



**CDM Verification and Certification
Report for 56.25 MW bundled wind
energy project in Tirunelveli and
Coimbatore districts in Tamilnadu,
India**

Project Ref. No. 0471

Period:

1st January 2006 to 11th December 2006

Date: 31st May 2007

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Verification and Certification Report on 56.25 MW bundled wind energy project in Tirunelveli and Coimbatore districts in Tamilnadu, India

1 Summary

- 1.1 SGS United Kingdom Ltd has verified the implementation of the monitoring plan in the registered project number 0471 and the application of the consolidated monitoring methodology ACM0002 version 05 dated 3rd March 2006.
- 1.2 This report presents the results of the second periodic verification assessment. A site visit was carried out on February 28 – March 2, 2007 to verify the data collected during the period: 1st January, 2006 to 11th December, 2006.

2 Introduction

SGS United Kingdom Ltd was contracted **by Ashok Leyland – Wind Energy a division of M/s Ashok Leyland Project Services Ltd.** to perform the Second periodic verification of '56.25 MW bundled wind energy project in Tirunelveli and Coimbatore districts in Tamilnadu, India'. This report covers the monitoring period from 1st January, 2006 to 11th December, 2006.

This report presents the findings of the second periodic assessment and provides justification for the verification process and the verification and certification opinion.

3 Objectives

The purposes of this verification exercise are, by review of objective evidence, to establish that:

- The emissions report conforms with the requirements of the monitoring plan in the registered PDD and the approved methodology; and
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

4 Scope

This engagement covers verification of emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the '56.25 MW bundled wind energy project in Tirunelveli and Coimbatore districts in Tamilnadu, India' (registered with ref no. 0471) during the period from 1st January, 2006 to 11th December, 2006.

5 Verification Team

Team leader: Sanjeev Kumar

Local Assessor: Vikrant Badve

Technical reviewer: Irma Lubrecht and Siddharth Yadav (Trainee)

6 Itinerary

The assessor performed a site visit on February 28 – March 2, 2007. The site visit was used to review records held at the project office (e.g. monitoring records of gross electricity generated, electricity import from grid and net electricity fed to grid for wheeling purpose), interview staff, review procedures and the implementation of these procedures, confirm data collection and handling procedures and verify emission reductions. Additional time was spent offsite for document and records review.

7 Verification process

7.1 Summary

The verification process is a two-stage process.

In the first stage, SGS completed a strategic review and risk assessment of projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

At the end of this stage, SGS produced:

- A Periodic Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the periodic verification protocol.
- Corrective Action Requests and New Information Requests, if necessary.

In the second stage, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question, using the Periodic Verification Checklist. This involved site visit and a desk review of the monitoring report.

At the end of this stage, SGS produced this verification report which will form the basis of any future requests to the CDM EB.

8 Results

Assessment against the provisions of Decision 17/CP.7:

Is the project documentation in accordance with the requirements of the registered PDD and relevant provision of decision 17/CP.7, EB decisions and guidance and the COP/MOP?

Yes, the project is in accordance with the requirement of the registered PDD.

Have on-site inspections been performed that may comprise, *inter alia*, a review of performance records, interviews with project participants and local stakeholders, collection of measurements, observations of established practices and testing of the accuracy of monitoring equipment?

Yes, the on-site inspections have been performed. The results of the site visit are recorded in the verification checklist which is used as an internal report only. The evidences have been collected for the same. The revised monitoring report is attached with this verification report.

Has data from additional sources been used? If yes, please detail the source and significance.

Yes, the grid emission factor has been used as an additional source of information. The emission factor was calculated on the basis of CEA (Central electricity authority) data which is published by Ministry of power, government of India. However, the grid emission factor used for the emission reduction calculation is 0.831tCO₂/MWh which was ex-ante calculated and fixed for the entire crediting period.

Please review the monitoring results and verify that the monitoring methodologies for the estimation of reductions in anthropogenic emissions by sources have been applied correctly and their documentation is complete and transparent.

The aspects of the monitoring plan were implemented correctly. The supporting references and data were complete and transparent. As per the registered PDD, the amount of Electricity supplied to the Southern grid by the project activity was taken from the monthly electricity statements given by the state electricity board. Also the project proponent is used to record the daily electricity supplied to the southern grid. The person from site notes the reading everyday at 7:00 am.

Monthly statement for January 2006 for each HTSC is from 14th December 2005 to 13th January 2006. Since the period up-to 31st December 2005 is considered in first monitoring period hence to avoid the double counting the electricity generation up-to 31st December 2005 was subtracted from the total amount of electricity supplied in month of January 2006. The subtracted amount was cross checked with amount of electricity which was added in month December 2005 in the first monitoring period. This was found accepted.

The emission reduction calculation has been checked and CAR/NIRs were raised for more clarification and corrections and the report was used as an internal report only. The same was found incorporated in revised monitoring report.

A mismatch in the formula used for the calculating emission reduction for HTSC-1240 at Coimbatore site was found. CAR1 was raised and project proponent was asked to rectify the same. In response to CAR1 project proponent mentioned that the error in formula was corrected and corrected value of emission reduction was mentioned in the revised monitoring report and excel spreadsheet. This was checked with; the revised version of the monitoring report and excel spreadsheet and found accepted.

The electricity meters are owned and maintained by Tamilnadu Electricity Board (TNEB) and are calibrated by them annually. This was checked during site visit and it was found satisfactory that the electricity export meters installed at respective High Tension Service Connection (HTSC) points at both the sites were calibrated. The details of calibration were furnished and attached as a reference.

Have any recommendations for changes to the monitoring methodology for any future crediting period been issued to the project participant? If yes, please detail.

No, the project proponent has already implemented correct monitoring methodology and following the same in the second monitoring period.

Determine the reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CDM project activity, based on the data and information using calculation procedures consistent with those contained in the registered project design document and the monitoring plan.

The data used in anthropogenic emission reduction calculation is consistent with those contained in the registered PDD. The estimated emission reduction in the registered PDD was 46211 tCO₂ for the monitoring period from 1st January 2006 to 11th December 2006.

The actual emission reduction has been verified as 46211 tCO₂ for the same monitoring period.

Identify and inform the project participants of any concerns related to the conformity of the actual project activity and its operation with the registered project design document. Project participants shall address the concerns and supply relevant additional information.

No concerns were identified.

Post monitoring report on UNFCCC website

Yes, the second monitoring report is available at ref. no 0471 on UNFCCC website

<http://cdm.unfccc.int/Projects/DB/BVQI1150715259.06/Monitoring/SGS-UKL1173442672.54>

8.1 Confirmation of data verified

Reporting periods: 1st January 2006 to 11th December 2006.

Emission Reduction Period	Reported Value tCO₂	Verified Value tCO₂
1 st January 2006 to 11 th December 2006	47621	46211
Total	47621	46211

9 Conclusion on data quality and decision on materiality

Compliance:


Considering that the monitoring report is considered in compliance with the approved monitoring methodology and with the Project Design Document registered.

Data:

The data presented in the revised monitoring report and the emission reductions determined from that data are considered to be complete, transparent and free of material error or omission.

10 Recommendation

The Verification Lead Assessor recommends that SGS United Kingdom Ltd issue a verification and certification opinion.

Name and reference number of project	56.25 MW bundled wind energy project in Tirunelveli and Coimbatore districts in Tamilnadu, India' UNFCCC Ref. No. 0471 SGS Ref. No. CDM.VER0166
Scope of Verification	This scope of this engagement covers the verification and certification of greenhouse gas emission reductions in accordance with section I of Decision 17/CP.7, and relevant decisions of the CDM EB and COP/MOP.
Total GHG emission reductions verified	46211 tCO ₂ e
Registered PDD and Approved Methodology used for Verification	Registered PDD with ref. no.0471 and approved consolidated monitoring methodology ACM0002 version 05 dated 3 rd March 2006.
Verification Opinion with regard to data quality and materiality	The data are considered to be complete, transparent and free of material error or omission.
Applicable period	1 st January 2006 to 11 th December 2006.
Dated and signed on behalf of the verification body by authorized signatory	31/05/2007, Siddharth Yadav 

Annexs:

Key reference documents:

- Registered PDD for 0471 project
- Approved consolidated monitoring methodology ACM0002 version 05 dated 3rd March 2006
- Second Monitoring Report **version 4**
Monitoring period: 1st January 2006 to 11th December 2006.

Other documents provided by the Client:

References and its significance:

Ref No.	Document	Description
01	Electricity meter bills given by TNEB for monitoring period 1 st January 2006 to 11 th December 2006 for Tirunelveli and Coimbatore site.	To check the amount electricity fed to the southern regional grid.

02	Commissioning certificate issued by TNEB for wind turbine generators commissioned during 1 st January 2006 to 11 th December 2006.	To check the commissioning date of the particular wind turbine.
03	Calibration Report for Electricity Meters	To check the calibration details for the electricity export meters installed at the High Tension Service Connection (HTSC) point.

Person interviewed	Position in CDM Project	Organization	Remarks
Mr. G. Prasad	Manager AL-Wind Energy Project	AL Wind Energy a division of M/s Ashok Leyland Project services Ltd.	Project Proponent
Mr. C. Bhaskaran	Sr. Team Leader Tirunelveli Site	AL Wind Energy a division of M/s Ashok Leyland Project services Ltd.	Project Proponent
Mr. V. Palanivel	Team Leader Tirunelveli Site	AL Wind Energy a division of M/s Ashok Leyland Project services Ltd.	Project Proponent
Mr. M. Prabhakaran	Sr. Team Leader Coimbatore Site	AL Wind Energy a division of M/s Ashok Leyland Project services Ltd.	Project Proponent