

LIEPYNES WIND POWER PARK JOINT IMPLEMENTATION PROJECT

MONITORING REPORT NO.3

FOR PERIOD 01.01.2012-31.10.2012

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1. GENERAL INFORMATION

Project name	Liepynes wind power park joint implementation project
UNFCCC No.	0178
ITL project ID	LT2000019
Type of project	Small
Sectoral scope	Energy industries (renewable/non-renewable sources)
Project location	Kretingos district, near village Liepyne 
Host parties	Vejo gusis, UAB (Lithuania)
Investor parties	Ecocom BG, LTD (the Netherlands)
Project description	<p>The project includes installation of 6 wind turbines with the total capacity of 9,13MW (2MW x 4 units, 0,8MW x 1 unit, 0,33MW x 1 unit). Wind turbines manufactured by German company Enercon GmbH.</p> <p>The wind power park is connected to 110 kV power line. An existing transformer substation with incoming voltage of 20 kV, outgoing voltage of 110 kV and 25 MVA capacities was used for this purpose.</p>

2. IMPLEMENTATION OF THE JI PROJECT

LoE issuance by host country DFP	31 Mar 09
PDD publication on UNFCCC website	23 Apr 09-22 May 09
LoA issuance by host country DFP	15 Jan 10
LoA issuance by investor country DFP	25 Feb 10
Determination report issuance by AIE	25 May 10
Final Determination on UNFCCC website	30 Jul 10

Notes: DFP – designated focal point, LoE – Letter of Endorsement, LoA – Letter of Approval, AIE – accredited independent entity, PDD- Project design document, UNFCCC - United Nations Framework Convention on Climate Change

3. MONITORING METHODOLOGY

Monitoring period	01 Jan 12 – 31 Oct 12
Methodology description	JI Project use own methodology (not CDM approved). Methodology is based on procedures defined in Section D of the project PDD. The amount of net electricity supply to the grid from JI project is defined as key activity to monitor.

4. MONITORING EQUIPMENT AND ITS CALIBRATION

Monitoring equipment	<p>Due to reason that Liepynes Wind Power Park Joint Implementation Project (9,13MW) and Rudaiciai wind power park (30MW) are connected to the same substation with one commercial power metering device it is necessary to separate each park energy generation/consumption. According to monitoring plan description Liepynes wind power park joint implementation project operations are controlled by common commercial meter (excluding its duplicate) and 1 control meter. Rudaiciai wind park's operations are controlled by common commercial meter (excluding its duplicate) and 3 control meters. All meters are connected to SCADA system and monitored remotely.</p> <p>Second commercial meter is necessary in the case of main commercial meter's failure. Control meters indicate commercial meter's deviations and helps evaluate energy consumption for own purposes (difference between generated and supplied to the grid values).</p> <p>All metered data is double checked by receipts of electricity sales with SCADA system as backup.</p>
Calibration/maintenance of energy meters	Commercial power meter together with control meters were installed by AB Litgrid, national grid operator which buys electricity from the wind power parks. The meters belong to AB Litgrid. Power meters as well as current and voltage transformers are calibrated once every 8 years.
Deviations	During all monitoring period wind power park operated without major technical interruptions.

Liepynes wind power park joint implementation project monitoring equipment technical data

Energy meter	T-101	T-101/D	P4 (L-107)
Purpose	Commercial meter	Duplicate-commercial meter	Control meter
Producer	UAB "Elgama-Elektronika"	UAB "Elgama-Elektronika"	UAB "Elgama-Elektronika"
Type	EPQS 114.22.27	EPQS 114.22.27	EPQM 312.01.534
Measurement range	3x57,7/100V; 1(1,25)A	3x57,7/100V; 1(6)A	3x57,7/100V; 1(1,25)A
Serial number	942682	942681	75232
Metrological test date	04.08.2011	04.08.2011	16.12.2009
Breakdowns (if any)			-

Rudaiciai wind power park project monitoring equipment technical data (excluding commercial meters)

Energy meter	Kiauleikiai	Kveciai	Rudaiciai
Purpose	Control meter	Control meter	Control meter
Producer	UAB “Elgama-Elektronika”	UAB “Elgama-Elektronika”	UAB “Elgama-Elektronika”
Type	EPQS 113.09.04	EPQS 113.09.04	EPQS 113.09.04
Measurement range	3x57,7/100V; 1(1,25)A	3x57,7/100V; 1(1,25)A	3x57,7/100V; 1(1,25)A
Accuracy class	0,5s	0,5s	0,5s
Serial number	508196	508202	508174
Metrological test date	29.10.2008	29.10.2008	29.10.2008
Breakdowns (if any)	-	-	-

All meters functioned properly during monitoring period and therefore can be used as basis for proper achieved emission reduction calculations.

5. POWER PRODUCTION

Net project production during year Jan-Oct 2012

Month	Power supplied to the grid, kWh	Power consumed from the grid, kWh	Net power production, kWh*
Jan	2.272.521	240	2.272.281
Feb	2.199.244	596	2.198.648
Mar	2.451.998	247	2.451.751
Apr	1.896.681	751	1.895.930
May	1.341.221	280	1.340.941
Jun	1.353.615	808	1.352.807
Jul	1.358.985	623	1.358.362
Aug	1.485.736	629	1.485.107
Sep	2.336.810	177	2.336.633
Oct	2.057.996	624	2.057.372
Total:	18.754.807	4.975	18.749.832

* data of AB Litgrid

6. CALCULATION OF EMISSION REDUCTIONS

In accordance to Monitoring plan described in the Project PDD the following formula is used to calculate Project emission reductions:

$$ER = E_{Liep(+/-)} \times EF_{LE} \quad [1]$$

Where:

ER – annual emission reductions, tCO₂

E_{Liep(+/-)} – Net annual power production at Liepynes wind power park joint implementation project (the difference between produced and consumed power), MWh.

EF_{LE} – emission factor for power production at Lietuvos elektrine, i.e. 0,626 tCO₂/MWh

$$E_{Liep(+/-)} = E_{T101} - E_{Rud(+/-)} \quad [2]$$

Where:

E_{T101} – the data of commercial power meter No.T101, i.e. net power dispatched to the grid from Rudaiciai wind power park (30MW) and Liepynes Wind Power Park Joint Implementation Project (9,13MW), kWh

$E_{Rud(+/-)}$ – net power dispatched to the grid from Rudaiciai wind power park, kWh

According to the power sale-purchase agreement between project owner with AB Lietuvos energija net power dispatched to the grid from each park will be recorded by 4 control meters installed on substation parallel to commercial meter

$$P = P1_{(+/-)} + P2_{(+/-)} + P3_{(+/-)} + P4_{(+/-)} \quad [3]$$

Where:

P – the sum of net power dispatched to the grid measured by all control meters, kWh

$P1_{(+/-)} + P2_{(+/-)} + P3_{(+/-)} + P4_{(+/-)}$ - the data from four separate control meters on net power dispatched to the grid, kWh

Based on data of all meters AB Lietuvos energija will separate Liepynes Wind Power Park Joint Implementation Project's generation/consumption proportion from net power dispatched to the grid calculated by [4] formulae:

$$P4\% = P4_{(+/-)} / P \quad [4]$$

Where:

$P4\%$ – Liepynes Wind Power Park Joint Implementation Project's energy generation proportion from total net power amount, %

$P4_{(+/-)}$ - the data of Liepynes Wind Power Park Joint Implementation Project's control meter, kWh

The factual net power dispatched to the grid from Liepynes Wind Power Park Joint Implementation Project calculated by [5] formulae:

$$E_{Liep(+/-)} = P4\% \cdot E_{T101} \quad [5]$$

	Jan-Oct 2012
Fixed data	
Emission factor for power production at Lietuvos elektrine (EF_{LE}), tCO ₂ /MWh	0,626
Monitored data	
Net power generation ($E_{Liep(+/-)}$), MWh	18.750
Calculated emission reductions (ER), tCO₂e	11.737

Liepynes wind power park joint implementation project generated 11.737 tCO₂e of emission reductions during the monitoring period Jan-Oct 2012.

ANNEXES

ANNEXE 1 – Monitoring form

ANNEX 1

YEAR: 2012

Month	Power dispatch confirmation document No.	Date of issuance of power dispatch confirmation document	Power supplied to the grid (E _{sup}), MWh	Power consumed from the grid (E _{con}), MWh	Net annual power production E _{Liep(+/-)} , MWh	Amount of Emission Reduction (ER), tCO ₂ e	Name of the person in charge	Signature
January	VJ-1/12/01	2011.02.01	2.272.521	240	2.272.281	1.422	E.Simutis	
February	VJ-1/12/02	2011.03.05	2.199.244	596	2.198.648	1.376	E.Simutis	
March	VJ-1/12/03	2011.04.03	2.451.998	247	2.451.751	1.535	E.Simutis	
April	VJ-1/12/04	2011.05.04	1.896.681	751	1.895.930	1.187	E.Simutis	
May	VJ-1/12/05	2011.06.04	1.341.221	280	1.340.941	839	E.Simutis	
June	VJ-1/12/06	2011.07.04	1.353.615	808	1.352.807	847	E.Simutis	
July	VJ-1/12/07	2011.08.03	1.358.985	623	1.358.362	850	E.Simutis	
August	VJ-1/12/08	2011.09.04	1.485.736	629	1.485.107	930	E.Simutis	
September	VJ-1/12/09	2011.10.02	2.336.810	177	2.336.633	1.463	E.Simutis	
October	VJ-1/12/10	2011.11.05	2.057.996	624	2.057.372	1.288	E.Simutis	
November								
December								
Total:			18.754.807	4.975	18.749.832	11.737		

$$ER = E_{Liep(+/-)} \times 0,626$$

$$E_{VP} = E_{sup} - E_{con}$$