DETERMINATION REPORT

Dorobantu Wind Power Park in Romania

REPORT NO. 2011-9579

REVISION NO. 022

DET NORSKE VERITAS

DETERMINATION REPORT

DNV CLIMATE CHANGE SERVICES AS

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Date of first issue: 2011-09-29	ConCert Project No.: PRJC-333432-2011-CCS-CZE
Approved by Ole A. Flagstad	Organisational unit: DNV Climate Change and Evnironmental Services
Client: S.C. OMV Petrom Wind Power S.R.L.	Client ref.: Florin Frunza

Summary:
Project Name: Dorobantu Wind Power Park
Country: Romania
Methodology: ☐ **CDM Methodology Version: N/A** ☒ **JI specific approach**
GHG reducing Measure/Technology: Grid-connected electricity generation from wind power.
ER estimate: 118 904 tCO_2e per year (average for Kyoto crediting period)
Size
☒ Large Scale
☐ Small Scale
Determination Phases:
☒ Desk Review
☒ Follow up interviews
☒ Resolution of outstanding issues
Determination Status
☐ Corrective Actions Requested
☐ Clarifications Requested
☒ Full Approval and final determination
☐ Rejected
In summary, it is DNV's opinion that the project activity "Dorobantu Wind Power Park" in Romania, as described in the PDD, version 3 of 16 November 2011, meets all relevant requirements for the JI Track I of Romania. It also meets all relevant UNFCCC requirements for the JI with one exeption; Letters of approval from the focal points of Romania and Austria have not been received. The project activity correctly applies a JI specific approach for baseline setting and monitoring in accordance with the Guidance on criteria for baseline setting and monitoring (version 02).

Report No.: 2011-9579	Subject Group: Environment
Report title: Dorobantu Wind Power Park in Romania	
Work carried out by: Zuzana Andrtová, Petr Cermánek	
Work verified by: Simon Wong Yon Sing, Ole A. Flagstad	
Date of this revision: 7 February 2012	Rev. No.: 02 / Number of pages: 15

Indexing terms

Key words Climate Change Kyoto Protocol Determination Joint Implementation
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Abbreviations

ANRE	Romanian Energy Regulatory Authority
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification request
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas Climate Change Services AS
DFP	Designated Focal Point
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERU	Emission reduction units
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LoA	Letter of approval
LoE	Letter of Endorsement
PDD	Project Design Document
PLF	Plant Load Factor
tCO_2e	Tonnes of CO_2 equivalents
UNFCCC	United Nations Framework Convention on Climate Change

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1 EXECUTIVE SUMMARY – DETERMINATION OPINION

DNV Climate Change Services AS (DNV) has performed a determination of the project activity Dorobantu Wind Power Park in Romania. The determination was performed on the basis of UNFCCC criteria for the Joint Implementation and JI Track I procedure of Romania 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 DNV with sufficient evidence to determine the fulfilment of stated criteria.

The host Party is Romania and the sponsor Party is Austria. Both Parties fulfil the participation criteria, but have not yet issued Letters of Approval (LoAs) authorising S.C. OMV Petrom Wind Power S.R.L., OMV Petrom S.A. and OMV Power International GmbH as project participants.

The project is greenfield wind farm about total capacity 54 MW, which generate electricity from renewable source and due to the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project 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 total emission reductions from the project are estimated to be 188 264 tCO_2e during the period 2011 - 2012. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

Adequate training and monitoring procedures have been implemented.

In summary, it is DNV's opinion that the project activity Dorobantu Wind Power Park in Romania, as described in the PDD of 16 November 2011, meets all relevant requirements for the JI Track I of Romania. It also meets all relevant UNFCCC requirements for the JI with one exception; Letters of approval from the focal points of Romania and Austria have not been received. The project activity correctly applies a JI specific approach for baseline setting and monitoring in accordance with the Guidance on criteria for baseline setting and monitoring (version 02).

Prague and Oslo, 7 February 2012

Zuzana Andrtová
JI Determiner
DNV Prague, Czech Republic

Ole A. Flagstad
Approver,
DNV Climate Change Services AS

2 INTRODUCTION

S.C. OMV Petrom Wind Power S.R.L has commissioned DNV Climate Change Services AS (DNV) to perform a determination of the Dorobantu Wind Power Park project in Romania (hereafter called "the project"). This report summarises the findings of the determination of the project, performed on the basis of UNFCCC criteria and criteria for the JI Track 1 procedures /30/, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the Guidelines for the implementation of Article 6 of the Kyoto Protocol and the subsequent decisions by the JI Supervisory Committee.

2.1 Objective

The purpose of a determination is to have an Accredited Independent Entity (IE) review of the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

DNV is an Independent Entity accredited by the Joint Implementation Supervisory Committee (JISC) for all sectoral scopes.

2.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, JI modalities and procedures and guidance by the JI Supervisory Committee (JISC) including the Guidance on criteria for baseline setting and monitoring /4/ and the Determination and verification manual /3/.

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

3 METHODOLOGY

The determination consisted of the following three phases:

I a desk review of the project design documents

II follow-up interviews with project stakeholders

III the resolution of outstanding issues and the issuance of the final determination report and opinion.

The following sections outline each step in more detail.

3.1 Desk Review of the Project Design Documentation

The following table outlines the documentation reviewed during the determination:

/1/	Energy Changes projektentwicklung: *PDD of Dorobantu Wind Power Park*, Version 3 dated 16 November 2011 (previous versions: Version 2, 25 September 2011 and version 1, 17 August 2011)
/2/	Ministeriul Mediului si Padurilor (Romanian DFP): *Letter of Endorsement* (*Scrisoare de sustinere),* 3 March 2011
/3/	JI Supervisory Committee: *Determination and verification manual*, version 01 adopted at JISC 19
/4/	JI Supervisory Committee: *Guidance on criteria for baseline setting and monitoring*, version 02 adopted at JISC18
/5/	CDM Executive Board: *Baseline and monitoring methodology ACM0002* version 12.1.0
/6/	CDM Executive Board: *"Tool to calculate the emission factor for an electricity system"*, Version 02.2.0
/7/	CDM Executive Board: *"Tool for the demonstration and assessment of additionality"*, Version 05.2
/8/	CDM Executive Board: *Guidelines for the reporting and validation of plant load factor*, version 1
/9/	National Bank of Romania: *Inflation Report*, May 2010
/10/	Cube Engineering: *Wind Energy Expertise*, 15 December 2009
/11/	Prof. Tudor Darie: *EIA (Studiu De Evaulare A Impactului Asupra Mediului)*, revision 02, February 2010
/12/	Constanta Environmental Protection Agency: *Environmental permit (Acord de Mediu)*, 18 November 2009
/13/	Schneider Electric: *Certificate of Compliance and Calibration*, 7 May 2011
/14/	Monsson Alma: *Invitation to local stakeholders consultation*, 3 September 2008
/15/	*Minutes of the meeting with local stakeholders (Proces Verbal)*, 11 September 2008
/16/	Consiliul Judetean Constanta: *Construction permit* (*Autorizatie de construire)*, 16 October 2009 (turbines)
/17/	Consiliul Judetean Constanta: *Construction permit* (*Autorizatie de construire)*, 16 October 2009 (sub-station)
/18/	Wind Power Park s.r.l.: *Construction notification*, 23 June 2010 (turbines)

/19/	Wind Power Park s.r.l.: *Construction notification*, 3 June 2010 (sub-station)
/20/	Vestas: *Operations manual*, 19 August 2010
/21/	Vestas/Wind Power Park s.r.l.: *Service and Availability Agreement*, 11 March 2011
/22/	Vestas/Wind Power Park s.r.l.: *Wind Turbine Supply and Installation Agreement*, 14 April 2010
/23/	Energobit/Wind Power Park s.r.l.: *Lump-sum turnkey contract*, 14 April 2010
/24/	Petrom/Wind Power Park s.r.l.: *Electricity Supply agreement*, 31 August 2010
/25/	Energy Changes/Wind Power Park s.r.l.: *Exclusivity Agreement*, 10 February 2010
/26/	JI DFP: G*rid emission factor (email)*, 18 August 2011
/27/	CDM Executive Board: "*Tool to determine the remaining lifetime of equipment*", Version 01
/28/	PetrolPlaza: Romania: *Green energy obstacle due for lift by mid-year*, 9.2.2010 http://www.petrolplaza.com/news/industry/MiZlbiY5MjAzJiYxJjMwJjE%3D
/29/	Transelectrica: *Official list of green certificates issued for renewable power produced in 2010 (Certificate Verzi emise producatorilor de E-SRE pentru energia produsa in 2010)* http://www.transelectrica.ro/PDF/Piata/CertificateVerzi/Emise_lunar_2010.pdf
/30/	Ministry of Environment and Forests: *Romanian National Procedures for JI Track 1 Projects*
/31/	Global Wind Energy Council: *Total install wind energy capacity in Romania* http://www.gwec.net/index.php?id=176
/32/	SCADA: *Monthly record of electricity output – June 2011*
/33/	The Official Gazette of Romania: Order for the approval of the Regulations for the labelling of electrical energy- Revision 1 – 3 August 2009
/34/	S.C. OMV Petrom Wind Power SRL: *Official letter to DNV about change of company name from WindPower park SRL to S.C. OMV Petrom Wind Power SRL*, 31 October 2011
/35/	JI Supervisory Committee, Guidelines for the implementation of Article 6 of the Kyoto protocol with Annexes, 30 November 2005
/36/	OMV Petrom: *2010-01-25 Motion_EB_Dorobantu.ppt*, 25 January 2010

Main changes between the PDD version 1 (dated 17 August 2011) published for the 30 days stakeholder commenting period and the version 3 (dated 16 November 2011):

- *methodology was changed from CDM to JI specific approach (see CAR 2)*
- *the financial barrier description was updated in details presented by financial department /45//46/*
- *the description of project management structure, authorities and responsibilities and data storage and archiving were included*
- *the procedures to handle unexpected problems and access to data were updated about information that the invoices are based on the independent measurement installed on the same point and owned by grid company*
- *details about GPS coordinates for the project main points were included*

- *condition of the applicability were included*
- *the summary of the environmental aspects was included*
- *definition of the emission factor was updated (CAR2)*
- *range of installed capacity, technology and geographical frame were included to common practise analysis*

3.2 Follow-up Interviews with Project Stakeholders

On 21 - 23 September 2011, Ms. Zuzana Andrtová and Petr Cermánek of DNV visited Romania to perform interviews regarding the project. They met with the representatives of the Directorate for Climate Change and Sustainable Development under the Romanian Ministry of Environment and Forests (DFP). They visited the site at the location near Dorobantu to see the installed technology and interview with responsible people, they also visited the headquarter of the project owner (Wind Power Park S.R.L (former name of S.C. OMV Petrom Wind Power SRL*)* + OMV Petrom S.A.) at Bucharest. The object of all interviews was to confirm selected information and to resolve issues identified in the document review of the proposed project.
The main topics of all interviews are summarised in a table below.

	Date	**Name**	**Organization**	**Topic**
/37/	2011-09-21 - 23	Constantin Preda	OMV Petrom	Emission reduction calculation, Monitoring procedures and equipment, Calibration procedures, QA/QC of the project, Personnel training, Data handling, archiving and securing, Maintenance procedures, Review of technology, operational data
/38/	2011-09-21 - 23	Roxana Ciobanu	OMV Petrom	
/39/	2011-09-21 - 23	Henri Avila	OMV Power International	
/40/	2011-09-21 - 23	Oliver Percl	Energy Changes Projektentwicklung	Applicability criteria, JI specific approach for baseline and monitoring
/41/	2011-09-21 - 23	Christian Steinbrugger	OMV Power International	Project overview, current status
/42/	2011-09-21	Miriana Roman	Ministry of Environment and Forests (ROM)	Grid emission factor, specific Romanian JI Track 1 requirements
/43/	2011-09-21	Alexandra Mischie	Ministry of Environment and Forests (ROM)	Grid emission factor, specific Romanian JI Track 1 requirements
/44/	2011-09-21	Constantin Hartev	Ministry of Environment and Forests (ROM)	Grid emission factor, specific Romanian JI Track 1 requirements

/45/	2011-09-23	Carmen Negoita	Wind Power Park S.R.L	Additionally, decision making process
/46/	2011-09-23	Florin Frunza	Wind Power Park S.R.L	Additionally, decision making process

3.3 Resolution of Outstanding Issues

The objective of this phase of the determination was to resolve any outstanding issues which needed to be clarified prior to DNV's positive conclusion on the project design. In order to ensure transparency a determination protocol was customised for the project. The protocol shows in a transparent manner the 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 by documenting how a particular requirement has been validated and the result of the determination.

The determination protocol consists of four tables. The different columns in these tables are described in the figure below. The completed determination protocol for the project activity "Dorobantu Wind Power Park" in Romania is enclosed in Appendix A to this report.

Table 2 of the validation protocol documents the findings of the desk review of the project design documentation and follow-up interviews with project stakeholders. Any findings raised in Table 2 are listed in Table 3 of the protocol, and changes to the description of the project design as a result of these findings will be addressed in Table 3. Table 2 thus may not reflect all aspects of the project as described in the final PDD submitted for registration.

A corrective action request (CAR) is raised if one of the following occurs:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;

(b) The JI requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

A forward action request (FAR) is raised during determination to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the JI requirements for final determination.

Determination Protocol Table 1: Mandatory Requirements for JI Project Activities		
Requirement	***Reference***	***Conclusion***
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)** if a requirement is not met.*

Determination Protocol Table 2: Requirement Checklist *This table documents the findings from the desk review of the initial version of the PDD and the follow-up interviews with project stakeholders. For ensuring a transparent determination process, this table is not updated in case the PDD is revised during the process of the determination.*				
Checklist question	***Reference***	***Means of verification (MoV)***	***Assessment by DNV***	***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 different sections, following the logic of the JI-PDD	*Gives reference to documents where the answer to the checklist question or item is found.*	*Means of verification (MoV) are **document review (DR)**, **interview (I)** or any other follow-up actions (e.g., on site visit and telephone or email interviews) and **cross-checking (CC)** with available information relating to projects or technologies similar to the proposed JI project activity under determination.*	*The discussion on how the conclusion is arrived at and the conclusion on the compliance with the checklist question so far.*	*OK is used if the information and evidence provided is adequate to demonstrate compliance with JI requirements. A c**orrective action request (CAR)** is raised when project participants have made mistakes, the JI requirements have not been met or there is a risk that emission reductions cannot be monitored or calculated. A **clarification request (CL)** is raised if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met. A **forward action request (FAR)** during determination is raised to highlight issues related to project implementation that require review during the first verification of the project activity.*

Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests *This table lists the corrective action requests and clarification requests identified in Table 2 and documents how these issues raised were resolved. All the issues raised shall be closed before finalising the determination.*			
Corrective action and/ or clarification requests	***Ref. to checklist question in table 2***	***Response by project participants***	***Determination conclusion***
*The **CARs** and/ or **CLs** raised in Table 2 are repeated here**.***	*Reference to the checklist question number in Table 2 where the CAR or CL is explained.*	*The responses given by the project participants to address the CARs and/or CLs.*	*The determination team's assessment and final conclusions of the CARs and/or CLs.*

Determination Protocol Table 4: Forward Action Requests		
Forward action request	***Ref. to checklist question in table 2***	***Response by project participants***
*The FARs raised in Table 2 are repeated here**.***	*Reference to the checklist question number in Table 2 where the FAR is explained.*	*Response by project participants on how forward action request will be addressed prior to first verification.*

Figure 1 Determination protocol tables

3.4 Internal Quality Control

The draft determination report including the initial determination findings underwent a technical review before being submitted to the project participants. The final determination report underwent another technical review before being forwarded to the Supervisory Committee. The technical review was performed by a technical reviewer qualified in accordance with DNV's qualification scheme for JI determination and verification.

3.5 Determination Team

				Type of involvement					
Role	***Last Name***	***First Name***	***Country***	Desk review	Site visit / Interviews	Reporting	Supervision of work	Technical review	TA1.2 competence
Team leader (Determiner)	Andrtová	Zuzana	Czech Republic	✓	✓	✓	✓		✓
Assessor under training	Cermánek	Petr	Czech Republic	✓	✓	✓			
Technical reviewer	Simon Yon-Sing	Wong	Malaysia					✓	✓
Technical reviewer	Flagstad	Ole	Norway					✓	

4 DETERMINATION FINDINGS

The findings of the determination are stated in the following sections. The determination criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the determination protocol in Appendix A.
The final determination findings relate to the project design as documented and described in the revised and resubmitted project design documentation version 3 dated 16 November 2011.

4.1 Participation Requirements

The project participants are S.C. OMV Petrom Wind Power S.R.L and OMV Petrom S.A. representing Romania as host Party and OMV Power International GmbH represents Austria as sponsor Party.
The project participant S.C. Wind Power Park S.R.L. changed the name to S.C. OMV Petrom Wind Power S.R.L during the determination process and notify about this situation DNV /34/.

Romania as well as Austria have designated a focal point and has submitted its national guidelines and procedures for the approval of JI projects, and thus meets the participation requirements (Marrakech Accords, JI Modalities, §20). The focal points of both Parties have not yet issue Letters of Approval (LoAs) authorising S.C. OMV Petrom Wind Power S.R.L and OMV Petrom S.A. and OMV Power International GmbH as project participants.

The project does not involve public funding, and the validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards Romania.

4.2 Project Design

The project is proposed as Greenfield installation of 18 wind power turbines as a wind park. The wind park is located in Dorobantu, Constanta County, Romania. The geographical coordinates of the park outline are:

Location	Latitude	Longitude
1 (turbine 17D)	N 44°23’12.96”	E 28°12’44.35”
2 (turbine 5D)	N 44°25’15.37”	E 28°15’16.91”
3 (turbine 1D)	N 44°26’34.01”	E 28°17’35.69”
4 (turbine 4D)	N 44°26’13.45”	E 28°17’49.04”
Transformer station	N 44°23’18.13”	E 28°12’49.75”

Installed capacity of the wind park will be 54 MW in 18 wind turbines; each of the turbines has 3 MW installed capacity and the technology is produced by Vestas. The type of the turbine is V90-3.0 MW VCS 50 Hz /20/. The electricity will be delivered to the grid through 20/110 kV substation.

The total delivered electricity has been estimated to be 145 930 MWh per year. The plant load factor (PLF) is determined by using software “WindPro 2” and wind potential of the site as 30.8%. The PLF is calculated by the third party /10/ as it is required in the Guidelines for the reporting and validation of plant load factor /8/.

Within the project 15 turbines have been installed and they were operated in testing mode during the site visit. They were operated in June 2011. Further 3 turbines would be installed during 2012.

Proposed life time of the project is 25 years /27/. Starting date of the project was determined as 14 April 2010, when the purchase contracts for the main equipment (turbines, sub-station) were signed /22//23/.

1 June 2011 was chosen as the starting date of the crediting period (as the first 15 turbines were put into operation what is documented by records in the control system SCADA /32/). Supposed length of the crediting period is 10 years, where the first 19 months will be within Kyoto commitment period and the total amount of the emission reduction will be 188 264 tCO_2e during the Kyoto commitment period . The further crediting will be subject to the approval by the DFP of Romania as well as to the design of any post-Kyoto system. Any of the crediting periods do not extend the operational lifetime of the project.

4.3 Baseline Determination

The baseline was justified based on Appendix B to JI Guidelines /35/ and the Guidance of the criteria for baseline and monitoring /4/. The baseline scenario is determined in accordance with CDM approved methodology ACM0002, version 12.1.0 /5/, where the continuation of current situation, i.e. electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. Only where ACM0002 refers to the "Tool to calculate the emission factor for an electricity system", the project uses a JI specific approach as reflected in the official Romanian grid emission factor calculated by the Romanian Energy Regulatory Authority (ANRE) /26/, accepted by the Romanian Designated Focal Point for the use in JI projects /44//42/. The way of emission factor calculation has been presented to DNV /33/. Calculation of the grid emission factor is based on the principle, when considering all types of sources (fossil fuels, renewables, nuclear) to produce electricity supplied to the network and their shares of total electricity production. Total grid emission factor is then calculated as the sum of the relevant share of the corresponding source contributions of individual sources. DNV found the used value of the grid emission factor correct and the details of validation is provided in the chapter 4.5.1 of this report.

The applicability conditions of the methodology ACM0002, version 12.1.0 /5/ are fulfilled as follows:

- The project activity is a new grid connected wind power project /1/;
- No switching from fossil fuels to renewable energy sources at the site of the project activity (it is Greenfield project) /1/;
- It is a renewable energy project /1/;
- No biomass fired power plant is a part of the project /1/
- Other applicability conditions are not relevant for this type of the project

	GHGs involved	*Description*
Baseline emissions	CO_2	Emissions from electricity generation in fossil fuel fired power plants that are

		displaced due to the project activity.
Project emissions	*NA*	No emissions are relevant for new wind power plants according to ACM0002 /5/, i.e. project emissions are zero.
Leakage	CO_2	According to ACM0002 /5/, being a wind power project, no leakage is accounted for.

The spatial extent of the boundary is clearly defined as the power plant and all power plants connected physically to the Romanian national electricity grid, where the project power plant is connected.

All information related to applicability conditions and boundaries has been verified by DNV on site /37/~/43/ and confirmed with relevant documentation and permits /10//11//12//16//17//18//19/.

4.4 Additionality

The additionality of the project was demonstrated by using the latest version of "Tool for the demonstration and assessment of additionality" /7/.

4.4.1 Alternatives consistent with legislation

The two alternatives found as realistic and consistent with mandatory laws and regulations are as follows:

Alternative 1: The proposed project activity undertaken without being registered as a JI project activity.

Alternative 2: Continuation of the current situation Electricity delivered to the grid by the project activity would have otherwise been generated by the Romanian national grid.

4.4.2 Barrier analysis

4.4.2.1 Barriers due to prevailing practice

At the time of the investment decision for the Dorobantu Wind Power Park (ordering the turbines from Vestas in April 2010 /22//23/), no other wind park of similar size was operational in Romania. The total installed and operational wind power capacity at that time was 14 MW in Romania /31/ (all together only 26% of the size of Dorobantu).

Four months after the investment decision for Dorobantu, a bigger wind farm became operational /31/ (the Fantanele wind farm by a foreigner investor with a planned capacity of 347.5 MW, which started operation in August 2010 and had a capacity of 300 MW installed by the end of 2010). Also other new wind farms became operational towards the end of 2010 but this was then more than a half year after the investment decision for Dorobantu.

The proposed project activity can therefore be classified as not being prevailing practice in the host country. DNV considers the presented arguments to be reasonable.

4.4.3 Common practice analysis

At the time of the investment decision for the Dorobantu Wind Power Park (ordering the turbines from Vestas in April 2010) no other wind park of similar size (similar activities are defined as wind farms with an installed capacity within a range of 32 to 76 MW, i.e. +/- 40%

of the project activity, implemented in Romania) was operational in Romania /31/. The total installed and operational wind power capacity at that time was 14 MW in Romania /31/. All capacity additions that resulted in a total installed capacity of 462 MW by the end of 2010 became operational only after the investment decision for Dorobantu was made:

Wind farm	**Start of operation**	**operational capacity by end of 2010 (MW)**
existing capacity	April 2010	14
Fantanele	August 2010	300
Pestera	November 2010	90
Agighiol	December 2010	30

The time schedule of these capacity additions is visible from the official list of green certificates issued for renewable power produced in 2010, provided by the Romanian power grid operator Transelectrica /29/.

At the time of investment decision for the Dorobantu wind farm no similar activity was operational. DNV considers the presented arguments to be reasonable.

4.4.4 Conclusion

It is DNV's opinion that it has been correctly demonstrated that the project activity has several barriers /9//28//29//31/ and is not attractive without implementation of JI. Hence, the emission reductions achieved by the project are additional to any that would have happened in absence of the project.

4.5 Monitoring

The project applied JI specific approach for monitoring in accordance with Guidance on criteria for baseline setting and monitoring /4/. In compliance with this approach, the project applies as basis the approved monitoring methodology ACM0002, version 12.1.0 "Consolidated baseline methodology grid-connected electricity generation from renewable sources" /5/ with deviation in emission factor calculation. Emission factor is calculated by ANRE /26/ and approved by Romanian DFP /42/. It is applied *ex-ante*. The selected monitoring methodology is applicable to the project.

The monitoring plan will give opportunity for real measurements of achieved emission reductions.

Monitoring of sustainable development indicators is not required by the Romanian DFP. The environmental impacts are considered minor and will be monitored by the local environmental authority during the project lifetime.

The project monitoring plan is in compliance with the monitoring methodology ACM0002 (version 12.01.0) with deviation in terms of emission factor, which is calculated by ANRE /26/ and approved by Romanian DFP /37/.

4.5.1 Parameters determined ex-ante

Emission factor of the grid is only one parameter, which is determined ex-ante. The factor is determined by Romanian Energy Regulatory Authority (ANRE) /26/ and approved by Romanian Ministry of Environment and Forests, Directorate for Climate Change and Sustainable Development as DFP /42/. Detailed calculation was provided /33/. The

calculation of the grid emission factor is based on considering of all types of sources (fossil fuels, renewables, nuclear) to produce electricity supplied to the network and their shares of total electricity production. Total grid emission factor is then calculated as the sum of the relevant share of the corresponding source contributions of individual sources. The latest available value of the grid emission factor in Romania provided by ANRE is 0.9215 tCO_2/MWh. This factor and basis of its calculation was provided DNV by JI DFP as original e-mail correspondence with ANRE /26/. And acceptance of the same was confirmed during the follow-up interview with responsible persons of Romanian DFP /42//44/. Further this emission factor is applied in determined project Windpark Casimcea (RO1000241) presented on JI UNFCCC webpage. Thus DNV found the used value of the grid emission factor correct.

4.5.2 Parameters to be monitored ex-post

According to ACM0002, version 12.1.0 /5/, there are no project emissions since the project is wind power plant, and no leakage is claimed from the project. Thus, there is only one *ex-post* parameter that have to be monitored:

$EG_{PJ,y}$ - net electricity generated from the proposed project activity and supplied to the grid.

It will be monitored by bi-directional electricity meter (type ION 8800) with an accuracy class 0.2s. The meter was initially calibrated by an international independent laboratory /13/, meets the requirements of IEC62052-11, IEC62053-22 and IEC62053-23 (2003) and will be recalibrated annually. The overall responsibility for the monitoring lies with the manager of the Wind Power Plant Dorobantu. The meter is connected to a computer in the transformer station control room, where all the data are locally stored. After the end of each month the report will be saved by a member of the local operation team. The amount of electricity generated in the recorded period will be entered into the Monitoring Work Book (excel file). The monthly metering reports will be archived in electronic format on a CD-ROM and on paper copy by a member of the local operation team. All data is kept until 2 years after the end of the total crediting period of the JI project.

In case the meter specified above breaks down, the information for the month in which no or only incomplete data is available will be taken from the sources used for cross checking (electricity invoices, sales reports or the amount of Green certificates issued by Transelectrica), which are based on independent measurement by a separate meter owned by the grid operator /1/.

Furthermore, as per the Romanian National procedures for JI Track 1 projects /30/ requirements, the local Environmental Protection Agency (EPA) will verify once per semester the permanent monitoring performed by the project participants in accordance with the PDD of the project, as well as the accuracy of the registered data under the permanent monitoring. The manager of the Dorobantu Wind Power Park is responsible for the coordination of these regular verifications.

4.6 Estimate of GHG Emissions

The emission reduction ER_y by the project activity during the crediting period is the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (L_y), as follows:

1) Baseline emissions: baseline emissions (BE_y in tCO_2) are the product of the baseline emissions factor (*EFgrid,CM,y* in tCO_2/MWh) times the electricity supplied by the project activity to the grid (EG_y in MWh).

$$BE_y = (EG_y - EG_{baseline}) * EF_{grid,CM,y} = EG_{PJ,y} * EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (tCO_2/yr)

$EG_{PJ,y}$ = Electricity supplied by the project activity to the grid (MWh)

$EG_{baseline}$ = Baseline electricity supplied to the grid in the case of modified or retrofit facilities (MWh). For new power plants, i.e. for the project, this value is taken as zero.

$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year *y*. As deviation from methodology, it is used emission factor calculated by ANRE /26/ and accepted by Romanian DFP /42/

2) Project emissions: there are no emissions from the project which is wind power project. This condition results zero project emission according to applied ACM0002, version 12.1.0 /5/.

3) Leakage: no leakage has to be considered for the proposed project activity according to applied ACM0002, version 12.1.0 /5/..

4) Emission reduction:

$$ER_y = BE_y - PE_y - L_y = BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

The baseline as indicated in section 4.3.; includes the emissions related to the electricity from displaced fossil fuel at power plants connected to Romanian power grid by “Dorobantu Wind Power Park”.

The baseline emission is the electricity (kWh) produced by the renewable power generating unit multiplied by an emission factor (measured in kg CO_2e/kWh). The factor is determined by Romanian Energy Regulatory Authority (ANRE) /26/ and approved by Romanian Ministry of Environment and Forests, Directorate for Climate Change and Sustainable Development as DFP /42/.

4.7 Environmental Impacts

The Environmental Impact Assessment of the proposed wind park was prepared /11/. The Environmental Agreement No. 27 for the Dorobantu Wind Park was issued by Constanta Regional Environmental Protection Agency on October 9th, 2008 and revised on November 18th, 2009 /12/.

The conclusion is that the proposed project activity will have no major impacts on any aspect of the environment; only minor impacts are expected during construction. These impacts and required measures are included into the environmental permit /12/ and the construction permit /16//17/ for the proposed project activity.

DNV found this process as sufficient.

4.8 Comments by Local Stakeholders

The EIA Report including Non-Technical Summary /11/ was disclosed to the public, as hard copy, at the Constanta EPA headquarter. Stakeholders were invited to the public meeting 1 –

2 weeks prior to the meeting /14/. The public meeting took place on September 11th 2008 at Dorobantu /15/. The competent environmental authority was available for receiving written comments from public in the period 11 September 2008 – 9 October 2008. No objections/comments were raised during the public hearing. DNV found this process as sufficient.

4.9 Global stakeholders consultation

The PDD of 17 August 2011 was made publicly available on DNV website

http://www.dnv.com/focus/climate_change/Projects/ProjectDetails.asp?ProjectId=2054

and Parties, stakeholders and observers were through the DNV website invited to provide comments during a 30 days period from 7 September 2011 to 6 October 2011.

No comments were received.

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APPENDIX A

JI DETERMINATION PROTOCOL

Table 1 Mandatory requirements for Joint Implementation (JI) project activities

Requirement	Reference	Conclusion
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	CAR1
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)	OK
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	OK
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)	OK
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	OK
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	OK
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	OK
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	OK
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	~~CAR2~~ OK
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	OK
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	Marrakech Accords, JI Modalities, §33(d)	OK

Requirement	Reference	Conclusion
Party shall be carried out		
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	~~CAR2~~ OK
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	~~CAR2~~ OK
14. The baseline methodology shall exclude to earn emission reductions for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	OK
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	OK

Table 2 Requirements checklist

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
A General description of project activity						
A.1 Project boundary *Project Boundaries are the limits and borders defining the GHG emission reduction project.*						
A.1.1	Are the project's spatial boundaries (geographical) clearly defined?	/1/	DR I	Yes, the project is defined by geographical coordinates of the wind park outline.		OK
A.1.2	Are the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	/1/	DR I	Yes, The project boundaries cover CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to project activity. The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the Romania national electricity grid where the project power plant is connected to.		OK
A.2 Participation Requirements *Referring to Part A and Annex 1 of the PDD as well as the JI glossary with respect to the terms Party, Letter of Approval, Authorization and Project Participant.*						
A.2.1	Which Parties and project participants are participating in the project?	/1/	DR I	Romania participated as host party with S.C. Wind Power Park S.R.L and OMV Petrom S.A. as project participants. Next party is Austria with OMV Power International GmbH as project participant		OK
A.2.2	Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	/1/	DR I	No, LoAs were not provided yet.	CAR1	

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
A.3 Technology to be employed *Determination of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The AIE should ensure that environmentally safe and sound technology and know-how is used.*						
A.3.1	Does the project design engineering reflect current good practices?	/1/	DR I	Yes, the project used wind turbines Vestas, which is one of commonly used producers.		OK
A.3.2	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/	DR I	Yes, the wind park is modern state of the art technology.		OK
A.3.3	Does the project make provisions for meeting training and maintenance needs?	/1/ /20/ /21/	DR I	Information about training and maintenance needs are included in the PDD, Operations manual and Service and Availability Agreement. The operation (including training and maintenance) of the plant will be ensured by the qualified staff based on the equipment supplier requirements. The individual monitoring tasks are assigned to members of the operation team in the monitoring manual, which is part of the site operations procedures.		OK
B Project Baseline *The determination of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*						
B.1.1	Does the project apply an approved CDM methodology and the correct version thereof? If yes, please proceed to section B.3. If a JI specific approach is applied, please complete section B.2.	/1/ /5/	DR	Yes, the project apply Consolidated baseline methodology ACM0002 for grid-connected electricity generation from renewable sources version 12.01.0		OK

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Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
B.2	**Baseline methodology (JI specific approach)**					
B.2.1	Are the proposed applicability conditions appropriate and adequate?		DR	NA		
B.2.2	Is the methodological basis for determining the baseline scenario described?		DR	NA		
B.2.3	Is the methodological basis for determining the baseline scenario, and whether the basis is appropriate and adequate?		DR	NA		
B.2.4	Does the application of the methodology result in a baseline scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity?		DR	NA		
B.2.5	Can it through the use of the methodology be demonstrated that a project activity is additional and, therefore, not the baseline scenario?		DR	NA		
B.2.6	Is the methodology to calculate the baseline emissions and is the basis for calculating baseline emissions appropriate and adequate?			NA		
B.2.7	Is the methodology to calculate project emissions appropriate and adequate?			NA		
B.2.8	Is there any potential leakage due to the project activity?			NA		
B.2.9	Is it for all key data and parameters indicated which data sources or default values are used and how the data or the measurements are obtained (e.g. official statistics, expert judgment)?			NA		
B.2.10	Are the data sources and measurement procedures (if any) used adequate, consistent, accurate and reliable?			NA		
B.2.11	Is the monitoring frequency for the data and parameters is appropriate?			NA		
B.2.12	Has the methodology been described in an adequate and			NA		

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Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	transparent manner?					
B.3	**Applicability of methodology** *To be completed in case an approved CDM methodology is applied. Insert a row for each applicability criteria of the applied methodology (and tools)*					
B.3.1	How was it validated that project complies with the following applicability criteria: grid-connected renewable power generation project activities that (a) install a new power plant at site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant)?	/1/ /5/	DR I	The project is new grid connected wind farm project located on place, where no renewable power plant was operated prior this project implementation.		OK
B.3.2	How was it validated that project complies with the following applicability criteria: project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit, wind power plant/unit, geothermal power plant/unit, wave power plant/unit or tidal power plant/unit	/1/ /5/	DR I	The project is wind power plant and this condition is correctly addressed in the PDD.		OK
B.3.3	How was it validated that project complies with the following applicability criteria: no involve switching from fossil fuels to renewable energy sources at the site of the power activity?	/1/ /5/	DR I	The project is greenfield project and thus no switching of other power energy generation is possible.		OK
B.3.4	How was it validated that project complies with the following applicability criteria: not applicable for biomass fired power plant?	/1/ /5/	DR I	No biomass fired power plant is part of the project as the project is greenfield located wind park.		OK
B.3.5	Is the selected baseline on of the baseline(s) described in the methodology and this hence confirms the applicability of the methodology?	/1/ /5/ /26/ /42/	DR	Yes, selected baseline corresponds with directly set baseline in the methodology ACM0002, i.e. electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, with deviation in emission factor calculation. Emission factor is calculated by ANRE and approved by	~~CAR2~~	OK

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Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
				Romanian DFP. The details about calculation have not been provided yet.		
B.4	**Project boundary**					
B.4.1	What are the project's system boundaries (components and facilities used to mitigate GHGs)? Are they clearly defined and in accordance with the methodology?	/1/ /5/	DR	The project boundaries cover CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to project activity. The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the Romania national electricity grid where the project power plant is connected to, which is in compliance with the methodology ACM0002.		OK
B.4.2	Which GHG sources are identified for the project? Does the identified boundary cover all possible sources linked to the project activity? Give reference to documents considered to arrive at this conclusion.	/1/ /5/	DR	It is CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to project activity as baseline emissions. No emissions are considered as project emissions as the project is wind power plant.		OK
B.4.3	Does the project involve other emissions sources not foreseen by the methodologies that may question the applicability of the methodology? Do these sources contribute with more than 1% of the estimated emission reductions of the project?	/1/ /5/	DR	No as the project is wind farm.		OK
B.5	**Baseline scenario determination**					
B.5.1	Which baseline scenarios have been identified? Is the list of baseline scenarios complete?	/1/ /5/	DR	The baseline is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combine margin (CM) calculation described in the "Tool to calculate the emission factor for an electricity		OK

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Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
				system". This is directly set baseline by methodology ACM0002, version 12.1.0 for green field projects and thus no list of alternative scenarios is necessary.		
B.5.2	How have the other baseline scenarios been eliminated in order to determine the baseline?	/1/ /5/	DR	The baseline is directly set by methodology ACM0002 but clarification related to ANRE's EF calculation is necessary.	~~CAR2~~	OK
B.5.3	What is the baseline scenario?	/1/ /5/ /26/ /42/	DR	Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the official Romanian grid emission factor calculated by the Romanian Energy Regulatory Authority (ANRE), accepted by the Romanian Designated Focal Point for the use in JI projects.		OK
B.5.4	Is the determination of the baseline scenario in accordance with the guidance in the methodology?	/1/ /5/	DR	Yes, the determination is in compliance with the methodology.		OK
B.5.5	Has the baseline scenario been determined using conservative assumptions where possible?	/1/ /5/	DR	Yes, as it is set directly by methodology.		OK
B.5.6	Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/ /5/	DR	Yes, as it is set directly by methodology and no policy or regulation in Romania forbidden this scenario.		OK
B.5.7	Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	/1/ /5/	DR	Yes.		OK
B.5.8	Is the baseline determination adequately documented in the PDD? • All assumptions and data used by the project participants are listed in the PDD and related document to be submitted for registration. The data are properly	/1/ /5/	DR	Yes. • All assumptions and data used by the project participants are listed in the PDD and related document to be submitted for registration. The		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
referenced. • All documentation is relevant as well as correctly quoted and interpreted. • Assumptions and data can be deemed reasonable • Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD. • The methodology has been correctly applied to identify what would occurred in the absence of the proposed CDM project activity			data are properly referenced. • All documentation is relevant as well as correctly quoted and interpreted. • Assumptions and data can be deemed reasonable • Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD. • The methodology has been correctly applied to identify what would occurred in the absence of the proposed CDM project activity		
B.6 Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*					
B.6.1 What is the methodology selected to demonstrate additionality?	/1/ /7/	DR	It was selected usage of "Tool for the demonstration and assessment of additionality" version 05.2		OK
B.6.2 Is the project additionality assessed according to the methodology?	/1/ /7/	DR	Yes, the barrier analysis is chosen in accordance with the Tool.		OK
B.6.3 Are all assumptions stated in a transparent and conservative manner?	/1/ /7/ /9/ /25/ /28/ /29/ /31/	DR	Provided evidences for barrier analysis and common practice analysis demonstrate correctly situation in the time of financial decision. Since banks were not willing to finance wind projects, the project proponents therefore have to finance the project via internal funds of the mother company. Only after a positive assessment through a third party carbon consultant (where the JI revenue was taken into account) the positive investment decision was made. Also at		OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
				the time of the investment decision no other wind park of similar size was operational in Romania.		
B.6.4	Is sufficient evidence provided to support the relevance of the arguments made?	/1/ /7/ /22/ /9/ /25/ /28/ /29/ /31/	DR	Yes, it is clear that JI revenues were the decisive argument for the implementation of the project.		OK
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 evidenced?	/1/ /22/ /23/ /27/	DR	The stating date is chosen 14 April 2010 and expected operational lifetime is 25 years. Evidences for both were given.		OK
C.1.2	Is the start of the crediting period clearly defined and reasonable?	/1/	DR	Yes, the start of crediting period is 1 June 2011.		OK
D Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*						
D.1.1	Is the monitoring plan documented according to the chosen methodology and in a complete and transparent manner?	/1/ /5/	DR	The project is in accordance with ACM0002 version 12.01.0 But information, how is calculated emission factor, is missing.	~~CAR2~~	OK
D.1.2	Will all monitored data required for verification and issuance	/1/	DR	Yes the data will be kept 2 years after the end of		OK

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	Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	be kept for two years after the end of the crediting period or the last issuance of ERUs, for this project activity, whichever occurs later?			the last crediting period.		
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?	/1/ /5/	DR I	The project is greenfield project of wind park and thus no project emissions generates.		OK
D.2.2	Are the choices of project GHG indicators reasonable and conservative?	/1/ /5/	DR I	NA as the project emissions are zero.		OK
D.2.3	Is the measurement method clearly stated for each GHG value to be monitored and deemed appropriate?			NA		
D.2.4	Is the measurement equipment described and deemed appropriate?			NA		
D.2.5	Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?			NA		
D.2.6	Is the measurement interval identified and deemed appropriate?			NA		
D.2.7	Is the registration, monitoring, measurement and reporting procedure defined?			NA		
D.2.8	Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?			NA		
D.2.9	Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)			NA		

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
D.3 Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete baseline emission data over time.*						
D.3.1	Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/ /5/	DR	The project monitors quantity of net electricity supplied to grid by the project in year.		OK
D.3.2	Are the choices of baseline GHG indicators reasonable and conservative?	/1/	DR	Yes, the choice is in accordance with chosen methodology ACM0002, version 12.01.0 which is reasonable and conservative.		OK
D.3.3	Is the measurement method clearly stated for each baseline indicator to be monitored and also deemed appropriate?	/1/	DR	Yes. The quantity of net electricity is measured by bi-directional electricity meter.		OK
D.3.4	Is the measurement equipment described and deemed appropriate?	/1/	DR	Yes the bi-directional electricity meter is appropriate.		OK
D.3.5	Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/1/	DR	Yes, the electricity meter will have accuracy 0.2s. The data used for cross-checking (invoices, sales report, etc.) will be used for erroneous measurement.		OK
D.3.6	Is the measurement interval for baseline data identified and deemed appropriate?	/1/	DR	Yes, it will be measured continuously and recorded at least monthly.		OK
D.3.7	Is the registration, monitoring, measurement and reporting procedure defined?	/1/	DR	Yes, it is defined in the PDD. The monitoring is provided continuously and electronically transferred to computer and finally transferred monthly to excel system for emission reduction calculation.		OK
D.3.8	Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?	/1/ /13/ /21/	DR	Yes, procedure for maintenance of monitoring equipment as well as calibration interval is defined The meter of the type ION 8800 (accuracy class 0.2s) is a bidirectional meter. It was initially calibrated and will be recalibrated annually by an international independent		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			laboratory and meets the requirements of IEC62052-11, IEC62053-22 and IEC62053-23 (2003). The installation will be realized in 110 kV side of the substation.		
D.3.9 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR	All data will be recorded within SCADA system and electronically kept in archive on backed up on compact disc or hard disc. Further Green certificates, monitoring data summary as well as emission reduction calculation.		OK
D.4 Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.4.1 Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	The project is greenfield project of wind park and thus no leakage are calculated.		OK
D.4.2 Are the choices of project leakage indicators reasonable and conservative?	/1/	DR	NA as leakage is zero.		OK
D.4.3 Is the measurement method clearly stated for each leakage value to be monitored and deemed appropriate?	/1/	DR	NA as leakage is zero.		OK
D.5 Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.5.1 Is the authority and responsibility of overall project management clearly described?	/1/	DR	Yes, it is described in the PDD. The overall responsibility for the monitoring lies with the manager of the Wind Power Plant Dorobantu.		OK
D.5.2 Are procedures identified for training of monitoring personnel?	/1/	DR	Yes, the individual monitoring tasks are assigned to members of the local operation team in the monitoring manual, which is part of the site operations procedures.		OK

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Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
D.5.3	Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	No emissions than baseline are monitored and no unintended emissions can be caused. Emergency cases, when the metering will be break down are solved.		OK
D.5.4	Are procedures identified for review of reported results/data?	/1/	DR	Yes, the data will be cross-checked with invoices, sales reports and Green certificates based on a different measurement device. The independent electricity meter is owned by Grid company and it is with the same accuracy.		OK
D.5.5	Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/1/	DR	Yes, measured (or missing) data could be cross-checked with ones based on a different measurement device with the same accuracy (owned by Grid company).		OK
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 Calculation of GHG Emission Reductions – Project emissions *It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*						
E.1.1	Are the calculations documented according to the chosen methodology and in a complete and transparent manner?	/1/ /5/	DR	Yes, project emissions are zero in accordance with ACM0002 version 12.01.0		OK
E.1.2	Have conservative assumptions been used when calculating the project emissions?	/1/ /5/	DR	Yes, it is fully conservative.		OK
E.1.3	Are uncertainties in the project emission estimates properly	/1/	DR	Yes all uncertainties are addressed.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
addressed?	/5/				
E.2 Calculation of GHG Emission Reductions – Baseline emissions *It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
E.2.1 Are the calculations documented according to the chosen methodology and in a complete and transparent manner?	/1/ /5/ /6/	DR	The project is in accordance with ACM0002 version 12.01.0. But information, how is calculated emission factor, is missing.	~~CAR2~~	OK
E.2.2 Have conservative assumptions been used when calculating the baseline emissions?	/1/ /5/ /6/	DR	It is not possible to provide final conclusion without information about EF calculation.	~~CAR2~~	OK
E.2.3 Are uncertainties in the baseline emission estimates properly addressed?	/1/ /5/ /6/	DR	It is not possible to provide final conclusion without information about EF calculation.	~~CAR2~~	OK
E.3 Calculation of GHG Emission Reductions – Leakage *It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
E.3.1 Are the leakage calculations documented according to the chosen methodology and in a complete and transparent manner?	/1/ /5/	DR	Yes, leakage is zero in accordance with ACM0002, version 12.01.0		OK
E.3.2 Have conservative assumptions been used when calculating the leakage emissions?	/1/ /5/	DR	Yes, it is fully conservative.		OK
E.3.3 Are uncertainties in the leakage emission estimates properly addressed?	/1/ /5/	DR	Yes all uncertainties are addressed.		OK

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
E.4 Emission Reductions *The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.*						
E.4.1	Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.	/1/ /5/	DR	Yes, the emissions are real, measurable and give long-term benefits.		OK
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 AIE.*						
F.1.1	Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/ /12/ /16/ /17/	DR	Yes, the EIA was realized in terms of legislation valid in Romania. No major impacts on any aspect of the environment were identified, only minor impacts are expected during construction what was covered in the environmental and construction permits.		OK
F.1.2	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/ /11/ /12/	DR	Yes, EIA was realized and approved by the local EPA (Environmental permit).		OK
F.1.3	Will the project create any adverse environmental effects?	/1/ /12/ /16/ /17/	DR	Yes, but only minor ones. Measures are included in the Environmental and Construction permits.		OK
F.1.4	Are transboundary environmental impacts considered in the analysis?			NA, as no transboundary effects were observed.		OK
F.1.5	Have identified environmental impacts been addressed in the project design?	/1/ /12/	DR	Yes the impacts are addressed in environmental. agreement as well as in environmental permit		OK
F.1.6	Does the project comply with environmental legislation in the host country?	/1/ /11/	DR	Yes, the project has been given all necessary permits (Environmental, Construction).		OK

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
		/12/ /16/ /17/				
G Stakeholder Comments *If required by the host country, the AIE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*						
G.1.1	Have relevant stakeholders been consulted?	/1/ /14/ /15/	DR	The stakeholders' consultations were realized within EIA processes in period from 11 September till 9 October 2008. The public meeting was organized on 11 September 2008.		OK
G.1.2	Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	Yes, it was announced on Dorobantu City Hall and Nicolae Balcescu City Hall notice board, in "Independentul" local newspaper and to NGO Mare Nostrum.		OK
G.1.3	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	No further stakeholders comments are requested except, EIS process.		OK
G.1.4	Is a summary of the stakeholder comments received provided?	/1/ /15/	DR	No comments were raised from public hearing.		OK
G.1.5	Has due account been taken of any stakeholder comments received?	/1/ /15/	DR	No comments were raised from public hearing.		OK

Table 3 Resolution of Corrective Action and Clarification Requests

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Determination conclusion
CAR1 LoAs were not provided yet.	A.2.2	The company has LoE from Romanian DFP dated 3 March 2011. According to Romanian JI track 1 procedure, positive determination report is required for application of LoAs. Therefore, it cannot be provided on the determination stage.	The CAR will be open, but this status is acceptable for JI Track 1 projects /30/ prior registration.
CAR2 Information, how is calculated emission factor, is missing.	D.1.1 E.2.1 E.2.2 E.2.3 B.3.5 B.5.2	The Romanian energy regulator ANRE calculates the CO_2 emissions of the electricity grid according to the requirements of the Order 69/09 on labelling of electricity, published in the Official Gazette. This Order is provided to the AIE as evidence. The JI specific approach is applied in the project, i.e. methodology ACM0002, version 12.1.0 is applied with deviation in calculation of grid emission factor.	Example of the calculation of the grid emission factor is stated in the Order for the approval of the Regulations for the labelling of electrical energy dated 3 August 2009 presented in Official Gazette /33/. The calculation of the grid emission factor is based on the principle, when considering all types of sources (fossil fuels, renewables, nuclear) to produce electricity supplied to the network and their shares of total electricity production. Total grid emission factor is then calculated as the sum of the relevant share of the corresponding source contributions of individual sources. Given the fact that this is emission factor accepted by Romanian DFP and project applied JI specific approach /4/ /35/ and this emission factor is applied in other determined JI project (RO1000241) accepted by the Romanian DFP. DNV consider this factor as a reasonable. As reaction on this deviation, the project change approach for baseline setting and

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Determination conclusion
			monitoring to JI specific approach with basis in CDM methodology ACM0002, version 12.1.0 with deviation in calculation of grid emission factor. The CAR is closed.
CAR3 The change name of project participant shall be reflected.		Name of the project participant is changed in the PDD.	The PDD version 3 contains new name of project participant S.C. OMV Petrom Wind Power S.R.L.. As the LoAs has not been issued yet and company officially informed DNV about this situation /34/, no other actions are requested. The CAR is closed.

Table 4 Forward action requests

Forward action request	Reference to Table 2	Response by project participants
NA		