TECHNICAL REPORT

FINAL DETERMINATION REPORT

DETERMINATION OF TAMSALU BARK BOILER PROJECT IN ESTONIA

REPORT NO. 2004 – 1

REVISION NO. 3

TECHNICAL REPORT

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Pauli Salminen	KPMG Wideri Oy Ab
Client :	Client ref.:
Ministry of the Environment of Finland	Kari Hämekoski

Summary:

The Finnish CDM/JI Pilot Programme has initially approved the Tamsalu Bark Boiler Project as a JI-project. A new 2,5 MW biomass fired boiler is installed to the district heating system in Tamsalu, Estonia. The new boiler would replace thermal energy production produced presently by shale oil.

Determination criteria are based on the requirements set in

- Article 6 (A6) of the Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC), the guidelines for implementation of A6 of the KP as presented in the Marrakesh Accords (Mar) under decision 16/CP.7, and the annex to the decisions (hereinafter collectively referred as "JI rules");
- Other relevant rules, including the host country legislation and JI criteria;
- The guidelines for the Finnish JI/CDM Pilot Programme, and the requirement that the Project should generate emission reduction units (ERUs) that can be transferred to Finland in accordance with A6 of the KP.

Expected yearly GHG reductions indicated in the PDD are approximately 2 946 metric tons of carbon dioxide equivalents. The amount may differ due to the yearly changes in heat output. Based on our activities undertaken, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the forecasted emission reductions compared to the selected most likely baseline scenario.

Report No.:	Subject Group:
2004 – 1	Determination

Report title:
Draft Final Determination Report – Determination of Tamsalu Bark Boiler Project in Estonia

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Indexing terms

Climate change

Greenhouse gas reductions

Joint implementation

Determination

Abbreviations

A	Annum
Ab	Limited (Aktiebolag)
AP	Appendix
AN	Annex
A6	Article 6 of the Kyoto Protocol
BS	Baseline Study
CAR	Corrective Action Request
CC	Consultancy Contract
CDM	Clean Development Mechanism
CH_4	Methane
CRF	Common reporting format
CO_2	Carbon dioxide
DR	Document Review
ERU	Emission Reduction Unit
GHG	Greenhouse Gas
Gui	CDM and JI Pilot Programme – Operational Guidelines
I	Interview
JI	Joint Implementation
JITA	Joint Implementation_Tamsalu project (internal code for the project)
KI	National Climate Strategy (Kansallinen ilmastostrategia VNS 1/2001 vp)
KP	Kyoto Protocol
Leg	Legislation
Mar	Marrakesh Accords
MW	Megawatt
MWh	Megawatt hours
MIN	Ministry
MoD	Means of Determination
N/A	Not Applicable
NFA	Non Financial Assurance
No	Number
N_2O	Nitrous oxide
OÜ	Osaühing (private limited company)
Oy	Limited (Osakeyhtiö)
P	Page
PA	Paragraph
PCF	Prototype Carbon Fund
PDD	Project Design Document
PDDa	Author of the PDD
R1	Relevance
R2	Reliability
R3	Gross risk
Ref.	Reference
T	Target
tCO_2-eqv.	Metric tonnes of carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VC	Validator Consultant
DP	Determination Protocol

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1 CONCLUSIVE SUMMARY

The Finnish CDM/JI Pilot Programme has initially approved the Tamsalu Bark Boiler Project [later referred as a "Tamsalu Project" or "Project"] as a JI-project. A new 2,5 MW biomass fired boiler is installed to the district heating system in Tamsalu. According to the project design document (PDD) the new boiler would replace approximately 80% of the annual thermal energy demand in the district heating system presently by shale oil. The estimated production is 8050 MWh/a.

The purpose of this report is to present an independent third party opinion on the project design, specially the PDD. Furthermore, being a pilot project, the purpose is also to clarify the determination process and methodology to be used in JI projects following the Ministry for Foreign Affairs Clean Development Mechanism and Joint Implementation Programme Operational Guidelines. KPMG Non-Financial Assurance (NFA) principles have been used during the determination process. Determination criteria are based on the requirements set in:

- Article 6 (A6) of the Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC), the guidelines for implementation of A6 of the KP as presented in the Marrakesh Accords (MA) under decision 16/CP.7, and the annex to the decisions (hereinafter collectively referred as "JI rules");
- Other relevant rules, including the host country legislation and JI criteria;
- The guidelines for the Finnish JI/CDM Pilot Programme, and the requirement that the Projects should generate emission reduction units (ERUs) that can be transferred to Finland in accordance with A6 of the KP.

As part of the determination project following activities were carried out:
- A review of the relevant documents (Annex 7.1);
- Interview with the person responsible for the PDD;
- Discussions with the key persons at the Finnish Environment Institute;
- The project design document and determination were made publicly available through Climate-l mailing list.

This determination is based on a previous determination of Tamsalu Project. During the previous determination PDD contained material shortcomings compared to the determination criteria. These material shortcomings were not corrected during the determination. Therefore, a new determination has been conducted emphasising the above-mentioned material shortcomings. During the previous determination following activities were carried out:
- A review of the relevant documents;
- Site visits to Tamsalu district heating plant, Rakvere landfill and Näpi Saeveski saw mill;
- Interviews with key persons related to Tamsalu district heating project, Rakvere landfill and Näpi Saeveski saw mill;
- Interviews with the PDD authors and key persons at the Ministry of Environment of Estonia and Finland and Finnish Environment Institute.

Summary of the determination opinion

Expected yearly GHG reductions indicated in the PDD are approximately 2 946 metric tons of carbon dioxide equivalents. Based on our activities undertaken, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the forecasted emission reductions compared to the selected most likely baseline scenario.

2 INTRODUCTION

The Finnish CDM/JI Pilot Programme has initially approved the Tamsalu Bark Boiler Project as a JI-project. A new 2,5 MW biomass fired boiler is installed to the district heating system in Tamsalu. According to the project design document (PDD) the new boiler would replace approximately 80% of the annual thermal energy demand in the district heating system presently by shale oil.

The Ministry of Environment of Finland (Ministry) has asked KPMG Wideri Oy Ab (KPMG) to determinate the PDD of the Tamsalu Bark Boiler Project. Determination conclusions have an affect to the amount of the expected transferable emission reductions. The Finnish JI/CDM Pilot Programme is responsible for revising the original PDD. The original PDD was made by VTT Energy.

Determination team consisted of the following persons:

- Tuomas Suurpää, team leader;
- Mats Hägerström, team member;
- Veiko Kullaste, team member;
- Eric Koudijs, team member.

2.1 Objective

The objective of the determination is to assess the project design and particularly, determinate that the project PDD comply with:

- The requirements of Article 6 of the Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC), the guidelines for the implementation of Article 6 of the KP as presented in the Marrakech Accords under decision 16/CP7 and the annex to the decision (JI rules);
- Other relevant rules, including the host country legislation and JI criteria;
- The guidelines of the Finnish JI/CDM Pilot Programme, and the requirement that the Projects should generate emission reduction units (ERU's) that can be transferred to Finland in accordance with Article 6 of the KP.

2.2 Scope

The scope of this determination consists of assessing the PDD and other documents against the requirements set in paragraph 2.1 Objective. PDD consists of one document:

- The Finnish JI/CDM Pilot Programme – JI Project Design Document, Tamsalu Bark Boiler Project, Draft, 21.7.2004.

This document has been evaluated. Furthermore, other documents (Annex 7.1) have been reviewed in order to determinate whether the project fulfils the criteria presented in paragraph 2.1 Objective.

2.3 GHG Project Description

Sermet Oy has delivered a bark boiler to the district heating system in Tamsalu in Estonia based on Sermet's Biograte Compact technology (Figure 1). The bark boiler will replace heat production of the older shale oil boilers.

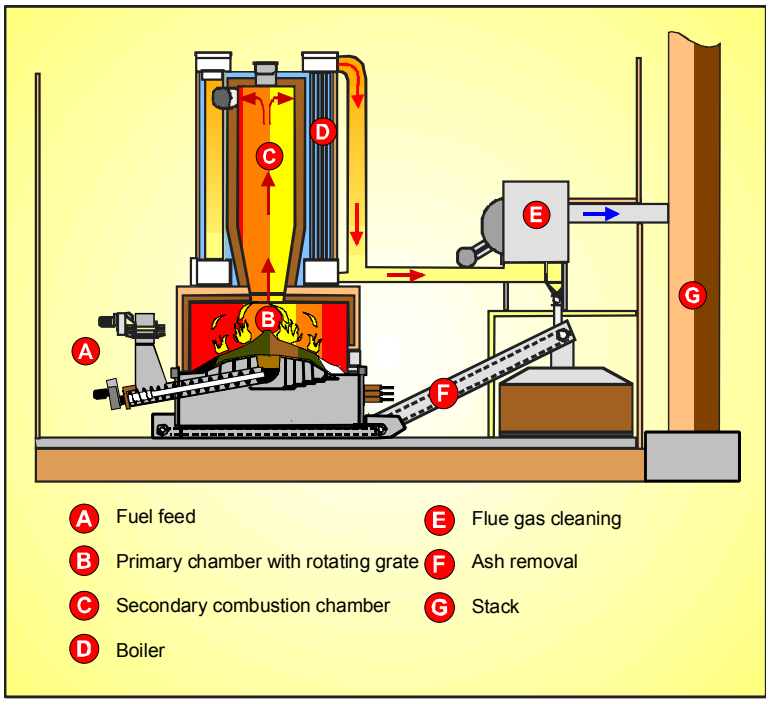

Figure 1. Sermet Biograte Compact 1 – 5 MW.

The plant can be operated on wood based fuels like, bark, sawdust, and chipped wood as well as fuel blend containing some peat – if needed - as defined in the warranty terms. The plant uses a two-phase burning technique. In this technique the fuel is fed onto the grate located in the insulated primary combustion chamber from beneath the grate.

The gasifying and partially flammable flue gases are led from the primary combustion chamber to the secondary combustion chamber, where the burning takes place in extremely high temperature (1000-1100 ºC). The flue gases are led after this to a horizontally placed fire tube boiler operating with forced circulation. After the boiler the flue gas is led into a multi cyclone cleaner where the gases are put into rotating movement and the coarse particles are separated on the cyclone walls. From there they are dripping down to a collection cone.

The ash, which is separating in the cyclone, is collected on a scraper conveyor beneath the cleaner. Ash is then carried with the conveyor to the ash container located in a separate location. The cleaned exhaust gases are the led to a chimney.

3 METHODOLOGY

A risk based NFA methodology has been used. This enables determination activities to be concentrated on the issues of critical importance for the successful determination. The relevance and the reliability of the data have been evaluated. The reliability of the data consists of the completeness, accuracy, consistency and transparency of the data. When evaluating the data following project issues have been taken into account:

- The relevance of the defined project boundaries, assuring that the covered greenhouse gas emissions appropriately reflect the greenhouse gas emissions of the project and that all relevant greenhouse gases have been taken into account;
- The completeness of assumptions, data, references and calculations applied in the definition of:
  - project boundaries;
  - inclusion of all greenhouse gas emission sources and activities within the defined project boundaries, with any exclusions stated and specified;
  - leakage – whether the project might affect in a net change of greenhouse gas emissions outside the project boundaries;
  - additionality – whether the project activity is expected to result in reduction of greenhouse gas emissions that are additional to any that would otherwise occur.
- The accuracy of the greenhouse gas emission calculations, ensuring that these have the precision needed for their intended use, including the possibility of performing a sensitivity analysis;
- The consistency of the applied methodology and input data with the requirements mentioned in 2.1 Objective;
- The transparency of the baseline study, based on:
  - coherent and factual description and justification of all assumptions on the basis of which the baseline was calculated;
  - the description and justification of all assumptions on the basis of which the emission levels after project completion were calculated;
  - disclosure of underlying data and references that were used in compiling the baseline study.

The relevance and the reliability of the data have been evaluated on the scale of low-medium-high. For relevance the scale refers directly to the level of relevance of the data. For reliability the scale refers to the level of risk for misinformation associated with the data. The levels of relevance and reliability determine the level of gross risk. Those requirements with the level of high gross risk are primarily addressed in more detail during the interviews.

Applied PCF validation protocol has been used as part of this determination. Due to the nature of the assignment validation protocol is called determination protocol (DP) and it serves the following purposes:

- It organises, details and clarifies the requirements the project is expected to meet;
- It documents how a particular requirement has been determinated and the result of the determination.

The used DP consists of a table. The different columns in these tables are described in the table 1 below. The complete DP is enclosed to Annex 7.2 of this report.

Table 1. Determination protocol

Requirement	Ref. 1	R1	R2	R3	MoD	T	Ref. 2	Finding by the VC	Reply to CARs	Conclusion by the VC
The requirements the project should meet.	Gives reference to the legislation, agreement or other documentation where the requirement is found.	Relevance of data	Reliability of data	Gross risk of data	Explains how conformance with the requirement is investigated. Examples of means of verification are document review (DR) or interview (I).	Target for the interview	Gives reference to the document where the answer to the requirement is found. In case PDD is referenced the pages and paragraphs match the original PDD, which was made publicly available.	This is either acceptable based on evidence provided (Closed), or requires a corrective actions presented as corrective action request (CAR). Clarifications are presented for a situation where the information is found to be insufficient, unclear or not transparent.	In case of a CAR, this is the reply to the CAR.	Final conclusion based on the original findings and/or replies to CARs.

3.1 Review of documents, visits and interviews

This determination has been performed through a desk review and interviews with representatives of the Finnish Environment Institute. Reviewed documents can be divided in two categories:

- documents provided to KPMG prior the present assignment (JITA1-55);
- documents provided to KPMG during the present assignment (JITA56-81).

The person responsible for revising the PDD (Kari Hämekoski, the Finnish Environment Institute, 7.7.2004) was interviewed at the KPMG premises. Other persons interviewed during the determination were:

- Janika Fagerholm, legal adviser, Finnish Environment Institute.

Project design document and determination were made publicly available through Climate-l mailing list (climate-l@lists.iisd.ca). Following comment was made:

- T.C. Yang – comment to the PDD: Biomass emission intensity of wood is not correct. It is, according to IPCC, 110 kg CO_2/GJ and equivalent to 0,396 tCO_2/MWh. Corrected, although biomass emission intensity has no relevance in the emission calculations.

3.2 Reporting of Clarifications and Corrective Action Requests

If the data provided is found to meet the requirements, it is acceptable and marked as "Closed" in the section "Finding by the Validator" or "Conclusion by the Validator". In case the data provided is found to be insufficient, unclear or not transparent, it is reported as "Clarification". However, there is no need to provide further information for requirements reported solely as "Clarifications", as these requirements or insufficient data to fulfil these requirements, are not regarded as significant for the determination. Non-fulfilment of significant determination protocol requirements or where a risk to the fulfilment of project objectives is identified is reported as "Corrective Action Request (CAR)". "Clarifications" are also used for describing the CAR's. A "Corrective Action Request" in determination context would be where:

- Material mistakes have been made with a direct influence on project results;
- Significant determination protocol requirements have not been met;
- There is a risk that the project would not be accepted as a JI/CDM project or that emission reductions will not be certified.

If an answer is not provided in the case of "Corrective Action Request" or if the provided answer does not meet the original requirement, it has an affect to the formulation of the final determination opinion.

4 CONCLUSIONS

4.1 General

4.1.1 Discussion

General criteria are those criteria that are not directly related to the baseline or monitoring and verification plan. These general criteria include mainly "administrative or political" criteria related to the eligibility of the project. Furthermore, one of the general criteria is the additionality criteria of the project, that is the "*determination of whether the project is additional to any that would otherwise occur*". Therefore, all likely scenarios for a baseline should be investigated and presented in detail in the PDD. Based on the details and argumentation presented in the PDD a most likely baseline is chosen.

4.1.2 Corrective Action Requests

A **CAR 3.1**: Please provide Validator Consultant the signed and dated PIN of the project and information when the Project has started.

- Signed and dated PIN has not been presented to the Validator Consultant. The earliest mention of the Project is in the document "Päätös avustuksen myöntämisestä ympäristösuojeluinvestointiin itä- ja keski-Euroopassa 3.11.2000". In this document conditional agreement between AS Tamsalu Kalor and Sermet Oy dated 4.10.2000 is mentioned.

Reply 3.1: PIN has been provided to the VC. It is not signed and dated. However, "Tamsalu project must have been preliminarily approved by the Steering Committee of Finnish CDM/JI Pilot Programme in 24.10.2000. Unfortunately the minutes of the meetings are not archived, but the approval can be concluded and dated from the minutes of the previous meeting 28.8.2000, the agenda for 24.10.2000 meeting and the minutes of the next meeting 21.12.2000 and an additional minutes from 17.1.2001 meeting.

Conclusion 3.1 by the VC: Closed.

B **CAR 13.1**: Please provide Validator Consultant information on the status of Estonian national guidelines and procedures for approving Article 6 projects.

Reply 13.1: Estonian national JI guidelines have not yet been published.

Conclusion 13.1 by the VC: Closed, although the criterion is not completely fulfilled. Lack of formal Estonian guidelines and procedures is not seen as a significant risk for the acceptance of the Project as a JI-project.

C **CAR 14.1**: Please provide Validator Consultant information whether Estonia has information related to the Project publicly available.

Reply 14.1: According to our understanding there is no specific provision for public availability of the data related to JI projects in Estonia. Information related to the project is or will, however, be public:

- the projects have been granted all the required licences and therefore all the related official stakeholder involvement has been fulfilled according to Estonian requirements.
- PDDs and validation reports have/will be made public via Climate L –list, KPMG web page and the web page of the Pilot Programme
- all project documents will become are public in Estonia after signature, i.e. project agreements planned to be signed in the near future will contain as an appendix the final PDDs.

Conclusion 14.1 by the VC: Closed, although the criterion is not completely fulfilled. Lack of publicly available Project information is not seen as a significant risk for the acceptance of the Project as a JI-project.

D **CAR 16.1**: Please include the Letter of Endorsement in the PDD.

Reply 16.1: Please see the updated PDD.

Conclusion 16.1 by the VC: Closed.

E **CAR 17.1**: Please include more detailed argumentation for the additionality of the Project in the PDD.

- "The additionality guidelines developed for ERUPT are based on the additionality tests that have been approved by the CDM EB for the CDM projects." There are three ways to prove the additionality of the project. The first two methods are based on presenting the NPV and/or IRR of the projects. In the third test, project developers need to identify significant barriers that would have prevented a project from implementation (e.g. lack of funding) (Magazine on the Kyoto Mechanisms, Vol. 10 – No. 2, July 2004).

Reply 17.1: Please see updated PDD for updated discussion concerning additionality based on investment barrier approach.

Excel sheet is also included showing the fuel savings of the project (Tamsalu as an example). The project has no other major impact on economic situation of AS Tamsalu Kalor. Depending on fuel prices, the annual cost savings in fuel price due to project is approximately 1,3 MEEK/a. It can therefore be concluded that the project is not very feasible, and without JI financing, quite unfeasible.

See also documents copies of the studies concerning the different options in Tamsalu.

Please note that the study "Tamsalu linna ja valla energeetika arenguplaan, 2. osa" (AVM-Term, 1999) is the subsequent study of the Study by Tallinn Technical University (TTU), 1998, which is included as a reference in review report made by Estivo annexed in, e.g. "Validation of Kadrina District heating Project ion Estonia, Report NO. 2002 –2. Revision No.3" (KPMG 2003). The original TTU study concerns the current situation while the AVM-Term study discusses different options.

Please find also some additional material attached supporting the additionality argumentation etc. in PDD.

Conclusion 17.1 by the VC: Closed.

4.1.3 Conclusion

Some of the general criteria (13 and 14) were not completely fulfilled. However, this is not seen as a significant risk for the acceptance of the Project as a JI-project. Additionality was one of the material shortcomings in the original determination of the Tamsalu Project. In the revised PDD, however, additionality was adequately argumented. Therefore, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the fulfilment of the general requirements.

4.2 Baseline

4.2.1 Discussion

The baseline should be the most likely business as usual scenario. A baseline should cover all the GHG emissions and all emission sources within the project boundary. Project boundary should include all the emission sources under the control of the project participants that are significant and reasonably attributable to the project.

4.2.2 Corrective Action Requests

F **CAR 24.1**: Please provide Validator Consultant the minutes of the earliest Steering Committee meeting in which the Project has been mentioned.

Reply 24.1: Please see criterion 3.

Conclusion 24.1 by the VC: Closed.

G **CAR 27.1**: Please include information of the cost-effectiveness of the Project in the PDD.

Reply 27.1: There is no fixed price target for ERs in Finnish Pilot Programme even though the current Eligibility Criteria for JI Projects under the Finnish Pilot Programme include requirement for cost-effectiveness.

The estimated unit price for ERs in Tamsalu project is approximately 11 EUR/t CO_2 and 5 EUR/t CO_2 for Kadrina project. Unit price per ER is higher in Tamsalu due to the fact that some reduction of methane emissions from landfilling of wood waste were initially included in baseline studies. Because no proof for landfilling were found, these emission reductions were removed from PDD, but they were still included in Tamsalu project at the time when unit price for ERs were agreed.

According to current National Climate Strategy, Finland aims to reach the Kyoto target with domestic measures. Marginal costs for domestic measures, are, however, quite high in Finland, i.e. generally over 50 EUR/tCO_2. Therefore ERs from Tamsalu and Kadrina project are cost-effective measures in Finnish Climate Change policy even when transaction costs are taken into account.

In practise, EU ETS also plays an important role in achieving the Finnish Kyoto target. While the price level of EUA is currently around 7,5 EUR/tCO_2. it can be argued that that the price of ERs (ERU and AAU) should be mainly be compared with marginal cost of domestic measures in non-EU ETS sector due to the fact that the use of ERs (ERUs and AAUs) in EU ETS may be considered as state aid. More likely and feasible way to utilize ERs from project based mechanisms is in the non-EU ETS sector.

It can therefore be concluded that ERs from Tamsalu and especially Kadrina projects can be considered as cost effective climate change policy options.

Conclusion 27.1 by the VC: Closed.

H **CAR 27.2**: Please provide Validator Consultant with the Finnish Policy on Environmental co-operation with neighbouring countries.

Reply 27.2: Concerning the Finnish Policy on environmental co-operation with neighbouring areas please find the attached copy of Strategy for environmental co-operation with neighbouring areas (document 16). JI is specifically mentioned in Chapter 4.2.

Conclusion 27.2 by the VC: Closed.

I **CAR 28.1**: Please provide Validator Consultant with the original spreadsheet calculations on the baseline emissions.

Reply 28.1: Please see Excel-spreadsheet containing the monitoring calculations.

Conclusion 28.1 by the VC: Closed.

J **CAR 34.1**: Please include more detailed argumentation of the uncertainty of the Project in the PDD.

Reply 34.1: Please see the updated PDD.

Conclusion 34.1 by the VC: Closed. The most significant uncertainties are related to the biofuel price and potential heat production with peat.

4.2.3 Conclusion

Baseline emissions were one of the material shortcomings in the original determination of the Tamsalu Project. In the revised PDD, however, baseline emissions are adequately argumented. A public comment related to the emission intensity of biomass was made. Emission intensity of biomass had and has no relevance in the emission calculations. Emission intensity of biomass is not documented in the PDD anymore. Therefore, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the fulfilment of the baseline requirements

4.3 Monitoring and Verification Protocol

4.3.1 Discussion

The MVP defines a project-specific standard against which the project's performance in terms of its GHG reductions will be monitored and verified. Monitoring will be a continuous process, which will be the responsibility of the project entity. It is the responsibility of the host organisation to do the monitoring. Therefore, MVP should be clear, easy to understand and realistic compared to the resources of the host organisation. Monitoring should include procedures to enable the verification of the emission reductions, as verification is the precondition for the transfer of any emission reductions. However, it is challenging to do detailed and documented procedures for MVP before the project is operational.

4.3.2 Corrective Action Requests

K **CAR 41.1**: Please include information on the storing period of the operational data.

Reply 41.1: Please see the updated PDD.

Conclusion 41.1: Closed.

L **CAR 41.2**: Please correct the wood emission intensity and shale oil emission factor using 0.99 as oxidation factor in the PDD.

Reply 41.2: Please see the updated PDD.

Conclusion 41.2: Closed.

M **CAR 41.3**: Please include more detailed information how peat consumption is calculated.

Reply 41.3: Please see the updated PDD. Concerning the efficiency of the project, efficiency documentation is not available for the time being. Data on efficiency is not currently needed as no peat is used or planned to be utilised in the plants and calculation of emission reductions is solely based on produced heat.

Conclusion 41.3: Closed, although there is no mention of the metering, calculation or estimation methods related to the size of potential peat storage in the PDD. Verification should pay attention to the possible peat storage changes during the verification year. Lack of metering, calculation or estimation methods related to the peat storage is not seen as a significant risk for the acceptance of the Project as a JI-project.

N **CAR 45.1**: Please include more detailed information how often the internal quality assurance is performed.

Reply 45.1: Please see the updated PDD.

Conclusion 45.1: Closed.

4.3.3 Conclusion

Verification should pay attention to the possible peat storage changes during the verification year as there is no mention of the metering, calculation or estimation methods related to the size of potential peat storage in the PDD. However, this is not seen as a significant risk for the acceptance of the Project as a JI-project. Therefore, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the fulfilment of monitoring and verification requirements.

5 DETERMINATION STATEMENT

Introduction

Ministry of the Environment of Finland requested KPMG Wideri Oy Ab to determinate the Project Design Document (including the Baseline Study and Monitoring and Verification Plan) of a possible Joint Implementation project for carbon dioxide equivalent emission reductions. The PDD consists of one document:

- The Finnish JI/CDM Pilot Programme – JI Project Design Document, Tamsalu Bark Boiler Project, Draft, 21.7.2004.

The Project Design Document is the responsibility of the Finnish JI/CDM Pilot Programme. The original Project Design Document was made by VTT Energy. The responsibility of KPMG Wideri Oy Ab is to issue a determination statement regarding the present Project Design Document.

Scope

The Project Design Document contains the assessments by the Finnish JI/CDM Pilot Programme of the following items:

1 Conclusive Summary;
2 Project description;
3 Environmental impacts;
4 Stakeholder involvement;
5 Baseline study and assessment of additionality;
6 Monitoring and verification plan;
7 References.

Our determination was focused on:

- The assumptions and methods applied in the preparation/definition of the forecasted emission reductions;
- Compliance of the Project Design Document with Article 6 (A6) of the Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC), the guidelines for implementation of A6 of the KP as presented in the Marrakesh Accords (Mar) under decision 16/CP.7, and the annex to the decisions;
- Compliance of the Project Design Document with other relevant rules, including the host country legislation and JI criteria;
- Compliance of the Project Design Document the guidelines for the Finnish JI/CDM Pilot Programme, and the requirement that the Projects should generate emission reduction units (ERUs) that can be transferred to Finland in accordance with A6 of the KP;
- Approval of this Joint Implementation project by the Parties involved.

Activities undertaken

Our determination, planned and conducted by a mixed team of KPMG Sustainability Services from Finland, Estonia and the Netherlands was performed on a test basis and provides a moderate level of assurance. In the context of determination we recognise that non-financial data are, in general, subject to more inherent limitations than financial data due to their nature and methods used for determining, calculating or estimating such data.

As part of the determination project following activities were carried out:
- A review of the relevant documents and applied assumptions and methods of the forecasted emission reductions;
- An interview with the person responsible of the PDD;
- Discussions with the key persons at the Finnish Environment Institute;
- The project design document and determination were made publicly available through Climate-l mailing list.

This determination is based on a previous determination of Tamsalu Project. During the previous determination PDD contained material shortcomings compared to the determination criteria. These material shortcomings were not corrected during the determination. Therefore, a new determination has been conducted emphasising the above-mentioned material shortcomings. During the previous determination following activities were carried out:
- A review of the relevant documents and applied assumptions and methods of the forecasted emission reductions;
- Site visits to Tamsalu district heating plant, Rakvere landfill and Näpi Saeveski saw mill;
- Interviews with key persons related to Tamsalu district heating project, Rakvere landfill and Näpi Saeveski saw mill;
- Interviews with the PDD authors and key persons at the Ministry of Environment of Estonia and Finland and Finnish Environment Institute.

Opinion

Based on our activities undertaken, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the forecasted emission reductions compared to the selected most likely baseline scenario.

In our opinion, the Project Design Document have been prepared in line with the Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, the guidelines for implementation of A6 of the Kyoto Protocol as presented in the Marrakesh Accords under decision 16/CP.7, and the guidelines for the Finnish JI/CDM Pilot Programme, and the requirement that the Projects should generate emission reduction units that can be transferred to Finland in accordance with the Article 6 of the Kyoto Protocol.

Actual emission reductions may deviate from the forecasted emission reductions since anticipated events do not always occur as expected.

6 REPORT CLOSURE

The Validator Consultant has exercised all reasonable skill, care and diligence in the carrying out the services.

Helsinki, 21 September 2004

Pauli Salminen
Partner
KPMG Wideri Oy Ab

Tuomas Suurpää
Team leader
KPMG Wideri Oy Ab

7 ANNEXES

7.1 Document Index

DOCUMENT INDEX OF THE VALIDATION OF TAMSALU AND KADRINA DISTRICT HEATING PLANTS 30.9.2002		
Document number	Document name	Date
JITA1	Kadrina Vallavalitsus	16.7.2002
JITA2	Tamsalu bark boiler project baseline study, monitoring and verification plan	16.7.2002
JITA3	Evaluation of the annual efficiency in power plant using shale oil in Tamsalu	16.7.2002
JITA4	Kadrina bark boiler project baseline study, monitoring and verification plan	16.7.2002
JITA5	Luovutuspöytäkirja (deed of conveyance)	16.7.2002
JITA6	Kadrina bark boiler/GHG emissions reduction monitoring sheet 2002	16.7.2002
JITA7	Tamsalu bark boiler/GHG emissions reduction monitoring sheet 2001	16.7.2002
JITA8	Emission Measurements at Kadrina 2,5 MW biofuel boiler	16.7.2002
JITA9	Emission Measurements at Tamasalu "Kalor" boilerhouse	16.7.2002
JITA10	Memorandum of understanding	16.7.2002
JITA11	General description of the Tamsalu plant	16.7.2002
JITA12	Assistance project on boiler conversion in Tamsalu	16.7.2002
JITA13	Päätös avustusken myöntämisestä ympäristösuojeluinvestointiin ltä- ja Keski-Euroopassa (decition on giving grants for Tamsalu)	16.7.2002
JITA14	Kadrinan kaupungin kattilalaitossaneeraus ((decition on giving grants for Kadrina)	16.7.2002
JITA15	Consultancy contract (between Ministry and KPMG)	11.7.2002
JITA16	Terms of reference (between Ministry and KPMG)	11.7.2002
JITA17	General conditions for the consulting services (between Ministry and KPMG)	11.7.2002
JITA18	Operational guidelines	11.7.2002
JITA19	Application for a boiler conversion project in Kadrina	16.7.2002
JITA20	Basic information about efficiency of Tamsalu and general inforamation (history, heat production, share of bioproduction, biofuel) of Kadrina	19.8.2002
JITA21	Arve-saateleht 124 and 131 (electricity consumption of Kadrina)	28.8.2002
JITA22	Ettevotte saasteallikatest välisohku eralduvate saasteainete hetkoguste määramine (env. permit application) Kadrina	28.8.2002
JITA23	Välisohu saasteluba (env permit real values and limits) Kadrina	28.8.2002
JITA24	Certification of shale oil Kadrina	28.8.2002
JITA25	Efficiency calculations Kadrina for old shale oil boilers	28.8.2002
JITA26	Process of funding for Kadrina	28.8.2002
JITA27	Electricity consumption at Tamsalu	29.8.2002
JITA28	Real emission values from Tamsalu	29.8.2002
JITA29	Ettevotte saasteallikatest välisohku eralduvate saasteainete hetkoguste määramine (env. permit application for new bark boiler) Tamsalu	29.8.2002
JITA30	Ettevotte saasteallikatest välisohku eralduvate saasteainete hetkoguste määramine (env. permit application for old shale oil boilers) Tamsalu	29.8.2002
JITA31	Certification of shale oil Tamsalu	29.8.2002
JITA32	Efficiency calculations Tamsalu for old shale oil boilers	29.8.2002
JITA33	Production figures for Tamsalu	29.8.2002
JITA34	Validation notes by Tuomas Suurpää	n/a
JITA35	Validation notes by Mats Hägerström	n/a
JITA36	Validatin notes by Eric Koudijs	n/a
JITA37	Emission calculations	n/a
JITA38	A notification from Ministry of Environment of Finland to Sermet Oy for transfer of funding	29.8.2002
JITA39	Questions to Ministry of Environment of Estonia	n/a
JITA40	Questions to Kadrina Soojus + answers	n/a
JITA41	Questions to Martti Flyktman VTT	n/a
JITA42	Offer from VTT to Sermet for PDD, information related to landfilling and shale oil	3.9.2002
JITA43	JI-process	4.9.2002
JITA44	Offer for terms of emission reductions purchase agreement (terms sheet)	4.9.2002
JITA45	Email by Veiko Kullaste on EIA	30.8.2002
JITA46	Kehitysehdotukset JI/CDM koeohjelman kehittämiseksi	n/a
JITA47	Gase by Parties for National Total in 1999 (in Gg of CO_2 equivalent)	6.6.2002
JITA48	Kyoto Protocol	n/a
JITA49	Report of the conference of the parties on its seventh session held at Marrakesh from 29 october to 10 November 2001: actions taken by the conference of the parties (COP7)	n/a
JITA50	Report of the conference of the parties on its seventh session held at Marrakesh from 29 october to 10 November 2001: proceedings (COP7)	n/a
JITA51	United Nations Framework Convention on Climate Change, UN 1992	n/a
JITA52	Copies of technical information for Kadrina and Tamsalu	16.9.2002
JITA53	Prefeasibility study of reconstruction of heat supply system of Tamsalu County town	24.9.2002
JITA54	Comments of the pilot programme to the correctie action requests	24.9.2002
JITA55	Correspondance between KPMG and the Finnish and Estonian Ministries of Environment and the Finnish Environment Institute	various
JITA56	Final validation report - validation of Tamsalu district heating project in Estonia (26.2.2002)	26.2.2002
JITA57	Final validation report - validation of Kadrina district heating project in Estonia (26.2.2002)	26.2.2002
JITA58	The Finnish Pilot Programme on JI/CDM – JI Project Design Document, Tamsalu Bark Boiler Project, Draft final, May 2004.	21.6.2004
JITA59	Illustration of Tamsalu fuel savings	21.7.2004
JITA60	Initial response to the draft CARs and Clarifications	21.7.2004
JITA61	JI project design document - Kadrina bark boiler project Estonia May 2004	21.6.2004
JITA62	JI project design document - Tamsalu bark boiler project Estonia May 2004	21.6.2004
JITA63	JI project design document - Kadrina bark boiler project Estonia 21.7.2004	22.7.2004
JITA64	JI project design document - Tamsalu bark boiler project Estonia 21.7.2004	22.7.2004
JITA65	PIN - Tamsalu	22.7.2004
JITA66	PIN - Kadrina	22.7.2004
JITA67	Minutes of meeting 4.9.2000	22.7.2004
JITA68	Agenda of meeting 24.10.2000	22.7.2004
JITA69	Minutes of meeting 21.12.2001	22.7.2004
JITA70	Minutes of meeting 17.1.2001	22.7.2004
JITA71	Minutes of meeting 15.3.2001	22.7.2004
JITA72	Minutes of meeting 21.8.2001	22.7.2004
JITA73	Tamsalu linna ja valla energeetika arenguplaan 2. osa	22.7.2004
JITA74	Tamsalu alev i soojusvarustuse susteemi rekonstureerimine	22.7.2004
JITA75	Muistio 22.6.2000 - auditointikäynti AS Tamsalu Kalor (minutes of audit visit to AS Tamsalu Kalor)	22.7.2004
JITA76	Hankintasopimus nro 0211 (acquisition agreement)	22.7.2004
JITA77	Päätös avustusken myöntämisestä ympäristösuojeluinvestointiin ltä- ja Keski-Euroopassa (decition on giving grants for Tamsalu)	22.7.2004
JITA78	Päätös avustusken myöntämisestä ympäristösuojeluinvestointiin ltä- ja Keski-Euroopassa (decition on giving grants for Kadrina)	22.7.2004
JITA79	Ympäristöministeriön lähialuestrategia (Stretegy for surrounding areas of the Finnish Ministry of Environment)	22.7.2004
JITA80	Estonian Energy 2002	22.7.2004
JITA81	Tamsalu monitoring protocol example	22.7.2004

7.2 Determination Protocol

Requirement	Ref. 1	R1	R2	R3	MoD	T	Ref. 2	Finding by the VC	Reply to the CARs	Conclusion by the VC
GENERAL										
1. The Article 6 project should be implemented in such a way as to minimize adverse effects.	KP, A 2, PA 3; Gui, P 11, PA 5.1.2; Gui, P 12, PA 5.3.1.	H	L	L	DR	-	PDD, p6, pa2.4	Closed.		
2. The acquisition of emission reduction units shall be supplemental to domestic actions.	KP, A 6, PA 1d.	H	L	L	DR	-	KI, p13-15; KIS p49, pa4.5	Closed.		
3. Projects starting as of the year 2000 may be eligible as Article 6 projects.	Mar, P 6, PA 5.	H	L	L	DR	-	JITA 67-69	CAR 3.1: Please provide VC signed and dated PIN of the project and information when the Project has started. Signed and dated PIN has not been presented to the VC. The earliest mention of the Project is in the document "Päätös avustuksen myöntämisestä ympäristönsuojeluinvestointiin itä- ja keski-Euroopassa 3.11.2000". In this document conditional agreement between AS Tamsalu Kalor and Sermet Oy dated 4.10.2000 is mentioned.	PIN has been provided to the VC. It is not signed and dated. However, "Tamsalu project must have been preliminarily approved by the Steering Committee of Finnish CDM/JI Pilot Programme in 24.10.2000. Unfortunately the minutes of the meetings are not archived, but the approval can be concluded and dated from the minutes of the previous meeting 28.8.2000, the agenda for 24.10.2000 meeting and the minutes of the next meeting 21.12.2000 and an additional minutes from 17.1.2001 meeting.	Closed.
4. Parties are included in Annex 1 with a commitment inscribed in Annex B.	Mar, P 12, PA 21; Gui, P 10, PA 5.1.1.	H	L	L	DR	-	KP, AN B Dokumentti no	Closed.		
5. Parties are Parties to the Kyoto Protocol.	Mar, P 12, PA 21a; Gui, P	H	L	L	DR	-	http://unfccc.int/resource/k	Closed, both countries have ratified the KP.		

	10, PA 5.1.1.						pstats.pdf			
6. Parties' assigned amounts have been calculated and recorded.	Mar, P 12, PA 21b.	H	L	L	DR, I	FME	KP, an B; Mar p56, pa2, KPTS, s22; http://ghg.unfccc.int/	Closed, both countries use 1990 as a base year. Final calculation and recording of assigned amounts will be done before the first crediting period. Parties have to submit a report to the secretariat by 1.1.2007, which enables the calculation of assigned amounts. Therefore, there is no reason to prevent an acceptable determination, as both Parties are able to provide annual inventories at this stage.		
7. Parties have in place a national system for the estimation of anthropogenic emissions.	Mar, P 12, PA 21c; KP, A 6, PA 1c; Gui, P 10, PA 5.1.1.	H	L	L	DR	-	http://unfccc.int/program/mis/ghg/index.html	Closed, both countries have provided the Secretariat of the UNFCCC third national communication in 2001 and annual inventory submissions for the year 2003 (Estonia has reported only CRF).		
8. Parties have in place a national registry.	Mar, P 12, PA 21d; Gui, P 10, PA 5.1.1.	H	H	H	DR, I	FME	Mar, p56, 57-58, pa2, 6, 8	Closed, although Parties do not have national registries in place. National registries have to be in place before any transfer of ERU's. Report that has to be submitted to the secretary before 1.1.2007 has to include a description of the national registries.		
9. Parties have submitted annually the most recent required inventory.	Mar, P 12, PA 21e; Gui, P 10, PA 5.1.1.	H	L	L	DR	-	http://unfccc.int/program/mis/ghg/index.html	Closed, both countries have provided the Secretariat of the UNFCCC third national communication in 2001 and annual inventory submissions for the year 2003 (Estonia has reported only CRF).		
10. Parties submit the supplementary information on assigned amounts and make any additions to, and subtractions from, assigned amounts.	Mar, P 12, PA 21f; KP, A 6, PA 1c; Gui, P 10, PA 5.1.1.	H	H	H	DR	-	-	Closed, please see criteria 6-9.		
11. The host Party may only issue and transfer ERUs upon meeting the	Mar, P 12, PA 24.	H	H	H	DR	-	-	Closed, please see 6-9.		

requirements in paragraphs 21 (a), (b) and (d).										
12. A party involved in the Article 6 project shall inform the secretariat of its designated focal point for approving projects.	Mar, P 11, PA 20a; Gui, P 8-9, PA 4.1.	H	L	L	DR	-	http://unfccc.int/resource/country/index.html	Closed, both countries have communicated to the Secretariat of the UNFCCC national focal points.		
13. A party involved in an Article 6 project shall inform the secretariat of its national guidelines and procedures for approving Article 6 projects.	Mar, P 11, PA 20b; Gui, P 8-9, PA 4.1.	H	H	H	DR, I	FME, ESE	Gui, JITA 60	CAR 13.1: Please provide VC information on the status of Estonian national guidelines and procedures for approving Article 6 projects.	Estonian national JI guidelines have not yet been published.	Closed, although the criterion is not completely fulfilled. Lack of formal Estonian guidelines and procedures is not seen as a significant risk for the acceptance of the Project as a JI-project.
14. A Party hosting an Article 6 project shall make publicly available, directly or through the secretariat, information on the project.	Mar, P 13, PA 28	H	H	H	DR, I	FME, ESE	http://global.finland.fi/english/projects/cdm/; JITA 60	CAR 14.1: Please provide VC information whether Estonia has information related to the Project publicly available.	According to our understanding there is no specific provision for public availability of the data related to JI projects in Estonia. Information related to the project is or will, however, be public: - the projects have been granted all the required licences and therefore all the related official stakeholder involvement has been fulfilled according to Estonian requirements. - PDDs and validation reports have/will be made public via Climate L –list, KPMG web page and the web page of the Pilot Programme - all project documents will become are public in Estonia after signature, i.e. project agreements planned to be signed in the near future will contain as an appendix the final PDDs.	Closed, although the criterion is not completely fulfilled. Lack of publicly available Project information is not seen as a significant risk for the acceptance of the Project as a JI-project.
15. Project participants shall submit to an accredited independent entity a project design	Mar, P 14, PA 31.	H	L	L	DR	-	PDD	Closed.		

document.										
16. Project design document contains information needed for the determination of whether the project has been approved by the Parties involved.	Mar, P 14, PA 31a/33a; Gui, P 8, PA 4; Gui, P 12-13, PA 5.3.1.	H	L	L	DR	-	T12, T19	CAR 16.1: Please include the Letter of Endorsement in the PDD.	Please see the updated PDD.	Closed.
17. Project design document contains information needed for the determination of whether the project is additional to any that would otherwise occur.	Mar, P 14, PA 31b/33b; Gui, P 11; PA 5.1.2; Gui, P 16; PA 5.4.2.	H	L	L	DR	-	PDD, p8, pa2.6; PDD, p13-14, pa 5.4,	CAR 17.1: Please include more detailed argumentation for the additionality of the Project in the PDD. "The additionality guidelines developed for ERUPT are based on the additionality tests that have been approved by the CDM EB for CDM projects." There are three ways to prove the additionality of the project. The first two methods are based on presenting the NPV and/or IRR of the projects. In the third test, project developers need to identify significant barriers that would have prevented a project from implementation (e.g. lack of funding).*1 *1 Magazine on the Kyoto Mechanisms, Vol. 10 – No. 2, July 2004	Please see updated PDD for updated discussion concerning additionality based on investment barrier approach. Excel sheet is also included showing the fuel savings of the project (Tamsalu as an example). The project has no other major impact on economic situation of Tamsalu Kalor. Depending on fuel prices, the annual cost savings in fuel price due to project is approximately 1,3 MEEK/a. It can therefore be concluded that the project is not very feasible, and without JI financing, quite unfeasible. See also documents copies of the studies concerning the different options in Tamsalu. Please note that the study "Tamsalu linna ja valla energeetika arenguplaan, 2. osa" (AVM-Term, 1999) is the subsequent study of the Study by Tallinn Technical University (TTU), 1998, which is included as a reference in review report made by Estivo annexed in, e.g. "Validation of Kadrina District heating Project ion Estonia, Report NO. 2002 –2. Revision No.3" (KPMG 2003). The original TTU study concerns the current situation while the AVM-Term study discusses different options. Please find also some additional material attached supporting the additionality	Closed.

									argumentation etc. in PDD.	
18. The accredited independent entity shall make the project design documents publicly available and receive comments.	Mar, P 14, PA 32; Mar, P 13, PA 28; Gui, P 14, PA 5.3.4.	H	L	L	DR	-		-	-	Closed. The VC has made project design documents publicly available 23.6.2004 through climate-l email list.
19. The accredited independent entity shall determine whether project participants have submitted to the accredited independent entity documentation on the analysis of the environmental impacts of the project activity.	Mar, P 14, PA 33d; Gui, P 11; PA 5.1.2; Gui, P 16; PA 5.4.2; Gui, P 12-13; PA 5.3.1; Gui, P 14; PA 5.3.3.	H	L	L	DR	-	PDD, p9, pa3	Closed.		
20. The accredited independent entity shall make its determination publicly available, including a summary of comments received and a report of how due account was taken of these.	Mar, P 14, PA 34-35.	H	L	L	DR	-	-	-	-	Closed. The VC has made determination publicly available 4.8.2004 through climate-l email list.
21. Greenhouse gas emissions are measured in metric tones of carbon dioxide equivalent emissions (tCO2-eqv.).	Gui, P 6, PA 3.1	H	L	L	DR	-	PDD, p14-15, pa 5.4.3/5.6	Closed.		
22. Different gases are converted into	Gui, P 6, PA 3.1	n/a	-	-	-	-	-	Closed, the project has a minor impact on methane and nitrous oxide emissions.		

carbon dioxide equivalents using their global warming potentials.								These emissions are likely to be very minor and due to uncertainties in emission factors, these are not taken ino account.		
23. A specific payment schedule will be negotiated for each project.	Gui, P 7, PA 3.2.	H	H	H	DR	-	PDD, p8, pa2.6	Closed, JI-funding has been paid and the project has been implemented.		
24. JI project cycle: a. PIN b. LoE c. Steering Committee d. PDD e. determination	Gui, P 12, Figure 1; Gui, P 8, PA 4.1-4.2; Gui, P 11, PA 5.2.	H	L	L	DR	-	PIN,; JITA 67-69; PDD	CAR 24.1: Please provide Validator Consultant the minutes of the earliest Steering Committee meeting in which the Project has been mentioned.	Please see criterion 3.	Closed.
25. The project and the transfer of the resulting emission reductions have to be approved by the host country's government.	Gui, P 8, PA 4	H	L	L	DR	-	http://global.finland.fi/english/projects/cdm/projects.html	Closed.		
26. A project cannot be included in the Pilot Programme's project pipeline unless its financial structure is clearly presented.	Gui, P 8-9, PA 4.1	n/a	-	-	I	FME	-	Closed, project has been already implemented.		
27. Eligibility criteria for JI projects: a. projects must be technically, financially and economically sound; b. the project must comply with the	Gui, P 11, PA 5.1.2; Gui, P 8, PA 3.3; Mar, P 14, PA 31a/33a; KP, A 2, PA 3;	H	L	L	DR	-	a. PDD, p7-8, pa 2.5-2.6 b. PDD, p9, pa 3-4; PDD,	CAR 27.1: Please include information of the cost-effectiveness of the Project in the PDD. CAR 27.2: Please provide VC with the Finnish Policy on environmental co-operation with neighbouring countries.	There no fixed price target for ERs in Finnish Pilot Programme even though the current Eligibility Criteria for JI Projects under the Finnish Pilot Programme include requirement for cost-effectiveness. The estimated unit price for ERs in Tamsalu project is approximately 11 EUR/t CO_2 and 5 EUR/t CO_2 for Kadrina	Closed.

host country legislation, as well as with any criteria and requirements that the host country may have established for JI projects; c. the project must produce real, measurable and long-term benefits related to the mitigation of the climate change; d. the mitigation benefits must be additional to any that would occur in the absence of the project; e. the benefits must be produced in a cost-effective way; f. the projects must undergo an environmental assessment and provisions must be made for public participation in the project cycle; g. the project must not have significant negative environmental impacts and it must be supportive of the Finnish Policy on environmental co-operation with neighboring	Gui, P 7, PA 3.1; Mar, P 14; PA 33d; KP, A 2, PA 3.						p6, pa 2.2.3 c. PDD, p15, pa5.6 d. see criteria 17 e. JITA 60 f. PDD, p9, pa3-4 g. PDD, p6, pa2.6; PDD, p9, pa3; JITA 79, p9, pa4.2		project. Unit price per ER is higher in Tamsalu due to the fact that some reduction of methane emissions from landfilling of wood waste were initially included in baseline studies. Because no proof for landfilling were found, these emission reductions were removed from PDD, but they were still included in Tamsalu project at the time when unit price for ERs were agreed. According to current National Climate Strategy, Finland aims to reach the Kyoto target with domestic measures. Marginal costs for domestic measures, are, however, quite high in Finland, i.e. generally over 50 EUR/tCO_2. Therefore ERs from Tamsalu and Kadrina project are cost-effective measures in Finnish Climate Change policy even when transaction costs are taken into account. In practise, EU ETS also plays an important role in achieving the Finnish Kyoto target. While the price level of EUA is currently around 7,5 EUR/tCO_2. it can be argued that that the price of ERs (ERU and AAU) should be mainly be compared with marginal cost of domestic measures in non-EU ETS sector due to the fact that the use of ERs (ERUs and AAUs) in EU ETS may be considered as state aid. More likely and feasible way to utilize ERs from project based mechanisms is in the non-EU ETS sector. It can therefore be concluded that ERs from Tamsalu and especially Kadrina projects can be considered as cost effective climate change policy options. Concerning the Finnish Policy on environmental co-operation with neighbouring areas please find the attached copy of Strategy for	

countries.									environmental co-operation with neighbouring areas (document 16). JI is specifically mentioned in Chapter 4.2.	
BASELINE										
28. The baseline for an Article 6 project is the scenario that reasonably represents the anthropogenic emissions by sources or anthropogenic removals by sinks of greenhouse gases that would occur in the absence of the proposed project.	Mar, P 18, AP B, PA 1.	H	H	H	DR,I	FM E, EM E	PDD, p13-14, pa 5.4; JITA 81	CAR 28.1: Please provide VC with the original spreadsheet calculations on the baseline emissions.	Please see Excel-spreadsheet containing the monitoring calculations.	Closed.
29. A baseline shall cover emissions from all gases, sectors and source categories listed in Annex A and anthropogenic removals by sinks, within the project boundary.	Mar, P 18, AP B, PA 1; Gui, P 13, PA 5.3.2.	H	L	L	DR	-	PDD, p9-12,pa5.	Closed.		
30. A baseline shall be established on a project-specific basis and/or using a multi-project emission factor.	Mar, P 18, AP B, PA 2a.	H	L	L	DR	-	PDD, p9-15,pa5	Closed.		
31. A baseline shall be established in a transparent manner with regard to the choice of approaches, assumptions,	Mar, P 18, AP B, PA 2b; Gui, P 13, PA 5.3.2; Gui, P 7, PA 3.1.	H	L	L	DR	-	PDD	Closed, except for those separately indicated as CARs.		

methodologies, parameters, data sources and key factors.										
32. A baseline shall be established taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector.	Mar, P 18, AP B, PA 2c.	H	L	L	DR	-	PDD, p9-15,pa5	Closed.		
33. A baseline shall be established in such a way that ERUs cannot be earned for decreases in activity levels outside the project activity or due to force majeure.	Mar, P 18, AP B, PA 2d.	H	L	L	DR	-	PDD, p9-18,pa5 -6.3	Closed.		
34. A baseline shall be established taking account of uncertainties and using conservative assumptions.	Mar, P 18, AP B, PA 2e; Gui, P 7, PA 3.1.	H	H	H	DR, I	FM E	PDD, p8, pa2.7	CAR 34.1: Please include more detailed argumentation of the uncertainty of the Project in the PDD.	Please see the updated PDD.	Closed. The most significant uncertainties are related to the biofuel price and potential heat production with peat.
35. Project participants shall justify their choice of baseline.	Mar, P 18, AP B, PA 3; Gui, P 13, PA 5.3.1; Gui, P	H	H	H	DR		PDD, p13-14, pa5.4	Closed.		

	13, PA 5.3.2.									
36. The main parts of the PDD are: a. project summary; b. project description; c. environmental impacts; d. stakeholder involvement; f. baseline study and assessment of additionality; h. monitoring and verification plan; i. references.	Gui, P 12, PA 5.3.1.	H	L	L	DR	-	PDD	Closed.		
37. The Finnish Pilot Programme is using the preliminary PDD presented in Annex V of the Guidelines (as standardized PDD for JI has not entered into force).	Gui, P 13, PA 5.3.1	H	L	L	DR	-	PDD	Closed.		
38. The baseline must be developed for the whole lifetime of the project and it must include any foreseeable future changes.	Gui, P 13, PA 5.3.2.	H	L	L	DR	-	PDD, p15, pa5.6	Closed.		
39. The baseline study must include the following parts: a. GHG and system boundary analysis; b. description of the current	Gui, P 13, PA 5.3.2.	H	L	L	DR	-	PDD	Closed.		

situation, c. key factors; d. baseline options and additionality; e. estimation of baseline emissions; f. estimation of project emissions; g. estimations of emission reduction and lifetime analysis.										
40. The baseline study must qualitatively explain all the changes in the direct emissions and sinks – both on-site and off-site – and set a system boundary. The baseline study must consider any significant leakage or spill-over impact it may have.	Gui, P 14, PA 5.3.2	H	L	L	DR	-	PDD, p9-12, pa5.1	Closed.		
MONITORING										
41. Project participants shall include a monitoring plan that provides for the collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources and/or anthropogenic removals by sinks	Mar, P 19, AP B, PA 4a; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	H	H	DR, I	FM E	PDD, p15-19, pa 6; PDD, an 2	CAR 41.1: Please include information on the storing period of the operational data. CAR 41.2: Please correct the wood emission intensity and shale oil emission factor using 0.99 as oxidation factor in the PDD. CAR 41.3: Please include more detailed information how peat consumption is calculated.	Please see the updated PDD. Concerning the efficiency of the project, efficiency documentation is not available for the time being. Data on efficiency is not currently needed as no peat is used or planned to be utilised in the plants and calculation of emission reductions is solely based on produced heat.	Closed, although there is no mention of the metering, calculation or estimation methods related to the size of potential peat storage in the PDD. Verification should pay attention to the possible peat storage changes during the verification year. Lack of metering, calculation or estimation methods related to the peat storage is not seen as a significant risk for the acceptance of the Project as a JI-project.

of greenhouse gases occurring within the project boundary during the crediting period.										
42. Project participants shall include a monitoring plan that provides for the collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases within the project boundary during the crediting period.	Mar, P 19, AP B, PA 4b; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	H	H	DR, I	FM E	PDD, p15-19, pa 6; PDD, an 2	Closed.		
43. Project participants shall include a monitoring plan that provides for the identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of greenhouse	Mar, P 19, AP B, PA 4c; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	L	L	DR	-	PDD, pa 11-12, pa 5.1.2	Closed.		

gases outside the project boundary that are significant and reasonably attributable to the project during the crediting period.										
44. Project participants shall include a monitoring plan that provides for the collection and archiving of information on environmental impacts, in accordance with procedures as required by the host Party, where applicable.	Mar, P 19, AP B, PA 4d; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	H	H	DR, I	FM E	PDD, p9, pa3	Closed.		
45. Project participants shall include a monitoring plan that provides for quality assurance and control procedures for the monitoring process.	Mar, P 19, AP B, PA 4e; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	H	H	DR, I	FM E	PDD, p15-19, pa6	CAR 45.1: Please include more detailed information how often the internal quality assurance is performed.	Please see the updated PDD.	Closed.
46. Project participants shall include a monitoring plan that provides for procedures for the periodic calculations of the reductions of anthropogenic emissions by sources and/or enhancements of	Mar, P 19, AP B, PA 4f; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	L	L	DR	-	PDD, pa 11-12, pa 5.1.2	Closed.		

anthropogenic removals by sinks by the proposed Article 6 project, and for leakage effects, if any.										
47. Project participants shall include a monitoring plan that provides for documentation of all steps involved in the calculations referred to in subparagraphs (b) and (f) above.	Mar, P 19, AP B, PA 4g; Gui, P 13, PA 5.3.1; Gui, P 13, PA 5.3.5.	H	H	H	DR, I	FM E	PDD, p15-19, pa 6; PDD, an 2	Please see 42 and 46.		
48. It [MVP] should clearly identify frequency of, responsibility and authority for registration, monitoring and measurement activities.	Gui, P 14, PA 5.3.5	H	H	H	DR, I	FM E	PDD, p18, pa 6.2	Closed.		

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