

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



Version 1.1 – August 2017

KEY PROJECT INFORMATION

Title of Project:	72 MW Wind power project in the South Sulawesi Province of Indonesia
Brief description of Project:	The project activity is setting up Wind power project in Jeneponto Regency in the province of South Sulawesi, Indonesia. The purpose of the project activity is to generate electrical power through operation of WTGs power plant. The project installation comprises of 20 Wind Turbine Generator (WTGs) of 3.6 MW capacity each.
Expected Implementation Date:	31/01/2019
Expected duration of Project:	25 years
Project Developer:	PT Energi Bayu Jeneponto
Project Representative:	Kosher Climate India Private Limited
Project Participants and any communities involved:	PT Energi Bayu Jeneponto
Version of PDD:	2.0
Date of Version:	26/06/2020
Host Country / Location:	Indonesia
Certification Pathway (Project Certification/Impact Statements & Products	Project Certification
Activity Requirements applied: (mark GS4GG if none relevant)	GS4GG
Methodologies applied:	ACM0002
Product Requirements applied:	NA
Regular/Retroactive:	Retroactive
SDG Impacts:	<ul style="list-style-type: none"> 1 – SDG3 Good Health and Well-Being 2 - SDG 7 Affordable and Clean Energy 3 - SDG 8 Decent Work and Economic Growth 4 - SDG 13 Climate Action
Estimated amount of SDG Impact Certified	<ul style="list-style-type: none"> 1 – SDG3 Good Health and Well-Being <ul style="list-style-type: none"> - 3 local development Activities /year 2 - SDG 7 Affordable and Clean Energy <ul style="list-style-type: none"> - 236,520 MWh electricity generated/year 3 - SDG 8 Decent Work and Economic Growth <ul style="list-style-type: none"> - 10 Trainings provided to O&M staff/year - 4.3 Million USD spent on O&M./year - 75 jobs during operation 4 - SDG 13 Climate Action <ul style="list-style-type: none"> - 172,659 tCO₂ emission Reduction./year

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.)*

PT Energi Bayu Jeneponto is setting up wind power project at Jeneponto Regency in the province of South Sulawesi with capacity of 72 MW. The purpose of the project activity is to generate electrical power through operation of Wind power plant. The project activity installation comprises of setting up 20 Wind Turbine Generator (WTGs) of 3.6 MW each.

The project activity is commissioned on 9th December 2018

The purpose of the project activity is to generate electrical power using wind energy through operation of WTGs.

How the proposed activity reduces GHG emissions

The electricity generated by the project is exported to the Indonesia Power Grid. The project activity will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. Since wind power is Greenhouse Gas (GHG) emissions free, the power generated will prevent the anthropogenic gas emissions generated by from fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. Hence, the generation by the proposed activity is non-GHG source and thus reduces the proportion of fossil fuel based generation in the grid leading to lesser carbon intensive grid.

Scenario existing prior to the implementation of project activity:

There was no activity at the site prior to implementation of the project activity. Hence the scenario existing prior to the project activity is same as baseline scenario which is continual use of highly carbon intensive electricity in the South Sulawesi.

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" version 7.0,. Hence, pre-project scenario and baseline scenario are the same.

The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only. Thus the project activity leads to an emission reduction of 863,294tCO₂ for the chosen crediting period of 5 years renewable with the annual average emission reduction of 172,695 tCO₂e

Project Contribution to Sustainable development:

Some of the sustainable development from the project are as following:

- a) Social well-being
- b) Economic well-being
- c) Environmental well-being
- d) Technological well-being

These project activity contributions towards the sustainable development are as follows;

Economic well-being:

- The project activity would help in alleviation of poverty in the area as it creates employment opportunities to the local people.
- The project activity would bring in additional investment to the region which would have not been possible in the absence of project activity. The development of project activity would contribute significantly towards infrastructure development of the region which ultimately leads to rural area development.
- The project activity evacuating power to the nearest regional grid would lead to improvement of electricity availability as the electricity is fed into a deficit grid.

Social well-being:

- The project activity would improve the local infrastructure development.
- Power generated from this project activity can be used for small scale industries, thus would generate employment opportunities.

Environmental well-being:

- Wind is one of the cleanest form of renewable energy and power generation does not involve any fossil fuels.
- The project activity by replacing electricity generated from fossil fuels would result in reduction of both GHG emissions and air borne pollutants, such as oxides of nitrogen, oxides of sulphur, carbon monoxide and particulates.
- Produces electricity without any GHG emissions.

Technological well-being:

- The project would use the environmental safe and sound technologies in Wind Power sector.
- It will improve the power quality and the improvement of transmission and distribution congestion.

The successful implementation and operation of the project would serve as demonstration for harnessing wind potential and encourage setting up of similar projects in future.

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 is a wind power project and hence is automatically eligible for Gold Standard Certification as per the approved Gold Standard Activity Requirements.

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.)*

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The Project proponent has complete rights on the environmental attributes and other products detailed in the report. The project has not pledged any of the aforesaid products to any party and does not involve any double counting.

The legal ownership of the project with the respective project proponent which can be confirmed via the following documents:

1. Commissioning Certificate
2. Approvals

A.4. Location of project

A.4.1. Host Country

>>

Indonesia

A.4.2. Region/State/Province etc.

>>

South Sulawesi

A.4.3. City/Town/Community etc.

>>

Jeneponto Regency

A.4.4. Physical/Geographical location

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

Geographical location of the each WTGs are given below:

Turbine	Latitude	Longitude	Village	Subdistrict
TO01	05°36'15.542"S	119°46'31.670"E	Bontomatene	Turatea
TO02	05°36'26.181"S	119°46'24.479"E	Bontomatene	Turatea
TO03	05°36'38.271"S	119°46'19.893"E	Bontomatene	Turatea
TO04	05°37'23.507"S	119°45'50.071"E	Parasangan Beru	Turatea
TO05	05°37'34.111"S	119°45'41.550"E	Kayuloe Barat	Turatea
TO06	05°37'43.468"S	119°45'30.230"E	Kayuloe Barat	Turatea
TO07	05°37'52.789"S	119°45'19.753"E	Kayuloe Barat	Turatea
TO08	05°38'20.780"S	119°45'23.360"E	Kayuloe Timur	Turatea
TO09	05°38'31.709"S	119°45'16.722"E	Empoang Utara	Binamu
TO10	05°38'42.961"S	119°45'9.8604"E	Empoang Utara	Binamu
TO11	05°38'56.268"S	119°45'13.397"E	Empoang Utara	Binamu
TO12	05°39'3.9134"S	119°45'3.1389"E	Empoang Utara	Binamu
TO13	05°37'37.076"S	119°46'35.270"E	Kayuloe Timur	Turatea
TO14	05°37'49.064"S	119°46'31.658"E	Kayuloe Timur	Turatea
TO15	05°38'1.7234"S	119°46'30.647"E	Kayuloe Timur	Turatea
TO16	05°38'16.473"S	119°46'27.600"E	Kayuloe Timur	Turatea
TO17	05°38'32.523"S	119°46'24.883"E	Kayuloe Timur	Turatea

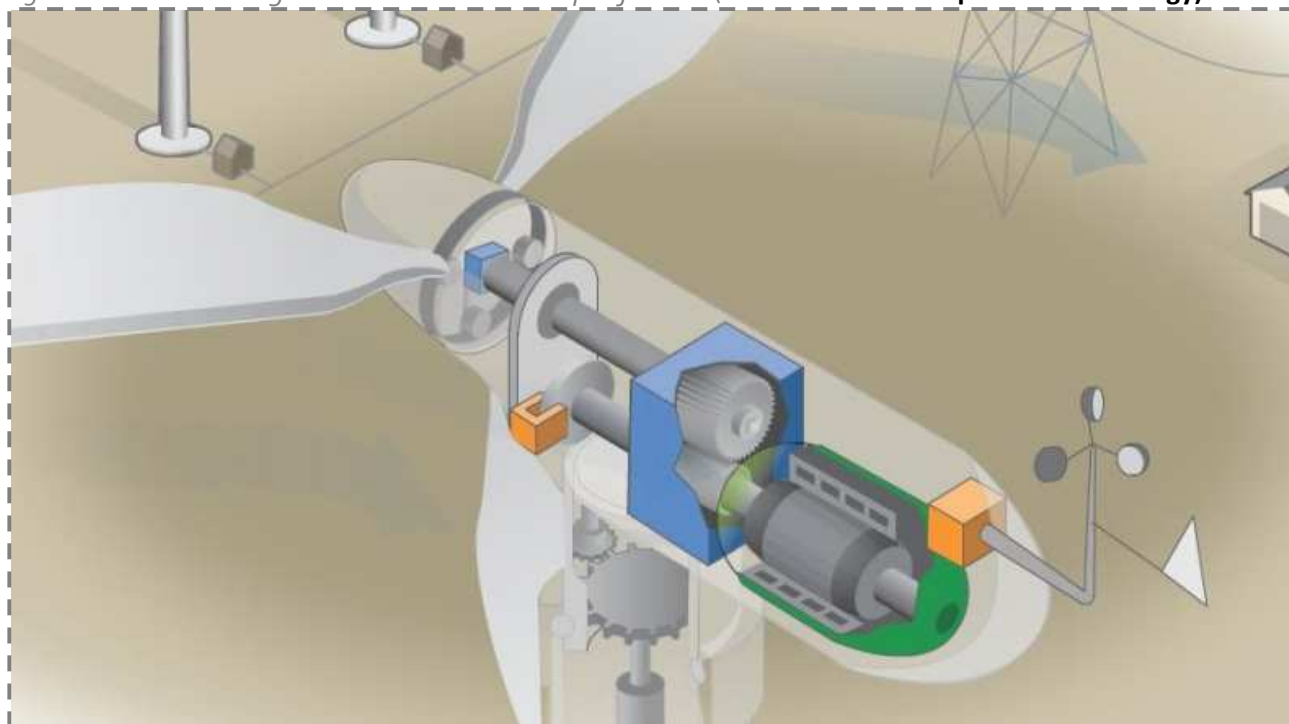
TO18	05°38'46.094"S	119°46'23.714"E	Kayuloe Timur	Turatea
TO19	05°38'58.612"S	119°46'24.780"E	Empoang Utara	Binamu
TO20	05°39'11.627"S	119°46'24.193"E	Empoang Utara	Binamu

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.)

A wind turbine works on a simple principle: Energy in the wind turns two or three propeller-like blades around a rotor. The rotor is connected to the main shaft, which spins a generator to create electricity. Wind turbines are mounted on a tower to capture the most energy. At 30 meters or more above ground, wind turbines take advantage of faster and less turbulent wind. Electric power is collected at substation transformers and connected to an electricity grid for widespread electricity distribution.

Figure: Power Gathering Scheme and Technical Specification (Illustration – US Department of Energy)



TECHNICAL SPECIFICATION	
Nominal power	3600 kW
Number of WTG	20
Installed Capacity	72 MW
Average total height	200 m
Wind class	IIA
Concept	3-bladed; horizontal axis direct drive; pitch regulation with variable speed upwind clockwise rotation

Control System	Built-in computer control system coupled with remote access system (Supervisory Control and Data Acquisition or SCADA in short).
TOWER	
Tubular	135 m
Material	Tubular Steel
Color	White (non-glossy) to light grey
Crane Hardstand	44m x 144 m
OPERATIONAL DATA	
Cut-in wind speed	3-5 m/s
Cut-out wind speed	25 m/s
Nominal power at approximate	11-12 m/s
ROTOR	
Diameter	130 m
Blade length	63.5 m
Swept area	13,300 M ²
Material	Glass reinforced epoxy fibre (GRE)
Speed	6.5 – 12.8 rpm
GENERATOR	
Type	Synchronous, Permanent Magnet Generator
INDICATIVE WEIGHT	
Blade	17 metric tons
Rotor	96 metric tons
Nacelle	103 metric tons
Tower	80 metric tons
FOUNDATION	
Shape	Octagonal
Horizontal dimension	About 20 m diameter
Thickness	Up to 4 m
Material	Up to 650 m ³ of reinforced concrete
Foundation type	Floating foundation
SUB STATION COMPLEX	
Area	approximately 2 ha
Comprises	Distribution substation and switchgear with 33 kV ratings; 45 MVA Power transformers; Control/management facility and service; Parking,, Traffic acces; Landscape area; Internal infrastructure supply; Sewage
	Low voltage power supply 33/0.4 kV internal transformer
TRANSMISSION LINE	
Voltage	150 kV
Length	3.5 km

The components of the project explained:

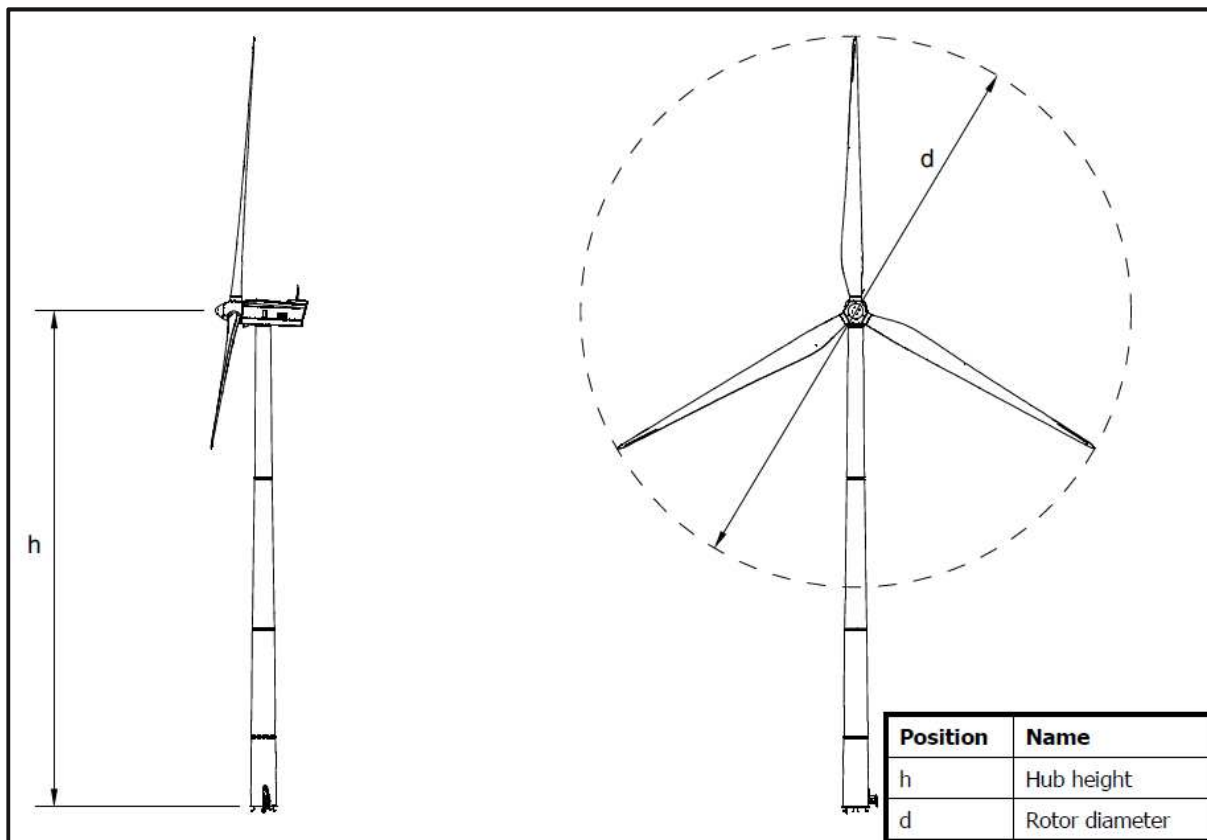
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- Wind Turbine Generators (WTGs)
- Pooling Substation
- Transmission Line
- Road Network till individual WTGs
- Temporary Storage Yards (2 at Amidayala and 1 at Nimbagallu)
- Permanent Storage Facility
- Batching Plant

The Wind Turbine Generator (WTG):

The project activity plans to commission 20 WTGs with a capacity 3.6MW, total hiegh of 200m and rotor diameter of 130m. A wind turbine consists of three major mechanical components: tower, nacelle, generator and rotor. These are described in the following subsections:

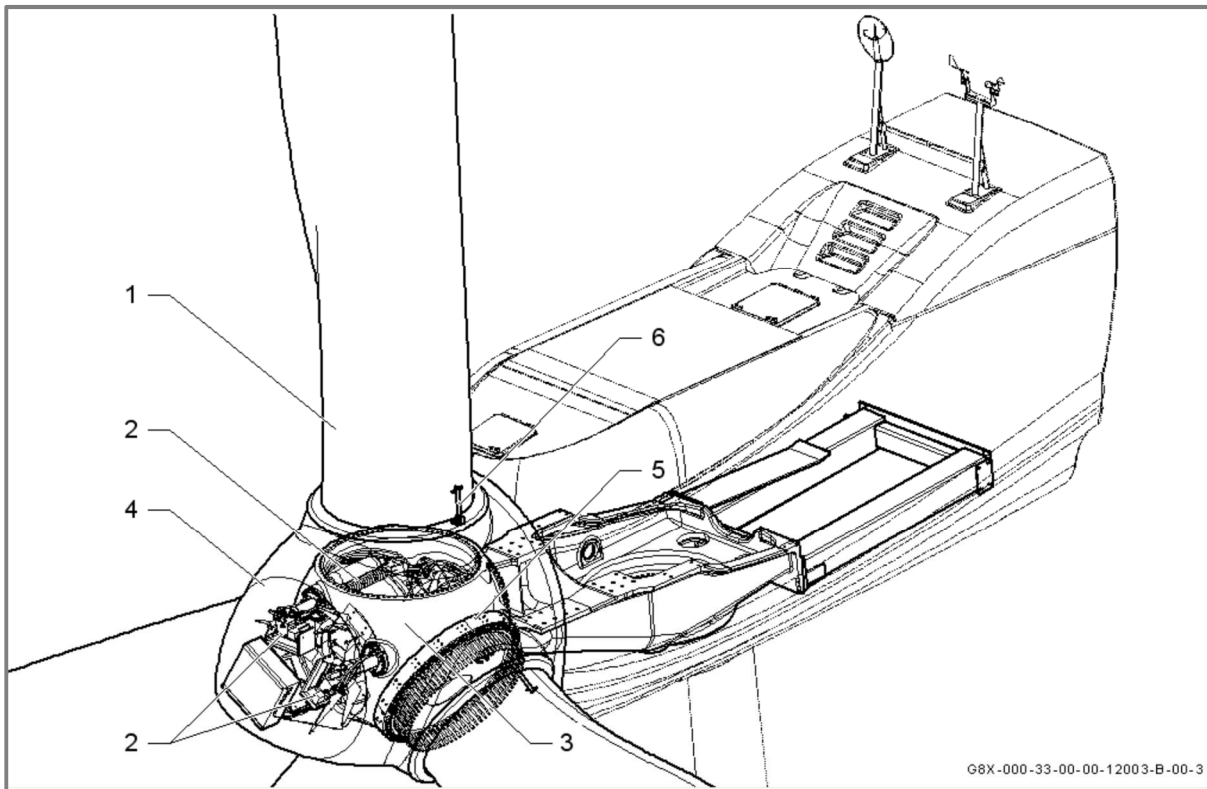
Figure: Digramatic presentation of WTG



Rotor

The rotor consists of three fiberglass blades that extend out of the hub. The rotor is mounted to a driveshaft within the nacelle (as defined below) to operate upwind of the tower. Hydraulic motors within the rotor hub feather each blade according to the wind conditions, which enables the turbine to operate efficiently at varying speeds.

Figure ¡Error! No hay texto con el estilo especificado en el documento.-1: Diagrammatic presentation of Rotor

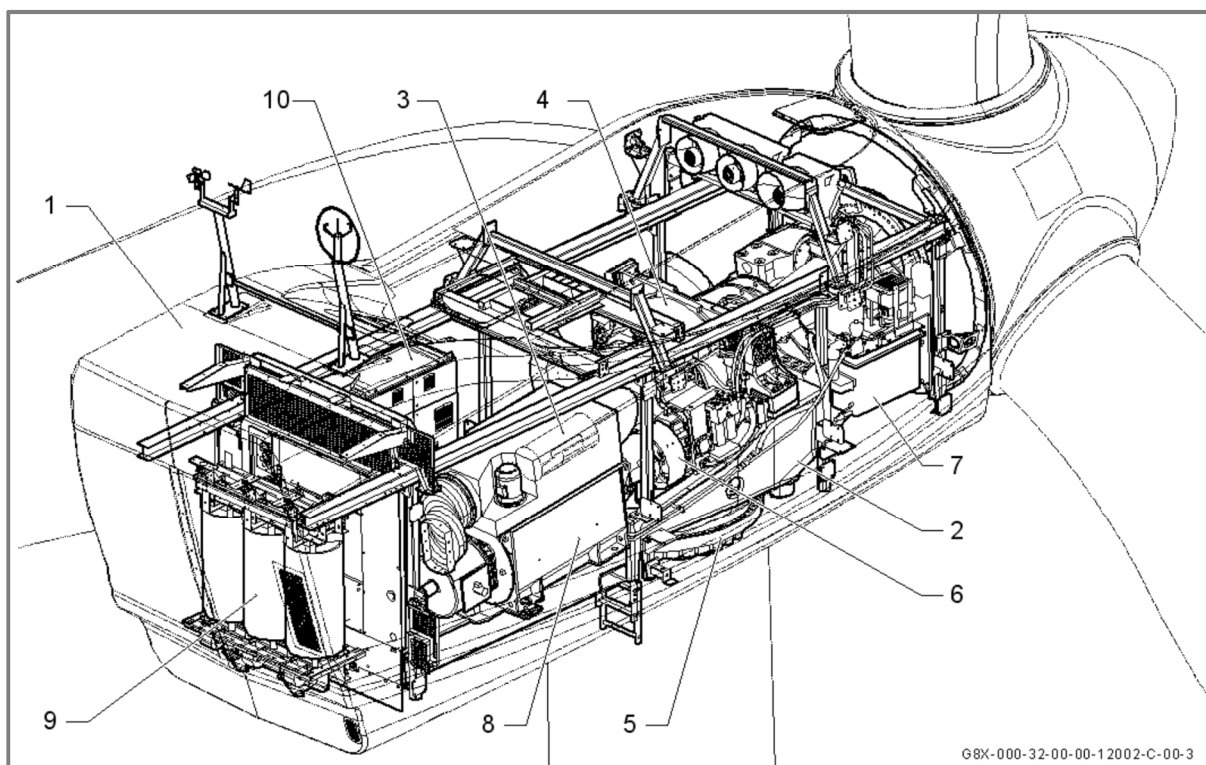


Position	1	2	3	4	5	6
Name	Blade	Pitch control system	Hub	Cone	Blade bearing	Lightning system

Nacelle

The nacelle is a large housing that sits on top of the tower behind the rotor. It houses the main mechanical components of the wind turbine: drive train, yaw system and its accessories, etc. The cover protects the wind turbine components within the nacelle from exposure to meteorological events and external environmental conditions. It is made of composite resin and reinforced with fiberglass. There are two skylights on the roof allowing sunlight to enter during the day and providing additional ventilation and access to the exterior, where the wind measuring instruments and the lightning rod are located.

Figure ¡Error! No hay texto con el estilo especificado en el documento.-2: Digramatic presentaion of Nacelle



Position	1	2	3	4	5
Name	Cover	Frame	Main shaft	Gearbox	Yaw system
Position	6	7	8	9	10
Name	Mechanical brake	Hydraulic unit	Generator	Transformer	Cabinets

Tower

The tower supports the nacelle and rotor. The tower is made up of 4 steel sections. The tower will have an access door and an internal safety ladder and/or elevator to access the nacelle.

The average lifetime of the project is around 25 years as per the equipment supplier specifications. The plant load factor assessed at project site is 37.5%.

In the absence of the project activity the equivalent amount of electricity sold to grid would have been generated by grid connected power plants, which is predominantly based on fossil fuels, hence baseline scenario of the project activity is the grid based electricity system, which is also the pre-project scenario.

The technology and the project do not pose any adverse threat to the environment and contribute positively in reducing GHG emissions by displacing energy generation from fossil fuel powered projects. The proposed project activity is environmentally safe to implement and operate.

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 project activity is a 72 MW Wind Power Project and hence falls under "others" category.

A.7. Funding sources of project

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

The project activity is funded by debt and equity. Debt is sourced from private financial institutions. No public funding is involved in this project

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](#).)

Step 1: Basic Context

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.

Answer: Yes, from the pre-feasibility study stage to the operation time, from the stakeholder investigation to the employment, fair chance and gender equality to access the source, information and to reflect their opinions as a main consideration is taken by the project owner. Further, even if the customers both including suppliers and power buyer are also investigated by the project owner for gender equality issues.

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

Answer: In Indonesia, the policy on gender equality and empowerment of women has been adopted at the international and national levels¹:

- (a) at the international and national levels, through the ratification of the UN Convention on the Elimination of All Forms of Discrimination against Women with Law Number 7/1984;
- (b) at the national level, through the People's Consultative Assembly (the highest political body in Indonesia) Decree Number IV/MPR/1999 on the Broad Guidelines of State Policy 1999-2004;
- (c) the establishment of National Machinery for the Advancement of Women with the Presidential Decree of 1978;
- (d) Law Number 25/2000 on the National Development Programme;
- (e) Presidential Instruction Number 9/2000 on Gender Mainstreaming in National Development;
- (f) National Action Plan for the Elimination of Violence Against Women;
- (g) the inclusion of gender-mainstreaming policy in 38 programmes of the National Development Programme (2000-2004);
- (h) Law Number 23/2002 on Child Protection;
- (i) Presidential Decree Number 87/2002 on National Plan of Action on Eradication of Child Commercial Sexual Exploitation;
- (j) Presidential Decree Number 88/2002 on National Plan of Action on Elimination of Trafficking in Women and Children;

¹ <https://www.un.org/womenwatch/daw/Review/responses/INDONESIA-English.pdf>

- (k) Law no. 12/2003 on General Election in which each political party participating in a general election should consider at least 30% of women representation in the nomination of its members of national, provincial and local representative council.

Indonesia is ranked 103 out of 1629 countries in 2018 on its Gender Inequality Index (GII)². Moreover, the Human Development Index (HDI) for females (0.681) which is on par with the HDI for males (0.727), which shows the gender policies are effectively implemented in Indonesia. Hence, the project implemented in Indonesia complies with all the laws and policies of the gender equality as follows.

- *The project activity promotes and encourages active participation of women and men during the stakeholder meetings, giving an equal opportunity to both genders.*
- *The project provides equal employment opportunities for men and women.*
- *Equal pay for equal work is followed. No discrimination is made in the salaries of men and women.*

Hence, the project aligned with existing country policies, strategies and best practices.

Step 2: Apply Gold Standard Safeguarding Principles

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

Answer: Yes, please see below table.

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure (if required)
2 Gender Equality and Women's Rights	<p>The Project shall complete the following gender assessment questions in order to inform Requirements, below:</p> <ol style="list-style-type: none"> 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? 2. Is there a possibility that the Project can adversely affect men and women in 	No	<ol style="list-style-type: none"> 1. The project is located in the unproductive agricultural in that it lacks irrigation and produces only one crop per year. The project does not decrease women's access to or control of resources. Refer ESIA Report. 2. No evidence to show the construction of the wind project affect men and women in marginalised or vulnerable communities. 	Not Required

² http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/IDN.pdf

	<p>marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)?</p> <p>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)?</p> <p>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)?</p> <p>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?</p> <p>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?</p> <p>7. Would the Project</p>		<p>ESIA report does not identify any such risk.</p> <p>3. No, during the decision, designs even operation of the project activity, the project developer, employs people base on the principle of open, fair opportunity without the discrimination on men or women. The ESIA report also specifies the project will ensure the gender equality by creating jobs for women.</p> <p>4. The project developer gives the benefit including salary, social welfare and bonus base on the workload and position and without setting any criteria to specially benefit men or women.</p> <p>5. No the Project was not designed to increase women's workload nor prevent women from engaging in other activities.</p> <p>6. There is no place for discrimination against women in this Project. The project does not discriminate on basis of gender, caste or religion.</p> <p>7. The Project will not limit women's ability regarding natural resources. The project being wind power project thus does not have any major impact on natural resources of the region. No such risks identified in the ESIA report also.</p> <p>8. No the Project will not</p>	
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	<p>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?</p> <p>8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?</p> <p>The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women.</p> <ol style="list-style-type: none"> 1. Sexual harassment and/or any forms of violence against women - address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. 2. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. 3. Restriction of women's rights or access to resources (natural or economic). 4. Recognise women's ownership rights regardless of marital status - adopt project measures where possible to support to 		<p>expose women and girls to further risks or hazards.</p> <ol style="list-style-type: none"> 1. The project proponent has a grievance cell which would look into complaints. 2. There is no such risk for the project. Participation in the project is 100% voluntary. The project proponent has a grievance cell which would look into complaints. The project does not involve in slavery, imprisonment or coercion of women and girls. 3. The Project will not restrict women's rights or access regarding natural resources. The project proponent does not discriminate on gender, caste, religion etc. 4. Marital status is completely irrelevant to the Project. The project proponent does not discriminate on gender, caste, religion etc. <p>Yes, the Project has equal opportunity for women and men to contribute both in volunteer and working</p>	
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	<p>women's access to inherit and own land, homes, and other assets or natural resources.</p> <p>Projects shall apply the principles of non discrimination, equal treatment, and equal pay for equal work, specifically:</p> <ol style="list-style-type: none"> 1. 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. 2. Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. 3. Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits. <p>The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.</p>		<p>positions</p> <ol style="list-style-type: none"> 1. The project proponent has a stipulated HR policy that takes into account participation by both men and women. Further, the CSR projects designed are implemented for equal participation of both men and women. 2. There is no limit on the access to Project participation and benefits from either of these conditions. 3. There are no such conditions that limit the access of women or men for participation. <p>The project is aligned to Indonesia's strategy for elimination of all discrimination. Indonesia is also party to Convention 100 (Equal remuneration) since 1958 and 111 on Discrimination in employment/occupation since 1999 to prevent any form of discrimination³.</p>	
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³ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

Step 3: Conduct Stakeholder Consultation:

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

Answer: The stakeholder consultation meeting was conducted on 19/09/2019 at O Café Meeting Area - Jalan Masjid H Syamsudin, Kalumpang Lompoa, Desa Kalumpang Loe, Kecamatan Arungkeke, Kabupaten Jeneponto. Sulawesi Selatan – Indonesia. Refer Section E.1 for more details.

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 20.0)⁴

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 7.0⁵.

Methodological Tool: Tool for the demonstration and assessment of additionality - Version 07.0.0, EB 70 Annex 8⁶.

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))*

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.

⁴ <https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

⁶ <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

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The project activity meets the applicability conditions of the approved consolidated baseline and monitoring methodology ACM0002, version 20.0, as described below:

Applicability Criteria	Applicability status
<p>This methodology is applicable to grid-connected renewable power generation project activities that:</p> <p>(a) install Greenfield power plant; (b) involve a capacity addition to (an) existing plant(s); (c) involve a retrofit of (an) existing plant(s)/unit(s); (d) involve a rehabilitation of (an) existing plant(s)/unit(s); or (d) involve a replacement of (an) existing plant(s)/unit(s)</p>	<p>The proposed project activity is a Green field, grid connected renewable power plant.</p> <p>Therefore, it confirms to the said criteria</p>
<p>The methodology is applicable under the following conditions: 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, solar power plant/unit, wave power plant/unit or tidal power plant/unit</p>	<p>The project activity is the installation of a new grid connected renewable wind power project. Thus, it meets the first applicability condition</p>
<p>In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, 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 baseline emission section, and no capacity expansion or 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</p>	<p>The proposed project activity is the installation of a new wind power plant/unit. Therefore, the said criteria is not applicable</p>
<p>In case of hydro power plants, one of the following conditions shall apply:</p> <p>(a) The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or</p> <p>(b) The project activity is implemented in an existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7) is greater than 4 W/m^2; or</p> <p>(c) The project activity results in new single or multiple reservoirs and the power density calculate equation (7), is greater than 4 W/m^2.</p> <p>(d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density of any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m^2, all of the following conditions shall apply.</p> <p>(i) The power density calculated using the total installed capacity of the integrated project, as per</p>	<p>The proposed project activity is the installation of a wind power plant/unit. Therefore, the said criteria is not applicable</p>

<p>equation (4) is greater than 4W/m^2;</p> <p>(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</p> <p>(iii) Installed capacity of the power plant(s) with power density lower than or equal to 4W/m^2 shall be:</p> <p>(a) Lower than or equal to 15 MW; and</p> <p>(b) Less than 10% of the total installed capacity of integrated hydro power project</p>	
<p>In the case of integrated hydro power projects, project proponent shall:</p> <p>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</p> <p>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 indifferent 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.</p>	<p>The proposed project activity is the installation of a wind power plant/unit. Therefore, the said criterion is not applicable</p>
<p>The methodology is not applicable to:</p> <p>(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;</p> <p>(b) Biomass fired power plants;</p>	<p>The proposed project activity is the installation of a wind power plant/unit. Therefore, the said criteria is not applicable</p>
<p>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, 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".</p>	<p>The proposed project activity is the installation of a green field wind power plant. Therefore, the said criterion is not applicable.</p>
<p>In addition, the above applicability conditions the applicability conditions of tool referred in the methodology ACM0002, version 20 has been referred here under:</p>	
<p>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</p>	<p>This condition is applicable. OM, BM and CM are estimated using the tool under section B.6.1 for calculating baseline emissions.</p>

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).	
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, the conditions specified in "Appendix 2: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid 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 Indonesia, a non-Annex I country. Therefore, this criterion is not applicable for the project activity
Under this tool, the value applied to the CO ₂ emission factor of bio fuels is zero	The project activity is a grid connected wind power project and therefore, this criterion is not applicable for the project activity

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.)

As per Para 20 of applied baseline and monitoring methodology ACM0002, Version-20 the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to. This includes the wind turbine installation, pooling and sub-stations.

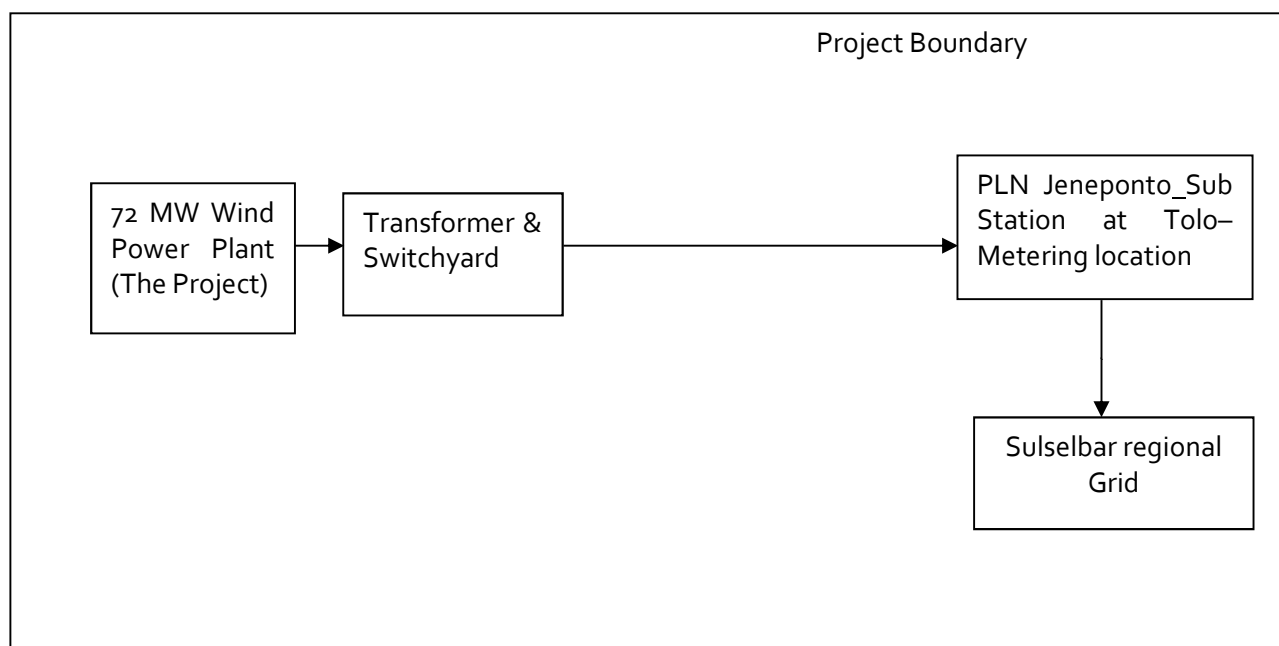
The proposed project activity evacuates the power to the grid. Therefore, all the power plants contributing electricity to the regional grid have been considered in the project boundary for the purpose of baseline estimation. The project activity targets reduction of CO₂e as main GHG greenhouse gas in baseline, there are no GHG emission associated with project activity.

For the purpose of GHG mitigation/sequestration following table shall be completed (delete if not required)

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Emission from grid connected fossil fuel power plants	CO ₂	CO ₂	Main source of emission
		CH ₄	CH ₄	NO emission source.
		N ₂ O	N ₂ O	NO emission source.
Project scenario	<u>Project emission</u>	CO ₂	CH ₄	The project is a solar power project. Project emissions should not be considered according to ACM0002.
		CH ₄	N ₂ O	
		N ₂ O	CO ₂	

As per Para 20 of applied baseline and monitoring methodology ACM0002, Version-20 the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to. This includes the wind plant installation, pooling and sub-stations.

The proposed project activity evacuates the power to the Indonesia Power Grid. Therefore, all the power plants contributing electricity to the Sulselbar regional Grid have been considered in the project boundary for the purpose of baseline estimation. The project activity targets reduction of CO₂e as main GHG greenhouse gas in baseline, there are no GHG emission associated with project activity.



Power Evacuation:

Power will be injected to the grid via 3.5 km long 150kV transmission line from the wind farm's pooling substation to PLN Jeneponto substation at Tolo. The transmission line will consist of ten (10) towers with 20 m x 20 m or 15 m x 15 m footprint. The grid connection is subject of separate environmental permitting process (UKL/UPL); the grid connection count as associated facility

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 20.0,) 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 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 07.0.

The project activity involved setting up of WTGs to harness the power of wind to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied to the electricity grid by the operation of grid-connected power plants (mainly by fossil fuel fired plants) and by the addition of new generation sources, as reflected in the combined margin (CM) calculations.

Hence, the baseline for the project activity is the equivalent amount of power from the Selselbar regional Grid.

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). Calculations for this combined margin must be based on data from an official source (where available) and made publically available.

The combined margin of the South & West Sulawesi - Selselbar Grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	0.73 tCO ₂ /MWh	Combined margin CO ₂ emission factor for the project electricity system in year y	Based on the most recent data available now, i.e. data published in 2017 by Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) for the South & West Sulawesi - Selselbar Grid. ⁷
$EF_{grid,OM,y}$	0.59 tCO ₂ /MWh	Operating margin CO ₂ emission factor for the project electricity system in year y	Based on the most recent data available at the moment, i.e. data from 2017 published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia)
$EF_{grid,BM,y}$	1.15 tCO ₂ /MWh	Build margin CO ₂ emission factor for the project electricity system in year y	Based on the most recent data available at the moment, i.e. data from year 2017 published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia)

⁷ http://gatrik.esdm.go.id/assets/uploads/download_index/files/8beca-emisi-grk-tahun-2017.pdf

B.5. Demonstration of additionality

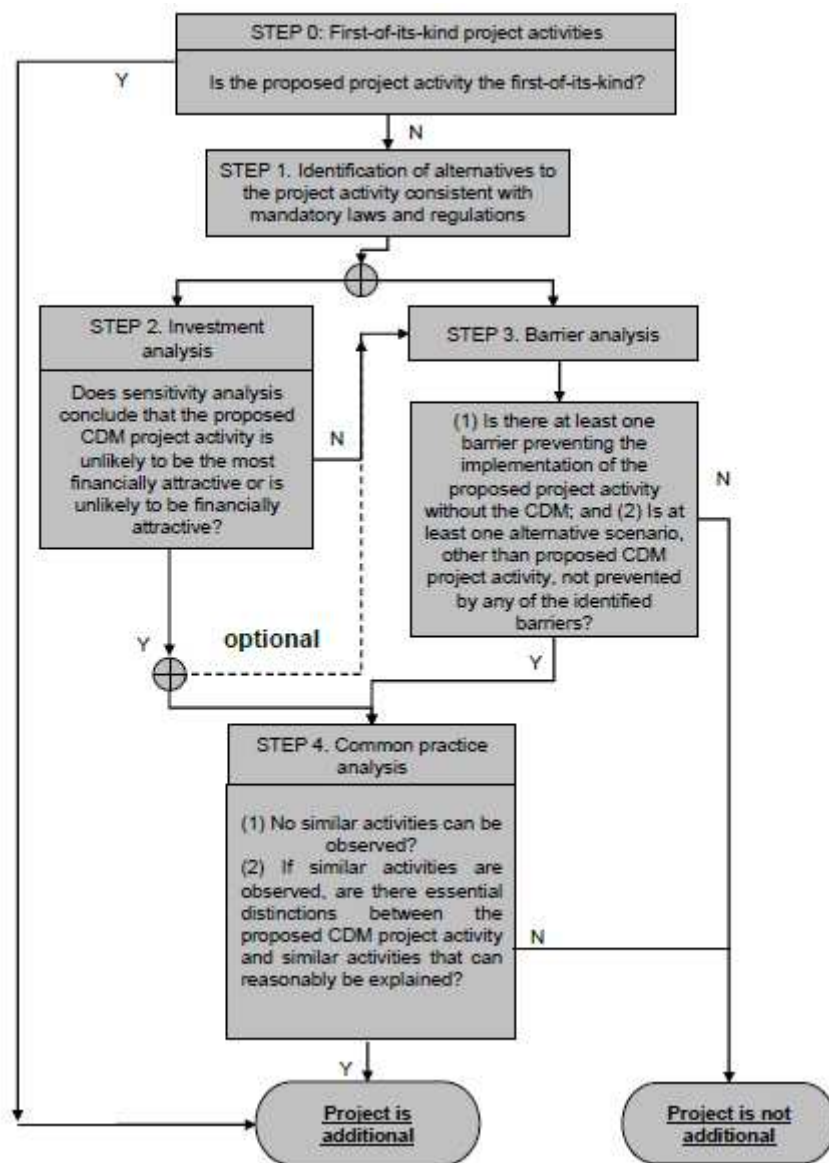
>> (If the proposed project is not a type of project that is deemed additional, as stated below, then follow guidelines in section 3.5.1 of GS4GG Principles & Requirements to demonstrate additionality.)

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).	NA
Describe how the proposed project meets the criteria for deemed additionality.	NA

The applicable methodology under section 5.3.1 details a Simplified procedure to demonstrate additionality. The defined auto additionality is not applicable to the project activity as wind projects are not listed in the eligible electricity generation technologies.

As per the applied methodology requirement, Additionality of the project activity is demonstrated using the Methodological tool "Tool for the Demonstration and assessment of additionality" Version 07.0.0. The step-wise approach is presented in the flow-chart:



The tool defines the following steps:

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

The proposed project activity is first of its kind as implementation of Wind power project in the country of Indonesia is not first of its kind. However PP would like to prove the financial constraint for the project to make the case stronger.

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

As per the applied ACM 0002 version 20.0; 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

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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 attractive or financially feasible option.

To conduct the investment analysis, Methodological tool: Investment analysis, EB 92 Annex 5 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 as per para 32 of the "Tool for the demonstration and assessment of additionality" (version 07.0.0).

Since, identified baseline for the proposed project activity is continuation of current practice (i.e. equivalent amount of energy would be generated by grid electricity system through its currently operating power plants and by new capacity addition) and which is outside the direct control of the project participant, hence benchmark analysis (option III), where the returns on investment in the project activity are compared to benchmark returns that are available to any investors in the country is selected as the most appropriate method.

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

As per Para 16 of EB92, Annex 5 states that Required/expected returns on equity are appropriate benchmarks for equity IRR. The project participant has chosen benchmark analysis to demonstrate the additionality of the project. The project is promoted by limited company and hence the return on equity and the risks associated with the investments for their shareholder is of primary concern. Hence, in order to analyse the financial viability of the project activity, the prime financial indicator that has been used is the post-tax equity IRR of the project activity.

Selection of Appropriate Benchmark

The benchmark has been considered in accordance with Guidance 17 and 18 of Investment analysis (Tool 27), version 10, "The values in the table in Appendix may also be used, as a simple default option".

Methodology deployed for arriving at a suitable value of Benchmark using Default Value has been described below:

- As the proposed project activity generates power utilizing wind energy, Group 1 as per para 5a of Investment Analysis, v10 has been identified as a suitable category. Though the current applicable version of investment analysis is version 10, this was not available at the time of investment decision. The available version at the time of investment decision was version 7. The conservative default value of Cost of equity as provided in the Table 1 of the respective version has been considered.
-
- The investment analysis has been carried out in Nominal terms. Accordingly, Default value as given in Para 6, Appendix, Annex 05, EB 92 has been adjusted by adding suitable forecasted inflation rate.
- Since "Bank of Indonesia" (Central Bank of Indonesia), publish only one year inflation forecast and one year inflation target, the 5 year inflation forecast published by the IMF (International Monetary Fund World Economic Outlook) for Indonesia has been used to calculate the benchmark in nominal terms as per para 17 of EB 92, Annex 5.

The benchmark has been computed in the following manner:

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:

$$\text{Nominal Benchmark}^8 = \{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$$

Where,

Default value for Real Benchmark applicable as per the latest investment Analysis Tool (ie, Investment Analysis, v10)	11.06%
Default value for Real Benchmark applicable at the time of investment decision (ie, Investment Analysis, v7)	10.73%
Real Benchmark selected (conservative of above)	10.73%

5 year average Inflation Rate forecast for Indonesia published by IMF.

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.

As per the above table default value of expected return on equity in real terms for Energy Industries (Group 1) in Indonesia = **10.73%**⁹

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

Inflation Rate:

The IMF (World Economic Outlook Database) provides 'for the inflation. Bank Indonesia forecasted values for the next ten years has been used to adjust the default value of ROE, which is given in real terms.

The 5 year Inflation forecast of Indonesia published by IMF (World Economic Outlook Database, April 2017)¹⁰ is considered in project activity as the same was available to PP at that time of investment decision date i.e. 04/06/2017. The 5 year average (2018- 2022) inflation is calculated as below:

Year	2018	2019	2020	2021	2022	5 year
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⁸ As per Pg. 320 of Corporate Finance, Second Edition of Aswath Damodaran

⁹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v7.0.pdf>

¹⁰

<https://www.imf.org/external/pubs/ft/weo/2017/01/weodata/weorept.aspx?pr.x=79&pr.y=9&sy=2015&ey=2022&scsm=1&ssd=1&sort=country&ds=.&br=1&c=536&s=PCPI%2CPCPIPCH%2CPCPIE%2CPCPIEPCH&gp=0&a=>

						average
Inflation	4.52%	4.28%	4.06%	3.96%	3.98%	4.16%

Therefore the benchmark is calculated as below,
 $\text{Return on equity}_{\text{Nominal}} = (1 + 10.73\%) * (1 + 4.16\%) - 1 = 15.34\%$

Sub-step 2c: Calculation and comparison of financial indicators

The period considered for Post Tax Equity IRR calculations is 25 years, which corresponds to the operational lifetime of the project activity. The parameters considered for the financial assessment are given below:

Particulars	Value	Unit	Source/Remarks
No. of wind turbines	20	nos	As per DPR
Capacity of each wind turbine	3.6	MW	As per DPR
Capacity of the project	72	MW	As per DPR
Plant Load Factor	37.50%	%	As per DPR
Net generation	236.5200	GWh	Calculated
Project cost	161.00	USD Million	As per DPR
Debt	70%	%	As per DPR
Equity	30%	%	
Debt	112.70	USD Million	Calculated
Equity	48.30	USD Million	Calculated
Interest rate	8.00%	%	As per DPR
Debt Repayment tenure	15	years	As per DPR
Moratorium	1	year	
Operation and Maintenance (3rd year)	4.3	USD Million	As per DPR
Escalation in O & M	7%	%	As per DPR
Insurance premium	1.11	USD Million / Yr	As per DPR
Tariff	0.117	USD/kWh	As per DPR
Tariff (16th Year Onwards)	0.0744	USD/kWh	As per DPR
Depreciation Rate (Book)	4.00%	%	As per DPR
Income tax rate	25.00%	%	As per DPR
Salvage Value	5%	%	As per DPR

Depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, is added back to net profits for the purpose of calculating the financial indicator.

The following table illustrates the assumptions used for the calculation of the financial indicator i.e. Post Tax Equity IRR for the given project activity. The use of these parameters indicating if they are assumed or based on actual figures is explained in the table. All the relevant costs and revenues for the project activity have been considered for calculation of Post Tax Equity IRR.

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Post Tax Equity IRR for proposed project activity against the benchmark values are shown in table below. Thus, it is evident that the project is not financially attractive as the equity IRR is less below the benchmark value.

Post tax Equity IRR	8.41%
Benchmark Value	15.34%

The carbon revenue from the project activity would provide significant amount of returns from the sale of the Emission Reductions accrued from the project activity and in turn increase the financial attractiveness of the project activity and hence make the project activity more financially viable.

Sub-step 2d: Sensitivity Analysis

The robustness of the conclusion drawn above, namely that the project is not financially attractive, has been tested by subjecting critical assumptions to reasonable variation. As required by Annex 08 of EB97, only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation. PP has identified the total revenue from the project activity is dependent on the Tariff, Plant Load Factor, Project Cost and O&M Costs which constitute more than 20% of the project costs. These factors have been subjected to a 10% variation on either side and the results of the sensitivity analysis so conducted are given in the following tables.

Variation %	-10%	Normal	10%	Variation required to reach benchmark
Tariff	1.17%	8.41%	14.08%	12.37%
PLF	1.71%	8.41%	14.08%	12.37%
Project Cost	13.56%	8.41%	4.12%	-13.05%
O&M Cost	10.19%	8.41%	6.23%	-47.80%

An analysis has been done to identify the percentage variation at which the financial indicators will equal/breach the benchmark and the probability of its occurrence. Based on sensitivity analysis it can be concluded that the proposed project activity is additional with reasonable variation in values and is not likely to reach the benchmark value. The occurrence of these events is unlikely for the following reasons:

- Tariff:** The Tariff rate of electricity used for investment analysis is sourced from the offered tariff applicable at the time of investment decision. Furthermore, the project will breach the benchmark value at a tariff variation of 12.37%. Moreover, the actual tariff of the project less than the tariff mentioned in the DPR. Hence, the increase in the tariff is not possible.
- PLF:** The PLF value considered is based on Third Party PLF report & DPR and the IRR will breach the benchmark value at a PLF variation of 12.37%. The increase in PLF value to breach the benchmark is unlikely as the PLF considered is based on a detailed study. The actual PLF achieved during the year 2019 (37.7%) is also in line with the estimated PLF. Equity IRR at normative PLF values are less than the benchmark value and given the analysis above its highly unlikely that PLF will increase above breaching value.
- Project Cost:** A variation of -13.05% is required for IRR to breach benchmark which is highly unlikely as the project is already spent over 100% of the project cost; which is lesser than the estimated project cost however is within the sensitivity. The key reason behind the price revision is the contract values form the estimates offered by the in DPR.

- d) O&M Costs: The sensitivity analysis reveals that O&M will breach the benchmark at -47.80%. Since the O&M cost is subject to escalation/inflation, any reduction in the O&M costs is highly unlikely. Hence, the reduction in the O&M cost is highly unlikely.

The above analysis proves that varying the parameters does not lead to a Post Tax Equity IRR without carbon credit revenue, which will cross the benchmark value.

The carbon revenue from the project activity would provide returns from the sale of the Emission Reductions accrued from the project activity and in turn increase the financial attractiveness of the project activity and hence make the project activity more financially viable.

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:

- (a) The projects are located in the applicable geographical area;*
- (b) The projects apply the same measure as the proposed project activity;*
- (c) 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;*
- (d) 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;*
- (e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;*
- (f) The projects started commercial operation before the start date of proposed project activity, whichever is earlier for the proposed project activity.*

Step (1): Calculate applicable capacity or output range as +/- 50% of the total design capacity or output of the proposed project activity:

The capacity of the project activity is 72MW and hence the output range as per the guideline is selected to be 36MW to 108MW.

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

- a) As the project is located in Indonesia, therefore, the applicable geographical area is Indonesia and projects in the host country Indonesia have been chosen for analysis.
- b) The projects applying same measure (i.e, only renewable energy through wind) are selected as the proposed project activity is wind power project. Therefore, all projects applying same measure (b) as the proposed project activity are candidates for similar projects.
- c) The energy source used by the project activity is wind. Hence, only wind energy projects have been considered for analysis.
- d) The project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.
- e) The capacity range of the projects is within the applicable capacity range from 36MW to 108MW.

- f) The start date of the project activity is 12/12/2017. As Kyoto Protocol was ratified by Indonesia on 03rd December 2004¹¹, therefore projects which had started commercial operation from 03rd December 2004 to project's start date, have been identified.

However, the first wind project in Indonesia itself was commissioned on July 2018¹². No wind project was operational at the time of start date of the project activity¹³. Hence,

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

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} .

Since no wind project was operational in Indonesia at the time of start date of the project,

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

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} .

The different technologies are defined based on the scale of the project activity. Since the project is a large scale wind project, the wind project other than large scale wind project (ie, small scale) is defined as "different technology" projects. However, as mentioned above, there is no wind project was commissioned before the start date of the project. Hence,

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

Step (5): calculate factor $F = 1 - N_{\text{diff}}/N_{\text{all}}$ 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

$$F = 1 - N_{\text{diff}}/N_{\text{all}}$$

$$F = 1 - (0/0) = 1$$

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

Outcome of Step 5:

As,

- i. $F = 0$; is greater than 0.2
- ii. $N_{\text{all}} - N_{\text{diff}} = 0$; is not more than 3

Since, $N_{\text{all}} - N_{\text{diff}}$ is not more than 3, the proposed project activity is not a "common practice" within a sector in the applicable geographical area.

¹¹ http://unfccc.int/tools_xml/country_ID.html

¹² <http://iesr.or.id/wp-content/uploads/2018/12/Indonesia-Clean-Energy-Outlook-2019-new.pdf>

¹³ Since no wind project was commissioned in Indonesia at the time of starting of the project, the project also qualifies under 'First of its kind'. However, PP proved additionalty for better representation of additional financial requirements.

The analysis clearly demonstrates that project activity is not a common practice within the sector in the applicable geographical area. Therefore, it can be concluded that the project activity is additional and requires carbon credits revenues to alleviate the investment barrier to the project activity.

Chronology:

The below table represents the chronology of the project activity:

Events related to project implementation	GS relevant events	Dates
Completion of DPR	-	May 2017
Board decision for investing in Project and securing carbon credits	Investment decision	04/06/2017
Placement of the Purchase Orders	Start date of the project activity	12/12/2017
GS Readiness	Appointment of the Gold Standard consultant	04/07/2017
GS Compliance	First submission of project	04/12/2018
Commissioning of project	COD	09/12/2018
GS Compliance	Appointment of DOE	01/06/2019
GS Compliance	Notices and Publication about consultation meeting	12/09/2019
GS Compliance	Stakeholder' consultation meeting	19/09/2019-
GS Compliance	Stakeholder Feedback Round	06/02/2020 – 05/04/2020 & 17/04/2020 to 16/06/2020

From the above chronology of the project it is evident that the PP has taken real action to secure GS registration status in parallel with implementation of the project activity.

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](#).)

SDG Goal	Relevant SDGs Targets	Corresponding Indicator
SDG 3: Ensure healthy lives and promote wellbeing for all at all ages	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.	Health Camps, Knowledge and information dissemination regarding natural disasters

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	Electricity produced and supplied to the grid in MWh
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.5: 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	1) Number of trainings provided to employees 2) Employment generated due to project activity during construction as well as O&M phase.
SDG 13: Take urgent action to combat climate change and its impacts	Goal: Integrate climate change measures into national policies, strategies and planning	Emission reductions in tCO ₂

The appropriateness of the selection of SDGs are justified below:

SDG Goal	Relevant SDGs Targets	Justification
SDG 3: Ensure healthy lives and promote wellbeing for all at all ages	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.	The project developer will undertake CSR activities such as Health Camps, Knowledge and information dissemination regarding natural disasters etc to improve the health and wellbeing of local people. Hence, the project contributes to SDG 3.

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	The project involves generation of renewable energy (wind) and supply to the grid which increase the renewable energy share in the generation mix. Hence, project contributes to SDG 7.
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.5: 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	The wind project is a first of its kind project in the Country. The project also generates new employment opportunities to the local people. The employees are trained in the operation & maintenance of new upcoming technologies which makes the employees more eligible to take the new opportunities in the area. The salary is determined by the Company based on education background, experience, skill/competency, responsibility, job values, and performance of an employee; Not based on the gender Hence, project contributes to SDG 8.
SDG 13: Take urgent action to combat climate change and its impacts	Goal: Integrate climate change measures into national policies, strategies and planning	The project generates clean electricity which avoids the carbon intensive electricity from the grid connected power plants. This results in GHG emission reduction. Hence, the project contributes to SDG 13.

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 Policy 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. Apart from these activities, some or all of which will be conducted in any given year, following SDGs will be impacted every year:

SDG Goal	Monitoring Plan
SDG 3: Ensure healthy lives and promote	<u>Method:</u> Monitored through CSR records and photographic collection <u>Frequency:</u> Annual

wellbeing for all at all ages	<p><u>QA/QC procedures:</u> The CSR activity data is archived at head office for at least 2 years.</p> <p><u>Purpose:</u> To record the no. of CSR activities and trainings provided to the stakeholders through the project activity</p>
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	<p><u>Method:</u> Monitored through energy meter. Net electricity will be calculated by DISCOM and O&M operator on monthly basis and provided in the share certificate.</p> <p><u>Frequency:</u> Monthly</p> <p><u>QA/QC procedures:</u> Net electricity supplied to the grid by the project activity will be cross checked with invoices submitted to EB. The meter(s) shall be calibrated on a regular basis.</p> <p><u>Purpose:</u> To measure the electricity produced and supplied to the grid</p>
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<p><u>Method:</u> Ongoing data collection and storage under HSE records & HR Records.</p> <p><u>Frequency:</u> Annual</p> <p><u>QA/QC procedures:</u> Transparent data collection, analysis and reporting.</p> <p><u>Purpose:</u> To identify and record the no. of trainings provided to the employees as well as employment generated due to project activity</p>
SDG 13: Take urgent action to combat climate change and its impacts	<p><u>Method:</u> Using processes and equations provided under "Tool to calculate the emission factor for an electricity system",</p> <p><u>Frequency:</u> Every monitoring period</p> <p><u>QA/QC procedures:</u> Transparent data collection, analysis, calculation and reporting.</p> <p><u>Purpose:</u> To calculate emissions avoided due to the project activity</p>

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	NA
Data/Parameter	1. NA
Unit	NA
Description	NA
Source of data	NA
Value(s) applied	NA
Choice of data or measurement methods and procedures	NA
Purpose of data	NA
Additional comment	NA

No parameter is fixed-ante in this project activity.

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

Project Emissions:

As per the approved consolidated Methodology ACM0002 (Version 20.0) para 34:

"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:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y} \quad \text{Equation (1)}$$

Where:

- PE_y = Project emissions in year y (t CO₂e/yr)
- $PE_{FF,y}$ = Project emissions from fossil fuel consumption in year y (t CO₂/yr)
- $PE_{GP,y}$ = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO₂e/yr)
- $PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year y (t CO₂e/yr)"

As the project activity is the installation of a new grid-connected Wind power plant/ unit and does not involve any project emissions from fossil fuel, operation of dry, flash steam or binary geothermal power plants, and from water reservoirs of hydro power plants. Therefore $PE_{FF,y}$, $PE_{GP,y}$, $PE_{HP,y}$ are equal to zero and thus, $PE_y = 0$.

Baseline Emissions:

The baseline emission is calculated in line with para 42 of AC0002, Version 20, using equation below

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

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 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)

AS per para 44 of ACM0002, version 20, when the project activity is installation of Greenfield power plant, then:

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

Where,

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

$EG_{facility,y}$ is determined based on the DPR Energy Assessment report prepared by the DNV GL, a Third party engineering company. As per the report, the expected PLF of the project is 37.5%. Based on the PLF, the net generation of the project is estimated to be 236,520 MWh

Emission factor Calculation:

PP choose to monitor the emission factor Ex-post as per the latest version of "tool to calculate the emission factor of an electricity system". For the ex-ante calculation, following approaches for emission factor calculations has been used:

- (a) Combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the approved methodology "Tool to calculate the emission factor for an electricity system". OR
- (b) The weighted average emissions (in t CO₂/MWh) of the current generation mix. The data of the year in which project generation occurs must be used.

Option (a) has been considered to calculate the grid emission factor as per the 'Tool to calculate the emission factor for an electricity system' since data is available from an official source.

CO₂ Baseline Database for the Indonesian Power Sector, published by Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) has been used for the calculation of emission reduction.

As per the "Tool to calculate the emission factor for an electricity system" Version 07.0 the following steps have been followed.

STEP 1: Identify the relevant electricity systems;

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

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

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

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

STEP 1: Identify the relevant electricity power systems

The tool defines that "for determining the electricity emission factors, identify the relevant 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". The project chooses "Sulselbar regional grid" as the project is located within the South Sulawesi region and supply electricity to Sulselbar regional grid.

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

Project participants have the option of choosing between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.

Option II: Both grid power plants and off-grid power plants are included in the calculation.

Option I corresponds to the procedure contained in earlier versions of this tool. Option II allows the inclusion of off-grid power generation in the grid emission factor. Option II aims to reflect that in some countries off-grid power generation is significant and can partially be displaced by CDM project activities, e.g. if off-grid power plants are operated due to an unreliable and unstable electricity grid. Option II requires collecting data on off-grid power generation and can only be used if the conditions outlined therein are met. Option II may be chosen only for the operating margin emission factor or for both the build margin and the operating margin emission factor but not only for the build margin emission factor. If Option II is chosen, off-grid power plants should be classified in different classes of off-grid power plants.

Each off-grid power plant class should be considered as one power plant j , k , m or n , as applicable. In case of the project Option I is chosen with only grid power plants included in the calculation.

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

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods, which are described under Step 4:

- (a) Simple OM, or
- (b) Simple adjusted OM, or
- (c) Dispatch data analysis OM, or
- (d) Average OM.

PP has chosen Option (a) i.e. simple OM, to determine the operating margin. Other available options in the tool were ruled out considering the fact that data required to calculate simple adjusted OM or dispatch data analysis is not available publically. As per the tool, low cost/must run resources typically include hydro, geothermal, wind, low-cost biomass, nuclear and solar generation. Data for the same, as published by Central Electricity Authority, has been presented below which illustrates that low cost/must run resources constitute less than 50% of total Indonesia Power Grid generation, hence, the average OM method could not have been used.

The above data clearly shows that the percentage of total grid generation by low cost/must run plants (on the basis of average of three most recent years) for the Indonesia Power Grid is less than 50 % of the total generation. Thus the average emission rate method cannot be applied, as low cost/must run resources constitute less than 50% of total grid generation.

The "Simple operating margin" has been calculated as per the weighted average emissions (in tCO_2/MWh) of all generating sources serving the system, excluding hydro, geo-thermal, wind, low- cost biomass, nuclear and solar generation;

As per tool to calculate emission factor for an electricity system (Version 07), 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: 1) average of the five most recent years, or 2) based on long-term averages for hydroelectricity production. Since the low cost/must run resources constitute less than 50% of total grid generation as seen from the average of five most recent years, the Simple OM method can be used to calculate the Operating Margin Emission factor.

PP has chosen ex post option, thus, monitoring and recalculation of the emissions factor during the crediting period is required.

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 CO_2 emissions per unit net electricity generation (tCO_2/MWh) of all generating power plants serving the system, not including low-cost / must-run power plants / units.

The simple OM may be calculated:

- Option A: Based on the net electricity generation and a CO_2 emission factor of each power unit; or
- Option B: 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.

This database data published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia provides information about the Combined Margin Emission Factors of all the regional electricity grids in Indonesia. The Combined Margin in the database is calculated ex post using the guidelines provided by the UNFCCC in the "Tool to calculate the emission factor for an electricity system,

Version 07". We have, therefore, used the Combined Margin data published for calculating the Baseline Emission Factor.

As per „Tool to calculate the emission factor for an electricity system“, Option A (“Based on the net electricity generation and a CO₂ emission factor of each power unit”) is used to calculate simple OM emission factor. Where Option A is used, the simple OM emission factor is calculated based on the electricity generation of each power unit and an emission factor for each power unit, as follows:

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

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

PP chooses Ex-post option (Option B) in estimation of OM. Since the OM data is generally published 18 months after the end of year y, the emission factor of the year proceeding the previous year y-2 shall be used. If the y-2 data is also not available at the time of end of the year y, whichever latest data available at that time shall be used

For the ex-ante calculation the OM is estimated based on the latest data available is for the year 2017. As per the data published Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia), the OM for the year 2017 is estimated to be:

Parameter	Value	Units
Operating Margin : $EF_{grid,OM}$	0.59	tCO ₂ /MWh

Step 5: Calculate the build margin (BM) emission factor, $EF'_{grid,BM,y}$

The project participants have chosen Option 2, i.e. updating build margin emission every year. Since the OM data is generally published 18 months after the end of year y, the emission factor of the year proceeding the previous year y-2 shall be used. If the y-2 data is also not available at the time of end of the year y, whichever latest data available at that time shall be used.

For the ex-ante calculation, the BM is estimated based on the latest data available is for the year 2017 which is the most recent information available during validation.

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:

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

Where:

$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (t CO₂ e/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 (t CO₂ e/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 options A1B1 using for y the most recent historical year for which power generation data is available, and using for m the power units included in the build margin. As per the data published Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia), the OM for the year 2017 is estimated to be:

Parameter	Value	Units
Build Margin : $EF_{grid,BM}$	1.15	tCO ₂ /MWh

Step 6: Calculate the combined margin (CM) emissions factor

The combined margin is the weighted average of the simple operating Margin and the build margin. In particular, for intermittent and non-dispatchable generation types such as wind and solar photovoltaic, the 'Tool to calculate the emission factor for an electricity system', allows to weigh the operating margin and Build margin at 75% and 25%, respectively

$$EF_{Indonesian,grid,y} = (EF_{Indonesian,OM,y} \times W_{OM}) + (EF_{Indonesian,BM,y} \times W_{BM})$$

$$= (EF_{Indonesian,OM,y} \times 75\%) + (EF_{Indonesian,BM,y} \times 25\%)$$

The Ex-post emission factor was estimated by the Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) for the South & West Sulawesi - Sulsebar and the final values are presented below:

Parameter	Value	Units
Combined Margin : $EF_{Indonesian,grid,y}$	0.7300	tCO ₂ /MWh

Project Emissions:

As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the project activity is a wind power project, hence $PE_y = 0$.

Leakage Emissions:

As per applied methodology no source of leakage emissions identified under proposed project activity. Hence, $LE_y = 0$

Emission reduction (ER_y):

The project activity mainly reduces carbon dioxide through substitution of grid electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction ER_y by the project activity

during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

$$ER_y = BE_y - PE_y$$

Where,

ER_y = Emission Reduction in tCO_2 /year

BE_y = Baseline emission in tCO_2 /year

PE_y = Project emissions in tCO_2 /year

$$ER_y = 172,659 - 0 = 172,659 \text{ tCO}_2$$

Estimation of other SDGs

SDGs	Parameter	Annual Estimation	Source
SDG 3	Community Development Activities	3 Activities/year	Assumption based on CSR policy
SDG 7	Net Electricity supplied to grid	236,520 MWh/year	Assumption based on the DPR
SDG 8	Trainings provided to employees & O&M staffs	10 Training/year	Assumption
	Cost spent for O&M	4.3 Million USD /year	Assumption based on the DPR
	Number of employment generated	75 Jobs during operation	Assumption based on the DPR

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

SDG 13 Climate Action (Emission Reduction)

Year	Baseline estimate	Project estimate	Net benefit
Year 1	172,659 tCO_2	0 tCO_2	172,659 tCO_2
Year 2	172,659 tCO_2	0 tCO_2	172,659 tCO_2
Year 3	172,659 tCO_2	0 tCO_2	172,659 tCO_2
Year 4	172,659 tCO_2	0 tCO_2	172,659 tCO_2
Year 5	172,659 tCO_2	0 tCO_2	172,659 tCO_2
Total	863,259 tCO_2	0 tCO_2	863,259 tCO_2
Total number of crediting years	5		
Annual average over the crediting period	172,659 tCO_2	0 tCO_2	172,659 tCO_2

SDG 3: Good Health and Well-Being (Community Development Activities)

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 activities	3 Activities/year	3 Activities/year

Year 2	0 activities	3 Activities/year	3 Activities/year
Year 3	0 activities	3 Activities/year	3 Activities/year
Year 4	0 activities	3 Activities/year	3 Activities/year
Year 5	0 activities	3 Activities/year	3 Activities/year
Total	0 activities	15 Activities/year	15 Activities/year
Total number of crediting years	5 Years		
Annual average over the crediting period	0 activities	3 Activities/year	3 Activities/year

SDG 7: Affordable and Clean Energy (Electricity supplied to grid)

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 MWh	236,520 MWh	236,520 MWh
Year 2	0 MWh	236,520 MWh	236,520 MWh
Year 3	0 MWh	236,520 MWh	236,520 MWh
Year 4	0 MWh	236,520 MWh	236,520 MWh
Year 5	0 MWh	236,520 MWh	236,520 MWh
Total	0 MWh	1182600 MWh	1182600 MWh
Total number of crediting years	5 Years		
Annual average over the crediting period	0 MWh	236,520 MWh	236,520 MWh

SDG 8: Decent Work and Economic Growth (Training Provided to staff, O&M Cost spent & Employment generation)

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation
Year 2	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation

Year 3	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation
Year 4	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation
Year 5	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation
Total	0 Training, 0 O&M cost spent & 0 employment	<ul style="list-style-type: none"> • 50 Training provided to O&M staff/year • 21.5 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 50 Training provided to O&M staff/year • 21.5 Million USD spent on O&M/year • 75 Employment generation
Total number of crediting years	5 Years		
Annual average over the crediting period	0 Training, 0 Jobs, 0 O&M spent	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation 	<ul style="list-style-type: none"> • 10 Training provided to O&M staff/year • 4.3 Million USD spent on O&M/year • 75 Employment generation

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 Indicator/Safeguarding Principle	SDG13 : Take urgent action to combat climate change and its impacts
Data / Parameter	EF _{OM, y}
Unit	tCO ₂ /MWh

Description	Operating Margin CO ₂ emission factor for the Indonesia Power Grid in year y
Source of data	Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) for the Selselbar Grid. ¹⁴
Value(s) applied	0.59
Measurement methods and procedures	Published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia)" in line with "Tool to calculate the emission factor for an electricity system" This is calculated using ex-post option.
Monitoring frequency	Measurement: Annual Recording: Annual
QA/QC procedures	-
Purpose of data	Baseline emission calculation
Additional comment	Since the OM data is generally published 18 months after the end of year y, the emission factor of the year proceeding the previous year y-2 shall be used. If the y-2 data is also not available at the time of end of the year y, whichever latest data available at that time shall be used.

Relevant Indicator/Safeguarding Principle	SDG13 : Take urgent action to combat climate change and its impacts
Data / Parameter	EF _{BM, y}
Unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor for the Indonesia Power Grid in year y
Source of data	Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) for the Selselbar Grid. ¹⁵
Value(s) applied	1.15
Measurement methods and procedures	Published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia)" in line with "Tool to calculate the emission factor for an electricity system" This is calculated using ex-post option.
Monitoring frequency	Measurement: Annual Recording: Annual
QA/QC procedures	-
Purpose of data	Baseline emission calculation
Additional comment	Since the OM data is generally published 18 months after the end of year y, the emission factor of the year proceeding the previous year y-2 shall be used. If the y-2 data is also not available at the time of end of the year y, whichever latest data available at that time shall be used.

¹⁴ http://gatrik.esdm.go.id/frontend/download_index/?kode_category=emisi_pl

¹⁵ http://gatrik.esdm.go.id/frontend/download_index/?kode_category=emisi_pl

Relevant Indicator/Safeguarding Principle	SDG	SDG13 : Take urgent action to combat climate change and its impacts
Data / Parameter		EF_{grid,CM, y}
Unit		tCO ₂ /MWh
Description		Combined Margin CO ₂ emission factor for the Indonesia Power Grid in year y
Source of data		Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia) for the Selselbar Grid. ¹⁶
Value(s) applied		0.73
Measurement methods and procedures		Published By Directorate General of Electricity (Ministry of Energy and Mineral Resources or DNA Indonesia)" in line with "Tool to calculate the emission factor for an electricity system" This shall be calculated based on Operating Margin (OM) and Build Margin (BM) using the weights of $w_{OM} = 0.75$ and $w_{BM} = 0.25$.
Monitoring frequency		Measurement: Annual Recording: Annual
QA/QC procedures		-
Purpose of data		Baseline emission calculation
Additional comment		Since the OM data is generally published 18 months after the end of year y, the emission factor of the year proceeding the previous year y-2 shall be used. If the y-2 data is also not available at the time of end of the year y, whichever latest data available at that time shall be used.

Relevant Indicator/Safeguarding Principle	SDG	SDG 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix
Data / Parameter		EG_{facility,y}
Unit		MWh/year
Description		Quantity of net electricity supplied to the grid during the year y.
Source of data		Monthly energy generation statement issued by PLN. These are called JMR (Joint Meter Reading)
Value(s) applied		236,520
Measurement methods and procedures		Net electricity supplied will be calculated based on the difference between values of "export" and "import" on the energy meter at the sub-station (evacuation point). (Net Electricity = Export – Import) The net electricity will be calculated by PLN and provided in the monthly generation statement. Hence, the net electricity reading will be directly sourced from the monthly generation statement.

¹⁶ http://gatrik.esdm.go.id/frontend/download_index/?kode_category=emisi_pl

Monitoring frequency	<p>Monitoring equipment: Energy meters (installed at TRAFO 1 and TRAFO 2 lines)</p> <p>Metering Location: 150 kV side of Tolo Substation</p> <p>Accuracy of Energy meters: 0.2</p> <p>Measurement frequency: Continuous</p> <p>Recording: Monthly</p> <p>Monitoring Method: recording export & import in "generation statement"</p> <p>This statement includes, monthly recording of electricity export & import.</p>
QA/QC procedures	<p>Net electricity supplied to the grid by the project activity will be cross checked with invoices. The meter(s) shall be calibrated and maintained by the authorities as per their schedule, and this frequency of meter calibration is not within the control of the Project Proponent. However, the project proponent shall ensure that calibration of electricity meters is carried at least once in 5 year calibration or whenever abnormal difference/inconsistency is observed between main meter and check meter.</p>
Purpose of data	Baseline emission calculation ($EG_{facility,y}$)
Additional comment	MWh/year

Relevant SDG Indicator/Safeguarding Principle	SDG 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
Data / Parameter	Good Health & Well being
Unit	Number of Health Camps, Knowledge and information dissemination regarding natural disasters
Description	Community Development Activities
Source of data	CSR records and photographic evidence
Value(s) applied	<p>PP conducted survey during construction phase of the project in the villages near project locations to check the requirement of facilities by the villages. From the survey, PP has identified several scope of developmental activities such as health camps, furniture, sports kits and toilet requirements in government schools, drinking water requirements etc.</p> <p>PP has started implementing the CSR activities. During the monitoring period the CSR activities like:</p> <ul style="list-style-type: none"> • Construction of Toilets at schools • Establishment of water purifier with cooler • Organization of Health camps • Training on agricultural, irrigation and fertilizers techniques by agricultural professionals <p>The project has positive impact on this parameter as there were no socially oriented CSR activities before the project activity. Thus, the project has positive impact on the indicator.</p>
Measurement methods and procedures	-
Monitoring frequency	Yearly Once

QA/QC procedures	-
Purpose of data	To monitor the contribution to SDG 3 (Ensure healthy lives and promote well-being for all at all ages)
Additional comment	-

Relevant Indicator/Safeguarding Principle	SDG SDG 8.5: 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
Data / Parameter	Quality of employment
Unit	Number of Trainings provided to employees & O&M staffs
Description	Trainings provided to employees & O&M staffs
Source of data	Training Records, HSE & HR records
Value(s) applied	<p>Some of the trainings & workshops that are given to the O&M staffs by management of O&M service provider.</p> <ul style="list-style-type: none"> • Met Mast Training • Defensive Driving Course • GWO Training • LOTO Training • Crisis Management <p>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.</p>
Measurement methods and procedures	List of training programmes conducted and the number of beneficiaries
Monitoring frequency	Yearly Once
QA/QC procedures	-
Purpose of data	To monitor the contribution to SDG 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)
Additional comment	-

Relevant Indicator/Safeguarding Principle	SDG SDG 8.5: 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
Data / Parameter	Quantitative employment and income generation
Unit	<ul style="list-style-type: none"> • Cost spent for O&M • Number of O&M staffs involved in the project
Description	Total employment generated due to the implementation of project activity and the amount spent for O&M activities due to the project.
Source of data	Plant employment records

Value(s) applied	<p>- 4.3 Million USD spent on O&M./year (Assumption as per DPR)</p> <p>- 75 jobs during operation of the project. (As per actual employment records)</p> <p>The employment generation during operation includes 4 staff at head office, 18 O&M staff at site, 6 from contractor, 35 security personnel and 12 supporting staff.</p>
Measurement methods and procedures	Employment records
Monitoring frequency	Yearly Once
QA/QC procedures	-
Purpose of data	To monitor the contribution to SDG 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)
Additional comment	-

Relevant Indicator/Safeguarding Principle	SDG	Safeguarding Principle 8.2: Erosion and/or Water Body Instability
Data / Parameter		Soil Erosion
Unit		-
Description		<p>As per ESIA report, following mitigation measures shall be followed:</p> <ul style="list-style-type: none"> • Implement silt control measures such as silt fences and silt traps. • Stockpiles of excavated materials should be stored appropriately in designated areas and at a minimum distance of 10m from any nearby watercourses or drains. • Control of the generation of silt laden surface water runoff will be by use of mitigation measures such as bunds, settlement ponds, silt fences, silt traps, or by covering the stockpiles with plastic sheeting. Long term stockpiles will be placed at a suitable gradient and grass planted.
Source of data		Project O&M HSE logbook, or interview with maintenance staff.
Value(s) applied		-
Measurement methods and procedures		-
Monitoring frequency		Yearly Once
QA/QC procedures		-
Purpose of data		To monitor compliance to Safeguarding Principle 8.2 (Erosion and/or Water Body Instability)
Additional comment		-

Relevant Indicator/Safeguarding Principle	SDG	Safeguarding Principle 9.5 Hazardous and Non-hazardous Waste
Data / Parameter		Hazardous waste management

Unit	-
Description	As per ESIA report, the following management measures shall be followed: <ul style="list-style-type: none"> • Provision of proper temporary storage for hazardous waste • Waste segregation • Waste disposal by an appointed/accredited waste disposer company
Source of data	Project O&M HSE logbook, or interview with maintenance staff.
Value(s) applied	-
Measurement methods and procedures	-
Monitoring frequency	Yearly Once
QA/QC procedures	-
Purpose of data	To monitor compliance to Safeguarding Principle 9.5 (Hazardous and Non-hazardous Waste))
Additional comment	-

Relevant Indicator/Safeguarding Principle	SDG	Safeguarding Principle 9.1: Landscape Modification and Soil
Data / Parameter		Maintenance of Landscape visual impact
Unit		Aesthetics
Description		As per ESIA report, the following management measures shall be followed: <ul style="list-style-type: none"> • Maintain a uniform size and design of turbines (e.g., type of turbine and tower, as well as height). • Locals will be consulted wherever a WTG location or access road was in vicinity to a settlement. • The WTGs are painted with non-reflect paints and are not glary. • Re-vegetation taken up as necessary after construction, in order to reduce the risk of soil erosion.
Source of data		Technical specification of WTGs Project Grievance register, or interview with local villagers
Value(s) applied		±
Measurement methods and procedures		-
Monitoring frequency		Yearly Once
QA/QC procedures		-
Purpose of data		To monitor compliance to Safeguarding Principle 9.1 (Landscape Modification and Soil)
Additional comment		-

Relevant Indicator/Safeguarding Principle	SDG	Safeguarding Principle 9.11: Endangered Species
Data / Parameter		Bird & Bat Deaths
Unit		Bird Carcass Count

Description	As per ESIA report, the following management measure shall be followed: <ul style="list-style-type: none"> • During the siting activity, it was ensured that there are no water bodies beside WTGs. • Water pits are not allowed around the WTGs. • Maintains a Bird strike register
Source of data	Bird Strike register, or interview with local villagers.
Value(s) applied	-
Measurement methods and procedures	-
Monitoring frequency	Continuous
QA/QC procedures	-
Purpose of data	To monitor compliance to Safeguarding Principle 9.11 (Endangered Species) -
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.)

Not Applicable

B.7.3. Other elements of monitoring plan

>>

Not Applicable

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.)

12/12/2017 (Placement of Purchase order for wind turbine generator)

C.1.2. Expected operational lifetime of project

>> (Specify in years)

25 years

C.2. Crediting period of project

Renewable crediting period

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.)

10/12/2018 (date of commissioning of the 1st WTG)

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, (renewable)

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 SAFEGUARDING PRINCIPLES				
Principle 1 - Human Rights				
1 Human Rights	<p>1. The Project Developer 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.</p> <p>2. The Project shall not discriminate with regards to participation and inclusion.</p>	No	<p>1. During construction and operation of the project the project proponent respected all the human rights. The project is not in any kind of conflict with the livelihood of local people. Project proponent had conducted stakeholder's consultation and sought their opinion. ESIA Report also confirms that the PP will comply with local regulations related to labor and working conditions and maintain a human rights policy that is consistent with global standards.</p> <p>2. The project will not employ any personnel based on gender, race, religion, sexual orientation or any other basis. As the Constitution of the host country</p>	Not Required

			prohibits discrimination on the basis of a person's race, sex, religion, place of birth, or social status. Section 2.3 of the ESIA Report also confirms the same. Indonesia, as the host country of the project, is a party to Universal Declaration of Human Rights ¹⁷ and also ratified ILO Convention 111 on Discrimination (Employment and Occupation) ¹⁸ .	
Principle 2 – Gender Equality and Women’s Rights				
2 Gender Equality and Women’s Rights	The Project shall complete the following gender assessment questions in order to inform Requirements, 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? 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)? 3. Is there a possibility that the Project might not take into account gender roles and the abilities of women	No	<ol style="list-style-type: none"> 1. The project is located in the unproductive agricultural in that it lacks irrigation and produces only one crop per year. The project does not decrease women’s access to or control of resources. Refer ESIA Report. 2. No evidence to show the construction of the wind project affect men and women in marginalised or vulnerable communities. ESIA report does not identify any such risk. No, there is no possibility of adverse effect. 3. No, during the decision, designs even operation of the project activity, the project developer, employs people base on the principle of open, fair opportunity without the discrimination on men or 	Not Required

¹⁷ <http://www.komnasham.go.id/profil>

¹⁸ https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:102938

	<p>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)?</p> <p>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)?</p> <p>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?</p> <p>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?</p> <p>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</p>		<p>women. The ESIA report also specifies the project will ensure the gender equality by creating jobs for women..</p> <p>4. The project developer gives the benefit including salary, social welfare and bonus base on the workload and position and without setting any criteria to specially benefit men or women.</p> <p>5. No the Project was not designed to increase women's workload nor add prevent women from engaging in other activities.</p> <p>6. There is no place for discrimination against women in this Project. The project does not discriminate on basis of gender, caste or religion.</p> <p>7. The Project will not limit women's ability regarding natural resources. The project being wind power project thus does not have any major impact on natural resources of the region. No such risks identified in the ESIA report also.</p> <p>8. No the Project will not expose women and girls to further risks or hazards.</p>	
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	<p>goods and services?</p> <p>8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?</p> <p>The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women.</p> <ol style="list-style-type: none"> 1. Sexual harassment and/or any forms of violence against women - address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. 2. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. 3. Restriction of women's rights or access to resources (natural or economic). 4. 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. 		<ol style="list-style-type: none"> 1. The project proponent has a grievance cell which would look into complaints. 2. There is no such risk for the project. Participation in the project is 100% voluntary. The project proponent has a grievance cell which would look into complaints. The project does not involve in slavery, imprisonment or coercion of women and girls. 3. The Project will not restrict women's rights or access regarding natural resources. The project proponent does not discriminate on gender, caste, religion etc. 4. Marital status is completely irrelevant to the Project. The project proponent does not discriminate on gender, caste, religion etc. <p>Yes, the Project has equal opportunity for women and men to contribute both in volunteer and working positions</p>	
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	<p>Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work, specifically:</p> <ol style="list-style-type: none"> 1. 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. 2. Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. 3. Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits. <p>The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.</p>		<ol style="list-style-type: none"> 1. The project proponent has a stipulated HR policy that takes into account participation by both men and women. Further, the CSR projects designed are implemented for equal participation of both men and women. 2. There is no limit on the access to Project participation and benefits from either of these conditions. 3. There are no such conditions that limit the access of women or men for participation. <p>The project is aligned to Indonesia's strategy for elimination of all discrimination.</p> <p>Indonesia is also party to Convention 100 (Equal remuneration) since 1958 and 111 on Discrimination in employment/occupation since 1999 to prevent any form of discrimination¹⁹</p>	
Principle 3 – Community Health, Safety and Working Conditions				
3 Community Health, Safety and Working Conditions	The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	The project is in compliance with all relevant local and national laws. The Project does not threaten human health or environment and does not adversely affect the	Not Required

¹⁹ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

			health of the workers and the community. The workers will be trained in safety and employees will be provided appropriate safety equipments. Refer ESHS manual for detailed assessment. (ESIA Report-Appendix 1)	
Principle 4 – Cultural Heritage, Indigenous Peoples, Displacement and Resettlement				
4.1 Sites of Cultural and Historical Heritage	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)?	No	The project does not alter, damage or remove any cultural heritage. Refer ESIA report for detailed assessment.	Not Required
4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project does not involve and is not complicit in involuntary resettlement of peoples in any way. The Project Developer has also obtained all necessary clearances from nodal agencies and clearances from all relevant authorities for establishing the project. Refer ESIA report for detailed assessment.	Not Required
4.3 Land Tenure and Other Rights	<p>1. The Project Developer shall identify all such sites/matters potentially affected by the Project. For all such sites/matters identified the Project shall respect and safeguard:</p> <p>(a) Legal rights, or</p> <p>(b) Customary rights, or</p> <p>(c) Special cultural, ecological, economic, religious or spiritual significance of people shall be demonstrably promoted/protected.</p> <p>2. Changes in legal arrangements must be in line with relevant law and</p>	No	<p>1. The project has all the legal, customary rights on the land and does not require any change to land tenure arrangements. The ownership of the complete land is with the PP. The proponent has also obtained necessary clearances from nodal agencies and clearances from all the relevant authorities for establishing the plant.</p> <p>2. This is not applicable as the project does not require</p>	Not Required

	<p>regulation and must be carried out in strict adherence with such laws. All legal disputes must be resolved prior to Project being carried out in such areas. All such changes must be demonstrated as having been agreed with free, prior and informed consent.</p> <p>3. The Project Developer must hold uncontested land title for the entire Project Boundary to complete Project Design Certification.</p>		<p>any change to land tenure arrangements. The land acquisition process has been completed in the 8 villages within Jeneponto Regency. During the process, the final configuration of the wind farm layout (e.g. access road) has gone through some modifications to accommodate land owners who did not want to sell their land to the project. There is no dispute or other serious problems have occurred in this project. This can be confirmed from 'Green Finance Framework of Vena Energy' Evaluation report by Japan Credit Rating Agency.</p> <p>3. The project developers holds the land title for the all the land covered in the project activity.</p>	
4.4 Indigenous Peoples	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?	No	The project is a wind power project and it is not located on land/territory claimed by any indigenous peoples. Refer Chapter 10 of ESIA report.	Not Required
Principle 5 – Corruption				
5 Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	<p>The proponent confirms that there is no corruption involved in the project activity. The host country has strict laws and robust arrangements to prevent such activities.</p> <p>Indonesia is a party to United Nation Convention against Corruption since 18 Dec 2003²⁰:</p>	Not Required
ECONOMIC SAFEGUARDING GUIDELINES				
Principle 6 – Economic Impacts				
6.1 Labour Rights	1. The Project Developer shall ensure that there is no	No	1. The proponent assures	Not Required

²⁰ https://treaties.un.org/pages/viewdetails.aspx?src=ind&mtdsg_no=xviii-14&chapter=18&lang=en#EndDec

	<p>forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard.</p> <p>2. Workers shall be able to establish and join labour organisations.</p> <p>3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise: (a) Working hours (must not exceed 48 hours per week on a regular basis), AND (b) Duties and tasks, AND (c) Remuneration (must include provision for payment of overtime), AND (d) Modalities on health insurance, AND (e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND Provision for annual leave of not less than 10</p>		<p>that there will be no bonded or forced labor during construction and operation of the project activity. Uniform policy will be implemented for all employees. The host country has robust laws in place prohibiting forced and compulsory labor. Refer Chapter 6 of ESIA Report.</p> <p>Indonesia is a party to ILO convention 29 (since 1950) and 105 (since 1999) on elimination of forced and compulsory labour²¹.</p> <p>2. The proponent confirms that all the fundamental rights of the employees will be respected. There is no restrictions for labours to establish and join labour organizations. Indonesia has ratified the ILO convention 87 (freedom of association) in 1998 and 98 (right to collective bargaining) since 1957²²</p> <p>3. Working agreements with all individual workers are documented and implemented. As per HR policy the normal working hours shall be 8 hours a day and 40 hours a week, consisting of 5 working days. Refer HR Policy – Appendix 6 of ESIA report for more details.</p>	
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²¹ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

²² http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

	<p>days per year, not including sick and casual leave.</p> <p>4. The Project Developer shall justify that the employment model applied is locally and culturally appropriate.</p> <p>5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the Project design.</p> <p>6. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.</p>		<p>4. The Project Developer ensures that local workers/employees are preferred, to the extent possible, for employment during construction as well as operation phase of the project ensuring skill development in the local populace. The employment model executed is locally and culturally appropriate. Refer HR Policy – Appendix 6 of ESIA report</p> <p>5. Child labor is strictly prohibited in the country. The proponent assures that no child labor will be employed during construction and operation of the plant. The project proponent has a set mechanism to ensure the age of all the temporary/permanent employees during the life time of the project. Refer Chapter 6 of ESIA report.</p> <p>Indonesia is also a party to convention 138²³ on Minimum Age since 1999 and Convention 182 on Worst Forms of Child Labour since 2000.</p> <p>6. The Project Developer has an active HSE team which ensures that all employees are given appropriate equipment and training. The same is properly documented and appropriate measures taken in case of emergencies. Refer ESHS Manual (Appendix 1 of ESIA report).</p>	
6.2 Negative Economic Consequences	1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also	No	1. The PP has signed long term PPA with the PLN for 30 years. Hence, the project will have financial sustainability beyond project	Not Required

²³ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

	including those that will occur beyond the Project Certification period. 2. The Projects shall consider economic impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable.		certification period. Refer DPR for more details regarding the financial sustainability. 2. There are no negative economic impacts or potential risks to the local economy due to the project activity.	
ENVIRONMENTAL/ECOLOGICAL SAFEGUARDING GUIDELINES				
Principle 7 – Climate and Energy				
7.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project is a wind power project and does not lead to any greenhouse gas emissions in project scenario.	Not Required
7.2 Energy Supply	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	The project does not use energy from local grid or use power supply that provides for other users.	Not Required
Principle 8 – Water				
8.1 Impact on natural water patterns and flow	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?	No	There is no permanent surface waters patterns/flows available in the project area. Locally constructed primary and secondary irrigation canals are present throughout the area. Temporary surface waters are present as paddy fields during	Not Required

			the wet season. The project does not have any impact over the natural patterns and flow.	
8.2 Erosion and/or water body stability	<p>1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2.</p> <p>2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?</p>	Potentially	<p>1. During the construction the disturbance in the landscape may lead to soil erosion.</p> <p>2. The project area is not susceptible to excessive erosion or water body instability.</p>	Refer the monitoring parameter table
Principle 9 - Environment, ecology and land use				
9.1 Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	Potentially	The project uses land for installation of WTGs. It involves modification of landscape during construction and operation of project activity.	Refer the monitoring parameter table
9.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions.	Not Required
9.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	The project does not have any impact by used of GMOs.	Not Required

9.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	The project being a wind power project does not lead to release of any pollutants.	Not Required
9.5 Hazardous and Non-hazardous Waste	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	Potentially	The project during operational phase uses various type of oil/lubricants, grease which are classified as hazardous. These waste are handled in line with hazardous waste management rules and are disposed off accordingly.	Refer monitoring parameter table
9.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	The project is a wind power project and hence not relevant to the application of pesticides and/or fertilizers.	Not Required
9.7 Harvesting of forests	Will the Project involve the harvesting of forests?	No	The project is a wind power project and hence not relevant to the harvesting of forests.	Not Required
9.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is a wind power project and hence not relevant to crop regime alteration or export or economic incentives.	Not Required
9.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The Project is a wind power project and hence not relevant animal husbandry.	Not Required
9.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The Project does not affect or alter largely intact or HCV ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. Refer ESIA report	Not Required
9.11 Endangered Species	1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	Potentially	1. There are no endangered species identified as potentially being present within the Project boundary. However being wind energy project, the rotation of wind turbine may results in strikes/deaths	Refer Parameter monitoring table.

	2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?		of birds and bat .	
			2. The Project does not impact other areas where endangered species may be present through transboundary affects. Refer ESIA report	

SECTION E. Local stakeholder consultation

E.1. Solicitation of comments from stakeholders

>> (Describe how stakeholder consultation was conducted in accordance with GS4GG Stakeholder Procedure Requirements and Guidelines.

)

The stakeholder consultation meeting was conducted through physical meeting on 19/09/2019 at O Café Meeting Area - Jalan Masjid H Syamsudin, Kalumpang Lompoa, Desa Kalumpang Loe, Kecamatan Arungkeke, Kabupaten Jeneponto, Sulawesi Selatan – Indonesia. The planning for carrying out this consultation has been initiated in advance by factoring the convenience of local stakeholders.

The proponents have given advance notice to the local stakeholders for the meeting. Similarly all NGO's were invited by giving them the same notice period so as to facilitate them in attending the meeting. The non-technical summary of the project was prepared and the same has been translated into local language for distribution among stakeholders.

The attendees of the meeting were from Local Village residents and government officials from the region.

The minutes of the meeting is given below:

The Gold Standard Stakeholder's consultation meeting was held along with the FGD (focus group discussion) with the affected communities in relation to the Community development plan (CDP) on 19th September 2019 at the O Café Meeting Area - Jalan Masjid H Syamsudin, Kalumpang Lompoa, Desa Kalumpang Loe, Kecamatan Arungkeke, Kabupaten Jeneponto, Sulawesi Selatan – Indonesia. Meeting was opened with a formal welcome speech followed by the introduction of the attendees. In the welcome address, PP's representative explained the objective of the meeting and requested them to actively participate in the meeting.

Then Focus Group Discussion (FGD) was held, in which stakeholders suggestion on various requirements of communities under Community development plan (CDP) are discussed.

After the completion of FGD, PP's representative explained about the key project information including the technical details of the wind energy plant, relevant dates of the project and the environmental and social impacts of the project. PP's representative also explained about the importance of clean energy for healthy lifestyle and its significance in combating climate change and limiting its devastating effects. Stakeholders were informed that the project is applied for Gold Standard registration and importance of the meeting for obtaining the GS registration and were requested to share their opinion about the project.

In the next session, stakeholders were requested to ask the questions/clarifications requests they have in this project. Several participants came forward to talk about their experiences and passed on their opinions, suggestions, comments and clarification requests, which were addressed satisfactorily. All

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the comments are in support of the project activity. Most of the stakeholder praised the project and the summary is given below:

- *The project gives job opportunities to local people*
- *Local people income increased.*
- *The project becomes pride of Jenepon to as it is one of the first of its kind in the country*
- *The place become tourist spot due to wind turbine*
- *New community development activities by the developer under CSR*
- *No emission from the power generation compared to other fossil fuel power plants*

The stakeholders also requested some clarifications which are as below:

- *How safe the wind turbines are? Any risk associated with this?*
- *Will this kind of meeting be conducted regularly?*
- *Will the revenue from gold standard credits be used for village development activities?*
- *Will all the villages development activities suggested in FDG be undertaken?*

All the above doubts/clarification requests about the project are clarified by the PP's representative. He also explained about how the wind energy technology is environmentally safe and sound. He also promised that their suggestions would be considered for further evaluation and inclusion in their CSR plans.

This was followed by the blind sustainable development exercise. The stakeholders were made aware of the safeguarding principles and all actions pertaining to safeguarding were made clear to help guide them with their assessment as yes, no or potentially relevant. Further, information was provided about the 4 SDG's and their relevant targets that were addressed by the project.

Additionally, a discussion session on the sustainability monitoring plan of the project activity was carried out and based on the stakeholder suggestions appropriate indicators to monitor each of the SDG goals addressed by the project were finalized. Approaches to continuous inputs and grievance mechanisms were discussed. It was agreed that grievance forms would be made available at the site office and the stakeholders could meet the project coordinator's in person or in case of their absence they could be contacted via telephone or email addresses that would be made available.

Feedback forms were distributed and the stakeholders were encouraged to state their feedback about the project and the meeting. Once the feedbacks were collected, PP's representative thanked the participants for their presence and their valuable inputs.

Stakeholder Feedback Round

The stakeholder feedback round was open from 6th February 2020 to 5th April 2020 at site. PP had kept the hard copy of the project documents (PDD, Non-technical summary & Stakeholder consultation report) at site office for comments from local stakeholders. However, no comments received from any local stakeholder during the period.

Online stakeholder feedback round was open from 17th April 2020 to 16th June 2020. An email with online link of all project documents (PDD, Non-technical summary & Stakeholder consultation report) were sent to all stakeholders who were invited for the stakeholder consultation meeting and requested comments on the documents. However, no comments received from any stakeholder during the period.

E.2. Summary of comments received

>> *(Provide a summary of key comments received during the consultation process.)*

During the meeting no negative comments received from stakeholders. The comments provided in the evaluation questionnaire from all the stakeholders are summarised which is given below:

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)

<i>How safe the wind turbines are? Any risk associated with this?</i>	Yes and clarification given	Provided the below clarification: The wind energy technology is proven technology in the entire world. The technology supplier has installed the same technology in many parts of world. Also regular O&M is undertaken in the wind turbines. Hence, the wind turbines are very much safe and no risk associated with the turbine.
<i>Will this kind of meeting be conducted regularly?</i>	Yes and clarification given	Provided the below clarification: Focus Group Discussion (FGD) will be conducted regularly. But the Gold standard part is conducted only this time. However, any concerns in the projects shall be reported by filling grievances form available in the site office. Appropriate actions will be taken on all the grievances on time.
<i>Will the revenue from gold standard credits be used for village development activities?</i>	Yes and clarification given	Provided the below clarification: Yes, depends on the requirement, part of this revenue will be added to the CSR budget. This will be decided on time to time basis.
<i>Will all the villages development activities suggested in FDG be undertaken?</i>	Yes and clarification given	Provided the below clarification: Based on the CSR budget, the priority development activities will be undertaken. If any activities are not considered due to budget constrain, the same will be undertaken in the next year from the next year budget.

E.3. Report on consideration of comments received

>> (Describe how the comments have been addressed by providing a clarification to the stakeholder or by altering the design of the project or by proposing to monitor any anticipated negative impacts etc.)

The comments and clarifications requested during the meeting were taken into account and accordingly explained by the PP. There were no comments that led to a requirement to modify the project activity

Appendix 1. Contact information of project participants

Organization name	PT Energi Bayu Jeneponto
Registration number with relevant authority	74.036.252.0-012.000
Street/P.O. Box	SCBD Lot 10, Jl Jend. Sudirman Kav. 52-53 South Jakarta
Building	Pacific Century Place, 36 th Floor
City	Jakarta Selatan
State/Region	DKI Jakarta
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Country	Indonesia
Telephone	+62 21 50847830
Fax	-
E-mail	gourisankar.sesetti@venaenergy.com
Website	https://www.venaenergy.com/
Contact person	-
Title	Mr
Salutation	Sesetti
Last name	-
Middle name	-
First name	Gourisankar
Department	-
Mobile	-
Direct fax	-
Direct tel.	-
Personal e-mail	-

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