** - resolved -	Table 2, Section D A monitoring plan was verbally presented, but does not yet exist in writing. A written project-specific monitoring plan and written process description how to fulfill the

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
	20, 21, 22		monitoring requirements have been required. Response: A monitoring document has been written which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document and in a letter to the Austrian JI/CDM-programme.

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity The project design is assessed.					
A.1. Project Boundaries Project boundaries are the limits and borders defining the GHG emission reduction project.					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	2, 6, 7, 26, 27	DR, I	The project's spatial boundaries are clearly and plausibly described in the PDD.	☑	☑
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	2, 6, 7, 8, 26, 27, 28	DR, I	Yes, see above.	☑	☑
A.2. Technology to be employed Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.					
A.2.1. Does the project design engineering reflect current good practices?	1, 2, 3, 6,	DR, I	Yes, the employed technology does reflect current good practice in the host country.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	7, 8, 26, 27, 28				
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2, 3, 6, 7, 8, 26, 27, 28	DR, I	The project uses state of the art technology.	☑	☑
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 3, 6, 10, 16, 26	DR, I	It is unlikely that the project technology will be substituted by a more efficient techno-logy.	☑	☑
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	2, 8, 28	DR, I	No. The excellent results of the comparable wind farm Virtsu I proves that the chosen operating approach is adequate.	☑	☑
A.2.5. Does the project make provisions for meeting training and maintenance needs?	2, 8, 28	DR, I	Yes, to the extent to which this is neces-sary.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B. Project Baseline The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the discussion and selection of the baseline methodology transparent?	2, 3, 5, 7, 16, 27	DR, I	Yes, the discussion and selection of the baseline methodology is transparent, retraceable and plausible	☑	☑
B.1.2. Does the baseline methodology specify data sources and assumptions?	2, 7, 16, 27	DR, I	Yes, all data used are specified and documented.	☑	☑
B.1.3. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	2, 7, 16, 27	DR, I	Yes.	☑	☑
B.1.4. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption rates, etc)?	2, 7, 16, 27	DR, I	Yes.	☑	☑
B.1.5. Does the baseline methodology specify the spatial level of data (local, regional, national)?	2, 7, 16, 27	DR, I	Yes.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.2. Baseline Determination The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	2, 6, 7, 16, 18, 19, 26, 27	DR, I	Yes, the application of the methodology and the discussion and determination of the chosen baseline is plausible.	☑	☑
B.2.2. Has the baseline been determined using conservative assumptions where possible?	2, 6, 7, 16, 26, 27	DR, I	Due to a rounding effect in the calculation the baseline is slightly increased which is not inline with a conservative approach. The baseline should be used with its exact value or with a down-rounded value. Response: The baseline was newly calculated without rounding. The results were used to update the baseline study, the PDD and the business plan.	**CAR 2**	☑
B.2.3. Has the baseline been established on a project-specific basis?	2, 6, 7, 26,	DR, I	Yes, the baseline is established in a project specific manner.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	27				
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	2, 3, 5, 6, 7, 26, 27	DR, I	Yes, the baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated.	☑	☑
B.2.5. Is the baseline determination compatible with the available data?	2, 3, 5, 6, 7, 26, 27	DR, I	Yes, the baseline determination is compatible with available data.	☑	☑
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	2, 3, 5, 6, 7, 26, 27	DR, I	Yes, the project does represent a likely scenario in the non project case.	☑	☑
B.2.7. Is it demonstrated that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or	6, 7, 8, 26, 27, 28	DR, I	Yes.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)?					
B.2.8. Have the major risks to the baseline been identified?	2, 3, 6, 7, 8, 26, 27, 28	DR, I	Yes, the major risks have been determined.	☑	☑
B.2.9. Is all literature and sources clearly referenced?	2, 3, 6, 7, 8, 26, 27, 28	DR, I	Yes.	☑	☑
C. Duration of the Project/ Crediting Period It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	2, 6, 7, 8, 26, 27, 28	DR, I	Yes, the project starting date is clearly defined. The project starts April 1st, 2005.	☑	☑
C.1.2. Is the project's crediting time clearly defined?	2, 6, 7, 8, 26,	DR, I	Yes, the crediting period is defined as being from 2005 – 2012. There is a clear separation between AAUs (2005 – 2007) and	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	27, 28		ERUs (2008 – 2012). Crediting period starts October 1st, 2005 and ends December 31st, 2012.		
D. Monitoring Plan The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate baseline methodology.					
D.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	2, 4, 6, 18, 19, 26	DR, I	Yes, the monitoring methodology does reflect current good practice.	☑	☑
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	2, 4, 6, 26	DR, I	Yes, the monitoring methodology is supported by the monitored and recorded data.	☑	☑
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	2, 6, 7, 26, 27	DR, I	Yes, the monitoring provisions are in line with the project boundaries.	☑	☑
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	2, 6, 7, 8, 26, 27,	DR, I	There is no need for monitoring outside the project boundaries.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	28				
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	2, 6, 7, 8, 26, 27, 28	DR, I	Yes.	☑	☑
D.1.6. Is the monitoring methodology clear and user friendly?	2, 6, 7, 8, 26, 27, 28	DR, I	Yes, the monitoring methodology is clear and user friendly.	☑	☑
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	2, 6, 7, 8, 26, 27, 28	DR, I	Yes, the methodology provides redundant metering and allows comparison of data from different sources.	☑	☑
D.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	6, 7, 26, 27	DR	This is not needed as there are no project emissions	☑	☑
D.2.2. Are the choices of project GHG indicators rea-	6, 7,	DR	See D.2.1	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
sonable?	26, 27				
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	6, 7, 26, 27	DR	See D.2.1	☑	☑
D.2.4. Will the indicators enable comparison of project data and performance over time?	6, 7, 26, 27	DR	See D.2.1	☑	☑
D.3. Monitoring of Leakage It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	2, 6, 7, 26, 27	DR, I	This is not needed as there is no project leakage.	☑	☑
D.3.2. Have relevant indicators for GHG leakage been included?	2, 6, 7, 26, 27	DR, I	See D.3.1	☑	☑
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	2, 6, 7,26, 27	DR, I	See D.3.1	☑	☑
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	2, 6, 7,26, 27	DR, I	See D.3.1	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	2, 3, 6, 7, 16, 20, 21, 22, 26, 27	DR, I	The electricity supply is the only parameter which must be measured. The collection and archiving of these data is foreseen, but the procedures are not yet specified in detail. A project-specific monitoring plan should be elaborated in detail, including a written description how to collect and archive the required data. Response: A monitoring document has been written (ref. # 20) which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document (ref. #21) and in a letter to the Austrian JI/CDM-programme (ref. #22).	**CAR 1**	☑
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	2, 3, 6, 7, 16, 26, 27	DR, I	See comment above.	**CAR 1**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.4.3. Will it be possible to monitor the specified baseline indicators?	2, 3, 6, 7, 16, 26, 27	DR, I	See comment above.	**CAR 1**	☑
D.5. Monitoring of Environmental Impacts It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.					
D.5.1. Does the monitoring plan provide for the collection and archiving of relevant data on environmental impacts?	1, 2, 6, 7, 15, 21, 26, 27	DR, I	Yes, this is already defined in the existing EIA-plans (environmental impact analysis). Further information is needed how the EIA-monitoring requirements are fulfilled. Response: A document has been written (ref. # 21) which details the responsibilities and activities of OÜ Roheline Ring with respect to EIA monitoring	**CR 1**	☑
D.5.2. Will it be possible to monitor the specified environmental impact indicators?	2, 6, 7, 26, 27	DR, I	See comment above.	**CR 1**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.6. Project Management Planning It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.6.1. Is the authority and responsibility of project management clearly described?	2, 6, 7, 26, 27	DR, I	The PDD describes clearly the division of responsibility between the different project participants. The respective roles could be identified during the audit on site. However, there exists not yet a document which clearly defines the roles and rights of OÜ Roheline Ring and OÜ Harington in writing. Such a document is needed. Response: The baseline was newly calculated without rounding. The results were used to update the baseline study, the PDD and the business plan.	**CR 2**	☑
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	2, 6, 7, 26, 27	DR, I	Yes.	☑	☑
D.6.3. Are procedures identified for training of monitoring personnel?	2, 6, 7, 26, 27	DR, I	A specific training of monitoring personnel is not necessary.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.6.4. Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	2, 6, 7,26, 27	DR, I	In the case of wind energy this is not possible.	☑	☑
D.6.5. Are procedures identified for calibration of monitoring equipment?	2, 3, 4, 6, 26	DR, I	As Eesti Energia owns the metering devices this is the responsibility of Eesti Energia.	☑	☑
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	2, 3, 4, 6, 26	DR, I	See comment above.	☑	☑
D.6.7. Are procedures identified for monitoring, measurements and reporting?	2, 6, 8, 26, 28	DR, I	Procedures for monitoring, measurement and reporting are not yet sufficiently defined in writing; see comment Table 1,15.	**CAR 1**	☑
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	2, 6, 20, 21, 22, 26	DR, I	Procedures for day-to-day records handling are not yet sufficiently defined in writing; see comment Table 1,15. Response: A monitoring document has been written (ref. # 20) which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document (ref. #21) and in a letter to the Austrian JI/CDM-programme (ref. #22).	**CAR 1**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	2, 3, 6, 26	DR, I	Procedures for dealing with possible monitoring data adjustments are not yet sufficiently defined in writing; see comment Table 1,15. Response: See comment D.6.8	**CAR 1**	☑
D.6.10. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	2, 6, 8, 23, 26, 28	DR, I	Procedures for internal audits of GHG project compliance with operational requirements are not yet explicitly defined. Further explication needed. Corresponding information should be submitted. Response: A document has been produced (ref. #23) which outlines the details of a management and operational system for internal audits, for project performance and for corrective actions.	**CR 3**	☑
D.6.11. Are procedures identified for project performance reviews?	2, 6, 8, 23, 26, 28	DR, I	Procedures for project performance are not yet explicitly defined. Further explication needed. Corresponding information should be submitted. Response: See comment D.6.10.	**CR 3**	☑
D.6.12. Are procedures identified for corrective actions?	2, 6, 8,	DR, I	Procedures for corrective actions, if necessary, are not yet explicitly defined. Further	**CR 3**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	23, 26, 28		explication needed. Corresponding information should be submitted. Response: See comment D.6.10.		
E. Calculation of GHG Emissions by Source It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Predicted Project GHG Emissions The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	2, 6, 26	DR, I	There are no project GHG emissions.	☑	☑
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	2, 6, 26	DR, I	See comment above.	☑	☑
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	2, 6, 26	DR, I	See comment above.	☑	☑
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	2, 6, 26	DR, I	See comment above.	☑	☑
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A	2, 6, 26	DR, I	See comment above.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
been evaluated?					
E.2. Leakage Effect Emissions It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	2, 6, 26	DR, I	There is no project-specific leakage.	☑	☑
E.2.2. Have these leakage effects been properly accounted for in calculations?	2, 6, 26	DR, I	See comment above.	☑	☑
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	2, 6, 26	DR, I	See comment above.	☑	☑
E.2.4. Are the calculations documented in a complete and transparent manner?	2, 6, 26	DR, I	See comment above.	☑	☑
E.2.5. Have conservative assumptions been used when calculating leakage?	2, 6, 26	DR, I	See comment above.	☑	☑
E.2.6. Are uncertainties in the leakage estimates properly addressed?	2, 6, 26	DR, I	See comment above.	☑	☑
E.3. Baseline Emissions The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been	2, 6, 7,	DR, I	Yes.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
chosen as reference for baseline emissions?	26, 27				
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	2, 6, 7, 26, 27	DR, I	Yes.	☑	☑
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	2, 4, 6, 7, 8, 10, 14, 25, 26, 27, 28	DR, I	The baseline emission factor is well documented. The electricity supplied by the project to the grid needs to be calculated in a more precise way in several aspects. Based on the onsite-inspection of the planned wind turbine sites we suggest to reduce the calculated energy production by a safety margin of 3%. Furtheron, the accuracy of the meter should be known and checked against national requirements. It should also be documented how the net energy production is measured. Response: A 3% safety margin has been built into the business plan. A document from the national electricity company exists (ref. #25) stating that the meters comply with all standards and that two-way-meters will be used, metering production as well as internal demand.	**CAR 3**	☑
E.3.4. Have conservative assumptions been used	2, 4,	DR,	See comment above.	**CAR 3**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
when calculating baseline emissions?	6, 7, 8, 10, 14, 25, 26, 27, 28	I	Response: See comment E.3.3.		
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	2, 4, 6, 7, 8, 10, 14, 22, 23, 26, 27, 28	DR, I	See comment above. Response: See comment E.3.3.	**CAR 3**	☑
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	2, 6, 7, 26, 27, 28	DR, I	Yes.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	2, 6, 7, 26, 27	DR, I	Yes. Emission-rich oil shale energy production is replaced by emission-free renewable energy.	☑	☑
F. Environmental Impacts Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	2, 6, 13, 20, 21, 22, 26	DR, I	Yes. A complete EIA has been performed and approved for Esivere as well as for Virtsu II. The monitoring of the committed activities needs still to be defined in writing. Response: A monitoring document has been written (ref. # 20) which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document (ref. #21) and in a letter to the Austrian JI/CDM-programme (ref. #22).	**CR1**	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	2, 6, 13, 20, 21, 22, 26	DR, I	See comment F.1.1. Response: See comment F.1.1.	**CR1**	☑
F.1.3. Will the project create any adverse environmental effects?	2, 6, 13, 26	DR, I	No, the project will not create any adverse environmental effects.	☑	☑
F.1.4. Are transboundary environmental impacts considered in the analysis?	2, 6, 13, 26	DR, I	Trans-boundary environmental impacts are seen as being insignificant.	☑	☑
F.1.5. Have identified environmental impacts been addressed in the project design?	2, 6, 13, 20, 21, 22, 26	DR, I	Yes. But see D.5.1 Response: See comment F.1.1.	**CR1**	☑
F.1.6. Does the project comply with environmental legislation in the host country?	2, 3, 4, 5, 26	DR, I	Yes the project does comply with the environmental legislation in Estonia.	☑	☑

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request, AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

Table 3 Resolution of Corrective Action and Clarification/Additional Information Requests

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
CAR 1. A monitoring plan was verbally presented, but does not yet exist in writing. A written project-specific monitoring plan and written process description how to fulfill the monitoring requirements has been required.	Table 1, 15 D.4.1, D.6.7, D.6.8, D.6.9	A monitoring document has been written (ref. # 20) which covers the aspects "Calculation of emission reductions", "Data collection and quality" and "Monitoring report". Further details with respect to the Environmental Impact System of the project are given in a second document (ref. #21) and in a letter to the Austrian JI/CDM-programme (ref. #22).	✓ The open issue was resolved by additional documents.
CAR 2 Due to a rounding effect in the calculation the baseline is slightly increased which is not inline with a conservative approach. The baseline should be used with its exact value or with a down-rounded value.	B.2.2	The baseline was newly calculated without rounding. The results were used to update the baseline study, the PDD and the business plan.	✓ The open issue was resolved by changed calculation parameters.
CAR 3 The baseline emission factor is well documented. The electricity supplied by the project to the grid needs to be calculated in a more precise way in several aspects. Based on the on-	E.3.3	A 3% safety margin has been built into the business plan. A document from the national electricity company exists (ref. #25) stating that the meters comply with all standards and that two-way-meters will be used, metering production as well as internal de-	✓ The open issue was resolved by additional explanations and by changed calculation parameters.

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

Draft report clarifications and corrective action requests	Ref. to check-list question in table 2	Summary of project owner response	Determination conclusion
site-inspection of the planned wind turbine sites we suggest to reduce the calculated energy production by a safety margin of 3%. Furtheron, the accuracy of the meter should be known and checked against national requirements. It should also be documented how the net energy production is measured.		mand.	
CR 1 Further information is needed how the EIA-monitoring requirements are fulfilled.	D.5.1, D.5.2	A document has been written (ref. # 21) which details the responsibilities and activities of OÜ Roheline Ring with respect to EIA monitoring	✓ The open issue was resolved by additional information.
CR 2 There not yet a document which clearly defines the roles and rights of OÜ Roheline Ring and OÜ Harington in writing. Such a document is needed.	D.6.1	The roles and responsibilities of OÜ Roheline Ring and OÜ Harington have been clarified in a letter to C. Ploechl, Austrian JI/CDM programme (ref. #24)	✓ The open issue was resolved by additional information.
CR 3 Procedures for internal audits of GHG project compliance with operational requirements, for performance reviews and corrective actions, if necessary, are not yet explicitly de-	D.6.10	A document has been produced (ref. #23) which outlines the details of a management and operational system for internal audits, for project performance and for corrective actions.	✓ The open issue was resolved by setting up and documenting a management and operational system.

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

Draft report clarifications and corrective action requests	Ref. to check-list question in table 2	Summary of project owner response	Determination conclusion
fined. Further explication is needed for these issues. Corresponding information should be submitted.			

* ☑: Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)

** MoV = Means of Verification, DR= Document Review, I= Interview

Annex B:

Information Reference List

Reference No.	Document or Type of Information
1.	On-site interview with an Estonian wind energy expert at the hotel L'Ermitage in Tallinn at the 9th of February 2005, by the technical expert of TÜV Industrie Service GmbH Validation team on-site: Dr. Thyge Weller — TÜV Industrie Service GmbH, TÜV SÜD Group Interviewed person: Jaan Tepp, M. Sc. — Chairman of EWPA (Estonian Wind Power Association), Tallinn, Estonia
2.	On-site interview with the project developer at the office of AS Tuulepargid in Tallinn, Estonia at the 10th and 11th of February 2005, by auditing team of TÜV Industrie Service GmbH Validation team on-site: Dr. Thyge Weller — TÜV Industrie Service GmbH, TÜV SÜD Group Ranno Mellis — OÜ Projektkeskus, Tallin, Estonia Interviewed persons: Tullio Liblik — OÜ Roheline Ring (Board Member), Kuressaare, Estonia Ash Sharma — ECON Analysis (International Development Manager), Paris, France Hannu Lamp — AS Tuulepargid (Managing Director), Tallinn, Estonia Inge Roos — Tallin University of Technology (Research Scientist), Tallinn, Estonia
3.	On-site interview with a representative of the Estonian utility at the office of Eesti Energia at the 10th of February 2005 by auditing team of TÜV Industrie Service GmbH Validation team on-site: Dr. Thyge Weller — TÜV Industrie Service GmbH, TÜV SÜD Group Ranno Mellis — OÜ Projektkeskus, Tallin, Estonia Interviewed person: Tönis Meriste — Eesti Energia AS (Environmental Manager), Tallinn, Estonia Further participants: Ash Sharma — ECON Analysis (International Development Manager), Paris, France

Reference No.	Document or Type of Information
	Hannu Lamp AS Tuulepargid (Managing Director), Tallinn, Estonia
4.	On-site interview / visit at existing wind farm Virtsu I and at site of the planned wind farms Esivere and Virtsu II at the 11th of February 2005 by auditing team of TÜV Industrie Service GmbH Validation team on-site: Dr. Thyge Weller TÜV Industrie Service GmbH, TÜV SÜD Group Ranno Mellis OÜ Projektkeskus, Tallin, Estonia Interviewed persons: Tullio Liblik OÜ Roheline Ring (Board Member), Kuressaare, Estonia Further participant: Ash Sharma ECON Analysis (International Development Manager), Paris, France
5.	On-site interview with representative of the national focal point for JI at the Estonian Ministery for the environment at the 11th of February 2005 by auditing team of TÜV Industrie Service GmbH Validation team on-site: Dr. Thyge Weller TÜV Industrie Service GmbH, TÜV SÜD Group Ranno Mellis OÜ Projektkeskus, Tallin, Estonia Interviewed person: Heidi Hallik Ministry of Environment (Climate Senior Officer), Tallinn, Estonia Eve Tamme Environment Information Centre (JI sepcialist), Tallinn, Estonia Further participant: Ash Sharma ECON Analysis (International Development Manager), Paris, France
6.	Project Design Document for JI Project "Esivere and Virtsu II Wind Power Developments", January 12th, 2005
7.	Baseline Study for JI Project "Esivere and Virtsu II Wind Power Developments", 1st of February 2005, with appendix "Baseline Information"
8.	Business Plan of the Esivere and Virtsu II Wind Farm, 28th of January 2005, including calculation spreadsheet

Reference No.	Document or Type of Information
9.	"Letter of Preliminary Approval" from the Estonian Ministry of the Environment , February 15, 2005
10.	Annual Energy Calculation of wind turbines in Esivere / Virtsu II by Enercon, January 3/4, 2005
11.	Directive for the Austrian JI / CDM programme, November 1, 2003
12.	Letter of financing bank to sponsor organisation, January 28, 2005
13.	EIA acceptance by Estonian Ministry of the Environment (in Estonian); Esivere: October 18, 2004; Virtsu II: November 13, 2003 (in Estonian)
14.	Grid connection agreement Roheline Ring – Eesti Energia (November 2004) (in Estonian)
15.	Building permits (Virtsu II: February 9, 2005; Esivere: February 4, 2004) (in Estonian)
16.	Several additional information by e-mails – period from January 21st to February 15th, 2005
17.	Telephone Interview with Kommunalkredit Public Consulting GmbH, Climate and Energy, Vienna Interviewed person: Clemens Ploechl KBC, Austrian JI/CDM Programme, Vienna, Austria
18.	ACM0002/Version 1; published as Annex 2: Approved consolidated methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", 15th meeting of the cdm Executive Board (EB); 1th – 3rd September, 2004
19.	"Protocol for Validation of JI project (version 3.0)" in connection with "Template - Initial Validation Report (Version 3.0)": published under "Validation and Verification Manual"; IETA 2004; www.vvmanual.info
20.	Monitoring Plan of the Esivere and Virtsu II Wind Power Development Projects, received February 22, 2005
21.	„Environmental Impact System of the Esivere and Virtsu II Wind Power Development Projects"; February 22, 2005
22.	Letter of OÜ Roheline Ring to C. Ploechl, Austrian JI/CDM Programe, concerning conformity with Estonian environmental legislation
23.	"Management and Operational System of the Esivere and Virtsu II Wind Power Development Projects"; February 22, 2005
24.	Letter of OÜ Roheline Ring to C. Ploechl, Austrian JI/CDM Programe, concerning the development agreement between Roheline Ring OÜ and Harington OÜ (February 15, 2005)
25.	e-mail by T. Meriste, Eesti Energia AS (08.03.05)
26.	Project Design Document for JI Project "Esivere and Virtsu II Wind Power Developments", updated 8th March 2005
27.	Baseline Study for JI Project "Esivere and Virtsu II Wind Power Developments", revised 8th March 2005
28.	Business Plan of the Esivere and Virtsu II Wind Farm updated 8th March 2005, including calculation spreadsheet