PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh

Version 1.0

Date 22/02/2022

First CoU Issuance Period: 8 Years, 0 Months

Crediting Period: 01/01/2014 to 31/12/2021

PROJECT CONCEPT NOTE

BASIC INFORMATION	
Title of the project activity	**Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh**
Scale of the project activity	Small Scale
Completion date of the PCN	22/02/2022
Project participants	Project Proponent: Neeraj Power Pvt Ltd Aggregator: Carbon Equalizers, KATNI UCR ID : 660687753
Host Party	India
Applied methodologies and standardized baselines	**CDM UNFCCC Methodology** **AMS-I.D**: Grid connected renewable electricity generation (Ver.18.0) & UCR Standard for Emission Factor
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources)
Estimated total amount of average GHG emission reductions per year	36197 CoUs (36197 tCO_{2eq})
Estimated total amount of average GHG emission reductions for the entire monitoring period	2,89,576 CoUs

SECTION A. Description of project activity

A.1. Purpose and general description of Carbon offset Unit (CoU) project activity >>

The project **Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh** is located at Village Harinbhatta, Taluka Simga, District Balodabazar-Bhatapara, State Chhattisgarh, Country India (Pin: 493101).

The details of the registered project are as follows:

Purpose of the project activity:
The project activity involves the installation of a 7.5 MW rice husk based power generation plant by the project proponents, Neeraj Power Pvt Ltd. The plant was commissioned on **01/11/2006** and utilises rice husk as the primary fuel, and coal as the secondary fuel for supply of electricity to the grid.

The project activity utilises renewable biomass (rice husk) for generation of power that is supplied to the local grid. The annual biomass requirement for the 7.5 MW plant running on 100% rice husk is about 75,000 tonnes. When biomass is not available, coal is co-fired for continous power supply and makes about 14.9% of total fuel used in the entire setup. Hence the project activity is a co-fired system – that uses both fossil fuels and renewable energy source in a single boiler for simultaneous combustion, while fossil fuel is used during a period of time when the biomass is not available.

The project activity is located in the immediate vicinity of rice mills in the region and additionally, the project proponents also owns rice mills in the vicinity and hence surplus biomass in the form of rice husk is available in this district for the power plant activity.

The project activity is the construction and operation of a power plant/unit that uses renewable energy sources and supplies electricity to the grid. The project activity is thus the displacement of electricity that would be provided to the grid by more-GHG-intensive means and provides long-term benefits to the mitigation of climate change.

Assured supply of biomass fuel and other barriers to biomass boiler implementation

The project activity could have used coal instead of biomass. In India, the continuous and uninterrupted supply of fossil fuel (coal) from nearby depots does not require the project proponent to deploy manpower and is the cheaper alternative. On the other hand, rice husk being an agricultural produce is dependent on the vagaries of the nature, has to be sourced from a large number of suppliers and is seasonal in nature. Getting assured supply of biomass is dependent on many uncontrolled parameters thereby increasing the risk of shutdown for the project activity. In the project activity the rice husk is used for energy generation. In the absence of the project activity rice husk would be not be dumped or left to decay in such a manner as to increase carbon pools; the use of the rice husk does not affect the paddy cultivation practices and hence the carbon pools of the respective soils. In fact the project activity involves returning the ash from the power plant operation to the fields near the power plant. Thus in fact soil carbon is improved by the project activity. No other biomass is being used in this project.

The project activity has the following ongoing technological and operational risks:

- The ash generated after combustion of rice husk/bagasse contains high percentage of silica which leads to rapid erosion of the equipments. Due to high silica content and the shape of rice husk, equipments like ID fan, cone portion of air preheater and top portion of the stack get eroded which leads to high maintenance cost, frequent breakdown and increased downtime. Presence of silica in rice husk ash also corrodes boiler tubes which require frequent maintenance of the boiler. Further, in rice husk fired boilers, escape of fluidized media along with flue gas is a common problem. To compensate this and to maintain fluidized bed thickness, fluidizing media is required to be added at regular intervals. This leads to variation in the air requirement;
- The fuel flow control with respect to the steam output is difficult in biomass fired boilers.
- The problems with biomass (rice husk) are further aggravated due to the higher level of moisture and at times presence of impurities added. Many a times, the rice husk procured is mixed with impurities such as dust particle, stones and pebbles, and other biomass such as leaves, straw etc. The impurities present can damage the machinery and also provide incorrect estimates of the biomass requirement for steam generation. In addition to this the effective cost of biomass is also increased affecting project's viability. The moisture content of rice husk may vary depending upon the season and also during transportation. In the monsoons, the moisture content will be comparatively more as compared to the other seasons. While transportation of fuel, precautions will have to be taken against unpredictable rainfall, and other weather conditions to ensure availability of biomass with least moisture levels. The presence of moisture (more than normal) would not only affect the net calorific value of biomass but also result in increased effective cost of it. This creates problems during combustion and also affects the economic viability of the project activity and as there is no structured market for biomass, the project proponent would have to depend on what ever is available and may have to face these problems. The perceived technological and operating risks of project activity has lead to events of boiler breakdown and the revenue from the sale of UCR carbon credits would help in covering these technological and operational ongoing risks.
- There is a lot of manpower and logistical efforts required from the project proponent in collection and transportation of the biomass residues (rice husk) from various locations to the project site.
- The project proponent has to spend on additional resources to make sure the availability of the biomass to the project activity is regular and uninterrupted. Other than this, due to seasonal availability of biomass residues, the project proponent spends on arrangements for storage of biomass residues at the project site that has entail investment in land and its management.

- The bulk density of biomass is very low and as such transportation cost is much higher compared to conventional fossil fuels. To ensure a continuous and regular supply, a biomass management program has been prepared by the project proponent.
- There has to be further precautions taken by the project proponent to store the fuel from adverse weather conditions.
- An in-house facility has been setup to check the quality of biomass and to take immediate necessary action with respect to the storage of rice husk. Rice husk has low specific gravity which requires proper handling and storage procedures at the project site, requiring a larger stocking area.

Energy security from biomass is very poor on the long-term due to the uncertainty of the market but also at the short- and immediate term due to the informality of the market and the relative unreliability of suppliers. There is no steady supply of biomass, nor a steady cost. This barrier represents a major risk for industrial facilities, for whom energy security is paramount to continued production, which is the major line of business. Several studies have identified that the security of fuel is a more important factor than the simple economics of the fuel price for industrial energy users (Asian Institute of Technology, 2005; Evald, 2005).

Projects using biomass for energy generation in India are generally considered to have a high risk of discontinuation, since the price of biomass as well as the unreliability of the supply chain favour a switch to coal fired energy generation in most cases (source: https://newclimate.org/wp-content/uploads/2017/05/vulnerability-of-cdm.pdf, May 2017).

The sale of voluntary carbon credits and revenue from the same will increase the financial attractiveness for the continued use of biomass at captive energy industries across India. From the above paragraphs, it is clear that the project activity has and continues to face barriers, but in spite of that, the project proponent decided to implement this project and revenue from the sale of UCR carbon credits would help mitigate the above barriers and showcase de-carbonizing efforts such as fossil fuel switch to biomass, is profitable and desirable as a necessary tool to fight global warming and climate change.

A.2 Do no harm or Impact test of the project activity>>

Thereare social, environmental, economic and technological benefits which contribute to sustainable development.

- **Social benefits:**
- The project activity contributes to employment generation in the local area for both skilled & unskilled people for operation and maintenance of the equipments. The project creates around 50 permanent jobs, in addition to around 50 persons gaining indirect jobs through the supply of biomass to the plant. Apart from the direct and indirect employment generation, the project also encourages indirect employment by setting up other agroindustries due to availability of power supply from the project. The ash from the power plant is returned to the field as fertiliser.
- It has created steady higher value jobs and skilled workers at the facility. The project activity is contributing to the national energy security by reducing consumption of fossil fuels.
- The technology being used in the project is proven and safe for power generation. An increase in such kind of projects shall enable all the technology suppliers to continuously innovate and modernize on the technology front. The local people will know the technological advancement and will help in capacity building.

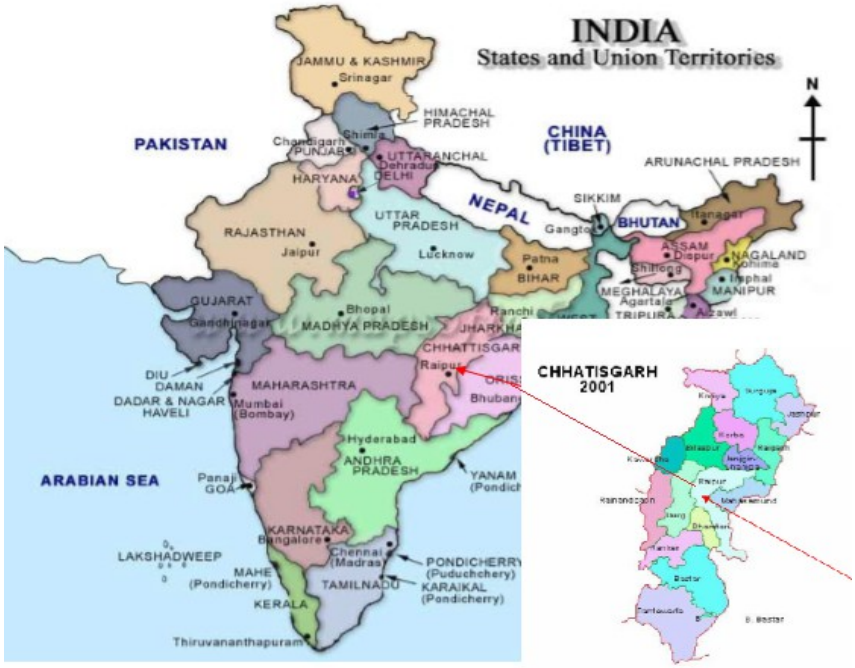
- **Environmental benefits:**
- The project activity is a renewable energy project, which utilizes biomass as a fuel for power generation, a move that is voluntary and not mandated under current environmental laws of India. Since this project activity generates green energy in the form of power, it has positively contributed towards the reduction in (demand) use of finite natural resources like coal and oil, minimizing depletion and in turn increasing its availability to other important purposes. Therefore, this project activity helps to environment sustainability by reducing GHG emission in the atmosphere.
- Avoids global and local environmental pollution, leading to reduction of GHG emissions.
- The rice husks generated in rice mills in the region are generally in excess and hence get disposed in unplanned ways including dumping into nearby rivers.

- **Economic benefits:**
- The project activity creates employment opportunities during the project stage and operation and maintenance of the boiler.
- The project activity helps in conservation of fast depleting natural resources like coal and oil thereby contributing to the economic well being of country as a whole.
- The increase in demand of rice husk exerted by the project has had a local effect on its price and generates additional revenue for the rice millers, which in turn benefits the local farmers, as this is paddy-growing area. The project activity results in saving the coal and allowing it to be diverted to other needy section of the economy. The biomass based power generating plant facilitates the availability of continuous and sustained power to the local industries and agricultural farmers located in remote areas, there by avoiding the load shedding and low frequency of power.

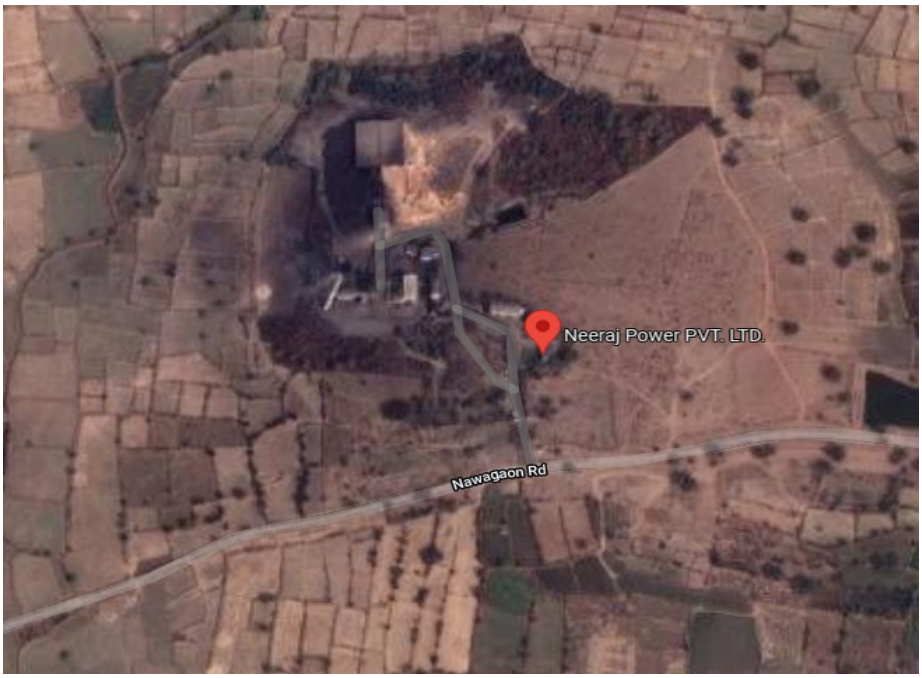
  The various other benefits due to the project activity ensure that the project is contributing to the sustainable development of the region by bringing in green technologies and processes to a backward region. The technology is indigenous and by implementing such projects the country is showcasing its GHG mitigation actions in its efforts to combat climate change.

A.3. Location of project activity >>

Country: India
Village: Harinbhatta
Taluka: Simga
District: Balodabazar-Bhatapara
State: Chhattisgarh
Latitude: 21:38:00N (21.6334)
Longitude 81:42:54E (81.7151)



Map of India showing Chhattisgarh



A.4. Technologies/measures >>

The ministry of Environment and forests (MoEF),Government of India, under the environment impact Assessment Notification has listed a set of industrial activities in Schedule of the notification which for setting up new projects or modernization /expansion will require environmental clearance and will have to conduct an Environmental Impact Assessment(EIA) study. The project activity does not require EIA to be conducted as the activity is not included in schedule I.

The project involves the installation of a high pressure 38 tonnes per hour (TPH), Pressure: 66 kilograms / cm^2 , Temperature 505^o C Cethar Vessels AFBC Boiler and an 8 MW condensing Triveni turbine generator and provides 7.5 MW of electrical power to the Chhattisgarh State Electricity Board at 33 KV through the local substation. The electricity is supplied to the grid via the Duldula substation at Simga, 3 kilometres from the plant. The technologies are readily available in India and similar systems have been supplied to other Independent Power Producers using agro-residues. Other on-site generation units consist of a 320 KVA Jackson India Diesel generation set. This unit is used for backup power in emergencies and for maintenance work when the power plant is not operating and the grid is down. It dose not supply electricity to the grid and is therefore outside the project boundary. The project also involves environmental technologies that mitigate the risks of ash, boiler flue gases and fugitive dust generated during the operation of the plant. The plant location is selected based on surplus availability of biomass in the form of rice husk, an agro-industrial residue (biomass).

For such biomass co-fired project activities, the use of coal is restricted by the Ministry of New and Renewable Energy of India to 25% of the annual total fuel requirement. The project proponents consider a usage of coal to an extent of about 10%- 20% of total fuel as supplementary fuel during the operational life time of plant. The CO2 emission due to the combustion of rice husk/bagasse is neutralized by the photosynthesis process of paddy crops. Hence, it "recycles" atmospheric carbon and does not add to the greenhouse effect. And also the rice husk/bagasse contains negligible quantities of nitrogen and sulphur, hence the other green house gas from the combustion of rice husk/bagasse can be neglected.

The coal being a carbon intensive fuel leads to GHG emissions hence implementation of the project activity leads to GHG emission reductions. No transfer of technology is involved to host country because technology is available within India from reputed manufacturers.

Specification	Value
Capacity	7.5 MW
Temperature	505 ^{0}C
Number of Turbines	1
Pressure	66 kg/cm^2
Feed Material	Rice Husk/Coal
Coal (MJ/kg)	15.7
Emission Factor Coal (t CO2/MJ)	0.000090060

*https://www.spiraxsarco.com/resources-and-design-tools/steam-tables/superheated-steam-region

The auxiliary facilities of the power plant include cooling tower, water demineralisation plant, cooling water system, fuel storage and handling system, electrical evacuation system, ash handling system, fire fighting system, compressed air system, instrumentation and control system, all designed according to the stipulations of the statutory authorities such as the Central Pollution Control Boards and Electrical Inspectorate. The capacity of the turbo generator is 7.5 MW, which exports power to the grid, at 11 kV level.

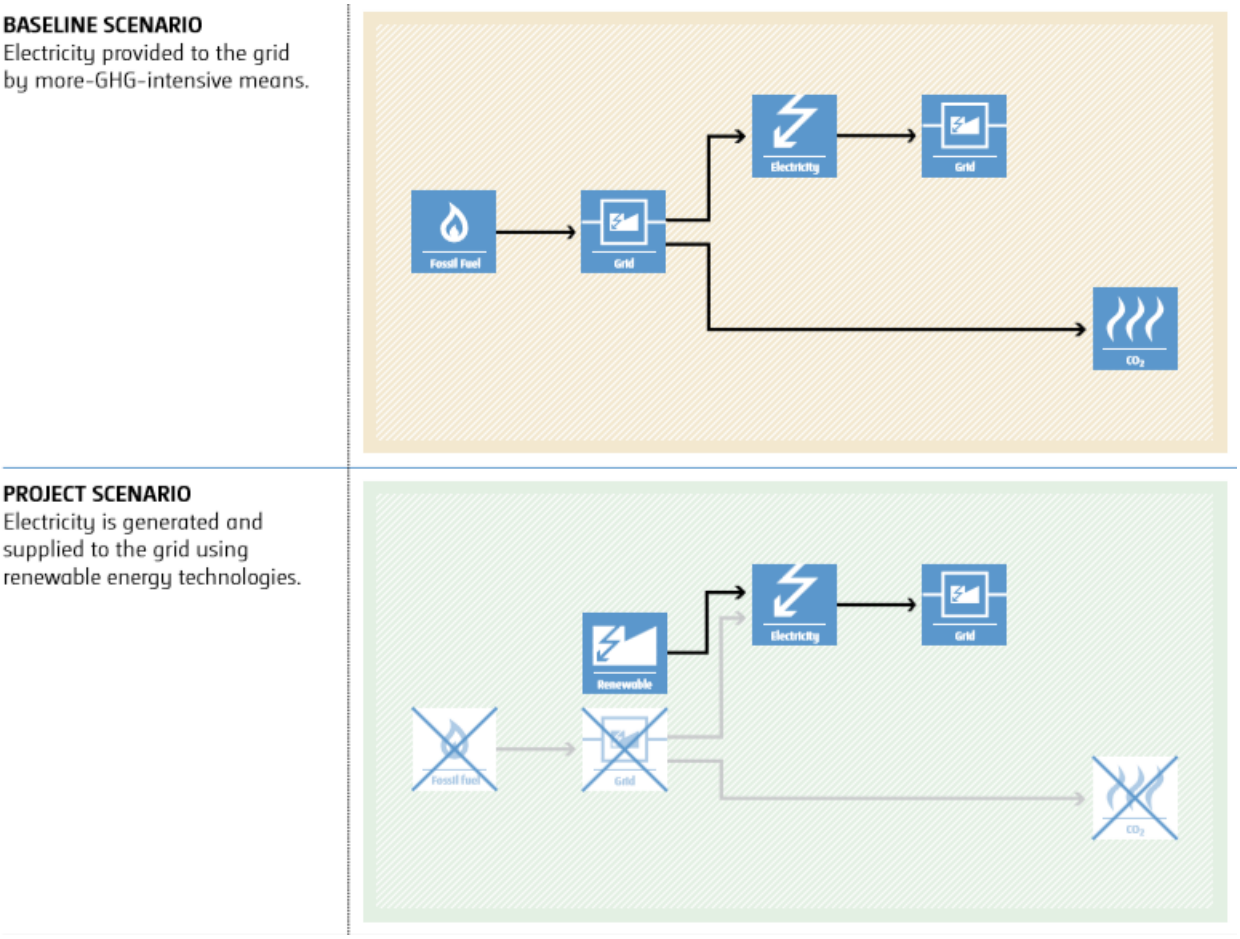
The plant has pollution control measures such as provision of electrostatic precipitator, chimney with adequate height, dust suppression system, ash disposal system, plant effluent quality control, noise control, and water recycling. The project activity's water requirement is met from bore-wells. This water is sufficient to meet the cooling water needs of the plant, including the water requirements for the conventional water cooled condenser system.

A.5. Parties and project participants >>

Project activity does not involve any public funding from Annex I Party, which leads to the diversion of the official development assistance.

Party (Host)	Participants/Aggregator
India	Project Owner: Neeraj Power Pvt Ltd Aggregator: Carbon Equalizers, KATNI UCR ID : 660687753 Contact: Mr Vikas Chamadia Email: vikaschamadia@rediffmail.com Mob: 9303068600

A.6. Baseline Emissions>>



The approved baseline methodology has been referred from the indicative simplified baseline and monitoring methodologies for selected small-scale UNFCCC CDM project activity categories.

The applicable methodology and simplified modalities and procedures for small scale CDM project activities, states that "*The baseline scenario is that the 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 into the grid.*"

Emission coefficient of fuel used in the baseline scenario

The CO_2 emission factor for grid connected power generation in year y calculated using UCR Standard emission factor is 0.9 tCO2/MWh.

Emission coefficient of fuel used in the project activity

The fuel used in the project activity is the biomass residues (rice husk), which is a carbon neutral fuel and therefore the emission coefficient (tC/TJ) is zero. However, the emission coefficient for the coal used is as per the Fuel Emission Factors (EF) (Source: Coal/Lignite - Initial National Communication– in Base Parametres and Assumptions, copy of CEA Database publishing_version2. on www.cea.nic.in which is 0.00009006 tCO_2/MJ.

A.7. Debundling>>

This project is not a debundled component of a larger registered carbon offset project activity. There is no registered small-scale UCR project activity or a request for registration by another small scale project activity:

- By the same project participants;
- In the same project category and technology/measure; and
- Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point.

SECTION B. Application of methodologies and standardized baselines

B.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE - 01 Energy industries (Renewable/Non-renewable sources)

TYPE I **- Renewable Energy Projects**

CATEGORY- ***AMS-I.D.: Grid connected renewable electricity generation (Ver. 18.0)***
This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:

(a) Supplying electricity to a national or a regional grid.

B.2. Applicability of methodologies and standardized baselines >>

The project activity is a power generation project using a biomass (rice husk) and displaces CO2 emissions from electricity generation in power plants that are displaced due to the project activity. Since the project activity utilises biomass (rice husk) for the generation of power, it displaces fossil fuel (coal), and hence it meets the primary applicability criteria of the methodology.
The generation capacity of project activity is 7.5 MW which is less than the threshold of 15MW as per the applied methodology.
The biomass used by the project plant is not stored for more than one year.
Co-fired system – The project activity uses both fossil fuels and renewable energy source in a single boiler for simultaneous combustion and fossil fuel is used during a period of time when the biomass is not available.
The project activity unit co-fires fossil fuel and the capacity of the entire unit does not exceed the limit of 15 MW.
Biomass generated power is used for direct grid supply.
In case biomass is not sourced from dedicated plantations.
The methodology is justified as this category comprises renewable energy generation units such as renewable biomass. The justification that the biomass is renewable. This is in line with the applied methodology AMS I.D requirements.
The main benefit of this project in terms of emission reductions is the avoided burning of fossil fuels in energy mix of the regional grid.
Monitoring consists of metering the electricity generated by the renewable technology.
Biomass and fossil fuel being used as input is be monitored.

B.3. Applicability of double counting emission reductions >>

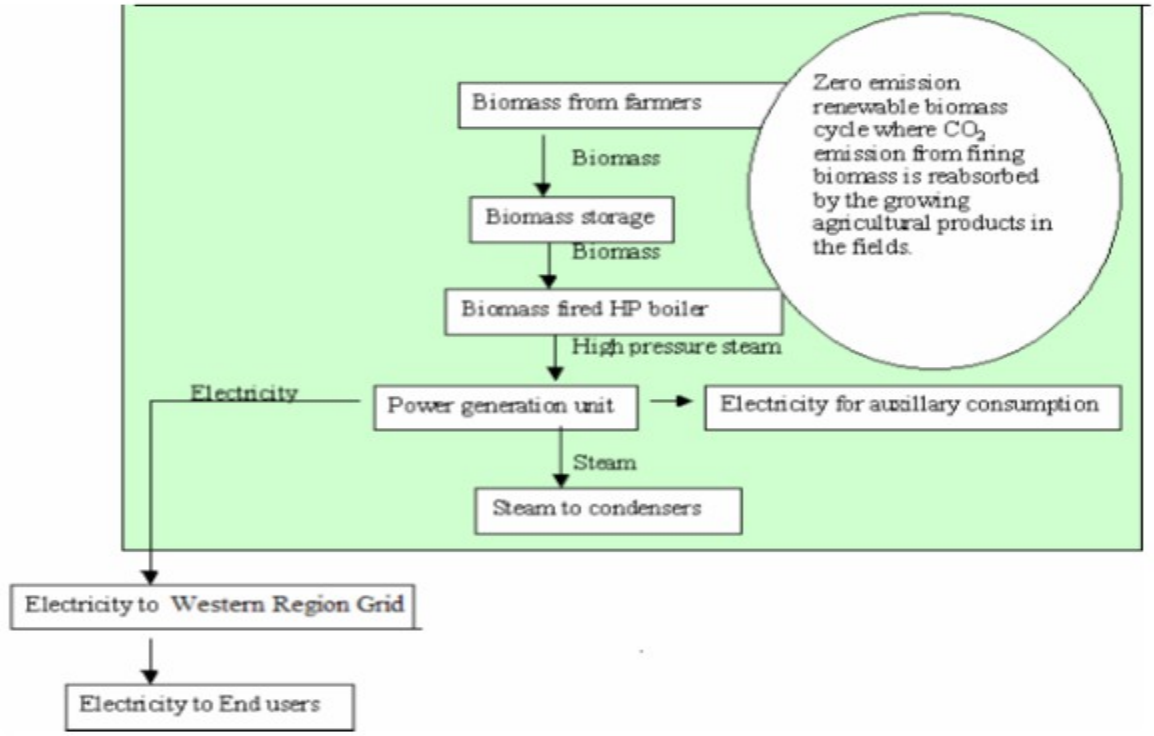
The biomass boiler and condensing turbo-generator unit have unique IDs, which are visible on the unit. The calibration of Meters & Metering for electricity exported to the grid is implemented according to national standards and rules. All the records are documented and maintained by the project proponent. The Monitoring Report has the details of the same and will be provided to the UCR verifier during the verification process.

The project proponent hasd earlier applied for carbon credits under the CDM in 2007, however, the project is neither a registered activity nor has been issued credits for the period 2014-2021 (link: https://cdm.unfccc.int/Projects/Validation/DB/CE33U66U6YJS8M9BYOP55C8UPIXW29/view.html), hence there is no double counting issue related to the double counting of CoUs.

B.4. Project boundary, sources and greenhouse gases (GHGs)>>

The project boundary includes the physical, geographical site(s) of:

- the project power plant and all power plants connected physically to the electricity system that the project activity is connected to.



Leakage Emissions is not applicable as the project activity does not use technology or equipment transferred from another activity.

There is no registered or an application to register another small-scale carbon project activity with the same project participants in the same project category within 1 km of the project boundary, hence the project activity is not a debundled component of a large scale project.

	Source	GHG	Included?	Justification/Explanation
Baseline	Co2 Emissions from fossil fuel in baseline grid power generation	CO_2	**Included**	Major source of GHG emissions
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative
Project Activity	Emissions from Coal co-fired in Project Activity	CO_2	**Included**	Major source of GHG emissions
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative

B.5. Establishment and description of baseline scenario >>

The baseline scenario identified at the PCN stage of the project activity is:

- Renewable energy technologies that displace technologies using fossil fuels, wherein the simplified baseline is the fuel consumption of the technologies that would have been used in the absence of the project activity, times an emission factor for the fossil fuel displaced.

Emission Reductions (ER_y) The emission reduction due to the project activity is calculated as the difference between the baseline emissions and the sum of the project emissions and the leakage:

$$\mathbf{ERy = BE_y - (PE_y + LE_y)}$$

$\boldsymbol{BE_y}$= Baseline emissions in year y (t CO_{2e})

As mentioned in the methodology AMS I.D, the baseline emissions are calculated as follows:

$$\boldsymbol{BE_y} = \mathbf{EG_{pj,y} * EF_{grid,y}}$$

Where:

$\mathbf{EG_{pj,y}}$ = 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)

$EF_{grid,y}$ = The CO_2 emission factor for grid connected power generation in year y calculated using UCR Standard emission factor (0.9 tCO2/MWh).

PEy = Project activity emissions. The GHG emissions due to the combustion of biomass is neutralized by the sequestration done during the growth of the biomass, thereby making it a carbon neutral fuel. Further the rice husk contains negligible quantities of nitrogen and sulphur, the other green house gas from the combustion of biomass can be considered as negligible. Therefore project emissions are on account of co-firing of coal in the project activity.

PE_y (tCo_2) = Coal consumption (year-kg coal) x 15.7 MJ per kg x 0.00009006 tCO2 /MJ

LE_y = Leakage emissions. Leakages is to be considered if the energy generating equipment is transferred from another activity or if the existing is transferred to another activity. There is no transfer of energy generating equipment or existing equipment to another activity. Further, emissions arising during the transportation of rice husk to the site, is negligible since the biomass is sourced locally within a radius of less than 200 kms, hence considered as negligible.

Estimated ER_y = 36197 CoUs/yr
Estimated Ers for monitoring period = 2,89,576 CoUs

B.6. Prior History>>

The project proponent hasd earlier applied for carbon credits under the CDM mechanism in 2007, however, the project is neither a currently registered CDM activity nor has been issued credits for the period 2014-2021 under any GHG program (link: https://cdm.unfccc.int/Projects/Validation/DB/CE33U66U6YJS8M9BYOP55C8UPIXW29/view.html)
hence there is no double counting issue related to the CoUs.

B.7. Changes to start date of crediting period >>

There is no change in the start date of crediting period (01/01/2014).

B.8. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

There are no permanent changes from registered PCN monitoring plan and applied methodology

B.9. Monitoring period number and duration>>

First Issuance Period: 8 years, 0 months
Crediting Period: 01/01/2014 to 31/12/2021
Monitoring Period: 01/01/2014 to 31/12/2021

B.8. Monitoring plan>>

According to the approved methodology AMS-I.D, the following parameters will be monitored:

Parameters	Description
MW_h	Metering the electricity generated by the renewable technology per month
$Q_{Biomass}$	Quantity or amount of biomass input shall be monitored each month.
$Q_{fossil\ fuel}$	Quantity or amount of fossil fuel input shall be monitored each month.
EF_{CO2}	The CO_2 emission factor of the coal (fossil fuel) that is used for co-firing.

The monitoring and recording of the required parameters is carried out by trained personnel who are managed by the biomass boiler/power plant project managers. All measurements are post calibration of the measurement equipment that are maintained regularly and checked for its functioning which meets the minimum requirement of the methodology. All indicators of importance for controlling and reporting of projects performance have been incorporated in the monitoring plan (Monitoring Report during verification) as well as indicated in the planned formal set of monitoring protocol and work instructions.

The main air pollutants in the biomass based plant are dust and particulate matter in the flue gas, fly ash from the hoppers, furnace bottom ash etc. and the steps taken to control the same are:

- Electrostatic Precipitator The biomass plant has an Electrostatic Precipitator (ESP), which separates the dust from the flue gas and has an efficiency of 99.2 %. The dust concentration in the flue gas leaving the ESP is within the permissible limit of statutory norms.
- The ash from the silo is disposed off to the farmers, who use the ash as manure for the crops and to local industries, who utilize the ash for manufacture of bricks and for road building materials.
- The main forms of water pollutants in the plant are effluents from water treatment plant, boiler blow down and sewage from the power plant buildings. The water utilized for the operation of the plant is treated before letting off so as to maintain it in neutral pH.

Data/Parameter	Date of commissioning of plant
Data unit	Date as per commissioning boiler/turbine test report.
Description	Actual date of commissioning of the project device
Source of data Value(s) applied	Monitoring Report As and when commissioned
Measurement methods and procedures	The construction processes are maintained from its initiation to completion dates for the unit. Thus the start date recorded in the monitoring report.
Monitoring frequency	As and when commissioned and fixed and recorded in the monitoring report
Purpose of data	To estimate baseline emissions

Data/Parameter	$Q_{biomass}$
Data unit	MT
Description	The quantity of rice husk used to generate steam in the boiler
Source of data Value(s) applied	Plant records and log books receipts
Measurement methods and procedures	Monitoring: The quantity of biomass fed into the boiler is controlled. Sensors at the conveyor belt feed the data to the computer Data type: Measured Responsibility: Plant Operator
Monitoring frequency	Daily
QA/QC	The amount of biomass used can be cross checked by the purchase orders and stock inventory for rice husk

Data/Parameter	Q_{coal}
Data unit	MT
Description	The quantity of coal used for co-firing
Source of data Value(s) applied	Plant records and log books receipts
Measurement methods and procedures	Monitoring: The quantity of coal fed into the system is controlled. Sensors at the conveyor belt feed the data to the computer Data type: Measured Responsibility: Plant Operator
Monitoring frequency	Daily
QA/QC	The amount of coal used can be cross checked by the purchase orders and stock inventory for coal

Data/Parameter	EGy
Data unit	kWh
Description	Total export to CSEB – monthly meter reading statement; summed for annual figure
Source of data Value(s) applied	Kwh supplied and invoice to CSEB with attached signed Departmental certificate of the same
Measurement methods and procedures	Monitoring: The quantity of electricity supplied is captured by meters and fed to the computer. Data type: Measured Responsibility: Plant Operator
Monitoring frequency	Daily
QA/QC	The data is cross-checked against relevant electricity sales receipts and/or records from the grid for quality control. Calibration of Meters & Metering is implemented according to national standards and rules. And all the records are documented and maintained by the project proponent electronically.