

Gold Standard for the Global Goals
Key Project Information & Project Design Document (PDD)



Version 1.1 – August 2017

KEY PROJECT INFORMATION

Title of Project:	200 MW Wind Power Project in Tamil Nadu by Orange Sironj
Brief description of Project:	The project activity is a 200 MW wind power project, promoted by Orange Sironj Wind Power Pvt Ltd. The purpose of the project activity is to generate clean electricity with utilization of wind energy. The Project comprises of 100 WTGs of Gamesa G114 max 2 MW turbines.
Expected Implementation Date:	NA
Expected duration of Project:	20 years
Project Developer:	Orange Sironj Wind Power Pvt Ltd.
Project Representative:	Infinite Solutions
Project Participants and any communities involved:	Orange Sironj Wind Power Pvt Ltd.
Version of PDD:	05
Date of Version:	30/12/2019
Host Country / Location:	India
Certification Pathway (Project Certification/Impact Statements & Products)	Impact Statements & Products
Activity Requirements applied: (mark GS4GG if none relevant)	GS4GG
Methodologies applied:	ACM0002: Grid-connected electricity generation from renewable sources - Version 18.1
Product Requirements applied:	GS VER
Regular/Retroactive:	Retroactive
SDG Impacts:	1 - SDG 7 Affordable and Clean Energy 2 - SDG 8 Decent Work and Economic Growth 3 - SDG 13 Climate Action
Estimated amount of SDG Impact Certified	1 - SDG 7 (Affordable and Clean Energy): The project is expected to generate 635,976 MWh clean energy every year. 2 - SDG 8 (Decent Work and Economic Growth): • Number (employees): 15 persons • Number(Trainings): Minimum 1 training. • The income to all the unskilled workers are made on day to day basis in line with minimum wage requirements. 3 - SDG 13 (Climate Action): The project leads to mitigation of 613,844 tCO₂e per annum

SECTION A. Description of project

A.1. Purpose and general description of project

>> (Provide a brief description of the project including the description of scenario existing prior to the implementation of the project.)

The main purpose of the project activity is to generate electrical energy through sustainable means using wind power resources, the generated green electricity will contribute to climate change mitigation efforts. This project activity is a large scale wind project. Orange Sironj Wind Power Pvt Ltd is the project investor for this project activity. The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 613,844 tCO₂e per annum, thereon displacing 635,976 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/ fossil fuel based power plant.

The project activity is the installation of a new grid-connected renewable power plant/unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.

The details of the project are mentioned in the table:

Project Investors' Name	Capacity in MW	State
Orange Sironj Wind Power Pvt Ltd	200	Tamil Nadu

Scenario existing prior to the implementation of the project activity

As the project activity is the installation of a new grid-connected renewable power plant/unit. The scenario existing prior to the implementation of project activity 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 combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system" (Version 07).

Baseline Scenario

Baseline scenario and Scenario existing prior to the implementation of the project activity are both same.

Sustainable Development

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forest and Climate Change (MoEFCC), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India. Thus the project's contribution towards sustainable development has been addressed based on the following sustainable development aspects:

- *Social well being*
The project activity will provide job opportunity to local people during erection, commissioning and maintenance of the Wind power project. Frequency of visiting to villages and nearby areas by skilled, technical and industrialist has increased due to installation /site visit/operation and maintenance work related to WTGs at plant site. This directly and indirectly positively effects the economy of nearby populace.
- *Environmental well being*
Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.
- *Economic well being*
The project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.
- *Technological well being*
The project activity is step forward in harnessing the untapped wind potential and further diffusion of the Wind technology in the region. The project activity leads to the promotion and demonstrates the success of wind projects in the region which further motivate more investors to invest in Wind power projects. Hence, the project activity leads to technological well-being.

A.2. Eligibility of the project under Gold Standard

>> (Describe how the project meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document and the relevant activity requirements document)

The project activity meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document as described below.

- The project applies methodology ACM0002, which is an approved methodology under Gold Standard.
- The project type is wind which is an eligible project type as it is in accordance with 1.1.1 a) and 1.1.1 b) of the Eligible Project Types & Scope under Renewable Energy Activity Requirements.
- The project activity results in displacement of electricity from thermal power stations while contributing to sustainable development of India. Hence, the project contributes to the Gold Standard Vision and Mission.
- Wind projects are an approved project type and do not require further approval from Gold Standard.
- This project activity is not associated with geo-engineering or energy generated from fossil fuel or nuclear, fossil fuel switch, nor does it enhances or prolongs such energy generation.

General Eligibility Criteria under Renewable Energy Activity Requirements

Project Type : As discussed above, the project type is eligible.

Project Location : The project is located in India.

Project scale : The project activity is a 200 MW wind project and thus qualifies under large scale projects.

A.3. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

>> (Justify that project owner has full and uncontested legal ownership of the products that are generated under Gold Standard Certification and has legal rights concerning changes in use of resources required to service the Project for e.g water rights, where applicable.)

The project participant has received consent to establish from pollution control board; also the Power Purchase Agreement demonstrate the PP as the legal owner. The EPC contract dated 22 November 2017 also mentions about the agreement occurred between the project participant Orange Sironj Wind Power Pvt Ltd. and Siemens Gamesa Renewable power private limited. Thus the project participant Orange Sironj Wind Power Pvt Ltd. is the legal owner of the project and has the legal rights for the credits that shall be generated by this project activity

A.4. Location of project

A.4.1. Host Country

>>

India

A.4.2. Region/State/Province etc.

>>

Tamil Nadu

A.4.3. City/Town/Community etc.

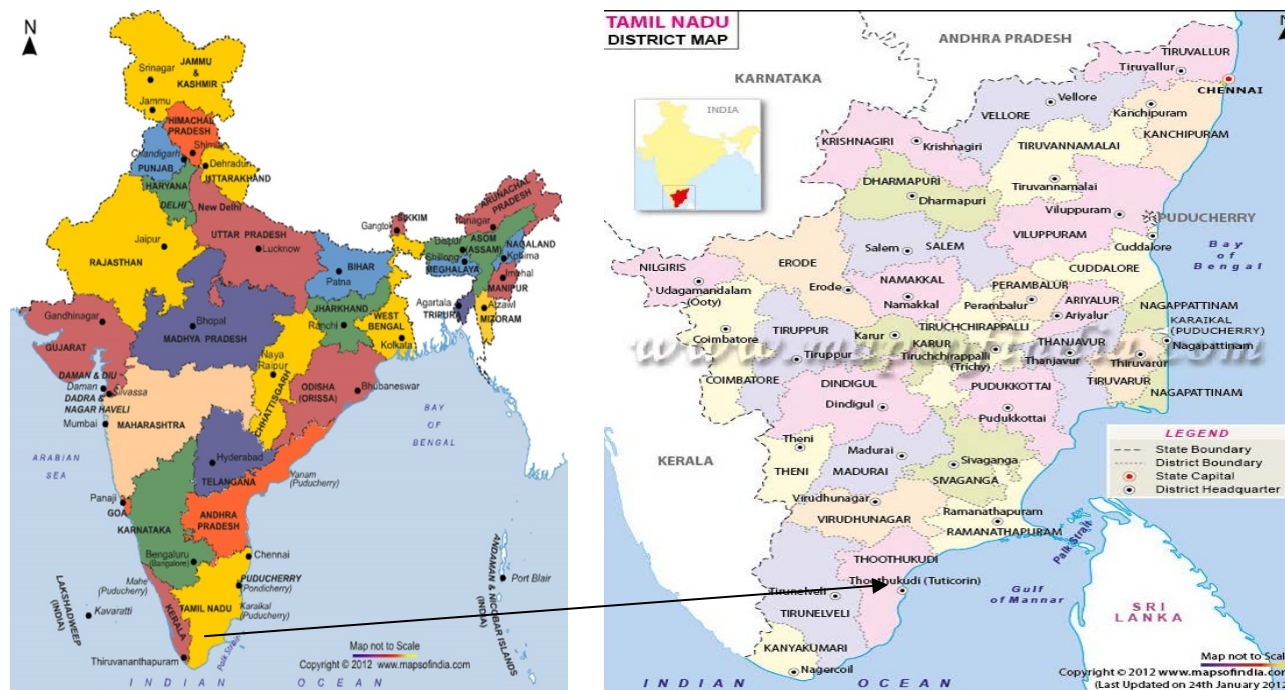
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Village : Poovani

District : Thoothukudi

A.4.4. Physical/Geographical location

>> (Include information allowing the unique identification of this project.)



The Project will be located at Village Poovani, Dist. Thoothukudi, Tamilnadu. The site is about 15 kms from Thoothukudi District Headquarter. The Project site is well connected through NH7 & NH45. Nearest railway station from the Project site is Maniyachichi Railway station and Kailasapuram Railway station. Tuticorin airport is nearest airport. The project coordinates are 8° 49' 30.71" N and 77° 53' 0.73" E.

A.5. Technologies and/or measures

>> (Describe the technologies and measures to be employed and/or implemented by the project, including a list of the facilities, systems and equipment that will be installed and/or modified by the project. Include information essential to understand the purpose of the project and how it will contribute positively to three SDGs.)

The project activity aims to harness Wind energy through installation of 100 nos. of 2 MW WTGs of Gamesa make (model - G114/2000kW IEC Class S model year version with 106m height of tower) with total installed capacity of 200 MW.

A description is given below of the main components of the G114-2.0 MW wind turbines:

PARAMETER	VALUE
Model : G114-2.0 MW CS Max Power	
General Data	
Make of WTG	Gamesa
Type	Three-bladed wind-facing rotor type
Number of Blades	3
Design Conditions of WTGs	
Rated power	2 MW
Average annual wind speed (m/s)	6.5
Turbulence intensity 15 (%)	18
Reference 10-minute wind speed in 50 years (m/s).	40
Extreme wind speed in 50 years over a 3-second average (m/s)	56
Hub Height	106m
Rotor	
Pitch control hydraulic system	Independent hydraulic actuators for each blade that provide a rotation capacity of between -5° and 87° and a system of

	accumulators which ensure feathering in the event of an emergency.
Diameter	114m
Swept Area	10,207 m ²
Wind speed in operation (rpm)	13.07
Blades	
Length	56m
Weight (t)	11.5 t
Blade cord (maximum/ minimum) (m)	3.865 m
Torsion (°)	Max 25 , min -1.5
Gearbox	
Type	1 stage planetary / 2 parallel
Generator	
Type	Asynchronous double-feed unit with 4 poles, coil rotor and slip rings.
Nominal power (kW)	2,170 (stator + rotor)
Voltage (Vac)	690
Frequency (Hz)	50 / 60
Transformer	
Type	Three-phase, dry-type encapsulated
Frequency (Hz)	50 / 60
Insulation class	F or H

The WTGs have a useful life of 20 years. For monitoring equipment, their location and technical specifications, refer Section B.7.3. For Plant Load Factor (PLF), please refer Section B.6.4.

Baseline Scenario

As the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following as per applied methodology: *“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 combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.*

Hence, pre-project scenario and baseline scenario are the same.

Purpose of the Project

The purpose of the project activity is to generate electrical power using wind energy through operation of Wind Electric Generators (WEG's), there by displacing non-renewable fossil resources resulting to sustainable, economic and environmental development. In the absence of the project activity equivalent amount of power generation would have taken place through fossil fuel dominated power generating stations. Thus the renewable energy generation from Orange Sironj Wind Power Pvt Ltd Project will result in reduction of the greenhouse gas emissions.

The total installed capacity of the project activity is 200 MW comprising of 100 WTGs of Gamesa G114 max 2 MW capacity each. The annual GHG emission reduction through this project activity is 613,844 tCO₂e.

Positive contribution of the project to the following Sustainable Development Goals

- SDG13: Climate Action** : The project would lead to reduction of approx. 613,844 tCO₂ per annum due to implementation of project activity.
- SDG 7: Affordable and Clean Energy** : The project is expected to generate 635,976 MWh of clean energy per annum
- SDG 8: Decent Work and Economic Growth** : The project provides employment to around 1515 persons. The project leads to Trainings & workshops which are conducted for the O&M staff of Gamesa as well as for the O&M staff of the PP.

A.6. Scale of the project

>> (Define whether project is micro scale, small scale or others. Justify the scale referring to relevant activity requirement.)

The renewable energy project activities with a maximum output capacity of 15 megawatts (or an appropriate equivalent) is small scale project activity and the Project activity with more than 15 MW is considered a large-scale CDM project activity.

As the project activity is 200 MW hence clearly it is Large Scale project.

A.7. Funding sources of project

>> (Provide the public and private funding sources for the project. Confidential information need not be provided.)

Private funding and funding from bank. The PP hereby confirms that there is no public funding from Annex 1 countries and no diversion of Official Development Assistance (ODA) involved in the project activity.

A.8. Assessment that project complies with 'gender sensitive' requirements

>> (Answer the four mandatory questions included under Step 1 to 3 in "Gold Standard Gender Equality Guidelines and Requirements" available [here](#).)

Question 1: Does the project reflect the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy? Explain how.

Response: As per Gold Standard Gender Policy, para 13(i) "Foundational gender-sensitive requirement - This strengthens Gold Standard's 'do no harm' approach and addresses safeguards to prevent or mitigate adverse impacts on women or men and girls and boys. Such action is mandatory for all projects seeking Gold Standard certification and includes compliance with the gender 'do no harm' safeguards, gender gap analysis and gender sensitive stakeholder consultations." The project being a renewable energy project is not gender sensitive project. The project does not adversely impact women or men.

Question 2: Does the project align with existing country policies, strategies and best practices? Explain how.

Response: India is party to "Convention on the Elimination of All Forms of Discrimination against Women" and the project has aligned its policies which does not discriminate on gender.

Question 3: Does the project address the questions raised in the Gold Standard Safeguarding Principles & Requirements document? Explain how.

Response: The Project shall complete the following gender assessment questions below:

1. *Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits?* No, the Project being a wind project does not reduce access to or control of resources for women.
2. *Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)?* No, the Project beneficiaries in terms of employment and social upliftment of the area are common for both the gender. Further the project has carried out various CSR² activities in line with their CSR policy leading to welfare of community at large.
3. *Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)?* No, the CSR activities carried out by the project proponent are discussed with the community consisting both the genders.
4. *Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)?* Yes the project takes into account gender roles and abilities of women/men. Job profile is allocated based on the type of work to be carried out.

¹ <http://hrlibrary.umn.edu/research/ratification-india.html>

² <http://orangerenewable.net/download/OrangeRenewable-CSR-Policy.pdf>

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5. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? No, on the contrary the project leads to increased availability of electricity in the regional grid thereby uplifting the living standards.
6. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? No, since the project is a renewable electricity generation project, thus it will not have discriminated against women.
7. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? No, in fact, the project leads to improved electricity in the regional grid thereby leading to less usage of fuel for lighting.
8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards? No, in fact, due to improved electricity availability the usage of fuel for lighting would be reduced as well as indoor air quality would be improved.

Question 4: Does the project apply the Gold Standard Stakeholder Consultation & Engagement Procedure Requirements? Explain how.

Response: The Stakeholder Consultation shall comprise of a minimum two rounds of consultation including one mandatory physical meeting and one stakeholder feedback round lasting for at least two months. The first round i.e. local stakeholder consultation was conducted on 15/11/2017 i.e. before the start of the project activity. The meeting held at the project Site which is connected to NH7 & NH45, Village: Poovani, District: Thoothukudi, Tamilnadu. Now since the project is applying retroactively for GS registration, a Stakeholder Feedback round has been carried out accordingly dated 09/05/2018 in village Poovani of district Thoothukudi, Tamilnadu. The project representative explained how such power projects help in providing clean energy and thereby help in mitigating impacts due to Global Warming and the impacts of wind power projects which lead to providing clean energy, increase in employment opportunities both long term and short term, increased income and thereby leading to improvement in living standard of the people.

The following queries from the stakeholders were answered by the project representative and the assessment team

Comment 1: What kind of CSR projects has been carried out in the area?

Response: OSWPPL carries out various CSR activities in the region like providing such as health camps, distribution of furniture & sports kits in schools, toilet requirements in government schools, drinking water requirements.

Comment 2: How would locals be employed by the company

Response: Employment opportunities are available in both technical and non-technical areas. For technical jobs qualified persons have been employed, however for non-technical jobs like security and transportation, construction preference has been for employment of local persons.

Comment 3: Would such CSR activities also be carried out in other areas which are not near the project activity.

Response: The implementation of CSR activities have been started with the villages which are near to the site, however these activities would be spread gradually over new areas which have not yet been covered.

Comment 4: what impact does the project have in reducing the shortage of electricity faced in the area.

Response: The electricity generated by the project helps the grid to meet its demand and as a result over the past few years the hours for electricity shut downs has decreased and now electricity is available with only minor disruptions.

Comment 5: what impact does the project have on ground water usage. How much water would be used by the project.

Response: The project being a wind power project does not use any water during the operational stage. Water usage is restricted to administrative building and daily usage by the employees, water is not used any operational issues of the wind mill. There would not be any impact on ground water usage by the project.

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Comment 6: Electricity lines damage the local environment in case any transmission line fall on the ground, also electrocution cases have been observed in many projects. What safety measures are taken by the company to stop such impacts?

Response: The equipment supplier as well as the O&M entity for the project is Siemens Gamesa which is renowned entity worldwide for Wind power project. It takes precautionary measures for safety.

Comment 7: What will be the impacts on rains due to the operation of Wind mills?

Response: There is no impact of weather/rains due to operation of wind power projects.

The stakeholders shared full support for wind power project operations.

SECTION B. Application of selected approved Gold Standard methodology

B.1. Reference of approved methodology

>>

Title : Grid-connected electricity generation from renewable sources.

References : Approved Large Scale Consolidated Methodology: ACM0002 "Grid-connected electricity generation from renewable sources" (Version 18.1, EB 99 Annex 1)³

ACM0002 draws upon the following tools which have been used in the PDD:

- Methodological Tool: Tool to calculate the emission factor for an electricity system - Version 07.0
- Methodological Tool: Tool for the demonstration and assessment of additionality - Version 07.0.0, EB 70 Annex 8⁴

B.2. Applicability of methodology

>> (Justify the choice of the selected methodology(ies) by demonstrating that the project meets each applicability condition of the applied methodology(ies))

As per para 2 of ACM0002 (Version 18.1, EB 99, Annex 1), "This methodology applies to project activities that include retrofitting, rehabilitation (or refurbishment), replacement or capacity addition of an existing power plant or construction and operation of a Greenfield power plant". The project activity meets the applicability conditions of the approved consolidated baseline and monitoring methodology ACM0002, Version 18.1, Sectoral Scope 1, EB 99 for Greenfield projects as described below:

Applicability	Project activity vis-à-vis applicability Conditions
This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (a) Involve a capacity addition to (an) existing plant(s); (b) Involve a retrofit of (an) existing operating plants/units; (c) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (d) Involve a replacement of (an) existing plant(s)/unit(s).	The project activity is installation of a new grid connected Wind power plant/ unit at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence this criterion is applicable.
The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, wind power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, wind, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the	The proposed project activity is an installation of a new grid connected wind power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this criteria under point (b) is not applicable.

3 <https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

4 <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	
In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m^2; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m^2; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m^2, all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m^2; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m^2 shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	The proposed project activity is an installation of a new grid connected wind power plant/ unit and not Hydro power plant, therefore this criteria is not applicable for this project activity.
In the case of integrated hydro power projects, project proponent shall: • Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or • Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.	The proposed project activity is an installation of a new grid connected wind power plant/ unit and not Hydro power plant, therefore this criteria is not applicable for this project activity.
The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	The project activity is installation of a new grid connected wind power project/ unit and does not involve switching from fossil fuel to renewable energy, therefore criterion described in point (a) is not relevant to the project activity. This is a wind power plant/ unit and not a biomass fired plant, therefore criterion described in point (b) is not applicable to the project activity.
In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario,	The project activity is a new grid connected wind power plant/ unit and not a retrofits, replacement or

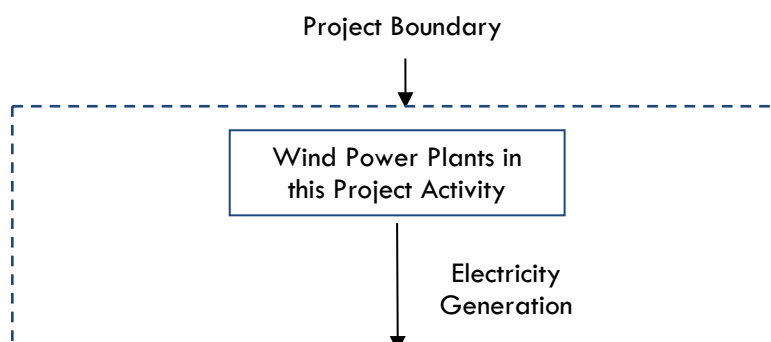
is “the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.	capacity additions and therefore this criterion is not applicable to the project activity.
Applicability conditions of “Tool to calculate the emission factor for an electricity system”, - Version 07.0	
This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	This condition is applicable. OM, BM and CM are estimated using the tool under section B.6.3 for calculating baseline emissions.
Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 2: be met. Namely, the total capacity of off-grid Procedures related to off-grid power generation” should power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	Since the project activity is grid connected, this condition is applicable and the emission factor has been calculated accordingly.
In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project activity is located in India, a non-Annex I country. Therefore, this criterion is not applicable for the project activity.
Under this tool, the value applied to the CO2 emission factor of biofuels is zero.	The project activity is a grid connected wind power project/ unit and does not involve emission from biofuels. Therefore, this criterion is not applicable.

B.3. Project boundary

>> (Present a flow diagram of the project boundary, physically delineating the project, based on the description provided in section A.5 above.)

Project boundary has ascertained using para 22 of ACM0002 (Version 18.1, EB EB 99, Annex 1) - “The spatial extent of the project boundary includes the project power plant/unit and all power plants/units connected physically to the electricity system that the CDM project power plant is connected to.”

Hence the project boundary includes the Wind Project activity, sub-station, grid and all power plants connected to grid. The proposed project activity will evacuate power to the Indian grid.



Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Grid connected electricity generation	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
Project scenario	Greenfield Wind Power Project Activity	CO ₂	No	No CO ₂ emissions are emitted from the project activity
		CH ₄	No	No, Project Activity does not emit CH ₄
		N ₂ O	No	No, Project Activity does not emit N ₂ O

B.4. Establishment and description of baseline scenario

>> (Explain how the baseline scenario is established in accordance with guidelines provided in GS4GG Principles & Requirements and the selected methodology(ies). In case suppressed demand baseline is used then same should be explained and justified.)

As per the approved consolidated Methodology ACM0002 (Version 18.1, EB 99, Annex 1) para 24 “If the project activity is the installation of a Greenfield power plant, the baseline scenario 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 combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.

The project activity involves setting up of WTGs to harness the power generation from Wind source to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants.

The combined margin ($EF_{grid,CM,y}$) is the result of a weighted average of two emission factor pertaining to the electricity system: the operating margin (OM) and build margin (BM), in accordance with the Tool to calculate the emission factor for an electricity system - Version 07 Calculations for this combined margin must be based on data from an official source⁵ (where available) and made publically available. In India, Central Electricity Authority (CEA), Government of India provides this data, and accordingly the same has been used.

The combined margin of the Indian grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
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⁵ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf

EF _{grid,CM,y}	0.9652 tCO ₂ /MWh	Combined margin CO ₂ emission factor for the project electricity system in year y	Calculated ⁶ as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Baseline CO ₂ Emission Database, Version 12 published by Central Electricity Authority (CEA), Government of India.
EF _{grid,OM,y}	0.9843 tCO ₂ /MWh	Operating margin CO ₂ emission factor for the project electricity system in year y	Calculated as the last 3 year (2013-14, 2014-15, and 2015-16) generation-weighted average, sourced from Baseline CO ₂ Emission Database, Version 12, published by Central Electricity Authority (CEA), Government of India.
EF _{grid,BM,y}	0.9083 tCO ₂ /MWh	Build margin CO ₂ emission factor for the project electricity system in year y	Baseline CO ₂ Emission Database, Version 12, published by Central Electricity Authority (CEA), Government of India.

B.5. Demonstration of additionality

>> (If the proposed project is not a type of project that is deemed additional, as stated below, then follow guidelines in section 3.5.1 of GS4GG Principles & Requirements to demonstrate additionality.)

The table below is only applicable if the proposed project is deemed additional, as defined by the applied approved methodology or activity requirement or product requirement.

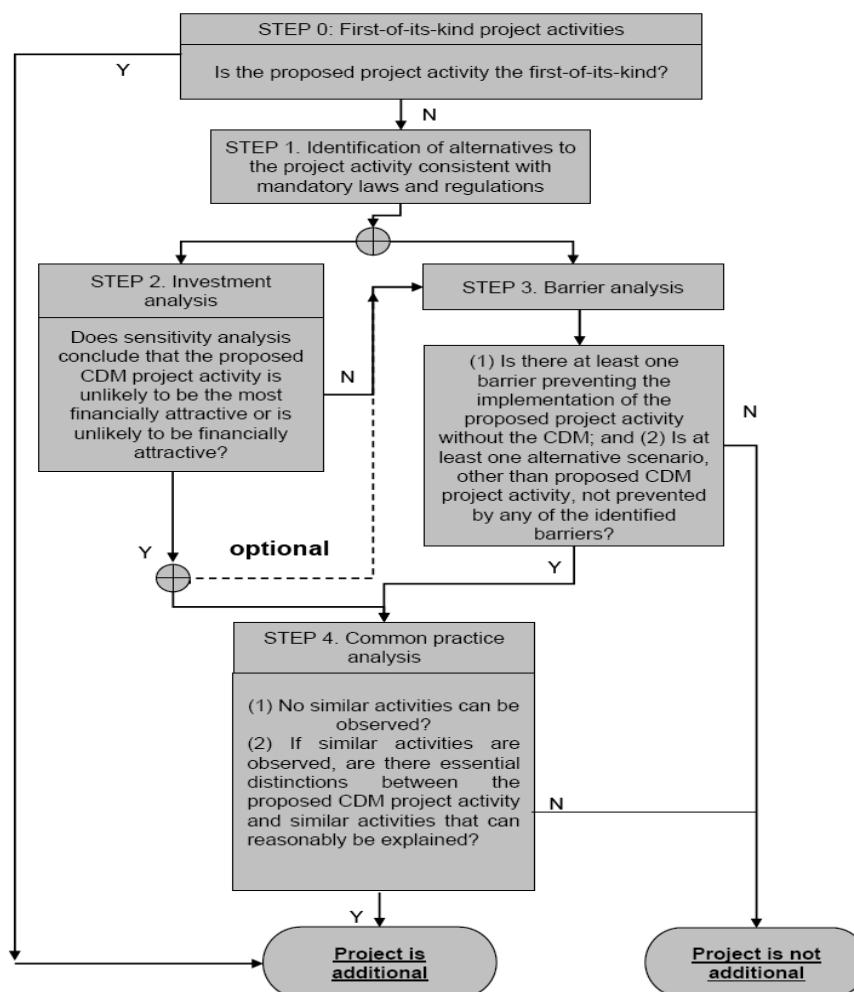
Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	Not Applicable
Describe how the proposed project meets the criteria for deemed additionality.	Not Applicable

The proposed CDM project generates power using wind energy which is a renewable, zero emission source of energy. Baseline considerations for the project are based on approved consolidated baseline methodology ACM0002 (Version 18.1).

Thus the project follows section 5.3.2 of the applied methodology which requires the project proponent to determine the additionality based on "Tool for the demonstration and assessment of additionality", Version 07.0.0.

The step-wise approach to establish additionality of the project activity has been followed, details of which are provided in the following paragraphs:

⁶ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/database_12.zip



Step 0: Demonstration whether the proposed project activity is the first-of-its-kind

The proposed project activity is wind project; hence not the first of its kind. Hence, this step is not applicable.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

As per the applied methodology ACM0002 version 18.1; Para 22, “If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid connected power plant and by the addition of new generation sources”.

As per the applied methodology ACM0002 version 18.1; Para 22, if the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid connected power plant and by the addition of new generation sources.

As the baseline scenario is prescribed by applied methodology, hence no further analysis is carried out to identify alternatives.

Step 2: Investment Analysis

As per para 29 of “Tool for the demonstration and assessment of additionality” v7.0.0, it is determined that the proposed project activity is not an economically or financially feasible option.

To conduct the investment analysis, Methodological tool: Investment analysis, version 8.0 (EB 97 annex 8) has been referred.

Sub-step 2a: Determine appropriate analysis method

As per “Tool for the demonstration and assessment of additionality” (version 07.0.0), for financial analysis of the project, the following three options are available:

- Option I: Simple Cost Analysis
- Option II: Investment Comparison Analysis
- Option III: Benchmark Analysis

The project will generate revenues from sale of electricity, therefore Option I is not applicable. Option II also does not apply since there is no comparable investment alternative available to the project participant in line with para 32 of the Methodological tool: Investment analysis, version 8.0 (EB 97 annex 8).

The most appropriate financial analysis method is therefore option III: the benchmark analysis, where the returns on investment in the project activity are compared to benchmark returns that are available to any investors in the country.

Sub-step 2b: Option III. Apply benchmark analysis

Project proponents have considered Post-Tax Equity IRR for investment analysis at the time of decision-making. As Project proponent is only interested in the returns project is generating on the portion of investment costs, which is financed by them in the form of equity.

As per Para 16 of EB97, Annex 8 states that Required/expected returns on equity are appropriate benchmarks for an equity IRR. Therefore, the Expected return on equity is considered appropriate benchmark. Accordingly, the post-tax Equity IRR has been considered as the relevant financial indicator for Investment Analysis.

Default Value Benchmark

The cost of equity is determined by selecting the values provided in the Appendix, i.e. Default values for cost of equity (expected return on equity) in the 'Methodological tool: Investment analysis'

The Required return on equity (benchmark) was computed in the following manner:

$$\text{Nominal Benchmark}^7 = \{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$$

Where:

- Default value for Real Benchmark = 10.73% (as per Appendix of EB97, Annex 8)
- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e. Central Bank of India) for India.

Benchmark estimation

The Cost of Equity has been considered using the "Methodological tool: Investment analysis" available at the time of decision making as well as the latest available value. As a conservative approach, the minimum value of benchmark has been considered as calculated using these 2 approaches.

Table under Appendix in EB97, Annex 8 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 10.73%⁸

Thus, minimum cost of equity considered for calculation of Benchmark = 10.73%

Inflation Forecast for India as per RBI website⁹ and corresponding benchmark values:

Project Promoters' Name	Inflation Forecast		Benchmark	
	5 Years	10 Years	5 Years	10 Years
Orange Sironj Wind Power Pvt. Ltd.	4.30%	4.20%	15.49%	15.38%

As a conservative approach, benchmark of 15.38% has been selected for this project activity.

Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III):

Kindly refer the financial spread sheets for the key assumptions (web links & sources of input parameters) supporting the financial projections.

⁷ As per Pg. 320 of Corporate Finance, Second Edition of Aswath Damodaran

⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v8.pdf>

⁹ <https://rbi.org.in/Scripts/PublicationsView.aspx?id=17759>

Considering the input values, Equity IRR is given below:

Project Promoters' Name	Equity IRR without CDM	Benchmark (Equity IRR)
Orange Sironj Wind Power Pvt Ltd	10.44%	15.38%

The project activity cannot be considered as financially attractive as the equity IRR for the project activity is less than the Benchmark.

Sub-step 2d: Sensitivity Analysis

Addressing Guidance 28 & 29 of EB97, Annex 8, following factors has been subjected to sensitivity analysis:

1. PLF
2. O&M Cost
3. Project Cost
4. Tariff

The rationale of sensitivity is, "The ultimate objective of the sensitivity analysis is to determine the likelihood of the occurrence of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis."

The results of sensitivity analysis are as follows:

Variation %	-10%	Normal	10%	Breaching Value
PLF	7.21%	10.44%	13.87%	13.99%
O&M	10.79%	10.44%	10.08%	-177.58%
Project Cost	13.93%	10.44%	7.75%	-13.07%
Tariff Rate	7.21%	10.44%	13.87%	13.99%

The results of sensitivity analysis show that even with a variation of +10% & -10% in project cost, O&M cost, PLF and Tariff Rate, Equity IRR is significantly lower than the benchmark. And it is evident from the results given above; the project remains additional even under the most favourable conditions.

	Probability to breach the benchmark
PLF	Not possible as the PLF has been reported as per the Third Party Report based on long term data and hence a PLF fluctuation of more than 10% is unlikely to happen.
O&M	With the country experiencing more than 5% inflation on an average, the question of O&M coming down is ruled out. Moreover, the O&M agreement provides for a 5% escalation in the cost every year. Even the tariff order of Tamil Nadu provides for a 5% escalation in the O&M cost.
Project Cost	The Loan Sanction letter cost is similar as that mentioned in the DPR, which was considered during decision making. Since the Loan sanction project cost is firm, there is no possibility of project cost going below this level. However, we have conducted sensitivity analysis for project cost being 10% less than that considered during decision making. Still, the IRR does not breach the Benchmark.
Tariff Rate	Tariff considered in financial analysis is as per DPR i.e. INR 2.64/kWh. Whereas the actual tariff is determined by PPA which is fixed for 25 years i.e. INR 2.64/kWh. There is no variation in the value hence, there is no probability to get variation for the same.

Outcome of Step 2:

This substantiates that the investment is not financially attractive (Equity IRR for the project activity is less than the Benchmark Equity IRR). Thus it can be easily concluded that project activity is additional & is not business as usual scenario.

Step 3: Barrier analysis

Barrier analysis has not been used.

Step 4: Common practice analysis

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 03.1 EB84, Annex 7:

Step (1): calculate applicable capacity or output range as $\pm 50\%$ of the total design capacity or output of the proposed project activity.

Range	Capacity	Unit
+50%	300	MW
Capacity of the proposed project activity	200	MW
-50%	100	MW

Step (2): identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:

- The projects are located in the applicable geographical area;
- The projects apply the same measure as the proposed project activity;
- The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
- The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
- The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
- The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Identification of the similar projects¹⁰ (CDM and non-CDM) is carried out as per sub-steps of Step (2) as follows:

- As the project is located in India, therefore, the applicable geographical area is India and projects in the host country India have been chosen for analysis.
- The project activity is a green-field wind power project and uses measure (b) "Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies". Therefore, all projects applying same measure (b) as the proposed project activity are candidates for similar projects.
- The energy source used by the project activity is wind. Hence, only wind energy projects have been considered for analysis.
- The project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.
- The capacity range of the projects is within the applicable capacity range from 100 MW to 300 MW.
- The start date of the project activity is 22-Nov-17. As Kyoto Protocol was ratified by India on 26-Aug-2002¹¹, therefore projects which had started commercial operation between 26-Aug-2002 to 22-Nov-17, have been identified.

Numbers of Similar projects identified, which fulfil above-mentioned conditioned are

$$N_{\text{wind}} = 2$$

Owner	State	Capacity of project activity (MW)	Month / Year of commissioning
CLP Wind farm (I) pvt ltd	Rajasthan	102.4	Sep-13
DLF limited	Gujarat	148.5	Mar-08

Source: Directory, India Windpower 2017, 17th Edition

Step (3): within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all} .

CDM project activities, which have got registered or are under validation have been excluded in this step. The list of the power plants identified is provided to the DOE. After excluding the registered and under validation projects the total number of projects,

$$N_{\text{all}} = 0$$

¹⁰ As per Indian Wind Power Directory 2017

¹¹ http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php

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Step (4): within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number N_{diff} .

As per the tool on Common Practice, the project activities have been separated from the different technologies on the basis two criteria:

1. Size of Installation
2. Investment climate on the date of the investment decision

Hence, projects where either of the conditions is satisfied those projects are counted for calculating N_{diff} projects.

Thus:

$$N_{diff} = 0$$

Step (5): calculate factor $F = 1 - N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Calculate $F = 1 - N_{diff}/N_{all} = 1 - (0/0) = 1$
 $N_{all} - N_{diff} = 0 - 0 = 0$

Outcome of Step 5:

As,

- i. $F = 1$; is greater than 0.2, and
- ii. $N_{all} - N_{diff} = 0$; is less than 3, thus:

The proposed project activity is not a “common practice” within a sector in the applicable geographical area.

Demonstration of Parallel and continuing actions:

Project Timelines

Project Timelines	Date
Investment Decision	28-Aug-2017
Date of Notification to CDM EB & NCDMA	24-Oct-2017
Letter of Award from SECI	03-Nov-2017
LSHM - Invitation	02-Nov-2017
LSHM - MOM	15-Nov-2017
EPC Contract	22-Nov-2017
Power Purchase Agreement	19-Dec-2017
Listing of PDD for Preliminary Review	29-Jan-2018
Loan Sanction Letter	01-Mar-2018
Commissioning Date – 50 WTGs	05-Mar-2019
Commissioning Date – 50 WTGs	13-Mar-2019
Host Country Approval	15-Apr-2019
Stakeholder Feedback Round	09-May-2018

B.6. Sustainable Development Goals (SDG) outcomes

B.6.1. Relevant target for each of the three SDGs

>> (Specify the relevant SDG target for each of three SDGs addressed by the project. Refer most recent version of targets [here](#).)

Item	Goals and Targets	Indicators
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SDG 7: Affordable and Clean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1: Renewable energy share in the total final energy consumption
	Target: 635,976 MWh per annum	
SDG 8: Decent Work and Economic Growth	8.6: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.	8.6.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
	Target: • Training: 1 nos annually • Employment of 15 staff	
SDG 13: Climate Action	13.2: Integrate climate change measures into national policies, strategies and planning	13.2.1: Number of countries that have communicated establishment or operationalization of an integrated policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
	Target: 613,844 tCO ₂ per annum	

B.6.2. Explanation of methodological choices/approaches for estimating the SDG outcome

>> (Explain how the methodological steps in the selected methodology(ies) or proposed approach for calculating baseline and project outcomes are applied. Clearly state which equations will be used in calculating net benefit.)

The company has a Corporate Social Responsibility Policy¹² in place. In sync with the overall policy, the company conducts regular surveys during construction as well as O&M phases in the villages near project locations to check the requirement of facilities by the villages. Based on the surveys, PP identifies and works on several scope(s) of developmental activities such as health camps, distribution of furniture & sports kits in schools, toilet requirements in government schools, drinking water requirements etc. For this project activity, following SDGs are expected to be impacted:

SDG 7 : Affordable and Clean Energy

The baseline for the project is no project, thus leading to generation in the relevant grid which is dominated by fossil fuel. The clean energy generated by the project is calculated based on the amount of electricity generated by the project per annum. The project is expected to generate 635,976 MWh of clean energy per annum.

SDG 8: Decent Work and Economic Growth

The project leads to Trainings & workshops which are conducted for the O&M staff of Gamesa as well as for the O&M staff of the PP, by their respective companies. Apart from other trainings/workshops that may be organized, the following are also carried out;

- HSE Training Record
- Soft Skill Training

¹² <http://orangerenewable.net/download/OrangeRenewable-CSR-Policy.pdf>

It is expected that a minimum of 1 training (either of the above) would be carried out.

The project will also provide employment to approximately 15 persons including O&M staff, management, outsourced jobs as well as security guards during the O&M phase.

SDG13 : Climate Action :

The project leads to mitigation of 613,844 tCO₂ per annum.

As per the approved consolidated Methodology ACM0002 (Version 18.1, EB 99, Annex 1), Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (t CO₂e/yr)

BE_y = Baseline emissions in year y (t CO₂/yr)

PE_y = Project emissions in year y (t CO₂e/yr)

Baseline Emissions:

Baseline Emissions for the amount of electricity supplied by project activity, BE_y is calculated as

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (t CO₂/yr)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO₂/MWh)

Calculation of $EG_{PJ,y}$

The calculation of $EG_{PJ,y}$ is different for

- Greenfield plants,
- Retrofits and replacements, and
- Capacity additions

The project activity is the installation of windmills and it is a green field project. So the formula in option (a) i.e., greenfield plants is used to calculate the value of $EG_{PJ,y}$. In accordance with para 46 of the applied methodology:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

The proposed project activity falls under Indian grid, which constitutes of both fossil fuels and non-fossil fuels sources of electricity generation. Emission reductions due to the project activity are considered to be equivalent to the baseline emissions, since the wind project would not lead to any project emission and leakage emissions. Emission reductions are related to the electricity exported by the project and the emission coefficient of the grid system.

Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin and build margin factors according to the procedures prescribed in the latest tool for calculating the emission factor for an electricity system. The steps of calculation are as follows:

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Step 1: Identify the relevant electricity systems

As described in tool “For determining the electricity emission factors, identify the relevant project electricity system. Similarly, identify any connected electricity systems”. It also states that “If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used”. Keeping this into consideration, the Central Electricity Authority (CEA), Government of India has divided the Indian Power Sector into five regional grids viz. Northern, Eastern, Western, North-eastern and Southern. However, all the 5 zones have been synchronized and called as Indian Grid.

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)

Option I is opted for the project activity i.e. only grid connected power plants are included in the calculation.

Step 3: Select a method to determine the operating margin (OM)

According to the tool, the calculation of the operating margin emission factor is based on one of the following methods:

- Simple OM; or
- Simple adjusted OM; or
- Dispatch data analysis OM; or
- Average OM.

Any of the four methods can be used for calculating OM. However, the simple adjusted OM and dispatch data analysis OM cannot be currently applied in India due to lack of necessary data however, the simple OM method (option a) can only be used if low cost/must-run resources constitute less than 50% of total grid generation in:

- average of the five most recent years, or
- based on long-term averages for hydroelectricity production.

The Share of Low Cost / Must-Run (% of Net Generation) in the generation profile of the different grids in India in the last five years is as follows:

	Share of Must-Run (Hydro/Nuclear) (% of Net Generation)				
	2011-12	2012-13	2013-14	2014-15	2015-16
Indian Grid	19.6%	16.9%	18.6%	16.8%	15.1%

Source: CO2 Baseline Database for the Indian Power Sector - Central Electricity Authority (CEA)

The above data clearly shows that the percentage of total grid generation by low cost/must run plants (on the basis of average of five most recent years) for the Indian regional grid is less than 50% of the total generation. Hence the Simple OM method can be used to calculate the Operating Margin Emission factor. The average operating margin method cannot be applied, as low cost/ must run resources constitute less than 50% of total grid generation.

The project proponent has chosen an ex ante option for calculation of the OM with a 3-year generation weighted average, based on the most recent data available, without requirement to monitor and recalculate the emissions factor during the crediting period.

Step 4: Calculate the operating margin emission factor according to the selected method

The simple OM emission factor is calculated as the generation-weighted average CO2 emissions per unit net electricity generation (tCO2/MWh) of all generating power plants serving the system, not including low-cost / must-run power plants / units. It may be calculated:

- Based on the net electricity generation, and a CO2 emission factor of each power unit. (Option A), or
- Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system (option B)

The Central Electricity Authority, Ministry of Power, Government of India has published a database of Carbon Dioxide Emission from the power sector in India based on detailed authenticated information obtained from all operating power stations in the country. This database i.e. The CO2 Baseline Database provides information about the Combined Margin Emission Factors of the Indian grid. The Combined Margin in the CEA database is calculated ex ante using the guidelines provided by the UNFCCC in the “Tool to calculate the emission factor for an electricity system”. We have, therefore, used the Combined Margin data published in the CEA database, for calculating the Baseline Emission Factor.

The CEA database uses the option A i.e. data on net electricity generation and CO₂ emission factor for each power unit, the average efficiency of each power unit and the fuel type(s) used in each power unit, to calculate the OM of the different regional grids.

$$EF_{grid,OMsimple,y} = \sum (EG_{m,y} \times EF_{EL,m,y}) / \sum EG_{m,y}$$

Where:

$EF_{grid,OMsimple,y}$: Simple operating margin CO₂ emission factor in year y (tCO₂/MWh)
 $EG_{m,y}$: Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
 $EF_{EL,m,y}$: CO₂ emission factor of power unit m in year y (tCO₂/MWh)
 m : All power units serving the grid in year y except low-cost / must-run power units
 y : The relevant year as per the data vintage chosen in step 3

In India, the Central Electricity Authority (CEA) has estimated the baseline emission factor for the power sector. This data has also been endorsed by the DNA and is the most authentic information available in the public domain.

Following tables shows the simple OM and Net generation¹³ respectively for the recent three years:

Simple Operating Margin Emission Factors (t CO ₂ /MWh) (incl. Imports)			
	2013-14	2014-15	2015-16
Indian Grid	1.0002	0.9903	0.9655

Net Generation in Operating Margin (GWh) (incl. imports)			
	2013-14	2014-15	2015-16
Indian Grid	721,632	808,417	871,740

Therefore the 3 years net generation weighted OM average for Indian grid comes out to be 0.9843 tCO₂/MWh

The emission factor of each power unit m has been determined as follows:

$$EF_{EL,m,y} = (\sum FC_{i,m,y} \times NCV_{i,y} \times EF_{CO2,i,y}) / EG_{m,y}$$

Where:

$EF_{EL,m,y}$: CO₂ emission factor of power unit m in year y (tCO₂/MWh)
 $FC_{i,m,y}$: Amount of fossil fuel type i consumed by power unit m in year y (Mass or volume unit)
 $NCV_{i,y}$: Net calorific value (energy content) of fossil fuel type i in year y (GJ / mass or volume unit)
 $EF_{CO2,i,y}$: CO₂ emission factor of fossil fuel type i in year y (tCO₂/GJ)
 $EG_{m,y}$: Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
 m : All power units serving the grid in year y except low-cost / must-run power units
 i : All fossil fuel types combusted in power unit m in year y
 y : The relevant year as per the data vintage chosen in step 3

Step 5: Calculate the build margin (BM) emission factor

The sample group of power units m used to calculate the build margin consists of either:

- The set of five power units that have been built most recently, or
- The set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently.

Project participants should use the set of power units that comprises the larger annual generation. Accordingly, the CEA database calculates the build margin as the average emissions intensity of the 20% most recent capacity additions in the grid based on net generation. The build margin emission factor has been calculated ex-ante based on the most recent information available on units already built for sample group m at the time

¹³ CO₂ Baseline Database for the Indian Power Sector, Version 12, May 2017

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of PDD submission to the DOE for validation. This option does not require monitoring the emission factor during the crediting period.

The build margin emissions factor is the generation-weighted average emission factor of all power units m during the most recent year y for which power generation data is available, calculated as follows:

$$EF_{grid,BM,y} = (\sum EG_{m,y} \times EF_{EL,m,y}) / \sum EG_{m,y}$$

Where:

$EF_{grid,BM,y}$	Build margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EG_{m,y}$	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
$EF_{EL,m,y}$	CO ₂ emission factor of power unit m in year y (tCO ₂ /MWh)
m	Power units included in the build margin
y	Most recent historical year for which power generation data is available

The CO₂ emission factor of each power unit m ($EF_{EL,m,y}$) is determined as per the procedures given in step 4 (a) for the simple OM, using option A1 for y most recent historical year for which power generation data is available, and using for m the power units included in the build margin.

Build margin emission factor is calculated, ex-ante as per the most recent data available¹³. So, build margin emission factor for Indian grid for 2015-2016 is 0.9083 tCO₂/MWh

Step 6: Calculate the combined margin (CM) emission factor ($EF_{grid,CM,y}$)

The emission factor EF_y of the grid is represented as a combination of the Operating Margin (OM) and the Build Margin (BM). Considering the emission factors for these two margins as $EF_{OM,y}$ and $EF_{BM,y}$ then the EF_y is given by:

$$EF_y = EF_{grid,OM,y} * w_{OM} + EF_{grid,BM,y} * w_{BM}$$

Where:

$EF_{grid,BM,y}$	= Build margin CO ₂ emission factor in year y (t CO ₂ /MWh)
$EF_{grid,OM,y}$	= Operating margin CO ₂ emission factor in year y (t CO ₂ /MWh)
w_{OM}	= Weighting of operating margin emissions factor (per cent)
w_{BM}	= Weighting of build margin emissions factor (per cent)

According to “Tool to calculate the emission factor for an electricity system” the weights for OM and BM are 0.75 and 0.25 respectively.

Using the values for operating and build margin emission factor provided in the CEA database and their respective weights for calculation of combined margin emission factor, the baseline carbon emission factor (CM) is 0.9652 tCO₂e/MWh.

Project Emission

As per the ACM0002 ver-18.1, Project Emission for most renewable energy power generation project activities, $PE_y = 0$. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

PE_y	= Project emissions in year y (tCO ₂ e/yr)
$PE_{FF,y}$	= Project emissions from fossil fuel consumption in year y (tCO ₂ /yr)
$PE_{GP,y}$	= Project emissions from the operation of geothermal power plants due to the release of non condensable gases in year y (tCO ₂ e/yr)
$PE_{HP,y}$	= Project emissions from water reservoirs of hydro power plants in year y (tCO ₂ e/yr).

The project activity involves the generation of electricity from the installation of wind turbines. Hence, as per ACM0002, Version 18.1, there is no project emission for windmill projects. Therefore, project emissions are zero.

Leakage Emissions

No leakage emissions are considered in the project activity. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). Since the emissions sources are small, it is neglected.

B.6.3. Data and parameters fixed ex ante for monitoring contribution to each of the three SDGs

(Include a compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the design certification and remain fixed throughout the crediting period like IPCC defaults and other methodology defaults. Copy this table for each piece of data and parameter.)

Relevant SDG Indicator	SDG13 : Climate Action
Data/parameter	EF _{OM, y}
Unit	tCO ₂ e/MWh
Description	Operating Margin Emission Factor of Indian Grid
Source of data	Calculated from CEA database, Version 12, May 2017 ¹³
Value(s) applied	0.9843
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system," as 3-year generation weighted average using data for the years 2013-2014, 2014-2015 & 2015-16. The data are obtained from "CO ₂ Baseline Database for Indian Power Sector" version 12.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Relevant SDG Indicator	SDG13 : Climate Action
Data/parameter	EF _{BM, y}
Unit	tCO ₂ e/MWh
Description	Build Margin Emission Factor of Indian Grid
Source of data	Calculated from CEA database, Version 12, May 2017 ¹³
Value(s) applied	0.9083
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO ₂ Baseline Database for Indian Power Sector" version 12.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Relevant SDG Indicator	SDG13 : Climate Action
Data/parameter	EF _{CM, y}
Unit	tCO ₂ e/MWh
Description	Combined Margin Emission Factor of Indian Grid
Source of data	Calculated from CEA database, Version 12, May 2017 ¹³
Value(s) applied	0.9652
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data is obtained from "CO ₂ Baseline Database for Indian Power Sector" version 12.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	The data is used to calculate baseline emission reductions.

Additional comment	-
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B.6.4. Ex ante estimation of outcomes linked to each of the three SDGs

>> (Provide a transparent ex ante calculation of baseline and project outcomes (or, where applicable, direct calculation of net benefit) during the crediting period, applying all relevant equations provided in the selected methodology(ies) or as per proposed approach. For data or parameters available before design certification, use values contained in the table in section B.6.3 above. For data/parameters not available before design certification and monitored during the crediting period, use estimates contained in the table in section B.7.1 below)

SDG 7: Affordable and Clean Energy - Project expected to generate 635,976MWh clean energy every year

SDG 8: Decent Work and Economic Growth - Minimum 1 training to be carried out for O&M staff annually. The project will also provide employment to approximately 15 persons.

SDG13 : Climate Action - The project leads to mitigation of 613,844 tCO2 per annum.

Calculation of Outcome for SDG13 : Climate Action

Baseline emissions

The baseline emissions are the product of electrical energy baseline $EG_{PJ,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

$EG_{PJ,y}$ = Total quantity of net electricity delivered to the Indian grid.

$EF_{grid,CM,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y
= 0.9652 t CO2/MWh.

Project Participant	Capacity	PLF (%)	Generated Power (MWh/year)	Baseline Emission Factor (tCO2/MWh)	Baseline emissions (tCO2/ year)
Orange Sironj Wind Power Pvt. Ltd.	200 MW	36.3%	635,976	0.9652	613,844

$$BE_y = 635,976 * 0.9652 \text{ t CO}_2/\text{year} = 613,844 \text{ tCO}_2/\text{year}$$

Project emissions

$$PE_y = 0$$

Leakage

No leakage emissions are applicable.

Emission reductions

$$ER_y = BE_y - PE_y = 613,844 - 0 = 613,844 \text{ tCO}_2/\text{year}$$

B.6.5. Summary of ex ante estimates of each SDG outcome

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 MWh	635,976 MWh	635,976 MWh
Year 2	0 MWh	635,976 MWh	635,976 MWh
Year 3	0 MWh	635,976 MWh	635,976 MWh
Year 4	0 MWh	635,976 MWh	635,976 MWh
Year 5	0 MWh	635,976 MWh	635,976 MWh
Total	0 MWh	3,179,880 MWh	3,179,880 MWh
Total number of crediting years			

Annual average over the crediting period	0 MWh	635,976 MWh	635,976 MWh
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The proposed project activity falls under Indian grid, which constitutes of both fossil fuels and non-fossil fuels sources of electricity generation hence in baseline, the affordable and Clean Energy generated was 0. Since the project is wind energy therefore the Affordable and Clean Energy produced by the project is 635,976 MWh per year.

SDG 8: Decent Work and Economic Growth

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs
Year 2	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs
Year 3	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs
Year 4	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs
Year 5	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs
Total	0 Training, 0 Jobs	5 Trainings, 15 Jobs	5 Trainings, 15 Jobs
Total number of crediting years			
Annual average over the crediting period	0 Training, 0 Jobs	1 Training, 15 Jobs	1 Training, 15 Jobs

There was no training in the baseline however the training and jobs generated by the project activity is 1 and 15 jobs.

SDG13 : Climate Action

Year	Baseline estimate	Project estimate	Net benefit
Year 1	613,844 tCO2	0 tCO2	613,844 tCO2
Year 2	613,844 tCO2	0 tCO2	613,844 tCO2
Year 3	613,844 tCO2	0 tCO2	613,844 tCO2
Year 4	613,844 tCO2	0 tCO2	613,844 tCO2
Year 5	613,844 tCO2	0 tCO2	613,844 tCO2
Total	3,069,220 tCO2	0 tCO2	3,069,220 tCO2
Total number of crediting years			
Annual average over the crediting period	613,844 tCO2	0 tCO2	613,844 tCO2

The proposed project activity falls under Indian grid, which constitutes of both fossil fuels and non-fossil fuels sources of electricity generation hence in baseline, the estimated emission is 613,844 tCO2 per year. Since the project is wind energy therefore the project does not emit any GHG.

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

(Include specific information on how the data and parameters that need to be monitored in the selected methodology(ies) or proposed approaches or as per mitigation measures from safeguarding principles assessment or as per feedback from stakeholder consultations would actually be collected during monitoring. Copy this table for each piece of data and parameter.)

Relevant SDG Indicator	SDG 7 : Affordable and Clean Energy
Data / Parameter	EG _{PJ,y}
Unit	MWh
Description	Quantity of net electricity supplied to the grid

Source of data	Generation statement provided by SECI every month.
Value(s) applied	635,976 MWh
Measurement methods and procedures	Data Type: Measured Monitoring equipment: Energy Meters of accuracy class 0.2s Recording Frequency: Continuous monitoring and Monthly recording from Energy Meters, Summarized Annually. Archiving Policy: Paper &/or Electronic Calibration frequency: Once in 5 years as per CEA guidelines¹⁴ Electricity exported/imported to the grid is in kWh. However for the calculation purpose electricity exported is converted in MWh. The Net electricity supplied to the grid by the project activity will be calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from Monthly Meter reading reports provided by SECI as per below equation: $EG_{PJ,y} = EG_{Export} - EG_{Import}$ Cross Checking: Quantity of net electricity supplied to the grid will be cross checked from the Invoices/ Monthly Bill raised by the Project Participant to SECI.
Monitoring frequency	Monthly
QA/QC procedures	Calibration of all the meters will be undertaken once in 5 years as per CEA guidelines. The meters will be of accuracy class 0.2s.
Purpose of data	The Data/Parameter is required to calculate the baseline emission
Additional comment	Data will be archived electronically for a period of 2 years beyond the end of crediting period.

Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth
Data / Parameter	Quality of employment
Unit	Number (Trainings)
Description	Number of Trainings provided to employees & O&M staff
Source of data	Training Records (HSE & HR) & Employee feedback forms
Value(s) applied	Some of the trainings & workshops that are given to the respective O&M staffs by Gamesa or PP. • HSE Training Record • Soft Skill Training The training programmes help in making the workforce efficient and skilled at their job. This not only helps the company but adds to growth of individual employees. Thus, the project has a positive impact on the parameter.
Measurement methods and procedures	Training Attendance sheets and records. Employment Records
Monitoring frequency	Annually
QA/QC procedures	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register.
Purpose of data	Continuation of regular trainings/workshops for employees & O&M staffs
Additional comment	-

Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth
Data / Parameter	Quantitative employment and income generation

¹⁴ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf , page 12

Unit	• Number (employees) • INR (salary)
Description	- Number of people employed directly due to the project activity with Number of male/female, permanent/temporary, age and person with disabilities. - Salary given to the employees of the project.
Source of data	Plant employment records Salary Slip of the project employees.
Value(s) applied	The total number of staff (including O&M staff, management, outsourced jobs as well as security guards) employed by Gamesa and Orange during O&M phase of the project activity will be 15. .
Measurement methods and procedures	The total number of persons working in the plant would be calculated based on the daily log available at site. Salary paid to the employees is available in the HR records
Monitoring frequency	Annually
QA/QC procedures	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register. and Salary Slips
Purpose of data	-
Additional comment	-

Relevant SDG Indicator	SDG13 : Climate Action
Data / Parameter	Air quality
Unit	tCO ₂
Description	Reduction in CO ₂ emission reduction due to implementation of project activity
Source of data	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO ₂ Baseline Database for Indian Power Sector" version 12.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Value(s) applied	613,844 tCO ₂ emission reductions estimated per annum
Measurement methods and procedures	Calculated from CEA database and Energy Generation
Monitoring frequency	Calibration and Testing of Meters will be done by the accredited agency as per norms. Once in 5 years as per CEA guidelines ¹⁵
QA/QC procedures	. A check meter is also installed near to the export meter to cross check the electricity exported to the grid. The check meter reading would also be used in case of failure of export meter
Purpose of data	Calculation of baseline emissions
Additional comment	-

B.7.2. Sampling plan

>> (If data and parameters monitored in section B.7.1 above are to be determined by a sampling approach, provide a description of the sampling plan.)

Sampling is not required for the given project activity.

B.7.3. Other elements of monitoring plan

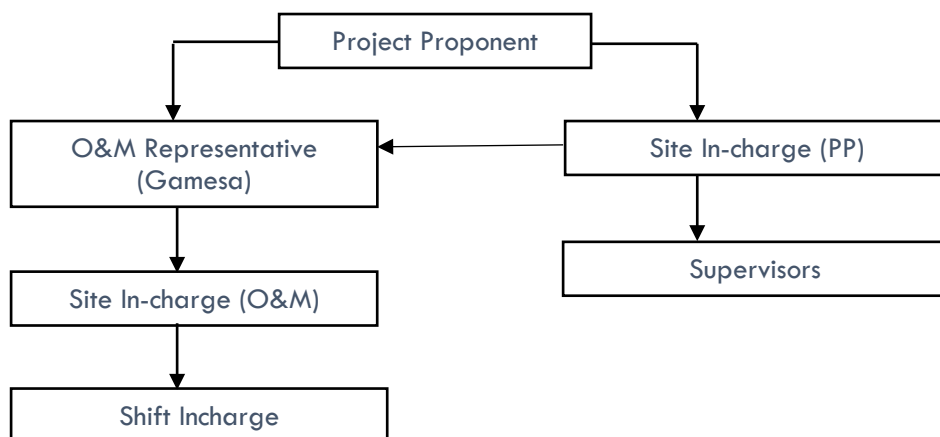
>>

¹⁵ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf, page 12

Gold Standard[®]

The monitoring plan is developed in accordance with the modalities and procedures for CDM project activities and is proposed for grid-connected wind power project/ unit being implemented in Tamil Nadu, India. The monitoring plan, which will be implemented by the project participant describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project participant.



Responsibilities of Site Incharge (PP): Overall functioning and maintenance of the project activity, the Site incharge shall coordinate with the O&M operator as well as the site supervisors.

Responsibilities of O&M Representative: Co-ordination between Site incharge of the O&M operator as well as the project participant and further report to PP head office.

Responsibilities of Site In-charge (O&M Operator): Responsibility for maintaining the data records, ensures completeness of data, and reliability of data (calibration of equipment) as well as data recording for all the parameters.

Responsibilities of Shift In-charge: Responsibility for day to day data collection and maintains day to day monitored data.

Data Measurement

Projects activity comprises of installation of 3 Energy meters (1 main meter, 1 check meter and 1 standby meter) at a Pooling Substation prior to the Delivery point.

The export and import energy will be measured continuously using above mentioned Main, Check & Standby meters installed at Substation. Export & Import readings of Main, Check & Standby meters shall be taken on monthly basis by authorized officer of SECI in the presence of representative(s) of PP. The meter reading will be taken jointly and signed by the representatives of the SECI and representative(s) of PP. Based on the readings, invoices/ monthly bills will be raised by PP. These invoices/ monthly bills can be used for cross checking the meter readings taken for the respective project activity.

In case of pooling of multiple Projects at the same Substation, power from multiple Projects will be pooled at a Pooling Substation prior to the Delivery point and the combined power will be fed at Delivery point through a common transmission line from the Pooling Substation. In such cases, 3 sub-meters (main, check & standby) are also to be set up at pooling substation for individual projects in addition to the meters at Delivery Point.

It is to be noted that though the PP or their representatives are available during meter reading, the calculations of net electricity supplied to grid is completely under purview of SECI and PP does not have any control on it. Also accuracy class of meters and calibration frequency is under purview of SECI/Discom officer and PP does not have any control on it. PP gets the monthly credit report from where net electricity supplied to grid is obtained and used for emission reduction calculations.

Data collection and archiving

Export & Import readings from main, check & standby meters will be collected under the supervision of the O&M Team or authorized representatives of PP. The net electricity supplied to grid would be calculated based on export & import readings. Export and Import data would be recorded and stored in electronic &/or Paper format. The records are checked periodically by the Head (Operations) and discussed thoroughly with the O&M

Team. The period of storage of the monitored data will be 2 years after the end of crediting period or till the last issuance of GS CERs for the project activity whichever occurs later.

Mismatch in Monitoring Period and the Billing Period

In case the dates of a particular monitoring period do not match with the dates of the billing period, the net electricity exported to the grid would be calculated from:

$$D = (A/B)*C$$

Where,

A = Difference of number of days which are not matching of billing period and monitoring period.

B = Number of days of the billingperiod/ month which was not matched with the monitoring period.

C = Net Electricity supplied to the grid for that given billing period/ month.

The calculated value after apportioning would be used for calculation of emission reductions during that period.

Emergency preparedness

The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

In the unlikely event of failure of all Main, Check as well as Standby meter installed at Substation, where all the faulty meters are required to be repaired or replaced simultaneously, the export & import readings from Main, Check & Standby Meters installed at the inter-connection point at the project site will be used for monitoring of net electricity exported to the grid.

Personnel training

In order to ensure a proper functioning of the project activity and a proper monitoring of emission reductions, the staff (CDM team) will be trained. The plant helpers will be trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

SECTION C. Duration and crediting period

C.1. Duration of project

C.1.1. Start date of project

>> (Specify start date of the project, in the format of DD/MM/YYYY. Describe how this date has been determined as per the definition of start date provided in section 3.4.3 of GS4GG Principles & Requirements document and provide evidence to support this date.)

22-Nov-2017 as per the date of signed EPC between Orange Sironj Wind Power Pvt Ltd. and Seimens Gamesa Renewable power pvt ltd.

C.1.2. Expected operational lifetime of project

>> (Specify in years)

20 years

C.2. Crediting period of project

C.2.1. Start date of crediting period

>> (Specify in dd/mm/yyyy. This can be start of project operation or two years prior to the date of Project Design Certification, whichever is later.)

05-March-2019, or two years prior to the date of Project Design Certification, whichever is later.

C.2.2. Total length of crediting period

>> (Specify the total length of crediting period sought in line with GS4GG Principles & Requirements or relevant activity requirements.)

5 years

SECTION D. Safeguarding principles assessment

D.1. Analysis of social, economic and environmental impacts

>> (Refer the GS4GG Safeguarding Principles and Requirements document for detailed guidance on carrying out this assessment.)

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure (if required)
SOCIAL & ECONOMIC SAFEGUARDING PRINCIPLES				
1. Human Rights	a. The Project Proponent and the Project shall respect Internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. b. The Project shall not discriminate with regards to participation and inclusion.	No	a. The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. b. Project activities are not expected to cause any human rights abuse. As a member of United Nations¹⁶ and part of UN Agreement on Human Rights¹⁷, it is ensured by law in India that no action can be taken against human rights.	Not Required
2. Gender Equality & Women's Rights	1. The Project shall complete the following gender assessment questions in order to inform Requirements, below: a. Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? b. Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? c. Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the	NO	1. The project does not decrease women's access to or control of resources. a) No, the Project does not reduce women's access to or control of resources, entitlements and benefits. The project will benefit to local community regardless of gender. b) No, the Project does not create any adverse effect on the local community. c) No, the Project does not consider the gender roles while engaging them and thereby provide equal rights to	Not Required

¹⁶ <https://labour.gov.in/lcandilasdivision/india-ilo>

¹⁷ <https://www.ilo.org/newdelhi/lang--en/index.htm>

	decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)? d. Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? e. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? f. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? g. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? h. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards? 2. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women.		men and women¹⁸. Local community meetings are scheduled considering participation by both Men and Women. d) The project does not discriminate the local community on basis of gender or caste or religion and therefore equally serve to all.¹⁹ e) No, the Project design neither increase women's workload nor prevent them from engaging in other activities. f) There is no room for discrimination against women in this Project²⁰. g) The Project will not limit women's ability regarding natural resources. The project is solely utilizing solar power and therefore does not impact natural resources of the region. h) No, the Project will not expose women and girls to further risks or hazards. 2. The project does not create any direct or indirect impacts on gender equality and/or the situation of women: a. The project proponent has a grievance cell which would investigate complaints.	
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¹⁸ <https://labour.gov.in/sites/default/files/Equal%20Remuneration%20Rules,%201976.pdf>

¹⁹ https://labour.gov.in/sites/default/files/equal_remuneration_act_1976.pdf

	a. Sexual harassment and/or any forms of violence against women - address the multiple risks of gender -based violence, including sexual exploitation or human trafficking. b. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. c. Restriction of women's rights or access to resources (natural or economic). d. Recognise women's ownership rights regardless of marital status - adopt project measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources. 3. Projects shall apply the principles of non discrimination, equal treatment, and equal pay for equal work, specifically: a. Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities. b. Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. c. Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits. 4. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.		b. Project participation by women or girls is merely voluntary basis and there is no compulsion on them. The project proponent has a grievance cell which would investigate complaints. c. The Project will not restrict women's rights or access regarding natural resources. d. Marital status is completely irrelevant to the Project. The project proponent does not discriminate on gender, caste, religion etc. 3. The project has applied the principles of non-discrimination and equal treatment, pay & work as follows: a. Yes, the Project has equal opportunity for women and men to contribute both in volunteer and working positions. b. The project proponent has a specified HR policy that considers participation by both men and women. c. There is no limit on the access to Project participation and benefits from either of these conditions. 4. OSWPPL does not involve in any form of discrimination in any kind. India also ratified relevant ILO core conventions on equality, namely Equal Remuneration Convention (Convention No 100) and Discrimination (Employment and Occupation) Convention (Convention No 111) in 1997²¹.	
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²¹ https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new_delhi/documents/publication/wcms_650119.pdf

3. Community Health, Safety & Working Conditions	a. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	a. The project proponent is committed to the employee's workplace health & safety during all phases of the project. All employees will attend health & safety trainings. This is issued in the Labour code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights ²² .	Workplace Health & Safety trainings will be conducted regularly during the project operation.
4. Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	a. Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)? b. Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)? c. Does the Project require any change to land tenure arrangements and/or other rights? d. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership? e. Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?		a. As per the EIA report, there are no protected archeological and cultural heritage sites are reported within the project footprint". Law on Cultural heritage is protected against alteration, damage or removal by the "law on cultural heritage²³". b. The project does not involve any settlement areas. Thus, this project does not cause the physical or economic relocation of peoples. The project activity does not involve any alteration of existing roads as well as it does not add additional traffic. Since the site located isolated area, the traffic volume is negligible. Hence, there is no additional burden to the existing traffic. In addition, the project proponent built new roads for those sites which do not have road access. c. The WTGs are all developed on private land and all of them belongs to OSWPPL as per EIA report. No forest land will be used for the project. d. There are no uncertainties regarding land tenure, access rights, usage rights or land ownership. The Land for the project has been approved by the several local Authorities as per EIA report. e. No cultural heritage/ indigenous people are replaced by the project.	Not required
5. Corruption	a. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	Orange Solar Wind Power Pvt Ltd. does not involve and is not complicit in any kind of corruption. India has ratified UN convention against Corruption in 2011 ²⁴ .	Not required

²² <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

²³ <https://cpwd.gov.in/Publication/ConservationHertBuildings.pdf>

²⁴ https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=en#EndDec

6. Economic Impacts	a. The project does not employ and is not complicit in any form of child labor. b. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. c. The project does not involve and is not complicit in any form of forced or compulsory labor.	No	a. OSWPPL and their subcontractors complying with all relevant national laws regarding child labor. OSWPPL will not employ children in any shape or form for their works. India has ratified ILO “C138 – Minimum Age Conventions” and “C182 – Worst Forms of Child Labour Convention”²⁵. b. The project owner is committed to the safe and healthy working conditions all phases of the project. All employees will attend trainings health & safety. This issue is protected by Labor code²⁶ and UN Agreement on Human Rights²⁷. c. OSWPPL and appointed contractors will not involve in any form of forced or compulsory labour. India has ratified ILO “C029 – Forced Labour Convention”²⁸	Not Required
ENVIRONMENTAL & ECOLOGICAL SAFEGUARDING PRINCIPLES				
1. Climate and Energy	a. Will the Project increase greenhouse gas emissions over the Baseline Scenario? b. Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	a. The project reduces Greenhouse Gas (GHG) emissions and fossil fuel usage compared to the baseline scenario. b. On the contrary the project generates renewable energy and supplies (except plant’s auxiliary consumption) to the grid. The auxiliary consumption is measured by deduction of power supplied to the grid from the total power generated by the plant. However, it’s to be noted that the auxiliary power consumed by the plant is generated as renewable energy and thereby no emission involved. Hence, it’s not required to be monitored.	Not required
2. Water	a. Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity? b. Could the Project directly or indirectly cause additional erosion and/or water body	No	a. The project being a wind power project thus there is no impact of water resources. As per the EIA report, the plant area does not have large rivers and streams, only small gaps flow. In the dry season, there is almost no water, only water in the rainy season. b. No. As per EIA report, the risk of erosion is unlikely by the project.	Not required

²⁵ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

²⁶ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

²⁷ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

²⁸ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

	instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2. c. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?		c. No. As per EIA report, the risk of erosion is unlikely by the project.	
3. Environment, Ecology and Land Use	a. Does the Project involve the use of land and soil for production of crops or other products? b. Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions? c. Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)? d. Could the Project potentially result in the release of pollutants to the environment? e. Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials? f. Will the Project involve the application of pesticides and/or fertilisers? g. Will the Project involve the harvesting of forests? h. Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	NO	a. The project has been established at the desert land which was not used for production of crops and other products for a long time. b. The project is susceptible to decreased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme conditions. c. As per the EIA report, the wind plant does not affect the herbal life. d. The project takes a precautionary approach regarding environmental challenges and is not complicit in practices contrary to the precautionary principle. The environment is protected by several Laws and Regulations in India. The purpose of the "Law on Environmental Protection" is to protect the environment with principles of sustainable development and environment ²⁹. The project owner also follows necessary procedures for environmental safety at the project. e. All hazardous and non-hazardous wastes will be disposed as per the local regulations. The methods are categorized for all materials in the EIA report. f. Not applicable for wind power plants. g. No. the project area was deserted before project implementation. h. No. The project does not modify the quantity or nutritional quality of food available.	Not Required

²⁹ <file:///C:/Users/hp/Downloads/The-Environment-Protection-Act-1986.pdf>

	i. Will the Project involve animal husbandry? j. Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites[11] identified? k. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? l. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?		i. No. Not applicable for wind project. j. EIA report states that the projected area of the Project is saline soils, not located in sensitive ecological zones, biodiversity conservation areas, and there are no rare and valuable plant and animal species. k. No. There were no endangered species found in the project boundary as per EIA report. l. No. The project does not impact other areas where endangered species may be present.	
--	--	--	--	--

SECTION E. Local stakeholder consultation

E.1. Solicitation of comments from stakeholders

The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. All the stakeholders have been invited through public notice which were displayed to the nearby areas. Further, stakeholders were invited individually dated 02-November-17 to attend the stakeholders meeting. The meeting was held on 15-November-17 in project Site which is connected to NH7 & NH45, Village: Poovani, District: Thoothukudi, Tamilnadu. The following are the stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

A total of 13 local stakeholders attended the meeting. The meeting has started with introduction of the project proponents who is Orange Sironj Wind Power Pvt. Ltd. (OSWPPL). Subsequently, we have requested to the stakeholders to introduce themselves individually as well as sign the attendance register. The entire presentation was carried out in local language (Tamil) by the OSWPPL's Pavan Gupta (Project Coordinator).

In the introductory speech, the representatives of Project Participant welcomed the gathering and given a brief about the project activity. Subsequent to the introductory speech, stakeholders were explained about the electricity generation from wind project is an environmental friendly power generation technology contributing to reduction in GHG emissions. They were also explained about the benefits of the wind power projects like, increasing energy availability and improving quality of power and its assistance to the local population by providing employment opportunities to both skilled & unskilled labours. The attendance sheet who attended the meeting is attached in this GSPD in annex I.

Additionally, after the preliminary review got finished dated 24-May-2018, the Project Developer created the link for the public comments as per the <http://infisolutions.org/services/carbon-mgt-services/orange-sironj-gs-sfr/> to provide comments on the proposed project in an open and transparent manner; also invited the below stakeholders to participate in the meeting though an email:

- Local people, communities and representatives like Sarpanch, School principal and teachers, local doctors, Shopkeepers and other villagers.
- Stakeholders with land-tenure rights to the project.
- MoEFCC i.e. NCDMA Designated National Authority (DNA)

(e) Local non-governmental organisations (NGOs), Women Groups working on topics relevant to the project or working with OSWPPL.

(f) A Gold Standard representative at help@goldstandard.org

(g) Relevant international Gold Standard NGO Supporters of Asia and all Gold Standard NGO Supporters located in India.

Total 52 participants (16 women & 36 men) has attended the SFR meeting. Mr. Pavan Gupta, a representative of the project activity has introduced the stakeholder. He has explained the purpose of the meeting, the gold standard process and certification, current electricity profile of India and following by the brief explanation about the wind power plant. Mr Pavan has opened the floor to obtain the questions and feedbacks from stakeholders about the projects.

After clarified all the questions (refer E.2 Summary of comments received), the GS continuous input mechanism was explained and discussed that whenever they have a complaint or a request, they can be able to fill in the grievance book which can be located at the site office. Mr Pavan has also explained that would be regularly checked by the project manager. All local stakeholders agreed on this mechanism and the book was placed at site office.

Following the grievance mechanism, Mr Pavan has explained about the sustainable development goals and the impacts created by the project on them.

Finally, the meeting feedback forms were circulated and closed the meeting in brief. End of the meeting, the contact details of the project owner and the Gold Standard Office were shared with the participants. Local stakeholders were encouraged to give feedback about the project.

E.2. Summary of comments received

The representative of project participant explained about the power generation process from this proposed wind power Plant and emphasised on the positive impacts that this project would leave on the local community via:

- This would create employment opportunity for a large number of people during construction period and continued employment opportunities for the local skill set over the project life time.
- This would improve the standard of living of the local community
- In addition as this project would utilise available wind resource to generate power and there would be no associated emissions which would help in maintaining the environment clean.

The villagers raised various queries and clarification provided is as summarised below:

Name of the stakeholder:	M. Kalaivani
Comment 1: What kind of CSR projects has been carried out in the area?	
Response: OSWPPL carries out various CSR activities in the region like providing such as health camps, distribution of furniture & sports kits in schools, toilet requirements in government schools, drinking water requirements.	

Name of the stakeholder:	S. Shankaringam
Comment 2: How would locals be employed by the company	
Response: Employment opportunities are available in both technical and non-technical areas. For technical jobs qualified persons have been employed, however for non-technical jobs like security and transportation, construction preference has been for employment of local persons.	

Name of the stakeholder:	S. Paramsvan
Comment 5: what impact does the project have in reducing the shortage of electricity faced in the area. Response: The electricity generated by the project helps the grid to meet its demand and as a result over the past few years the hours for electricity shut downs has decreased and now electricity is available with only minor disruptions.	

Name of the stakeholder:	Abhishek Reddiwal
Comment 3: Would such CSR activities also be carried out in other areas which are not near the project activity. Response: The implementation of CSR activities have been started with the villages which are near to the site, however these activities would be spread gradually over new areas which have not yet been covered.	

Name of the stakeholder:	T. Sukinraj
Comment 4: What will be the impacts on rains due to the operation of Wind mills? Response: There is no impact of weather/rains due to operation of wind power projects.	

Name of the stakeholder:	M. Santhana Rangam
Comment 6: What impact does the project have on ground water usage. How much water would be used by the project. Response: The project being a wind power project does not use any water during the operational stage. Water usage is restricted to administrative building and daily usage by the employees, water is not used any operational issues of the wind mill. There would not be any impact on ground water usage by the project.	

Name of the stakeholder:	M. Murugan
Comment 7: Electricity lines damage the local environment in case any transmission line fall on the ground, also electrocution cases have been observed in many projects. What safety measures are taken by the company to stop such impacts? Response: The equipment supplier as well as the O&M entity for the project is Siemens Gamesa which is renowned entity worldwide for Wind power project. It takes precautionary measures for safety.	

E.3. Report on consideration of comments received

There were no negative comments raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region.

Appendix-I

ATTENDANCE SHEET OF LSHM

CDM Local Stakeholder Consultation Meeting

Title: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj

Date: 15/11/2017

Venue: Project Site: Connected to NH7 & NH45, Village: Poovani,
District: Thoothukudi, Tamilnadu

S. No.	Name of participants	Signature
1.	B. Anand	B. Anand
2.	Aman Sharma	Aman Sharma
3.	P. Kariya	P. Kariya
4.	S. SANKARANAM	S. S.
5.	A. Senthil Kumar	A. Senthil Kumar
6.	V. R. R. R. R.	V. R. R. R. R.
7.	M. MURUGAN	M. MURUGAN
8.	D. GEORGE	D. GEORGE
9.	M. M. M. M.	M. M. M. M.
10.	J. J. J. J.	J. J. J. J.
11.	D. D. D. D.	D. D. D. D.
12.	M. K. K. K.	M. K. K. K.
13.	S. S. S. S.	S. S. S. S.



ATTENDANCE SHEET OF SFR

Stakeholder Feedback Round

Project Name: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj

Date: 09/05/2018

Location:

Village : Poovani

District : Thoothukudi

State : Tamil Nadu, India.

Attendance Sheet:

Sr. No.	Name	Designation & Name of Organization/Village	Signature
1	K. Pragasam	Orange Sironj	K. Pragasam
2	M. Sankaralingam	Orange Sironj	M. Sankaralingam
3	P. S. Sankaralingam	Orange Sironj	P. S. Sankaralingam
4	P. Kaviya	Kattunaiickenpatti	P. Kaviya
5	M. Kalaiyani	Kattunaiickenpatti	M. Kalaiyani
6	G. Sivanthi	Kattunaiickenpatti	G. Sivanthi
7	Anil Chundrey	Tin Rukhulund	Anil Chundrey
8	ANISHAK KEDDIKAT	AM (Orange Sironj)	ANISHAK KEDDIKAT
9	VIKASH K. SINGH	DM - Orange Sironj	VIKASH K. SINGH
10	Aman Sharma	Dy. Manager Orange Sironj	Aman Sharma
11	S. Sankaralingam	Manager - ORANGE	S. Sankaralingam
12	S. Sankaralingam	AGM - KSTEMA	S. Sankaralingam
13	A. S. Sankaralingam	Orange Sironj	A. S. Sankaralingam
14	A. S. Sankaralingam	Orange Sironj	A. S. Sankaralingam
15	T. Sankaralingam	Orange Sironj	T. Sankaralingam
16			
17			
18			

Stakeholder Feedback Round

Project Name: 200 MW Wind Power Project in Tamil Nadu by Orange Sirooj

Date: 09/05/2018

Location:

Village : Poovani

District : Thoothukudi

State : Tamil Nadu, India.

Attendance Sheet:

Sr. No.	Name	Designation & Name of Organization/Village	Signature
1	M. Suba Sankar	Suba Sankar	M. Suba Sankar
2	M. Murali Kumar	South Siluigam Patti	M. Murali Kumar
3	S. Paramasivan	Paramasivan	S. Paramasivan
4	T. Suresh Kumar	Suresh Kumar	T. Suresh Kumar
5	P. Suresh	Suresh	P. Suresh
6	S. Suresh	Suresh	S. Suresh
7	M. Suresh	M. Suresh	M. Suresh
8	M. Suresh	M. Suresh	M. Suresh
9	M. Suresh	M. Suresh	M. Suresh
10	P. Suresh	P. Suresh	P. Suresh
11	A. Suresh	A. Suresh	A. Suresh
12	P. Suresh	P. Suresh	P. Suresh
13	P. Suresh	P. Suresh	P. Suresh
14	P. Suresh	P. Suresh	P. Suresh
15	P. Suresh	P. Suresh	P. Suresh
16	P. Suresh	P. Suresh	P. Suresh
17	P. Suresh	P. Suresh	P. Suresh
18			
19			
20			

Stakeholder Feedback Round

Project Name: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj

Date: 09/05/2018

Location:

Village : Poovani

District : Thoothukudi

State : Tamil Nadu, India.

Attendance Sheet:

Sr. No.	Name	Designation & Name of Organization/Village	Signature
1	N. S. Srinivasan	6988	N. S. Srinivasan
2	S. O. Srinivasan	6988	S. O. Srinivasan
3	Aminur rashid	(W.B)	Aminur rashid
4	A. D. Srinivasan	Mantri Srinivasan	A. D. Srinivasan
5	M. MURUGAN	Siemens Gamesa	M. MURUGAN
6	Kamesh	Kamesh Srinivasan	Kamesh
7	Jesuraj	Anai Thalaiyur	Jesuraj
8	D. GEORGE	Perumelkulam	D. GEORGE
9	G. Srinivasan	Kappathur	G. Srinivasan
10	K. Srinivasan	K. Srinivasan	K. Srinivasan
11	K. ARUNKAN	Puthampattur	K. ARUNKAN
12	T. PRATHAPAN	Puthampattur	T. PRATHAPAN
13	A. SENTHILKUMAR	Pasuvanthanai	A. SENTHILKUMAR
14	T. Srinivasan	Pasuvanthanai	T. Srinivasan
15	G. Srinivasan	S. Srinivasan	G. Srinivasan
16	G. Srinivasan	S. Srinivasan	G. Srinivasan
17	K. Srinivasan	S. Srinivasan	K. Srinivasan
18	G. Srinivasan	S. Srinivasan	G. Srinivasan
19	K. Srinivasan	S. Srinivasan	K. Srinivasan
20	T. APPEL Srinivasan	S. Srinivasan	T. APPEL Srinivasan

Invitation to Global Stakeholders

Gold Standard Project - Stakeholder Feedback Meeting - Orange Sironj Wind Power Project - Message (HTML)

File Message Help Adobe PDF Tell me what you want to do



Wed 4/25/2018 7:29 PM

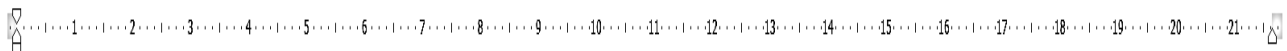
Jimmy - Infinite Solutions <jimmy@infisolutions.org>

Gold Standard Project - Stakeholder Feedback Meeting - Orange Sironj Wind Power Project

To 'michael@awish.net'; 'contact@goodplanet.org'; 'director.aswa@gmail.com'; 'cdmabteilung@atmosfair.de'; 'mozaharul.alam@bcas.net'; 'daniel.magallon@energy-base.org'; 'deepak.mawandia@carbonwatch.com'; 'kvaughan@climatechange.org'; 'office@casabnet.jp'; 'amarkham@cleanair-coolplanet.org'; 'ed@enpho.org'; 'dorah@gendercc.net'; 'paul@davidsuzuki.org'; 'tara@devault.org'; 'dheslam@earthadvantage.org'; 'narendra@energhg.in'; 'eforum@stnet.it'; 'geral@euronatura.pt'; 'lambing@es.org'; 'sudha@fairclimate.com'; 'i.w.'; 'ecodiversidadcolombia@gmail.com'; 'Cecilia Foronda'; 'fundclimahonduras@yahoo.com'; 'bals@germanwatch.org'; 'georges.morizot@gevalor.org'; 'lxu@geichina.org'; 'ranip@gcbcn.org'; 'anna.vilde@ecodub.kiev.ua'; 'wayne.wescott@greenfleet.com.au'; 'coord@grian'; 'sed@hivos.nl'; 'h.clemens@hivos.nl'; 'evan.haigler@impactcarbon.org'; 'informasi@walhi.or.id'; 'carbone@id-ong.org'; 'eradicatepoverty@hotmail.com'; 'kangmei2005@yahoo.com.cn'; 'kyoto@kikonet.org'; 'klima@observatory.ph'; 'David Nicholson'; 'otto@miombo.bo'; 'Cc: 'Sumeet Singhvi - IS'; 'Neha Rao'; 'Arshi Vimal'; 'qa@goldstandard.org'; 'Sukanta Das'; 'assistant.ncdma@nic.in'; 'ncdma-mef@gov.in'; 'shard.sapra@nic.in'; 'pavangupta@orangerenewable.net'

You forwarded this message on 5/9/2019 11:31 AM.

GS PD 25.04.2018.pdf 866 KB	Non Technical project summary.pdf 119 KB	Grievance procedure.pdf 106 KB
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Dear Stakeholders,

Greetings for the day!!!!

This is to notify that Orange Sironj Wind Power Pvt Ltd. (OSWPP) intends to contribute towards the conservation of conventional sources of energy by undertaking the implementation of a greenhouse gas (GHG) abatement project activity in Thoothukudi district of Tamil Nadu State in India. Since, the proposed project is contributing to the mitigation of global climate change, project developers intend to develop the project as a Clean Development Mechanism project and decided to adopt Gold Standard modalities for the project activity. As part of the Gold Standard modalities, a Stakeholder Feedback Round has been organized with a call for public feedback on the project. In this connection, you are invited to send in your comments for the CDM project.

The Agenda for the SFR round is as follows;

- Introduction of Orange Sironj Wind Power Pvt Ltd. (OSWPP) the Project Participant
- Wind power project details
- About GS4GG and CDM mechanism
- Benefits from the Wind power project
- Gender Equality as per GS4GG and SDG guidelines
- Grievance Mechanism for stakeholders
- Yearly monitoring process for Sustainable development
- Feedback/Questions from Stakeholders

Project Title: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj

Location: Project Site: Connected to NH7 & NH45, Village: Poovani, District: Thoothukudi, Tamilnadu

Meeting details: 9th May 2018 beginning at 11.00 am to 12.30 pm.

Apart from this the project is also under ongoing commenting from the public for mandatory 60 days at the following link: <http://infisolutions.org/orange-sironj-es-sfr/>

A detailed non-technical project description is enclosed herewith for your ready reference. Further information including features of the project, environmental considerations, etc. will be provided during the meeting and is available at the local office. All stakeholders / participants are requested to provide comments on the project which would be addressed by the project developers.

You are requested to participate in the public meeting and provide your valuable comments on the same. Alternatively, you can provide your comments via email or by a checklist available at the site.

For further questions and/or comments, you can contact us at following credentials:

1. Mr. Pavan Gupta, Business Development Head - Orange Renewables +91 9560540654 Email ID: pavangupta@orangerenewable.net or,
2. Mr. Jimmy Sah, Head Sustainability +91 9644130430, email id: jimmy@infisolutions.org, Project consultant.

Looking forward to your replies and comments.

Thanks & Regards,

Jimmy Sah

Feedback form from the Stakeholders

Feedback Form for GS Project

Your opinion is important for us.

Project: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj.

SFR Meeting Date: 09/05/2018

Questions	Remarks
Were you able to understand the project and its impacts?	தெரிவிக்கப்பட்டது என்பது உடனடியாகத் தெரிவிக்கப்பட்டது
What is your impression about the meeting?	
What aspect did you like about the project?	Long Orange.
What aspect did you not like about the project?	
<u>Comments (if any):</u> தெரிவிக்கப்பட்டது என்பது உடனடியாகத் தெரிவிக்கப்பட்டது.	
Name: I. Abraham Vireh	
Signature: 	

Feedback Form for GS Project

Your opinion is important for us.

Project: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj.

SFR Meeting Date: 09/05/2018

Questions	Remarks
Were you able to understand the project and its impacts?	4/5
What is your impression about the meeting?	Good
What aspect did you like about the project?	Wind power project
What aspect did you not like about the project?	
<u>Comments (if any):</u> 	
Name: P. Suresh Kumar Signature: P. Suresh Kumar	

Version 01

Feedback Form for GS Project

Your opinion is important for us.

Project: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj.

SFR Meeting Date: 09/05/2018

Questions	Remarks
Were you able to understand the project and its impacts?	Yes.
What is your impression about the meeting?	Good meeting.
What aspect did you like about the project?	Good working. Good working.
What aspect did you not like about the project?	
<u>Comments (if any):</u> Good working. Good working. Good working.	
Name: G. Mari Konda Signature: 	

Version 01

Feedback Form for GS Project

Your opinion is important for us.

Project: 200 MW Wind Power Project in Tamil Nadu by Orange Sironj.

SFR Meeting Date: 09/05/2018

Questions	Remarks
Were you able to understand the project and its impacts?	சரிசெய்தேன்.
What is your impression about the meeting?	மிகவும் நன்றாக.
What aspect did you like about the project?	மிகவும் நன்றாக.
What aspect did you not like about the project?	
<u>Comments (if any):</u> 	
Name: <u>BALAMURUGAN.T.</u> Signature: <u>Balam</u>	

Version 01

SFR Photographs





Appendix 1. Contact information of project participants

Organization name	Orange Sironj Wind Power Pvt Ltd.
Registration number with relevant authority	U40300DL2011PTC274906
Street/P.O. Box	Sector-21 Dwarka,
Building	#301B,3rd Floor, D21 Corporate Park,
City	New Delhi
State/Region	Delhi
Postcode	110075
Country	India
Telephone	+91-011-30501110
Fax	+91-011-30501114
E-mail	muraliraju.m@greenkogroup.com
Website	www.orangerenewable.net
Contact person	Mr. Murali Krishnam Raju M
Title	Sr Manager - CDM & GIMS
Salutation	Mr.
Last name	Raju M
Middle name	Krishnam
First name	Murali
Department	CDM & GIMS
Mobile	+ 91- 99595 56707
Direct fax	+91-011-30501114
Direct tel.	+91-011-30501110
Personal e-mail	muraliraju.m@greenkogroup.com

Appendix 2. Summary of post registration design changes

Revision History

Version	Date	Remarks
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1	10 July 2017	Initial adoption