Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 42 MW Biomass Based Power Generation at L.H. Sugar Factory Ltd by Energy Advisory Services.

Version 1.0

Date 07/07/2023

First CoU Issuance Period: 10 years, 00 months

Monitoring Period: 01/01/2013 to 31/12/2022

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	42 MW Biomass Based Power Generation at L.H. Sugar Factory Ltd at Energy Advisory Services.
UCR Project Registration Number	317
Version	1.0
Completion date of the MR	07/07/2023
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: 01/01/2013 to 31/12/2022
Project participants	M/S L.H. Sugar Factories Ltd., Pilibhit (U.P.)
Host Party	India
Applied methodologies and standardized baselines	CDM UNFCCC Methodology ACM0006: Grid connected renewable electricity generation, version 16.0 Standardized baselines: Not applicable
Sectoral scopes	01 Energy industries (Renewable/Non Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2013: 79,367 CoUs (79,367 tCO_{2eq}) 2014: 61,641 CoUs (61,641 tCO_{2eq}) 2015: 75,426 CoUs (75,426 tCO_{2eq}) 2016: 53,970 CoUs (53,970 tCO_{2eq}) 2017: 80,324 CoUs (80,324 tCO_{2eq}) 2018: 94,808 CoUs (94,808 tCO_{2eq}) 2019: 75,831 CoUs (75,831 tCO_{2eq}) 2020: 79,851 CoUs (79,851 tCO_{2eq}) 2021: 66,399 CoUs (66,399 tCO_{2eq})

	2022: 68,530 CoUs (68,530 tCO_{2eq})
Total:	**7,36,147 CoUs (7,36,147 tCO_{2eq})**

SECTION A. Description of project activity

A.1. Purpose and general description of project activity >>

The proposed project activity with title under UCR "42 MW Bagasse based co-generation by M/S GM Sugar FactoriesLtd., Pilibhit (U.P.)", implements a cogeneration power project of 27 MW, 12 MW & 3 MW capacities which operates on mill bagasse of the sugar mill. Total electricity generation is 42 MW. Out ofwhich around 60% that is around 25.2 MW electricity is exported to Uttar Pradesh Power CorporationLimited (UPPCL).

The project generates 817,941 MWh during the monitoring period of 01/01/2013 to 31/12/2022. The generated electricity is to Uttar Pradesh Power CorporationLimited (UPPCL) as per the prevailing tariff. The project is an operational activity with continuous reduction of GHG, currently being applied under "Universal Carbon Registry" (UCR).

a) Purpose of the project activity and the measures taken for GHG emission reductions >>

The project activity is the construction and operation of a power plant/unit that uses renewable energy sources and supplies electricity to the grid as well as generates heat for the captive consumption. 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. It is established that the project saves 736,147 tonnes of CO_2 being generated due to the consumption of electricity from the national grid. The electricity export to the Indian Electricity grid will displace the fossil fuel based electricity in the national grid system.

b) Brief description of the installed technology and equipment>>

The UCR project activity involves the installation of a 27 MW, 12 MW & 3 MW turbo generators along with high pressure (67 kg/cm^2) 120 TPH capacity boiler commissioned on 2008, (67 kg/cm^2) 80 TPH capacity boiler commissioned on 2005 and (21 kg/cm^2) 45 TPH capacity boiler commissioned on 2005. The high pressure boiler is fired by bagasse, a by-product from the sugar manufacturing process to generate steam, which in turn powers the steam turbine to generate power.

The project is a green field renewable energy power generation project connected to the grid and supplies electricity to the grid and use for captive purpose. The project activity is generating electricity using biomass (sugar factory residues) with 1x120 TPH Bi-Drums, Travelling Grate boiler using a 26750 KW, 1x80 TPH & 1x45 TPH boilers.

The primary technology for the project activity is direct combustion of biomass residues, and power generation.

The main elements of the power plant are as follows.

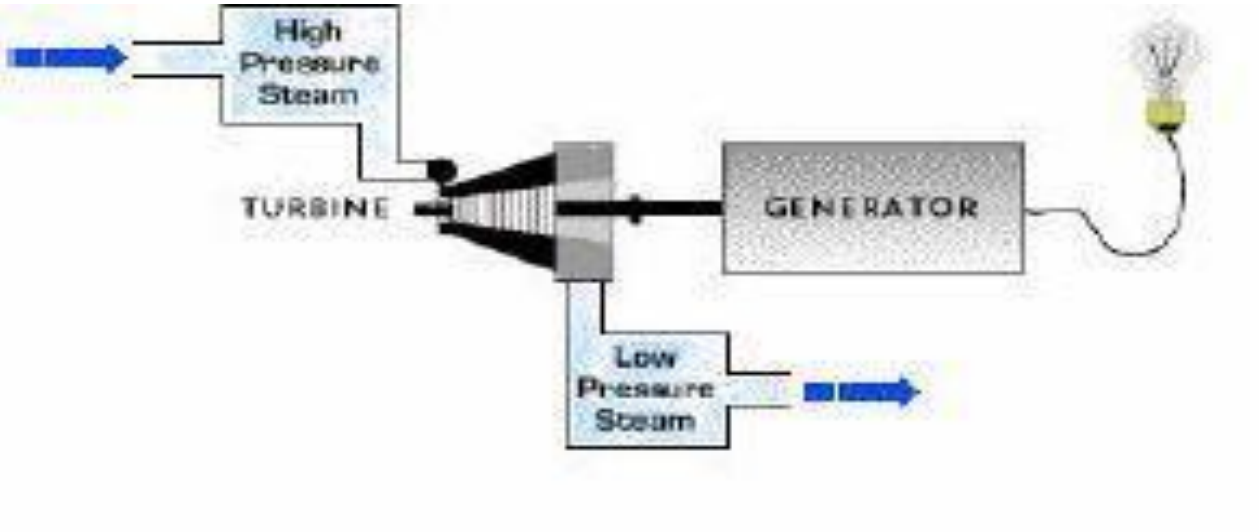
- A boiler unit which converts the energy available in the fuels into thermal energy;
- A steam turbine unit which converts thermal energy into mechanical energy;
- An alternator unit, which converts mechanical energy into electrical power.

A number of other equipment components, as listed below, also form part of the biomass power plant.

- Fuel and ash handling equipment

- Water cooled condenser system for cooling the exhaust steam
- DM Water system and Air Compressor Plant
- Electrical systems and Automation system

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



Some of the salient features of the project equipment can be found in the below mentioned table:

Boiler	**120 TPH**	**80 TPH**	**45 TPH**
Manufacturer	Sitson India Pvt. Ltd.	Walchandnagar Industries Ltd.	Thermax
Boiler capacity (100 % load) / Steam Flow rate	120 TPH	80 TPH	45 TPH
Steam pressure at super heater outlet	67 kg/cm^2 (g)	67 kg/cm^2 (g)	21 kg/cm^2 (g)
Steam temperature at super heater outlet	520°C	485±5ºC	340°C
Turbine			
Make			Triveni
Type			
Capacity	26750 KW	12000 KW	
Steam pressure at the TG inlet	66 ATA	66 ATA	46 kg/cm^2
Steam temperature at the TG inlet	510ºC	485ºC	435ºC
Exhaust steam pressure	0.1 ATA	2.5 ATA	1.5 kg/cm^2
Steam inlet quantity	120 TPH for 27 MW	80 TPH for 12 MW	45 TPH for 3 MW
Gear box			
Make	TEIL – Mysore (BT0210106)	TEIL – Mysore (TMIM 1072)	
Rated power	27663 KW (Max.)		

c) Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)>>

The duration of the crediting period corresponding to the monitoring period is covered in this monitoring report.

UCR Project ID: 317
Start Date of Crediting Period: 01/01/2013
Project Commissioned: 31/12/2005

d) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	01/01/2013
Carbon credits claimed up to	31/12/2022
Total ERs generated (tCO_{2eq})	736,147 tCO_{2eq}
Leakage	0

e) Baseline Scenario>>

As per the approved consolidated methodology ACM0006: Electricity and heat generation from biomass, Version 16.0, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: **"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".**

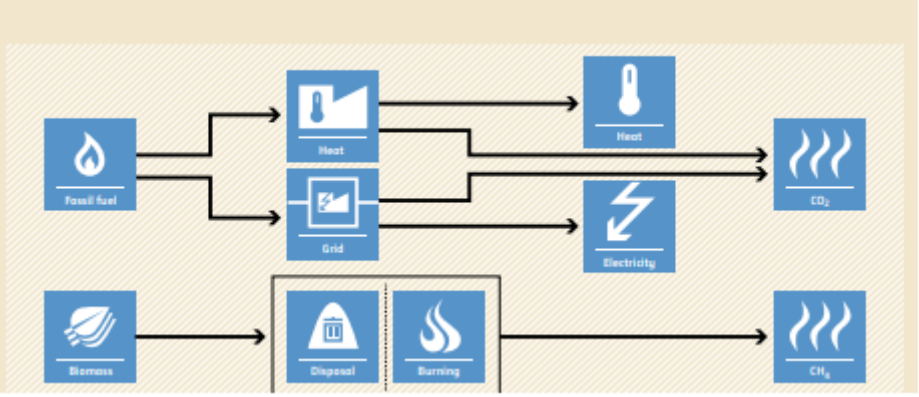
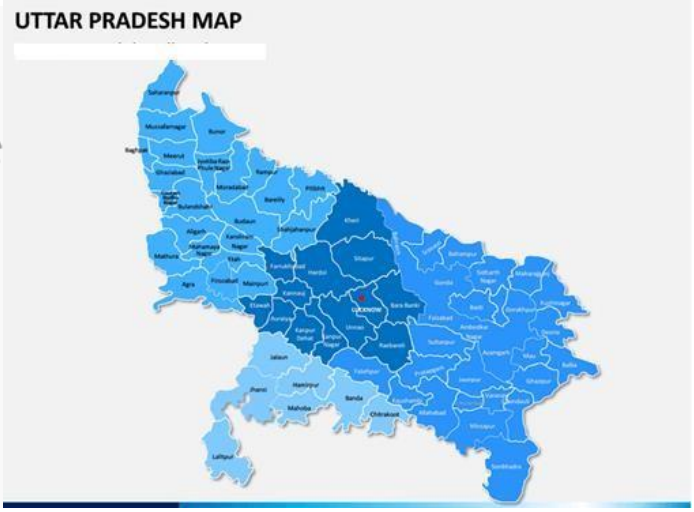


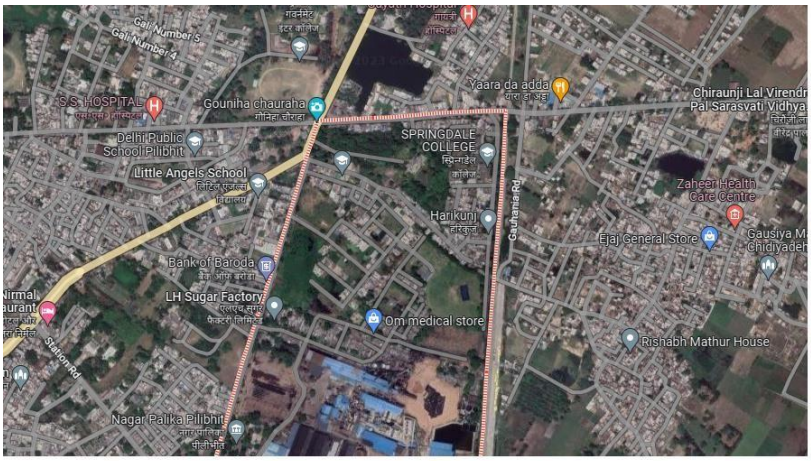
Figure 1 : Baseline Scenario

A.2. Location of project activity>>

Country: India

District: Pilibhit
Village: Jangraulipul
State: Uttar Pradesh
Pincode: 262001
Latitude: 28°N i.e. 28°00’00”N
Longitude: 79°E i.e. 79°00’00”E





A.3. Parties and project participants >>

Party (Host)	Participants
India	M/S L.H. Sugar Factories Ltd.Civil Lines, Pilibhit – 262001 State – Uttar Pradesh, India Project Aggregator Energy Advisory Services Pvt Ltd Bangalore, Karnataka. Email: manoj@easpl.co.in

A.4. References to methodologies and standardized baselines >>

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

TYPE I - Renewable Energy Projects (Large Scale)

CATEGORY- ACM0006 Electricity and heat generation from biomass, Version 16.0

A.5. Crediting period of project activity >>

Start Date : 01/01/2013
Crediting Period Corresponding to This Monitoring Period : 9 years, 09 months

01/01/2013 to 31/12/2022 (Both the dates are inclusive)

A.6. Contact information of responsible persons/entities >>

Name : Manoj Vyas
Contact No: +91 7303201778
E-Mail : manoj@easpl.co.in

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity >>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The technical details of the project activity can be found out in **section A1. (b)** Of the document.

b) For the description of the installed technology(ies), technical process and equipment, include diagrams, where appropriate>>

The technical details of the project activity can be found out in **section A1. (b)** Of the document.

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

Indian economy is highly dependent on "Coal" as fuel to generate energy and for production processes. Thermal power plants are the major consumers of coal in India and yet the basic electricity needs of a large section of population are not being met. This results in excessive demands for electricity and places immense stress on the environment.
Changing coal consumption patterns will require a multi-pronged strategy focusing on demand, reducing wastage of energy and the optimum use of renewable energy (RE) sources. This project is a greenfield activity where grid power is the baseline. The renewable power generation is gradually contributing to the share of clean & green power in the grid; however, grid emission factor is still on higher side which defines grid as distinct baseline.

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.
- 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.
- Enabling local electricity grid to divert the electricity displaced by the project activity to the nearby needy areas.
- Indirect capacity building by providing a case example to other sugar mills in the region for switching to high capacity cogeneration configuration, for electricity generation. In addition to the reduction in carbon dioxide (CO_2) emissions the project implementation will result in reduction of other harmful gases (NOx and SOx) that arise from the combustion of coal used in power generation. The project activity also leads to reduce ash generation since the ash content in bagasse is lower than that of Indian coal.

Economic benefits:

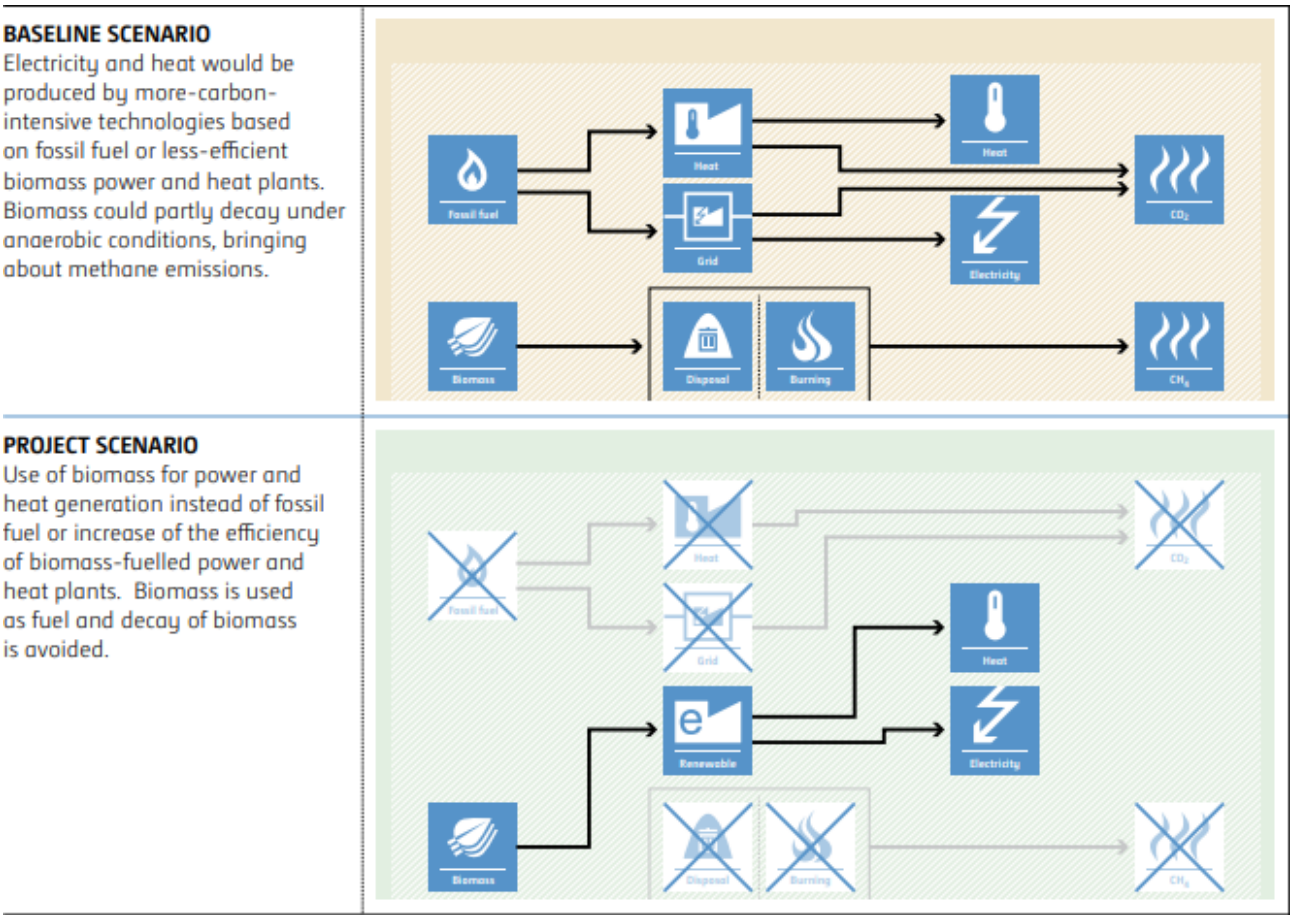
- The project activity creates employment opportunities during the project stage and operation and maintenance of the boiler and turbines.
- The project activity helps in conservation of fast depleting natural resources like coal and oil thereby contributing to the economic well being of country as a whole.
- The 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.

Technological benefits:

- The project activity leads to the promotion of cogeneration power plant into the region and will promote practice for small scale industries to reduce the dependence on carbon intensive grid supply to meet the captive requirement of electrical energy and also increasing energy availability and improving quality of power under the service area. Hence, the project leads to technological well-being.

B.3. Baseline Emissions>>

In the absence of the project activity, the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants.



Thus, this project activity was a voluntary investment which replaced equivalent amount of electricity from the Indian grid. The project proponent was not bound to incur this investment as it was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace fossil fuel-based power plants and fight against the impacts of climate change. The Project Proponent hopes that carbon revenues from 2013-2022 accumulated as a result of carbon credits generated will help repay the loans and help in the continued maintenance of this project activity.

B.4. Debundling>>

This “42 MW Biomass Based Power Generation At L.H. Sugar Factory Ltd.” project is not a debundled component of a larger registered carbon offset project activity.

SECTION C. Application of methodologies and standardized baselines

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

Sectoral Scope: 01 Energy industries (Renewable/Non-Renewable Sources).

TYPE I – Renewable Energy Projects.

Applied Baseline Methodology: ACM0006: "Electricity and heat generation from biomass" Version 16.0

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

The project activity involves generation of grid connected electricity from the construction and operation of a new cogeneration power-based project for selling it to National and Regional grid. The project activity has installed capacity of 27 MW, 12 MW & 3 MW which sums up to 42 MW, which will qualify for a large-scale project activity under Type-I of the Large-Scale methodology. The project status is corresponding to the methodology ACM0006, Version 16 and applicability of methodology is discussed below:

The project activity is a power generation project using a biomass (bagasse) and displaces CO_2 emissions from electricity generation in power plants that are displaced due to the project activity. Since the project activity utilises biomass (bagasse) for the generation of power and supplies it to the local grid, it displaces fossil fuel (coal), and hence it meets the primary applicability criteria ofthe methodology.
The project activity is a power-and-heat plant that encompasses cogeneration plants, i.e. power- and-heat plant in which at least one heat engine simultaneously generates both process heat and power. The total installed capacity of project activity is 42 MW which is acceptable as per the applied largescale methodology.
The installation of a new biomass residue fired power generation unit, which replaces existing power generation capacity fired with fossil fuel as in the project plant (power capacity expansion projects) is also included in this methodology.
For the purposes of this methodology, heat does not include waste heat, i.e. heat that is transferred to the environment without utilization, for example, heat in flue gas, heat transferred to cooling towers or any other heat losses.
The biomass used by the project plant is not stored for more than one year. The biomass used by the project plant is not processed chemically or biologically (e.g. through esterification, fermentation, hydrolysis, pyrolysis, bio- or chemical degradation, etc.) prior to combustion.
The Project Activity uses biomass residues from a production process (e.g. production of sugar), and the implementation of the project does not result in an increase of the processing capacity of (the industrial facility generating the residues) raw input (e.g. sugar) or in other substantial changes (e.g. product change) in this process.
The project activity unit does not co-fire fossil fuel and/or does not exceed the limit of 25% co-firing fossil fuel criteria as per the UCR Protocol for such projects.
Biomass generated power is used for direct grid supply and for meeting the captive needs at thefacility. The project activity is involves the grid-connected bagasse based electricity generation capacity involving the installation of facilities for allowing the export of electricity to the regionalgrid.
Biomass is not sourced from dedicated plantations. The existing installed turbo-generators are firedby bagasse, a by-product of the sugarcane processing and a biomass residue
Bagasse is burnt in boilers as generated form the sugar mill and does not require any specific technology for its preparation before combustion. No fuel preparation equipment has been installed at site for preparation of bagasse. Hence no significant energy quantities are required to prepare thebiomass residues for fuel combustion.

The project activity also does not include any GHG emissions related to the decomposition or burning of biomass. The baseline heat emissions for the project activity are not included in the project boundary nor does it claim for emission reductions from heat.

C.3 Applicability of double counting emission reductions >>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

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

The spatial extent of the project boundary encompasses:
1. All plants generating power and/or heat located at the project site, whether fired with biomass, fossil fuels or a combination of both.
2. All power plants connected physically to the electricity system (grid) that the project plant is connected to.
3. The means of transportation of biomass to the project site.

If the feedstock is biomass residues, the site where the biomass residues would have been left for decay or dumped.

C.5. Establishment and description of baseline scenario (UCR Protocol) >>

As per para 20 of the approved consolidated methodology ACM0006 Version 16, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"All plants generating power and/or heat located at the project site, whether fired with biomass, fossil fuels or a combination of both".

Net GHG Emission Reductions and Removals

- Emission reductions are calculated as follows:

$$ERy = BEy - PEy - LEy \quad \text{(Eq. 1)}$$

Where,

ERy = Emissions reductions in year y (t CO_2)

BEy = Baseline emissions in year y (t CO_2)

PEy = Project emissions in year y (t CO_2)

LEy = Leakage emissions in year y (t CO2)

- The Baseline emissions in year y can be calculated as follows:

$$BEy = EL_{MWhy} \text{ X } EF_{Gridy} \quad \text{(Eq. 2)}$$

Where,

EL_{MWhy} = Quantity of net electricity supplied to the grid as a result of the implementation of the project activity in year y (MWh)

EF_{Gridy} = Grid emission factor in year y (t CO2/MWh)

BEy = 817,941.11 Mwh x 0.9 tCO_2e/Mwh= 736,147 tCO_2e

- The electricity import from the grid is subtracted from the baseline scenario, hence there is no

separate project emissions.

$$PEy = 0 \qquad \text{(Eq. 3)}$$

- It is an integrated cogen plant. The biomass is the output of the sugar mill and which is beingconsumed hence there is no leakage emissions being generated.

$$LEy = 0 \qquad \text{(Eq. 5)}$$

Total Emission reduction by the project for the current monitoring period is calculated as below:Hence,

ERy = 736147– 0 – 0 = 736147 CoUs

C.6. Prior History>>

LH Sugar had registered CDM project in year 2006[2] and has claimed CERs from year 30/12/2005 to01/07/2007 for the 12 MW turbine which is part of the current project.

C.7. Monitoring period number and duration>>

First Monitoring Period : 10 Years

01/01/2013 to 31/12/2022 (inclusive of both the dates)

C.8. Changes to start date of crediting period >>

There is no change in the start date of the crediting period.
Crediting period start date is 01/01/2013.

C.9. 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.

[2] https://cdm.unfccc.int/Projects/DB/TUEV-SUED1142621143.43/view

C.10. Monitoring plan>>

Parameters	Description
$Q_{S,y}$	Quantity of steam supplied per year measured at recipient's end Steam generation for year 2013 - 2022 120 TPH Boiler = 4,018,014 MT 80 TPH Boiler = 2,504,332 MT 45 TPH Boiler = 1,280,318 MT Total = 7,802,664 MT
$T_{steam,y}$	Temperature of steam at the recipient's end 120 TPH Boiler = 505°C 80 TPH Boiler = 485°C 45 TPH Boiler = 440 °C
$P_{steam,y}$	Pressure of steam 120 TPH Boiler = 67 Kg/cm^2 80 TPH Boiler = 67 Kg/cm^2 45 TPH Boiler = 45 Kg/cm^2
$E_{steam,y}$	Enthalpy of the saturated steam supplied to the recipient = 809 Kcal/Kg
$T_{Feedwater}$	Temperature of boiler feed water = 100°C
$E_{Feedwater}$	Enthalpy of feed water = 100 Kcal/Kg
$E_{Gthermal,y}$	Net quantity of thermal energy supplied by the project activity during the year y 2013 – 2022 = 23157.32 TJ/yr
$B_{Biomass,y}$	Net quantity of biomass consumed in year y (on dry basis) Dry biomass consumed in year 2013-2022 = 1903925 MT
$MC_{biomass}$	Moisture content of the biomass = 50%

Data/Parameter:	Date of commissioning of biomass boilers
Data unit:	Date as per boiler test report.
Description:	Actual date of commissioning of the project device
Source of data Value(s) applied:	Commissioning certificate provided by the client 3 MW and 45 TPH capacity boiler commissioned in 2005, 12 MW and 80 TPH capacity boiler commissioned in 2005 and 27 MW and 120 TPH capacity boiler commissioned in 2008.
Measurement methods and procedures:	The construction processes are maintained from its initiation to completion dates for the biomass unit. Thus the start date of each of the unit installed is recorded in the monitoring report.
Monitoring frequency:	As and when commissioned and fixed and recorded in the monitoring report
Purpose of data:	To estimate project eligibility

Data / Parameter:	**NCV_k**
Data unit:	GJ/t
Description:	Net Calorific Value of Biomass Residue Type K = 2150 kcal/kg
Source of data value(s) applied:	Measurements will be carried out by reputed labs and reported in dry biomass basis.
Measurement methods & procedures:	On site and in labs
Monitoring frequency:	Every 6 months
Purpose of date:	Quality control

Data / Parameter:	$Q_{biomass,yr}$
Data unit:	MT/yr
Description:	The quantity of bagasse used to generate steam in the boilers each year
Source of data Value(s) applied:	Plant records and log books receipts 2013-14 : 344479 MT/year 2014-15 : 333394 MT/year 2015-16 : 298397 MT/year 2016-17 : 325981 MT/year 2017-18 : 428097 MT/year 2018-19 : 551118 MT/year 2019-20 : 508906 MT/year 2020-21 : 562767 MT/year 2021-22 : 454711 MT/year Total : 3807850 MT
Measurement methods & procedures:	Monitoring: The quantity of biomass fed into the boiler is controlled. Data type: Measured Responsibility: Boiler Operator
Monitoring frequency:	Daily
QA/QC procedures:	The amount of biomass used can be cross checked by the purchase orders and stock inventory

Data / Parameter:	$EG_{project\ plant,\ y}$
Data unit:	MW_h
Description:	Net quantity of electricity generated in the project plant during the year y (2014-2022)
Source of data Value(s) applied :	M/S L.H. Sugar Factoties Ltd. 734975 Mwh
Measurement methods & procedures:	This value will be determined annually from the records maintained at the factory. All auxiliary units at the power plant are metered and there is also a main meter attached to turbine generator to determine total generation.
Monitoring frequency:	The hourly recordings of data is to be taken from energy meters located at the project activity site. This data is to be recorded hourly by the shift attendant and entered into logbooks on site. This hourly data is to be signed off at the end of every shift by an engineer in charge of the shift and again at the end of each day and signed off by the power plant manager. The energy meters are calibrated every 5 years by an independent third party
QA/QC procedures:	The parameter is monitored and logged in log sheets.

Data / Parameter:	$EF_{grid,y}$
Data unit:	Grid emission factor
Description:	tCO_2/MW_h
Source of data Value(s) applied:	UCR CoU Standard Default for Indian grid 0.9 tCO_2/MW_h for the period 2013-2021 and same is used for the period post 2021 as it is found conservative.
Measurement methods & procedures:	NA
Monitoring frequency:	NA
QA/QC procedures:	The parameter is conservative.
Purpose of data:	To estimate baseline emissions

Data / Parameter:	$EG_{grid,y}$
Data unit:	MW_h
Description:	Net quantity of electricity supplied to the grid
Source of data Value(s) applied:	JMR and/or Monthly Meter Readings 734975 Mwh
Measurement methods &	Type: Calculated

procedures:	Data type: Monitored This parameter may be checked with the necessary invoices or JMR (issued by the state grid) each month
Monitoring frequency:	Daily
QA/QC procedures:	The parameter is monitored by on site energy meters that are calibrated on every 5 years. The hourly recordings of data is to be taken from energy meters located at the project activity site. This data is to be recorded hourly by the shift attendant and entered into logbooks on site. This hourly data is to be signed off at the end of every shift by an engineer in charge of the shift and again at the end of each day and signed off by the power plant manager. The energy meters are calibrated by an independent third party.
Purpose of data:	To estimate baseline emissions

United Nations Sustainable Development Goals:

The project activity generates electrical power using Biomass, there by displacing non-renewable fossil resources resulting to sustainable, economic and environmental development. In the absence of the project activity equivalent amount of power generation would have taken place through fossil fuel dominated power generating stations. Thus, the renewable energy generation from project activity will result in reduction of the greenhouse gas emissions.

Positive contribution of the project to the following Sustainable Development Goals

1. **SDG13: Climate Action:** The project would lead to reduction of approx. 736,147 tCO2e during the monitoring period from 01/01/2013 to 31/12/2022 due to implementation of project activity.

2. **SDG 7: Affordable and Clean Energy:** The project is generating approx. 734,975 MWh of clean energy during the monitoring period from 01/01/2013 to 31/12/2022.

3. **SDG 8: Decent Work and Economic Growth:** The project is providing direct employment to around 05 persons. The project leads to Trainings & workshops which are conducted for the O&M staff of the PP.

Sustainable Development Goals (SDG) outcomes

Development Goals Targeted	SDG Target	Indicator (SDG Indicator)
SDG 7: Affordable and Clean Energy	**7.2**: By 2030, increase substantially the share of renewable energy in the global energy mix **Target**: 734,975 MWh of clean	**7.2.1**: Renewable energy share in the total final energy consumption

	energy during the monitoring period from 01/01/2013 to 31/12/2022.	
SDG 8: Decent Work and Economic Growth	**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 **Target**: • Training: 1 no. annually • Employment of 05 staff	**8.5.1**: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
SDG 13: Climate Action	13.2: Integrate climate change measures into national policies, strategies and planning **Target**: 736,147 tCO2e during the monitoring period from 01/01/2013 to 31/12/2022	**13.2.1**: Number of countries that have communicated establishment or operationalization of an integrated policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)