4 ENERGIA

# MONITORING REPORT NO. 1

FOR PERIOD **01.09.2008-31.12.2009**

# SUDENAI AND LENDIMAI WIND POWER

## JOINT IMPLEMENTATION PROJECT

**UNFCCC NO.** LT2000007


PREPARED BY:

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## 1. GENERAL INFORMATION

| | |
|---|---|
| Project name: | Sudenai and Lendimai Wind Power Joint Implementation Project |
| Project location: | Sudenu and Lendimu villages in Kretingos county in Lithuania |
| Project owner: | UAB Lariteksas (Sudenai) and UAB Vejo Elektra (Lendimai)<br><br>UAB Lariteksas<br>Reg. adr. Lentvario g. 15A,<br>LT-02300 Vilnius, Lithuania<br>Address for correspondence:<br>Šv. Ignoto 1, 01120 Vilnius<br><br>UAB Vejo Elektra<br>Laisves pr. 3<br>LT-04215Vilnius, Lithuania<br>Address for correspondence:<br>Šv. Ignoto 1, 01120 Vilnius |
| Carbon credit purchaser: | Nordic Environment Finance Corporation, NEFCO in its capacity as Fund Manager to the Baltic Sea Region Testing Ground Facility<br>Emission Reduction Purchase Agreement (ERPA) as of 2007-12-11 |
| Project description: | The project involves an 8 MW wind farm at Sudenai (consisting of 4 Enercon E82 2000 kW wind turbines) and a 6 MWwind farm at Lendimai (consisting of 3 Enercon E82 2000 kW wind turbines).<br>GHG emission reduction is achieved via displacement of carbon intensive electricity produced from fossil fuel sources in the Lithuanian power network.<br>Crediting period for emission reductions:<br>01 September 2008 – 31 December 2012 |
| Operation during monitoring period: | During the whole monitoring period in question both Sudenai and Lendimai wind farms operated without major technical interruptions. |

## 2. MONITORING METHODOLOGY

| | |
|---|---|
| Description: | Monitoring is based on the procedures defined in the document "Sudenai and Lendimai Wind Power Joint Implementation Project Design Document. Version 01. October 27 2006", Section D "Monitoring Plan". The amount of net electricity supply to the grid from the JI project is defined as the key activity to monitor. |
| Grid connection and measuring meters: | Data is directly measured with metering equipment at the connection point to AB Lietuvos Energia grid at the 110 kV side of the transformer. This equipment is sealed, calibrated and checked periodically for accuracy. In addition, all metered data is double checked by receipts of electricity sales, with SCADA system as back-up.<br><br>The wind farm connection to the Main Grid (110 kV) is established via one connection point. Totally there are 7 wind turbines. The main grid meter is connected to Main Grid SCADA and monitored remotely. The meter is backuped with backup meter.<br><br>There are 3 20kV lines on the 20kV side of the 110/20kV transformer. 2 lines have 2 turbines connected each and 3rd line has 3 turbines connected. These lines are equipped with separate power meters. These meters are read monthly to verify if any deviation from data of the main meter exists. If it was then data from the backup meter would be read.<br><br>Net power production is calculated as a difference between actual power production and active power consumption. Differently than in the Monitoring Plan in PDD net power production is not measured directly.<br><br>Active power consumption is measured with the same measuring equipment (mentioned above) as used for measuring of actual power production. The equipment has 2 separate electronic registers (1 for actual power production and 1 for active power consumption).<br><br>Calibration is processed according to Lithuanian legislation and standards.<br><br>Additionally each turbine has separate meters which send data to Enercon SCADA database. The database data are used monthly to verify the production. It can be read any moment and real time as well.<br><br>No meters have been changed and all meters functioned properly during the period 01 September 2008 – 31 December 2009 and can therefore be properly used as basis for the calculation of achieved emission reductions. |

## 3. ACHIEVED EMISSION REDUCTIONS

In accordance with the PDD, the formula for calculation of achieved emission reductions is the following:

*ERy (tCO2e) = EGy (MWh) x EFy (tCO2/MWh)*

Emission reductions have been calculated in accordance with the Monitoring Plan as following:

| | 2008 | 2009 |
|---|---|---|
| Project constants | | |
| Emission factor EFy, tCO2/MWh | 0,629 | 0,629 |
| | | |
| Actual data | | |
| Net power production EGy, kWh, Sudenai | 1 106 070 | 15 820 969 |
| Net power production EGy, kWh, Lendimai | 715 134 | 11 867 113 |
| | | |
| Annual Emission reduction, tCO2, Sudenai | 695,718 | 9 951,390 |
| Annual Emission reduction, tCO2, Lendimai | 449,819 | 7 464,414 |
| | | |
| **Total emission reduction, tCO2e, Sudenai & Lendimai** | **1 146** | **17 416** |

Sudenai & Lendimai Wind Power JI Project generated 1146 tCO2e of emission reductions during the monitoring period of year 2008 and 17416 tCO2e of emission reductions during the monitoring period of 2009. Thus, in total **18562 tCO2e during 2008-2009**.

## 1. ANNEXES

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|---|---|
| 1 | Annual production report of Sudenai wind farm 2008 |
| 2 | Annual production report of Lendimai wind farm 2008 |
| 3 | Annual production report of Sudenai wind farm 2009 |
| 4 | Annual production report of Lendimai wind farm 2009 |
| 5 | Flow chart of the process from raw data to Monitoring report |

Tadas Navickas
Managing Director
UAB Vejo Elektra and UAB Lariteksas

**Annex 1. Annual production report of Sudenai wind farm, 2008**

| | Actual power production (kWh)* | Active power consumption (kWh)* | Net power production (kWh) |
|---|---|---|---|
| September | 0 | 0 | 0 |
| October | 0 | 0 | 0 |
| November | 0 | 9 602 | -9602 |
| December | 1 117 388 | 1 716 | 1 115 672 |
| **Total** | **1 117 388** | **11 318** | **1 106 070** |

* Data according to AB Lietuvos Energija powermeter.

**Annex 2. Annual production report of Lendimai wind farm, 2008**

| | Actual power production (kWh)* | Active power consumption (kWh)* | Net power production (kWh) |
|---|---|---|---|
| September | 0 | 0 | 0 |
| October | 0 | 0 | 0 |
| November | 0 | 2 972 | -2972 |
| December | 719 172 | 1 066 | 718 106 |
| **Total 2008** | **719 172** | **4 038** | **715 134** |

* Data according to AB Lietuvos Energija powermeter.

**Annex 3. Annual production report of Sudenai wind farm, 2009**

| | Actual power production (kWh)* | Active power consumption (kWh)* | Net power production (kWh) |
|---|---|---|---|
| January | 1 485 996 | 690 | 1 485 306 |
| February | 986 048 | 770 | 985 278 |
| March | 1 024 780 | 1 375 | 1 023 405 |
| April | 953 267 | 634 | 952 633 |
| May | 1 263 576 | 703 | 1 262 873 |
| June | 1 296 637 | 455 | 1 296 182 |
| July | 986 182 | 1 202 | 984 980 |
| August | 1 091 321 | 356 | 1 090 965 |
| September | 1 594 226 | 263 | 1 593 963 |
| October | 1 612 696 | 331 | 1 611 365 |
| November | 2 130 928 | 241 | 2 130 687 |
| December | 1 403 030 | 698 | 1 402 332 |
| **Total 2009** | **15 828 687** | **7 718** | **15 820 969** |

* Data according to AB Lietuvos Energija powermeter.

**Annex 4. Annual production report of Lendimai wind farm, 2009**

| | Actual power production (kWh)* | Active power consumption (kWh)* | Net power production (kWh) |
|---|---|---|---|
| January | 1 114 627 | 518 | 1 114 109 |
| February | 739 624 | 579 | 739 045 |
| March | 768 676 | 1 032 | 767 644 |
| April | 715 034 | 476 | 714 558 |
| May | 947 793 | 527 | 947 266 |
| June | 972 592 | 342 | 972 250 |
| July | 739 724 | 903 | 738 821 |
| August | 818 586 | 267 | 818 319 |
| September | 1 195 805 | 193 | 1 195 612 |
| October | 1 209 664 | 249 | 1 209 415 |
| November | 1 598 381 | 179 | 1 598 202 |
| December | 1 052 394 | 522 | 1 051 872 |
| **Total 2009** | **11 872 900** | **5 787** | **11 867 113** |

* Data according to AB Lietuvos Energija powermeter.

**Annex 5. Flow chart of the process from raw data to Monitoring report**