



GOLD STANDARD VALIDATION REPORT

ENERCON WIND FARM (HINDUSTAN) LTD IN RAJASTHAN IN INDIA

REPORT No. 2014-0077

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GOLD STANDARD VALIDATION REPORT

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Approved by: Michael Lehmann	Organisational unit: Accredited Climate Change Services
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Summary:

Project Name: Enercon Wind Farm (Hindustan) Ltd in Rajasthan
UNFCCC Reference Number: 1168
UNFCCC Project Registration Date: 15 March 2010 (revised PDD approved on 14 January 2013)
Gold Standard Reference Number: GS 2483
Country: India
Methodology: ACM0002 **Version:** 13
GHG reducing Measure/Technology: Consolidated baseline methodology for grid-connected electricity generation from renewable sources
ER estimate: 101 047 tCO₂e per year (average)

Size

☒ Large Scale

☐ Small Scale

Validation Phases:

☒ Desk Review

☒ Follow up interviews

☒ Resolution of outstanding issues

Validation Status

☐ Corrective Actions Requested

☐ Clarifications Requested

☒ Approval and submission for registration

☐ Rejected

In summary, it is DNV's opinion that the project activity "Enercon Wind Farm (Hindustan) Ltd in Rajasthan" in India, as described in the PDD, version 11 of 17 September 2012, and in the GS Passport version 03 dated 23 September 2014, meets all relevant Gold Standard requirements for CDM projects. DNV thus requests the registration of the project as a Gold Standard CDM project activity in the Gold Standard Registry.

Report No.: 2014-0077	Subject Group: Environment
Report title: Enercon Wind Farm (Hindustan) Ltd in Rajasthan in India	
Work carried out by: Sharmistha Shome, Gaurav Srivastav, S. Ranganathan	
Work verified by: Kakaraparthi Venkata Raman	
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Indexing terms

Key words
 Gold Standard
 GS CER
 Additionality
 Sustainable Development

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GOLD STANDARD VALIDATION REPORT

<i>Table of Content</i>	<i>Page</i>
ABBREVIATIONS	II
1 INTRODUCTION	1
1.1 Objective	1
1.2 Scope	1
1.3 GHG Project Description	1
2 METHODOLOGY	2
2.1 Desk review of the project design documentation	2
2.2 Follow-up interviews with project stakeholders	3
2.3 Resolution of outstanding issues	4
2.4 Internal quality control	5
2.5 Validation team	6
2 GOLD STANDARD VALIDATION FINDINGS	6
3 PROJECT ELIGIBILITY ACCORDING TO GS REQUIREMENTS	7
4 ADDITIONALITY SCREEN ACCORDING TO GS CRITERIA	7
5.2 Conservative approach check of the baseline scenario	8
5.3 Technology transfer and/or technology innovation	8
6 SUSTAINABILITY ASSESSMENT	8
7 GOLD STANDARD CRITERIA FOR STAKEHOLDER CONSULTATION	10
8 PRE-FEASIBILITY ASSESSMENT AND DISCUSSION OF GOLD STANDARD FEEDBACK	11
9 SUSTAINABILITY MONITORING PLAN	12
10 VALIDATION OPINION	13
Appendix A Validation Protocol	
Appendix B Curricula Vitae of the Validation Team Members	



GOLD STANDARD VALIDATION REPORT

Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board
CER	Certified Emission Reduction
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DNV	Det Norske Veritas
DOE	Designated Operational Entity
DRC	Development and Reform Committee
EIA	Environmental Impact Assessment
EPB	Environmental Protection Bureau
ER	Emission Reduction
GHG	Greenhouse gas(es)
GS	Gold Standard
GS-TAC	Gold Standard Technical Advisory Committee
GS-VVM	The Gold Standard Validation and Verification Manual for CDM Projects
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non-governmental Organisation
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Converter



1 INTRODUCTION

Wind World (India) Limited has commissioned DNV Climate Change Services AS (DNV) to perform a validation of the Enercon Wind Farm (Hindustan) Ltd in Rajasthan project in India (hereafter called “the project”) in relation to the Gold Standard (GS). The project has been registered as a CDM project on 15 March 2010 (UNFCCC Reference No. 1168) /1/. Hence, all the UNFCCC requirements have been met as set by the Kyoto Protocol, the Marrakech Accords and relevant guidance by the CDM Executive Board. The project furthermore meets all relevant host party criteria and correctly applies the baseline and monitoring methodologies.

1.1 Objective

The objective of the validation in accordance with the GS for CDM projects is to have an independent third party assess that the project design of a GS CDM project fulfils the requirements set out by the GS.

The GS validation seeks premium quality carbon credits, by ensuring that the CDM project meets the additional requirements posed by the GS and that the project results in real and measurable benefits to local stakeholders.

Hence, the validator will confirm that the project design is sound and reasonable and meets the relevant criteria. This implies that the project, its baseline and the monitoring plan must be in compliance with relevant UNFCCC and host party criteria, as well as the GS specific criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD) and other relevant documents. The information in these documents is reviewed against the GS requirements based on the recommendations in the Gold Standard Requirements and Toolkit version 2.2 /8/.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective action requests may have provided input for improvement of the project design.

1.3 GHG Project Description

The project activity is a registered CDM project (UNFCCC reference number: 1168). The project activity involves the electricity generation from wind energy and the generated electricity is supplied to the electricity grid. The power generated from the project activity shall replace the equivalent power in the NEWNE grid, which is dominated by fossil fuel.

The project activity is located at Kita and Pithodai Ki Dhani village in Jaisalmer district of Rajasthan, India. The location of each WEC has been sourced from the detailed project report and mentioned in the GS passport. The installed capacity of the project activity is 60MW, with 75 numbers of WECs of 800kW capacity each. The project design and specifications are mentioned in the registered PDD /1/ and the validation report /13/.

2 METHODOLOGY

The validation 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 validation report and opinion.

The following sections outline each step in more detail.

2.1 Desk review of the project design documentation

The following tables list the documentation that was reviewed during the validation.

2.1.1 Documentation provided by the project participants

- /1/ Wind World (India) Limited: CDM-PDD for project activity “Enercon Wind Farm (Hindustan) Ltd in Rajasthan” in India, Version 11 dated 17 September 2012.
<http://cdm.unfccc.int/Projects/DB/SGS-UKL1181742063.57/view>
- /2/ Wind World (India) Limited: Gold Standard Passport for project activity “Enercon Wind Farm (Hindustan) Ltd in Rajasthan” in India, Version 03 dated 23 September 2014, and PDD version 02 dated August 2014
- /3/ Wind World (India) Limited: Annex Q of GS toolkit: LSC report version 03 dated 23 September 2014.
- /4/ Wind World (India) Limited: Letter of invitations sent to the local stakeholders, public invitation and public notice
- /5/ Wind World (India) Limited: Attendance sheet for the local stakeholders during the stakeholder feedback round and minutes of meeting.
- /6/ Wind World (India) Limited: emission reduction excel sheet.

2.1.2 Methodologies, tools and other guidance by The Gold Standard

- /7/ The Gold Standard Requirements Version 2.2
- /8/ The Gold Standard Toolkit and annexes Version 2.2



2.1.3 Methodologies, tools and other guidance by the CDM Executive Board

- /9/ CDM Executive Board: Validation and Verification Standard, version 4.0 (Used in CDM registration)
- /10/ CDM Executive Board: Baseline and monitoring methodology ACM0002, version 13 (The project activity is registered under ACM0002, version 6)
- /11/ CDM Executive Board: “Tool to calculate the emission factor for an electricity system” Version 02.2. and “Tool for demonstration and assessment of additionality” Version 03.0.0. (Used at the CDM registration)
- /12/ CDM website link to registered project activity:
<http://cdm.unfccc.int/Projects/DB/SGS-UKL1181742063.57/view>
 registration date: 15 September 2010.

2.1.4 Other Documentation used by DNV to validate / cross-check the information provided by the project participants

- /13/ SGS Climate Change Programme: Validation report of “Enercon Wind Farm (Hindustan) Ltd in Rajasthan”, Version 4, report number: CDM VAL.0805, dated 15 March 2010, and registered on 15 March 2010 as CDM project 1168.
<http://cdm.unfccc.int/Projects/DB/SGS-UKL1181742063.57/view>
- /14/ Central Electricity Authority: CO₂ emission baseline database:
http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm
- /15/ Universal declaration of Human Rights (Last accessed on 10 Feb 2014)
http://mha.nic.in/Human_Rights_Division
- /16/ Ministry of Environment and Forest (Last accessed on 10 Feb 2014)
<http://moef.nic.in/division/environment-protection>
- /17/ Ministry of Labour (Last accessed on 10 Feb 2014)
http://labour.gov.in/upload/uploadfiles/files/footergallery_pdf/List%20ofILO%20Conventions%20Ratified%20by%20India.pdf
- /18/ National Prevention of Corruption Act of Government of India
http://www.persmin.gov.in/DOPT/EmployeesCorner/Acts_Rules/PCAct/pcact.pdf
- /19/ AESPL : Environmental Impact Assessment for wind farms at Jaisalmer Rajasthan of November 2006

2.2 Follow-up interviews with project stakeholders

On 17 October 2013 DNV visited the project location and performed interviews with project stakeholders. During the stakeholder consultation process, the participant’s enquired about the benefits the project activity will bring to them and if cattle grazing will be affected. It was explained by the project proponent that cattle grazing will not be affected as they do not propose to erect any boundary and will employ the local population for the project activities. The stakeholders did not express any negative opinion or opposition to the project activity. The stakeholder consultation is detailed in the LSC report /3/. The details of the main participants and the topics are furnished in the table below.

S.No	Date	Name	Organization	Topic
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Report No: 2014-0077, rev. **Error! Reference source not found.**

GOLD STANDARD VALIDATION REPORT

/20/	17 October 2013	Mr. Nema Ram Panwar	Wind (India) Limited	World Stakeholder round, LSC process	feedback
		Mr. Chhagani Jitendra	Wind (India) Limited	Sustainability matrix, no harm matrix	Do
		Mr. Puneet Katyal	Wind (India) Limited	GS monitoring plan	
		Ms. Anushree Mishra	Wind (India) Limited		
		Nemu Ram Panwar	Local holders	Stake	Any resettlement
		Male Khan, Kamla Gulrashi, Ishamal			Employment opportunities provided
		Magan Khan, Sakar Khan, Sakhi Khan			Any adverse impact of project activity on their living
		Mali, Usse Khan			
		Jamal Khan, Esem Khan, Hasam Khan			
		Dhamar, El Khan, Sangar Khan, Adau Khan, Khamu			

2.3 Resolution of outstanding issues

The objective of this phase of the GS validation was to resolve any outstanding issues which needed to be clarified prior to DNV's positive conclusion on the project design.

The validation protocol consisted of two tables. The completed validation protocol for the "Enercon Wind Farm (Hindustan) Ltd in Rajasthan" is enclosed in Appendix A of this report.

Findings established during the validation can either be seen as a non-fulfilment of GS criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are issued, where:

- Mistakes have been made with a direct influence on project results;
- GS and/or methodology specific requirements have not been met; or
- There is a risk that the project would not be accepted as a GS project or that emission reductions will not be certified.

A request for clarification (CL) may be used where additional information is needed to fully clarify an issue.

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration. Three CARs and two CLs have been raised and satisfactorily concluded.

Two FAR's were raised by the GS during the during the 6-week registration review period and this FAR was included in Appendix A.



2.4 Internal quality control

The final GS validation report underwent the technical review by a technical reviewer qualified before requesting registration as a Gold Standard project activity. The technical team leader and technical review are in accordance with DNV's qualification scheme for CDM validation and verification.



2.5 Validation team

Role	Last Name	First Name	Country	Type of involvement					
				Desk review	Site visit / Interviews	Reporting	Supervision of work	Technical review	Sectoral competence
Technical team leader (Validator)	Shome	Sharmistha	India	✓	✓	✓	✓		✓
Validator	Srivastava	Gaurav	India	✓					
Validator	Seshan	Ranganathan	India	✓		✓			✓
Technical reviewer	Kakaraparthi	Venkata Raman	India					✓	✓

2 GOLD STANDARD VALIDATION FINDINGS

The Gold Standard validation of the project must be seen in conjunction with the CDM validation report and protocol of the project (SGS Report No: CDM VAL.0805 version 4 of 15 March 2010) /1/. The Gold Standard validation consists of the screening of the project eligibility, additionality and contribution to sustainable development and the sustainability monitoring plan according to GS requirements:

- Project eligibility according to GS requirements
- Gold Standard criteria on additionality
 - Public announcement
 - Conservative approach check of the baseline scenario.
 - Technology transfer and/or technology innovation
- Sustainable development assessment
- Gold Standard criteria for stakeholder consultation
- Pre-feasibility assessment and discussion of Gold Standard feedback
- Sustainability monitoring plan

All of the requirements indicated above are elaborated in the following sections.



3 PROJECT ELIGIBILITY ACCORDING TO GS REQUIREMENTS

The project activity is a registered CDM project and has applied for the retro-active Gold Standard registration. Pre-feasibility assessment has been conducted as per the GS toolkit and Annex P of the GS toolkit. The project activity meets the eligibility criteria of the Gold Standard as justified below:

- The project activity is a large scale wind power project and fall under renewable energy category.
- The project activity involves reducing CO₂ emission by replacing equivalent electricity from the NEWNE grid of India.
- The project activity does not involve ODA and a written declaration on the non-receiving of ODA has been provided in the annexure of GS passport/2/.
- As aforementioned, the project activity is a CDM registered and has applied for retroactive registration under GS. The pre-feasibility assessment has been conducted and the result is concluded to be positive.
- The project activity has not applied for any other certification scheme other than CDM.
- The project under CDM was registered adopting the large scale methodology ACM0002 Version 6.0 Consolidated monitoring methodology for grid-connected electricity generation from renewable sources. The methodology has undergone revisions and the GS validation has adopted ACM0002 Version 13.0 under which submissions can be made till 31 May 2014. DNV verified and confirm that the project activity confirms to the applicability and monitoring requirements of version 13 of the methodology ACM0002.

Thus, it has been concluded that the project activity meets the applicability criteria of Gold Standard.

4 ADDITIONALITY SCREEN ACCORDING TO GS CRITERIA

The project activity is a registered CDM project and the additionality of the project activity has been demonstrated with “Tool for demonstration and assessment of additionality”, version 03/11/.

All the four steps of the additionality tool have been demonstrated in the registered PDD /1/ and validation report. As per the “Tool for the demonstration and assessment of additionality” version 03 /11/, the following requirements have been justified in the CDM validation report (UNFCCC registration number # 1168) /13/:

Step 1: Identification of alternatives: Baseline alternatives have been identified as per the methodology and the selection of the plausible baseline scenario has been demonstrated, as detailed in registered PDD and validation report. The identified baseline scenario, as per the methodology, is *“Electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources”*;

Step 2: Investment analysis: Benchmark analysis has been performed to demonstrate the financial additionality of the project activity. As mentioned in the registered PDD and



GOLD STANDARD VALIDATION REPORT

validation report, the equity benchmark of the project activity is 18.7% and the equity IRR of the project activity is 11.9% /13//1/.

Step 3: Barrier analysis: This step has not been performed in the registered PDD /1/.

Step 4: Common practice analysis: Through common practice analysis, it has been concluded that the project activity is not a common practice in the geographical region where the project activity is located /13/.

In conclusion, the assessment of the arguments presented in the CDM validation report is deemed to sufficiently demonstrate that the emission reductions resulting from the proposed project were additional.

5.1 Public announcement

DNV was able to verify that there was no public announcement of the project activity going ahead without CDM benefits. The project activity is a CDM registered project. It has been demonstrated in the registered PDD and validation report that the incentive from CDM was seriously considered in the decision to proceed with the project activity.

5.2 Conservative approach check of the baseline scenario

The baseline scenario and the emission reduction calculation have been performed as per the registered PDD /1/. The emission reduction is calculated as the function of net electricity supplied to the grid and the combined margin emission factor of the NEWNE grid. The grid emission factor of 0.87387 tCO₂/MWh /6/ has been considered in the GS passport for emission reduction calculation, as per the registered PDD. The recent version of CEA CO₂ database, version 8, shows that the combined emission margin factor of NEWNE grid is 0.95828tCO₂/MWh which is higher than 0.87387tCO₂/MWh/14/. Thus, based on the conservative principle, the emission factor mentioned in the registered PDD has been used.

5.3 Technology transfer and/or technology innovation

The project activity is a wind power project and the generated electricity is supplied to the NEWNE grid of India. The project involves 75 numbers of wind energy converters (WECs) of Enercon make (800 kW E-48) with internal electrical lines connecting the project with local evacuation facility. The WECs generates 3-phase power at 400V, which is stepped up to 33 KV. The Project can operate in the frequency range of 47.5–51.5 Hz and in the voltage range of 400 V ± 12.5%. The technical specifications of the project activity have been validated during the CDM registration of the project activity. The technical description in the GS passport has been verified from the registered PDD /1/.

6 SUSTAINABILITY ASSESSMENT

6.1.1 “Do no harm” assessment

In line with the Gold Standard toolkit, the following safeguarding principles have been considered for “Do no harm” assessment for the project activity:

- Human Rights: India has signed the universal declaration of Human rights (UDHR)/15/ and the project follows the same. The project activity is located in the



government leased barren land and thus, is not involved in involuntary resettlement and complicit in the alteration, damage or removal of and critical cultural heritage /2/.

- **Labour Standards:** The labour rights are protected as per labour law in India /17/. The right to unionize, bargain collectively are highly protected by this law. All the employees are involved in the project activity on voluntary basis and no child labour is involved. The project activity is not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis /2/. Project activity, being as wind power plant, does not expose the employees to any adverse environment. Further DNV could confirm during the site visit that there was no resettlement of persons and the project activity has generally improved the infrastructure like roads etc. /20/.
- **Environmental Protection:** The environment is protected by environmental laws and regulations in the India /16/. The project proponent has conducted the EIA (Environmental Impact Assessment) to study impacts on the environment resulting from the project activity and the same has been demonstrated during the CDM validation of the project activity. The details have been mentioned in the registered PDD /1/.
- **Anti-corruption:** India has ratified the UN Convention against corruption and also has it National Prevention of Corruption Act, 1988 /18/ and thus the project activity does not involv and will not be complicit in corruption.

There are no other critical issue identified under “Do no harm” assessment. DNV consider the assessment to be complete and as per the requirement.

6.2.1 Sustainable Development Matrix

All the indicators, as Annex I of the GS toolkit has been described in the GS passport and assessed. The sustainable development indicators include Air quality , Water quality and quantity, Soil condition, Other pollutants, Biodiversity, Quality of employment, Livelihood of the poor, Access to affordable and clean energy services, Human and institutional capacity, Quantitative employment and income generation, Access to investment and Technology transfer and technological self-reliance. DNV has been able to validate the indicators through interaction with the local stakeholders during the site visit. The parameters Air quality , Water quality and quantity, Soil condition, Other pollutants, Biodiversity, Access to affordable and clean energy services and Access to investment are considered as neutral and DNV opines that not monitoring these does not have any adverse impact on the sustainable development monitoring. The monitoring plan envisages monitoring of the sustainable development parameters Quality of employment, Human and institutional capacity, Quantitative employment and income generation. The project is clearly contributing to sustainable development and the criteria identified are sufficiently substantiated. In DNV’s opinion, the sustainable development criteria identification process and the subsequent results are in full compliance with the Gold Standard criteria.

Four numbers of positive impacts from the project activity i.e. where the project activity results to significant benefit in comparison to the baseline scenario. The positive impacts from the project activity are as follows:

- **Quality of employment & Technology transfer and technological self-reliance:** It has been assessed by DNV during the site visit that local population were recruited at the



time of construction and operation of the project activity. The project activity has provided direct employment to about 20 people from the local surrounding villages as security staff and other activities. Training was also imparted to them so as to enable them to acquire the necessary skills for the job giving exposure to electricity generation from wind. The sample of training certificate is attached to the GS passport /2/ and were evidenced by DNV.

- Human and institutional capacity: The project activity has under taken initiatives to provide clean drinking water at places conveniently accessible from their homes. This was done through development of water causeway and installation of water purifier and has covered around 250 villages. It is proposed to additionally include 100 beneficiaries and the same will be monitored annually. Due to reduced time required for collection of drinking water, women have been able to devote more time for constructive skill development by contributing to the Gram Panchayat for social expense, contribution to the schools and contribution for purchasing of water purifier at schools /2/, thereby improving the quality of life of women and children.
- Quantitative employment and income generation: The project activity has employed 115 people during construction of the project activity. The project activity is expected to generate additional employment for 10 persons locally and the same will be monitored annually. Thus, it has generated number of employments and income sources.

The evaluation of the parameters as having positive impact has been justified in the passport and DNV accepts the justifications based on the site visit and documents perused. DNV also perused the EIA report of the project activity and confirms that no adverse impact has been identified in the report /19/. No negative impact has been identified and envisaged from the project activity. The overall score of the sustainable development matrix is found to be positive. The justification for indicators where the score has been indicated as neutral “0” has been adequately discussed in the GS pass port /2/.

6.2.2 Environmental impact assessment (EIA)

The project activity is a wind power project and the generated electricity is supplied to the grid. The project activity does not have any adverse impact of the environment. As mentioned in the registered PDD /1/, a EIA /19/ has been conducted for the project activity and the same has been validated during the CDM validation process.

7 Gold standard criteria for stakeholder consultation

The local stakeholder consultation was conducted on 18 September 2006 /1/. A local newspaper advertisement was placed in Rajasthan Patrica on 5 September 2006 /1//2/ inviting the local stakeholders for the meeting. The evidences of the same have been included as the annex to the GS passport and same has been verified from the registered PDD /1/. No negative comments were received for the project activity during the local stakeholder consultation process and this has been validated during the CDM validation process.

A stakeholder feedback round has been conducted on 17 October 2013 /2/. The stakeholders for the feedback round were invited by public notice dated 30 September 2013 /2/ and invitation letters were sent to relevant persons, dated 3 October 2013 /2/. The process and outcome of the stakeholder feedback round has been adequately described in the LSC report



GOLD STANDARD VALIDATION REPORT

/3/, along with the evidences as annexure to the LSC report. This stake holder meeting was attended by DNV representative also.

A non-technical summary of the project activity, in local language as well as in English has been provided and included in the GS passport /2/. The minutes of the meeting in which DNV representative participated along with other participant list and the photographs have been included in the GS passport /2/. Comments from the stakeholders were invited during the stakeholder feedback round. During the stakeholder consultation process on 17 October 2013, the DNV enquired on the following in addition to those detailed in the LSC report.

- 1) Was there any issue of resettlement ?
No. The land used for the project activity is barren and dry land
- 2) Did the project activity provide employment to local population?
Yes, there are recruitment of skilled and unskilled labours. The guards are all local population. It was also confirmed that no forced labour or child labour is taking place.
- 3) Any major trouble encountered by the local population due to the project activity?
No significant issue. Project does not hamper their way of life.
- 4) Has project improved the living standard of the locals?
Yes, some of them got the job in the project. Also, the vehicles used in the project activity are from local population.
- 5) Stake holders confirmed that the health check up program was conducted and contribution to the schools were done.

The stakeholders did not express any negative opinion or opposition to the project activity. The stakeholder consultation is detailed in the LSC report /3/.

It has been verified during the site visit and DNV's interaction with the local stakeholders that sustainable development matrix has been adequately addressed and a grievance/input mechanism shall be established. No negative comments were received during the stakeholder feedback round. DNV from its interaction with the local stakeholders present at the stakeholder feedback round, could conclude that the stakeholder consultation carried out is adequate. DNV confirms that no negative comments were received during the feedback round /2/.

8 Pre-feasibility assessment and discussion of gold standard feedback

The project activity, being a registered wind power CDM project activity, has applied for the fast-track pre-feasibility assessment. As GS did not have any comments, the consultation was not done at this stage. All the requirements, as mentioned in annex P- PFA fast track rules of GS toolkit /8/, has been assessed and are satisfied. There was no feedback from the gold standard during the pre-feasibility assessment. The requirements of the DOE selection for retroactive pre-feasibility assessment, as mentioned in the GS toolkit that are satisfied:

Requirements	Yes/No
An auditor of the validation team taking care of the submitted project has attended a GS DOE training workshop within the last 6 months prior to the start of validation of the project proposed for the 'fast-track' process.	Yes. (Ms.Sharmistha Shome attended on 25

	August 2013)
An auditor of the validation team taking care of the submitted project has attended a GS DOE training webinar within the last 6 months.	Yes. (Ms.Sharmistha Shome attended on 26 August 2013)

As aforementioned, the project activity is a CDM registered wind power project, the project is eligible for the fast-track prefeasibility assessment.

9 Sustainability monitoring plan

The monitoring plan elaborated in the GS passport /1/ is adequate and meets all the relevant requirements of the Gold Standard toolkit. The means and ways of monitoring the parameters has been described in the GS passport. The table I.3 of the annex I- Guidance on SD matrix of GS toolkit has been used and completed for each of the positive indicators as mentioned in section 6.1.2 of the GS validation report.

According to the requirements of Gold Standard, the choice of indicators is based on the issues contributing critically to the sustainable development.

- According to the requirements of Gold Standard, indicators that are critical for a positive contribution of the project to sustainable development or that are particularly sensitive must be monitored. The positive indicators have been included in the monitoring plan.
- According to the requirements of Gold Standard, issues of potentially significant impact that are raised in the public consultations must be monitored. No significant impact has been raised by stakeholders concerned.
- According to the requirements of Gold Standard, appropriate indicators for potential mitigation/compensation measures shall be selected and monitored. The main parameters monitored are Quality of employment, Human and institutional capacity, Quantitative employment and income generation. DNV is able to confirm all the mitigation measures are included in the monitoring plan and the means and frequency of monitoring are adequate.

DNV is able to confirm the monitoring plan and monitoring indicators/measures are selected appropriately.



10 Validation opinion

DNV Climate Change Services AS has performed a Gold Standard validation of the CDM project activity 1168 “Enercon Wind Farm (Hindustan) Ltd in Rajasthan” on the basis of relevant Gold Standard requirements for CDM projects.

The review of the GS Passport and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The Gold Standard validation of the project must be seen in conjunction with the CDM validation report and protocol of the project.

Being a renewable energy power project, the project is eligible for the Gold Standard.

The project correctly applies ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 13.

The project activity generates electricity from the wind energy and the generated electricity is supplied to the NEWNE grid. As a result, the project results in reductions of CO₂ 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 on the average 101 047 tCO₂e per year over the selected 10 year fixed crediting period ending on 14 March 2020. The estimated emission reduction for the year 2010 (15 Mar 2010 to 31 Dec 2010) is 79 996 tCO₂e, for the years 2011 to 2019 is 101 047 tCO₂e per year and for the year 2020 (01 Jan 2020 to 14 Mar 2020) is 21 051 tCO₂e. 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.

The project meets the Gold Standard requirements pertaining to the contribution to sustainable development.

The project meets the GS requirements pertaining to monitoring by monitoring the project’s contribution to sustainable development, i) Quality of employment, ii) Human and institutional capacity and iii) Quantitative employment and income generation. The monitoring arrangements described in the sustainability monitoring plan are feasible within the project design and it is DNV’s opinion that the project participants are able to implement the monitoring plan.

In summary, it is DNV’s opinion that the Enercon Wind Farm (Hindustan) Ltd in Rajasthan, as described in the GS Passport version 03 of 23 September 2014, , meets all relevant Gold Standard requirements for CDM projects.

Bangalore and Oslo, 2014-09-29

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APPENDIX A

CDM VALIDATION PROTOCOL

Table 1 Requirements checklist

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
1. Project Eligibility According to GS Requirements					
- If the project is located in a country part of the OECD Development Assistance Committee's ODA recipient list, has a written declaration of your project's Non-use of ODA been submitted to GS.(See Annex D of the toolkit for an ODA declaration template for comparison.)	/1//2/	DR/I	ODA declaration has not been provided in the GS passport.	~~CAR-1~~	OK
- Project cycle. Has the correct project cycle been chosen, and are the necessary documents in place? (regular vs. pre-feasibility assessment)	/1//2/	DR/I	Yes, the correct cycle has been chosen. The project activity is a register CDM project.		OK
2. Sustainability Assessment					
- "Do no harm" assessment. Has the assessment been included in the GS passport as required by GS?	/1//2/	DR/I	Yes, the assessment has been included in the GS passport as required by GS. It is to be clarified if the statement of warranty for the assessment has been provided.	~~CL-1~~	OK
- Sustainable development matrix. Check and confirm if the guidance provided under Ch. 2.4.2 has been applied to establish the sustainable development matrix. Assess the matrix according to the guidance in Ch. 2.42. and Annex I and Table 3.2.	/1//2/	DR/I	Sustainability development matrix has been included in the GS passport. The following points are not adequately addressed: 1) All the gases mentioned in Annex I under air quality have not been included.	~~CAR-2~~	OK

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GS Validation Protocol – Report No. 2014-0077, rev. **Error! Reference source not found.**

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Check all data and statements used in the sustainable development matrix and discuss all indicators that received a positive and negative score in detail with regards to the following in this section: - Is the matrix based on existing sources of information which can include, but is not limited to, data from existing reports, results from stakeholder consultations, and experiences with similar projects in similar situations, etc.? If data is unavailable, is of poor quality or severely outdated, are independent opinions and expert judgements provided? - Is the data and/or expert opinions presented in a sufficient degree of detail, and is the information transparent and verifiable? - Are data uncertainties clearly stated? - Transparency; is the scoring reproducible and verifiable. - Which indicators are to be monitored (if any)? Are at least two of the sub-totals (categories) positive? Is the third sub-total at least neutral? Has the sustainability matrix has been completed together with the stakeholders?			2) Explanation is not adequate on how it is concluded that the project activity does not fall under migratory pattern of birds. 3) Public participation, which includes – gender equality, empowerment and education and skills, under Human and institutional capacity, has not been addressed. Contribution towards hospital renovation does not meet the criteria under human and institutional capacity. 4) “Access to investment”, as mentioned in Annex I have not been included in the matrix. 5) “Balance payment and investment” is not mentioned in the Annex I. 6) Preliminary score of “technology transfer and technological self-reliance” has not been filled. Three categories have been considered as positive. The sustainability matrix has been discussed and completed along with the stakeholder feedback round.		
3. Gold Standard Criteria for Stakeholder					

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Consultation					
Does the project proponent fulfil the Gold Standard requirements regarding stakeholder consultations? Have the comments in the stakeholder report been verified? Has the following been checked? - an invitation tracking table has been filled out - copies of invitations published/sent out are available - a non-technical summary in local language has been included in the Local Stakeholder consultation report, as well as an English summary - a participants list is available - minutes of the meeting(s) are available - due account has been made on comments received - if stakeholders required a revisit of the sustainable development assessment, this has been done - if the consolidated sustainable development matrix is presented based on own preliminary scoring and the matrix from the outcome of the blind stakeholder exercise - comments accepted and received by email or by other means were actually considered Is the following information in place in the GS Passport? Which documents have been checked to verify the inclusion of the following information in the GS passport? - a description of the procedure followed to invite comments, including addressing all the details of the	/1//2/	DR/I	Yes, the stakeholder consultation has been performed as per the GS requirement. Following issues are not clarified in the GS passport. Evidence of the same has not been provided: 1) Has an invitation tracking table has been filled out. 2) if copies of invitations published/sent out are available 3) a non-technical summary in local language has not been included in the Local Stakeholder consultation report, as well as an English summary. 4) Continuous grievance/input mechanism is in place. 5) Local Stakeholder consultation report has not been provided. Evidence of the invitation sent to the stakeholder for the feedback round.	~~CL-2~~	OK

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oral hearing such as place, date, participants, language, local or national Gold Standard NGO supporters, etc. - all written and/or oral comments received - the argumentation on whether or not comments are taken into account and the respective changes to the project design					
4. Pre-feasibility Assessment and Discussion of Gold Standard Feedback					
Is the project under the retroactive project cycle? If so, has the feedback from the pre-feasibility assessment been discussed and addressed properly? Has the stakeholder feedback round been done in according to the outcomes of the pre-feasibility assessment?	/1//2/	DR/I	The project activity is a CDM registered project activity. Stakeholder feedback round has been performed.		OK
5. Sustainability monitoring plan					

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Are there are any differences between the CDM monitoring plan and the GS monitoring plan with regards to emissions reductions? Are the parameters relevant to the indicators listed in the sustainable development matrix? Is the sustainability monitoring plan clear and transparent about who will be responsible to monitor the parameters? Is monitoring frequency indicated? Is the monitoring plan feasible given what is known about the responsible party? Is the monitoring plan sufficient?	/1//2/	DR/I	There is no difference in CDM and GS monitoring plan in regards to the emission reductions. All the relevant parameters of the sustainability matrix have been included in the sustainability monitoring plan. Estimation of baseline situation of parameter of Human and Institutional capacity has not been mentioned in the monitoring plan.	~~CAR 3~~	OK
5. Others					
None			NA		

Table 2 Resolution of corrective action requests and clarification requests

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation conclusion
CAR 1 ODA declaration has not been provided in the GS passport.		ODA declaration has been submitted to the DOE.	ODA declaration has been provided and included in the GS passport. OK. CAR 1 closed.
CAR 2 Sustainability development matrix has been included in the GS passport. The following points are not adequately addressed: 1) All the gases mentioned in Annex I under air quality have not been included. 2) Explanation is not adequate on how it is concluded that the project activity does not fall under migratory pattern of birds. 3) Public participation, which includes – gender equality, empowerment and education and skills, under Human and institutional capacity, has not been addressed. Contribution towards hospital renovation does not meet the criteria under human and institutional capacity. 4) “Access to investment”, as mentioned in Annex I have not been included in the matrix. 5) “Balance payment and investment” is not mentioned in the Annex I. 6) Preliminary score of “technology transfer and technological self-reliance” has not been filled.		1. All the gases has been included in the GS passport. 2. The project does not fall under migratory patterns of the birds. The major birds migrating in the region, but away from project site are “ <i>Gatta</i> ”, <i>Tilor</i> , and <i>Solan</i> , which usually take their path away from the project site. The same has been included in the GS passport. 3. Public participation, which includes – gender equality, empowerment and education and skills, under Human and institutional capacity has been addressed 4. Access to investment”, as mentioned in Annex I have been included in the matrix. 5. “Balance payment and investment” has been removed. 6. Preliminary score of technology transfer has been included in the GS passport.	GS passport has been updated to include all the gases. Justification has been included the passport in regards to the bird migration. The project activity does not fall in the bird migrating path. The passport has been revised to include the public participation. The passport has been revised as per Annex I of the GS tool. Preliminary score of “technology transfer and technological self-reliance” has been filled in the revised passport. The explanation included in the passport in response to the CAR 2 has been assessed by DNV and found to be acceptable. Ok. CAR 2 is closed.
CAR 3 Estimation of baseline situation of parameter of		The justification regarding Estimation of baseline situation of parameter of Human	Baseline estimation of human and institutional capacity has been included in

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation conclusion
Human and Institutional capacity has not been mentioned in the monitoring plan.		and Institutional capacity has been mentioned in the monitoring plan in the GS passport.	the revised GS passport. OK. CAR 3 is closed.
CL 1 It is to be clarified if the statement of warranty for the assessment has been provided.		The statement of warranty for the assessment has been provided.	Statement of warranty has been included in the GS passport. OK. CL 1 is closed.
CL 2 Following issues are not clarified in the GS passport. Evidence of the same has not been provided: 1) Has an invitation tracking table has been filled out. 2) if copies of invitations published/sent out are available 3) a non-technical summary in local language has not been included in the Local Stakeholder consultation report, as well as an English summary. 4) Continuous grievance/input mechanism is in place. 5) Local Stakeholder consultation report has not been provided. Evidence of the invitation sent to the stakeholder for the feedback round.		1. Invitation tracking table has been filled out. 2. The copies of invitation have been incorporated in the SFR. 3. Non-technical summary incorporated in the SFR. 4. Continuous grievance/input mechanism is in placed in the SFR 5. Local Stakeholder consultation report has been provided to the DOE.	Invitation tract table has been filled and the invitation sent for the stake holder feedback round has been included in the SFR. Non-technical summary and grievance/input mechanism has been included in the revised SFR. Local stakeholder consultation report has been provided. OK. CL 2 is closed.

Table 3 Forward action requests

Forward action request	Reference to Table 2	Response by project participants	Validation Conclusion
FAR 1 Grievance Mechanism to be put in place by the PP to address the concerns of the stakeholders. and will include its assessment in the first GS Verification Report.		The passport has been revised and the contact details and mechanism to register the same is detailed.	The details provided to address the grievance of stakeholder to verified during the first verification of the project activity.
FAR 2 PP to put in place a system so that all the stakeholders have easy access and information about the register.		The information about the register to lodge compliant by stakeholders is prominently displayed.	The adequacy of the facility available to stakeholders to lodge compliant when needed to be verified during the first verification of the project activity.

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APPENDIX B

CURRICULA VITAE OF THE VALIDATION TEAM MEMBERS

Gaurav Srivastava: CDM Validator/Verifier, DNV Bangalore, India holds a Master's Degree in Energy Systems. His educational qualification covers the fields of sustainable development, power plant technology, renewable energy technology, performance of thermal & electrical utilities and project financing.

He has successfully completed ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 Lead Auditor Programs certified by IRCA.

He has experience of 6 years in validation and verification of numerous CDM projects in field of Energy efficiency, Waste heat recovery based power project, NG based combined cycle power project, Electricity generation from renewable energy sources such as Hydro, Wind, Solar and Biomass. His qualification, training and experience in CDM demonstrate his sufficient sectoral competence in energy generation from renewable energy sources.

Sharmistha Shome: CDM Validator/Verifier, DNV Bangalore, India holds a Master's Degree in Energy Systems. Her educational qualification covers the fields of sustainable development, power plant technology, renewable energy technology, performance of thermal & electrical utilities and project financing.

She has experience of more than 6 years in validation and verification of several CDM projects/JI and other 3rd party validation/verification services.

She has completed the ISO14001: 2004 EMS and ISO 50001: 2011 EnMS Lead Auditor course. Her qualification and experience in CDM demonstrate her sufficient sectoral competence in renewable energy sector.

Kakaraparthi Venkata: Raman holds a bachelor degree in Chemical Engineering (B.Tech) and a Diploma in Management. He has an overall experience of 18 years in the Chemical Process Industry - Fertilisers and Chemicals industry (FACT). His main areas of work include a) Technical Services (for Ammonia, Urea, Co-generation thermal power plants (captive), and complex fertilizers plants) for 10 years b) Erection, commissioning and hands-on operation of state of art HTAS 900 TPD Ammonia plant c) Management and operation of Sulphuric acid plant as Plant Manager and d) assisting Management of production unit (General Manager) in management Information System operation and planning of Production & Operations. As a part of the Technical services team, involved in the conduction of technical energy audits of plants and in HAZOP studies (under guidance of EIL).

While in FACT has completed the ISO14001 EMS LA course. Implemented the Environmental Management Systems in the production unit and conducted internal audits.

Experience prior to joining Fertiliser industry include six months experimental work on charcoal manufacture in Karnataka Regional Engineering college.

Joined DNV in November 2005 as Auditor. Till date has experience of around 7.5 years in validation and verification of CDM/JI projects. For the last five to four years, holding the responsibility of Senior Manager (Technical) / (Operations), in addition to working on projects as either Team Leader or Technical Reviewer. As per the UNFCCC competency requirements, the industrial experience and project experience in CDM demonstrate sufficient sectoral competence in areas of (a) 1.1 Thermal energy generation from fossil fuels and Biomass as well as thermal electricity from solar (b) 1.2 Energy Generation from renewable energy sources (c) 5.1/4.13/11.1/12.1 Chemical Processes Industries and (d) 13.1 Waste handling and disposal.

Has successfully completed the "Sustainability Report Verification Training Course" held in Bangalore (14-16 February 2013). Currently sharing resources with SBE by working on the CDP assessment of Infosys Limited, Business Responsibility Report assessment of WIPRO.

Successfully completed the Airport Carbon Accreditation (ACA) organized webinar (on 20 June 2013) and examination, to qualify as ACA Verifier. Currently verifying the Level 3 data of Delhi International Airport Limited (DIAL) (SBE contract), for renewal and up-gradation.

Seshan Ranganathan, holds a Bachelor's Degree in Chemical Engineering and has done diploma course in Management and completed the graduate ship course in Industrial Engineering and has an overall working experience of around twenty nine years. Prior to joining DNV has around twenty four years experience in Chemical process industry (fertilizer & petrochemical manufacturing) covering production, technical services including energy audits and efficiency studies, waste heat recovery, efficiency studies of boilers ,power plants , safety audits and pollution control activities including waste water treatment, project management, corporate planning, sales, logistics in fertilizer & petrochemical industry . Have undergone training for HAZOP and risk analysis studies.Subsequently involved in carrying out HAZOP/HAZAN in process design of LPG handling facility and in the operating Ammonia and Urea fertiliser plants, inorganic chemical plants. Have carried out energy audits of Fertiliser and Petrochemical plants.Experienced in the preparation of feasibility reports for chemical process plants. With respect to the thermal power plant the job assignment included the monitoring of flue gas exit temperatures, excess air used efficiency of fuel additives, condition of boiler refractory, insulation of steam lines etc. The experience also includes 5 years in process design & engineering for chemical process industry wherein was involved in developing process flow diagrams, mass and energy balance and data sheets for equipments.

He is qualified validator and verifier for CDM projects and is carrying out the same for the past five years. He has completed the EMS lead auditor course (ISO 14001:2004 - Environmental Management System Auditor / Lead Auditor Program and attended DNV Training Programme on Corporate GHG Inventory, carbon foot printing courses and sustainability. His qualification, industrial experience and experience in CDM demonstrate his sufficient sectoral competence in areas of (a) 1.1 Thermal energy generation from fossil fuels and Biomass including thermal electricity from solar (b) 1.2 Energy generation from renewable energy sources (c) 2.2 Heat distribution (d) 5.1/11.1/12.1 Chemical Processes Industries and (e) 13.1 Waste handling and disposal.