



MONITORING REPORT

CARBON OFFSET UNIT (CoU) PROJECT



Title: Simbhaoli Biomass Grid Supply Power Project, Ghaziabad, Uttar Pradesh

UCR PROJECT ID: 256

MR Version 2.0

Date of MR: 20/02/2023

Monitoring Period: 01

1st CoU Issuance Period: 08 Years, 02 Months

1st Crediting Period: 01/04/2014 to 31/05/2022

1st Monitoring Period Duration: 01/04/2014 to 31/05/2022 (both days inclusive)



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

BASIC INFORMATION

Title of the project activity	Simbhaoli Biomass Grid Supply Power Project, Ghaziabad, Uttar Pradesh
Scale of the project activity	Large Scale
UCR PROJECT ID	256
Completion date of the MR	20/02/2023
Project participants	<u>Project Proponent:</u> Simbhaoli Sugars Limited (SSL) <u>Aggregator:</u> M/S Gram Vikas Trust , Gujarat, UCR Seller #741215693
Host Party	India
Applied methodologies and standardized baselines	CDM UNFCCC Methodology ACM0006: Grid connected renewable electricity generation (Ver.16.0) UCR Standard for Baseline Grid Emission Factor
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources)
Calculated amount of annual average GHG emission reductions	2014: 22436 tCO ₂ (22436 CoUs)
	2015: 45429 tCO ₂ (45429 CoUs)
	2016: 80495 tCO ₂ (80495 CoUs)
	2017: 141007 tCO ₂ (141007 CoUs)
	2018: 155576 tCO ₂ (155576 CoUs)
	2019: 98621 tCO ₂ (98621 CoUs)
	2020: 97801 tCO ₂ (97801 CoUs)
	2021: 83174 tCO ₂ (83174 CoUs)
	2022: 59582 tCO ₂ (59582 CoUs)
Calculated total GHG emission reductions this monitoring and crediting period	784121 tCO₂ (784121 CoUs)

SECTION A. Description of project activity

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

The project **Simbhaoli Biomass Grid Supply Power Project, Ghaziabad, Uttar Pradesh** is located at Block: Simbhaoli, District: Ghaziabad, State: Uttar Pradesh (UP), Country India (Pin: 245207).

The details of the UCR project activity are as follows:

A.1 Purpose of the project activity:

The purpose of the project activity is to generate electricity using renewable biomass and thereby reducing GHG emissions by displacing fossil fuel dominated grid based electricity with biomass based renewable electricity. The commissioning date of this UCR project activity is **29/11/2007**. The **pre-project activity scenario** consisted of **captive power generation** by three backpressure type turbo generators of **12MW, 3MW and 1.5 MW** capacities **without grid supply**. Prior to the completion of the boiler/turbine expansion, installation and grid supply in 29/11/2007, the SSML plant generated renewable power only during the sugar season (which was approximately 150 days in a year). With the final expansion in 2016, the project activity has been able to operate throughout the year and export renewable power to the Uttar Pradesh Power Corporation Limited (UPPCL) grid. The total contracted exportable power to UPPCL under the Power Purchase Agreement is **40MW** (PPA dated: 26/04/2007 and 04/06/2014). The export of electricity hence reduces GHG emissions by replacing the fossil fuel dominated grid based electricity with a renewable source of electricity.

The project activity involves the renewable biomass (bagasse) based electricity generation within the Simbhaoli Sugar Mills Limited (SSML) plant located at Block: Simbhaoli, State: Uttar Pradesh. This UCR project activity involves the installation of a **22 MW** backpressure type turbo generator along with high pressure (87 kg/cm²) 110 TPH capacity boiler commissioned in **29/11/2007** (date of synchronization of the turbine with the UP State grid) and a high pressure boiler of 125 TPH (115 kg/cm² pressure) along with a **28 MW** condensing extraction and bleed-type steam turbine-driven generator set that was commissioned in **13/02/2016**. The 28 MW turbine is housed in a substation that continuously exports renewable power to the grid. Hence, the project activity is a grid-connected biomass (bagasse based) cogeneration power plant with a high pressure steam-turbine configuration. The power generated from the turbines is utilised for captive consumption and the surplus power is exported to the grid. Power is generated both in the sugar season and off-season at 11 kV and stepped-up on-site to 132 kV before being transmitted to the nearby UPPCL sub-station located at Simbhaoli.

Prior to the UCR project activity, the biomass was used for captive steam and power requirement of the SSML plant which was supplied through four boilers and three turbines. The boilers configuration at SSML prior to the UCR project activity comprised of one 43 kg/cm² pressure boiler of 75TPH capacity, two 32-kg/cm² pressure boilers of 50TPH and 40TPH capacity and one 21kg/cm² pressure boiler of 20TPH capacity.

A.2. Location of project activity >>

Country: India

Block: Simbhaoli,

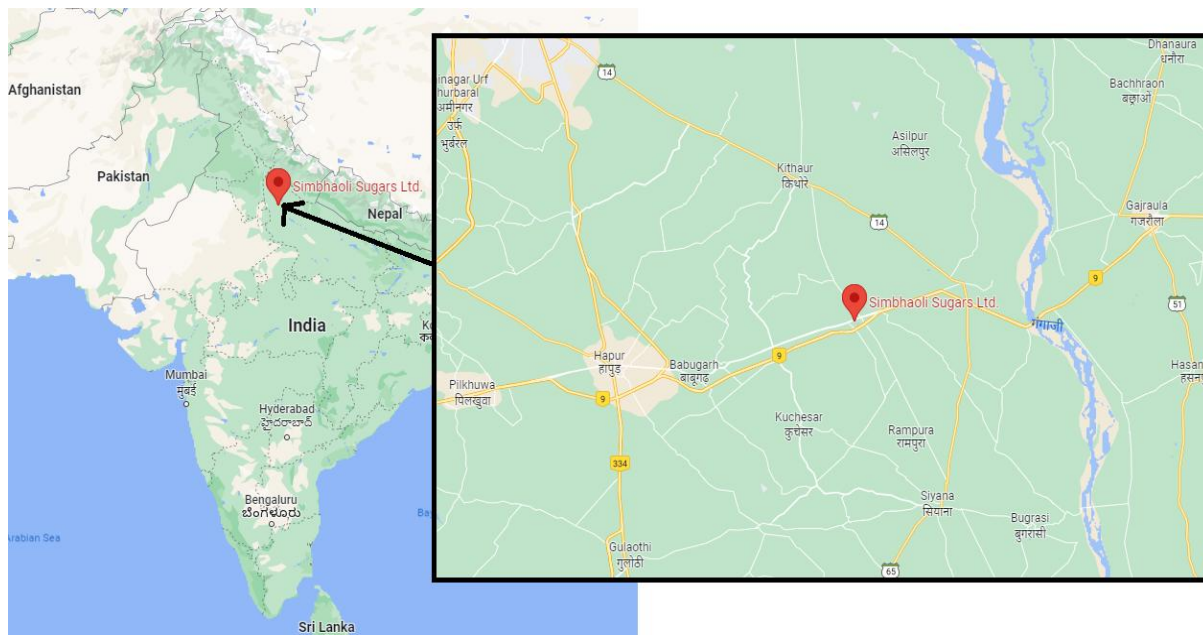
District: Ghaziabad,

State: Uttar Pradesh,

Country India

Latitude: 28°48'N

Longitude: 78° 0'E



A.3. Technologies/measures >>

The UCR project activity is a grid-connected bagasse based cogeneration power plant with a high pressure steam-turbine configuration. The UCR project activity is the electricity generation capacity and the installation of facilities for allowing the export of electricity to the regional grid.

The UCR project activity involves the installation of a **22 MW** backpressure type turbo generator along with high pressure (87 kg/cm²) 110 TPH capacity boiler commissioned in **29/11/2007** (date of synchronization of the turbine with the UP State grid) and a high pressure boiler of 125 TPH (115 kg/cm² pressure) along with a **28 MW** condensing extraction and bleed-type steam turbine-driven generator set that was commissioned in **13/02/2016**. The 22 MW backpressure turbine is used for captive power consumption and power from this turbine is also exported to the grid. The 28 MW turbine is housed in a substation that continuously exports renewable power to the grid. The high pressure boilers are 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 technology of biomass residue based high steam pressure power generation itself is known and in use in India. The use of high pressure system allows for increased efficiency levels for electricity generation.

Power is generated and supplied in the sugar season and off-season at 11 kV and stepped-up on-site to 132 kV before being transmitted to the nearby UPPCL sub-station located at Simbhaoli. The designed voltage level of the substation is 400/220/132kV and the operating voltage level is 400/220/132kV. The step-in voltage of the sub-station is 400kV and the step-out voltage is 132kV.

Installed Capacity	Turbine 1: 22MW	Turbine 2: 28MW
Boiler Capacity (TPH)	110	125
Pressure (Output-kg/cm ²)	87	110
Temp Feed Water (Deg C)	110	220
Feed Water Pressure (kg/cm ²)	115	165
Capacity Utilization %	100.00%	100.00%
Plant Load Factor (PLF)	0.39%	0.43%
Temp Output Steam (Deg C)	510	540

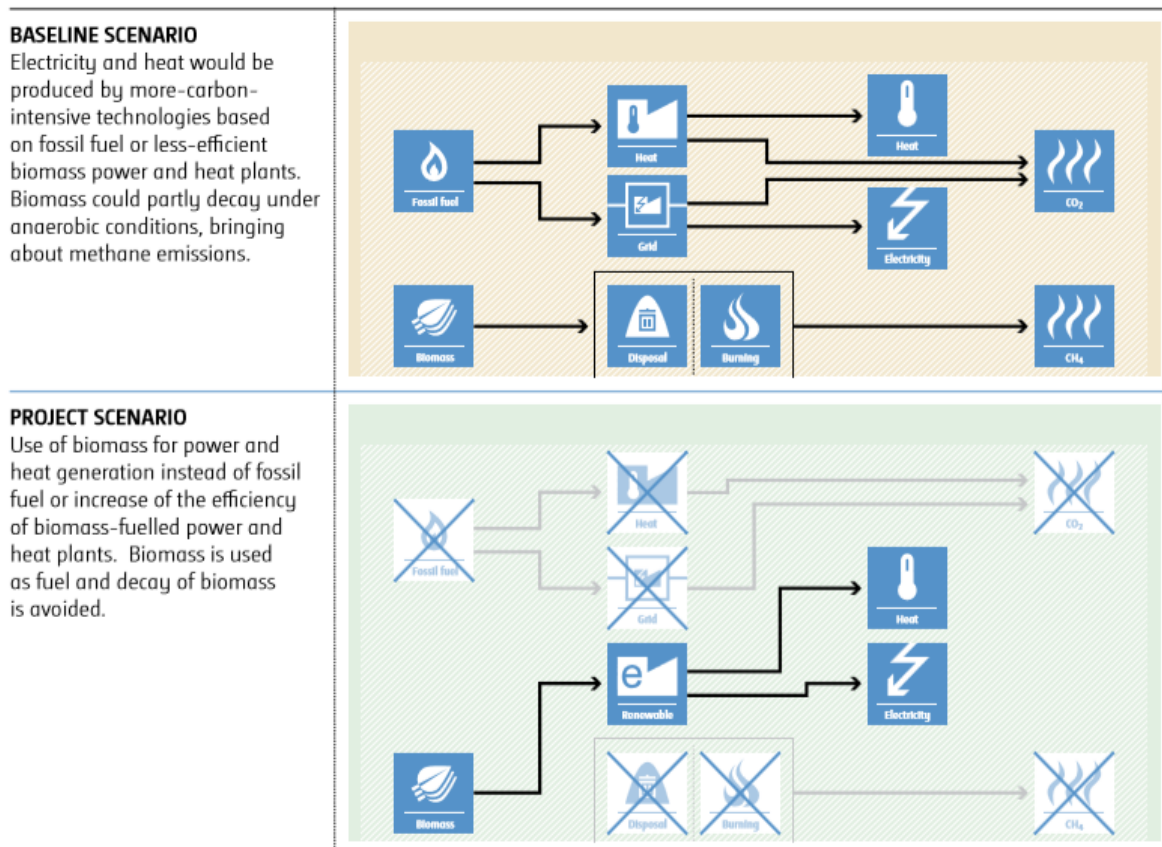
A.4. Parties and project participants >>

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: Simbhaoli Sugar Mills Limited (SSML) Aggregator: M/S Gram Vikas Trust , Gujarat, UCR Member #741215693 Email: gvtbiogas@gmail.com

A.5. Baseline Emissions>>

ACM0006 Electricity and heat generation from biomass



The approved baseline methodology has been referred from the indicative simplified baseline and monitoring methodologies for selected large scale UNFCCC CDM project activities that involve

generation of power and heat in thermal power plants, including cogeneration plants using biomass.

Typical activities under ACM 0006 are new plants, capacity expansions, energy efficiency improvements or fuel switch projects.

The applicable methodology and simplified modalities and procedures for small scale CDM project activities is “*the baseline scenario is displacement of more-GHG-intensive electricity generation in grid.*”

Emission coefficient of fuel used in the baseline scenario

The CO₂ emission factor for grid connected power generation in year y calculated using UCR Standard emission factor is 0.9 tCO₂/MWh for the period 2013-2021. Emission factor for the 2022 vintage is also conservative at 0.9 tCO₂/MWh.

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 CO₂ emission factor for grid connected power generation in year y calculated using UCR Standard emission factor is 0.9 tCO₂/MWh.

UCR Monitoring Period Number	01
Start Date	01/04/2014
End Date	31/05/2022
Total Emission Reductions over the monitoring period	784121 tCO₂

A.6. Debundling>>

This project is not a debundled component of a larger registered carbon offset project activity.

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 (Large Scale)

UCR Positive List Environmental Additionality

SCALE – Large Scale

CATEGORY- *ACM0006 Large-scale Consolidated Methodology*

Electricity and heat generation from biomass, Version 16.0

This methodology is applicable to project activities that operate biomass (co-)fired power and-heat plants. The project activity includes the installation of new plants at a site where currently power or heat generation occurs. The new plant replaces or is operated next to existing plants (capacity expansion projects). Project types included under this methodology are co-generation of power and heat using biomass. Typical activities include capacity expansions, as is the current UCR project activity.

UCR CoU Standard is used to determine the baseline grid emission factor for the 2013-2022 period.

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

The project activity is a power generation project using a biomass (bagasse) and displaces CO2 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 of the 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 50MW which is acceptable as per the applied large scale methodology.
The installation of a new biomass residue fired power generation unit, which replaces or is operated next to existing power generation capacity fired with either fossil fuels or the same type of biomass residue 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 the facility. The project activity involves the grid-connected bagasse based electricity generation capacity involving the installation of facilities for allowing the export of electricity to the regional grid
Biomass is not sourced from dedicated plantations. The existing installed turbo-generators are fired by bagasse, a by-product of the sugarcane processing and a biomass residue
Bagasse is burnt in boilers as generated from 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 the biomass 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.

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 (details provided in Section B.8.). All the records are documented and maintained by the project proponent. The details of the same are provided to the UCR verifier during the verification process.

The biomass boilers and turbines are constructed by the project proponent within the project boundary. The biomass boilers, turbines and meters have unique IDs, which is visible on the units. The Monitoring Report has the details of the same and will be provided to the UCR verifier during the verification process.

The UCR project activity has been registered as a CDM project activity under the title :SSML – Simbhaoli Biomass Power Project ([Project ID 1112](#)).

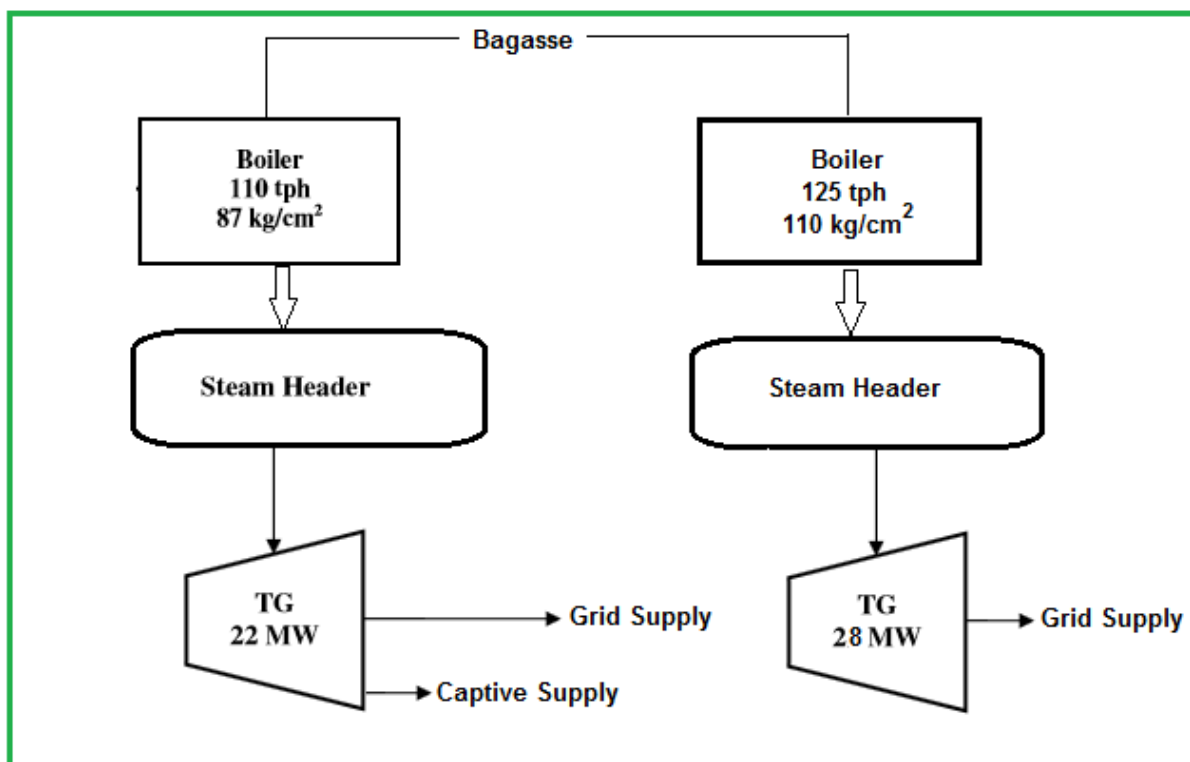
CDM Registration Date	14/09/2007
Crediting Period	14/09/2007 – 13/09/2017 (Fixed)
CERs Issued (Period)	30861 CERs (Period 14/09/2007-25/05/2008)
CERs Issued (Period)	104141 CERs (Period 26/05/2008-25/05/2011)

Hence the UCR project activity has never been issued voluntary carbon credits for the current 2013-2022 vintage years and there is no double counting of the credits. Additionally, the same has been stated in the undertaking provided in the Double Counting Avoidance Assurance Document (DAA) by SSML.

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

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

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



Leakage Emissions (LE_y)

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

Hence $LE_y = 0$

	Source	GHG	Included?	Justification/Explanation
Baseline	GHG Emissions from fossil fuel in Grid Baseline Power Generation	CO ₂	Included	Major source of GHG emissions
		CH ₄	Excluded	Excluded for simplification. This is conservative
		N ₂ O	Excluded	Excluded for simplification. This is conservative

	Uncontrolled burning or decay of surplus biomass residue	CO ₂	Excluded	Excluded for simplification. This is conservative
		CH ₄	Excluded	Excluded for simplification. This is conservative
		N ₂ O	Excluded	Excluded for simplification. This is conservative
	Emissions from Biomass Project Activity	CO ₂	Excluded	No fossil fuel / electricity is consumed at the project site due to the project activity. No biomass residue from off-site will be used for the project activity.
	On-site fossil fuel and electricity consumption due to the project activity (stationary or mobile)			Excluded for simplification. This is conservative
	Off-site transportation of biomass residue	CH ₄	Excluded	No fossil fuel / electricity is consumed at the project site due to the project activity. No biomass residue from off-site will be used for the project activity
	Combustion of biomass residue for electricity and / or heat generation			Excluded for simplification. This is conservative
	Storage of biomass residue	N ₂ O	Excluded	Excluded for simplification. This is conservative

Project Emissions (PE_y)

The project emissions (PE_y) under the methodology may include

CO₂ emissions from transportation of biomass residue to the project site,

CO₂ emissions from on-site consumption of fossil fuels due to project activity,

CO₂ emissions from electricity consumption at the project site that is attributable to the project activity and

CH₄ emissions from combustion of biomass.

where

PE_{Ty} = are the CO₂ emissions during the year y due to transport of the biomass to the project plant in tons of CO₂,

PE_{FFCO₂, y} = are the CO₂ emissions during the year y due to fossil fuels co-fired by the generation facility in tons of CO₂,

PE_{EC,y} = are the CO₂ emissions during the year y due to electricity consumption at the project site that is attributable to the project activity in tons of CO₂,

GWP_{CH₄} = is the Global Warming Potential for methane valid for the relevant commitment period and,

PE_{Biomass,CH₄,y} = are the CH₄ emissions from the combustion of biomass during the year y.

The proposed project activity does not have any CO₂ emissions due to off-site transportation of

biomass, or from fossil fuel co-firing and from electricity consumption at site. The project activity also doesn't include the CH₄ emissions from the combustion of biomass.

Hence,

$$PE_{T,y} = 0,$$

$$PE_{FFCO_2,y} = 0,$$

$$PE_{EC,y} = 0 \text{ and,}$$

$$PE_{Biomass,CH_4,y} = 0.$$

Therefore, $PE_y = 0$.

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.*

The baseline emissions due to displacement of electricity are determined by net quantity of electricity generation as a result of the project activity (incremental to baseline generation) during the year y in MWh times the CO₂ emission factor for the electricity displaced due to the project activity during the year y in tons CO₂/MWh

Given that steam and electric power generation for internal consumption is part of the present project activity, emission reductions are only claimed from on-site incremental power generation that is injected to the grid. Therefore, the baseline scenario is the emission of GHG from the present electricity generation mix of the UPPCL grid in the northern region.

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:

$$ER_y = BE_y - (PE_y + LE_y)$$

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

As mentioned in the methodology the baseline emissions are calculated as follows:

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

Where:

EG_{grid,y} = Quantity of net electricity generation that is fed into the local grid as a result of the implementation of the project activity in year y (MWh)

EF_{grid,y} = The CO₂ emission factor for grid connected power generation in year y calculated using UCR Standard emission factor (0.9 tCO₂/MWh).

PE_y = Project activity emissions = 0

LE_y = Leakage emissions = 0

For this methodology, it is assumed that transmission and distribution losses in the electricity grid are not influenced significantly by the project activity and are therefore not accounted for.

Year	Total Power Exported Mwh	Emission Reductions TCO ₂ eq
2013	0	0
2014	24929.736	22436
2015	50476.98	45429
2016	89439.36	80495
2017	156675.24	141007
2018	172863	155576
2019	109579.032	98621
2020	108667.848	97801
2021	92415.792	83174
May 2022	66202.488	59582
Total		784121

B.6. Prior History>>

The project activity has applied for CDM registration in the past, however, the project activity has not been registered or issued carbon credits and has not applied to any other GHG program for generation or issuance of carbon offsets or credits for the current crediting period on UCR.

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

The following are the changes to the start and end dates in the monitoring and crediting periods from the original dates mentioned in the PCN.

Monitoring Period: 01

1st CoU Issuance Period: 08 Years, 02 Months

1st Crediting Period: 01/04/2014 to 31/05/2022

1st Monitoring Period Duration: 01/04/2014 to 31/05/2022 (both days inclusive)

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>>

Monitoring Period: 01

1st CoU Issuance Period: 08 Years, 02 Months

1st Crediting Period: 01/04/2014 to 31/05/2022

1st Monitoring Period Duration: 01/04/2014 to 31/05/2022 (both days inclusive)

B.8. Monitoring plan>>

The monitoring of electricity consists power generation from the turbine generators and the auxiliary consumption of power plants. All auxiliary units at the power plant are metered and there is also a main meters attached to each turbine generator to determine their total generation. The total amount of bagasse generated by the sugar plant is calculated from the amount of cane crushed in the season (monitored value), which is obtained from the RT8C records.

Bagasse has been calculated using the formula:

Bagasse = Cane + Added water – Juice

This is cross checked using an annual energy balance using the monitored steam values. The total heat generated as well as the heat generated by the project activity is monitored using the temperature and pressure values and calculating the enthalpies of the steam generated and the feed water using standard steam charts/tables.

The project activity has ISO 9001:2008/20 and ISO 14001:2004 quality assurance and environmental management system implemented, therefore the management system of the UCR project activity is in place with the responsibilities properly identified and in place. In order to verify quality, the project activity works in accordance with a quality assurance procedure that are embedded in their management system, which establishes that the operational and management structure is implemented. An internal audit for the data pertaining to the project activity can be checked on site to confirm the effectiveness of the management system.

Monitoring shall consist of metering the electricity generated by the renewable technology. For projects where only biomass or biomass and fossil fuel are used the amount of biomass and fossil fuel input shall be monitored.

For projects consuming biomass a specific fuel consumption of each type of fuel (biomass or fossil) to be used should be specified ex-ante. The consumption of each type of fuel shall be monitored.

As fossil fuel is not used for the generation of electricity, the electricity metered need not be adjusted to deduct electricity generation from fossil fuels using the specific fuel consumption and the quantity of fuel consumed.

The PP has the responsibility of the monitoring plan implementation. In this MR, emission factor of the project activity is determined as per the UCR CoU guidelines. Therefore the electricity supplied to the grid by the project activity is defined as the key data to be monitored. The monitoring plan is designed first of all to focus on monitoring of the electricity output of the project activity. The second critical data to be monitored is coal consumption (which in this case is nil). Therefore the second focus of the monitoring plan is ignored (i.e. coal consumption data). The other elements following the monitoring methodology concern the comparison of values using two different approaches, and choosing the more conservative of two values.

The PP has been provided identical sets of ABT compliant energy meters, with the facility for downloading data to measure the quantity and time details of the power exported from and imported by the PP, conforming to the specifications approved by UPPCL, along with all necessary associated equipment. These meters are installed and maintained by UPPCL. These meters are installed at the grid substation of UPPCL at the interconnection point. One set of export/import meter is termed as the Bill Meter and other set will serves as the Check Meter. The complete metering system consisting of meters and transformers conform to the 0.2 accuracy class, individually and comply with the technical standards, accuracy and calibration requirements of the

Indian Electricity Rules and the specifications of the Bureau of Indian Standard and the guidelines of CEA for installation of meters. The meters have AMR facility.

As per the methodology,

Monitoring consists of metering the electricity generated by the renewable technology.

The amount of biomass and fossil fuel input is monitored.

For projects consuming biomass a specific fuel consumption of each type of fuel (biomass or fossil) to be used should be specified ex-ante.

The consumption of each type of fuel is monitored. Since fossil fuel is used, the electricity generation metered should be adjusted to deduct electricity generation from fossil fuels using the specific fuel consumption and the quantity of fossil fuel consumed.

Data and parameters measured ex post or during the monitoring period

Data/Parameter	MWh/annum																																																																																																																																																																								
Data unit	MWh																																																																																																																																																																								
Description	Total export to UPPCL in kwh – monthly joint meter reading (JMR) statement; summed for annual figure in MWh																																																																																																																																																																								
Source of data Value(s) applied	<table><tr><th>Year</th><th>Total Power Exported Mwh</th></tr><tr><td>2013</td><td>0</td></tr><tr><td>2014</td><td>24929.736</td></tr><tr><td>2015</td><td>50476.98</td></tr><tr><td>2016</td><td>89439.36</td></tr><tr><td>2017</td><td>156675.24</td></tr><tr><td>2018</td><td>172863</td></tr><tr><td>2019</td><td>109579.032</td></tr><tr><td>2020</td><td>108667.848</td></tr><tr><td>2021</td><td>92415.792</td></tr><tr><td>May 2022</td><td>66202.488</td></tr></table>	Year	Total Power Exported Mwh	2013	0	2014	24929.736	2015	50476.98	2016	89439.36	2017	156675.24	2018	172863	2019	109579.032	2020	108667.848	2021	92415.792	May 2022	66202.488																																																																																																																																																		
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Measurement methods and procedures	<table><tr><th>Sl NO.</th><th>NAME</th><th>MAKE</th><th>METER SR. NO.</th><th>METER P.T RATIO</th><th>METER C.T RATIO</th><th>LINE C.T RATIO</th><th>LINE P.T RATIO</th></tr><tr><td colspan="8">GROSS GENERATION</td></tr><tr><td>1</td><td>TG-1(22 MW)</td><td>SECURE</td><td>ASH00583</td><td>110/V3V</td><td>— / 1 A</td><td>1800/1 A</td><td>10.5KV/110 V</td></tr><tr><td>2</td><td>TG-2(12 MW)</td><td>SECURE</td><td>ASH00582</td><td>110/V3V</td><td>— / 1 A</td><td>1500/1 A</td><td>6.6KV/110 V</td></tr><tr><td>3</td><td>TG-3(28 MW)</td><td>SECURE</td><td>XCS31342</td><td>110/V3V</td><td>— / 1 A</td><td>2200/1</td><td>10.5KV/110 V</td></tr><tr><td colspan="8">TOTAL GENERATION IN KWH</td></tr><tr><td colspan="8">AUXILIARY CONSUMPTION</td></tr><tr><td>1</td><td>BOILER 1(110 TPH)</td><td>SECURE</td><td>HRU09666</td><td>220V</td><td>— /5A</td><td>4000/5A</td><td>415V/110V</td></tr><tr><td>2</td><td>BOILER 12(77 TPH)</td><td>SECURE</td><td>HRU06739</td><td>110/V3V</td><td>— /5A</td><td>250/5A</td><td>6.6KV/110 V</td></tr><tr><td>3</td><td>BOILER 125 TPH,2.5 MVA</td><td>SECURE</td><td>XCS30760</td><td>110/V3V</td><td>— /1A</td><td>350/1A</td><td>10.5KV/110 V</td></tr><tr><td>4</td><td>BOILER 125 TPH,4 MVA</td><td>SECURE</td><td>XCS30761</td><td>110/V3V</td><td>— /1A</td><td>350/1A</td><td>10.5KV/110 V</td></tr><tr><td colspan="8">EXPORT TO UPPCL</td></tr><tr><td>1</td><td>UPPCL MAIN METER</td><td>SECURE</td><td>APM 34345</td><td>110/V3V</td><td>— / 1 A</td><td>200/1 A</td><td>132KV/110V</td></tr><tr><td>2</td><td>UPPCL CHECK METER</td><td>SECURE</td><td>APM 34344</td><td>110/V3V</td><td>— / 1 A</td><td>200/1 A</td><td>132KV/110V</td></tr><tr><td colspan="8">IMPORT TO UPPCL</td></tr><tr><td>1</td><td>UPPCL MAIN METER</td><td>SECURE</td><td>APM 34345</td><td>110/V3V</td><td>— / 1 A</td><td>200/1 A</td><td>132KV/110V</td></tr><tr><td>2</td><td>UPPCL CHECK METER</td><td>SECURE</td><td>APM 34344</td><td>110/V3V</td><td>— / 1 A</td><td>200/1 A</td><td>132KV/110V</td></tr><tr><td colspan="8">SELF CONSUMPTION FROM REC RECOMMENDED TG SET</td></tr><tr><td>1</td><td>15 MVA TRANSFORMER</td><td>SECURE</td><td>XCS31553</td><td>110/V3V</td><td>— / 1 A</td><td>1000/1 A</td><td>10.5KV/110 V</td></tr><tr><td>2</td><td>MILL-1(4 MVA)</td><td>SECURE</td><td>XC477294</td><td>0.5KV/110</td><td>— / 1 A</td><td>400/1 A</td><td>10.5KV/110 V</td></tr><tr><td>3</td><td>MILL-2(2.5 MVA)</td><td>SECURE</td><td>XC477296</td><td>0.5KV/110</td><td>— / 1 A</td><td>200/1</td><td>10.5KV/110 V</td></tr></table>	Sl NO.	NAME	MAKE	METER SR. NO.	METER P.T RATIO	METER C.T RATIO	LINE C.T RATIO	LINE P.T RATIO	GROSS GENERATION								1	TG-1(22 MW)	SECURE	ASH00583	110/V3V	— / 1 A	1800/1 A	10.5KV/110 V	2	TG-2(12 MW)	SECURE	ASH00582	110/V3V	— / 1 A	1500/1 A	6.6KV/110 V	3	TG-3(28 MW)	SECURE	XCS31342	110/V3V	— / 1 A	2200/1	10.5KV/110 V	TOTAL GENERATION IN KWH								AUXILIARY CONSUMPTION								1	BOILER 1(110 TPH)	SECURE	HRU09666	220V	— /5A	4000/5A	415V/110V	2	BOILER 12(77 TPH)	SECURE	HRU06739	110/V3V	— /5A	250/5A	6.6KV/110 V	3	BOILER 125 TPH,2.5 MVA	SECURE	XCS30760	110/V3V	— /1A	350/1A	10.5KV/110 V	4	BOILER 125 TPH,4 MVA	SECURE	XCS30761	110/V3V	— /1A	350/1A	10.5KV/110 V	EXPORT TO UPPCL								1	UPPCL MAIN METER	SECURE	APM 34345	110/V3V	— / 1 A	200/1 A	132KV/110V	2	UPPCL CHECK METER	SECURE	APM 34344	110/V3V	— / 1 A	200/1 A	132KV/110V	IMPORT TO UPPCL								1	UPPCL MAIN METER	SECURE	APM 34345	110/V3V	— / 1 A	200/1 A	132KV/110V	2	UPPCL CHECK METER	SECURE	APM 34344	110/V3V	— / 1 A	200/1 A	132KV/110V	SELF CONSUMPTION FROM REC RECOMMENDED TG SET								1	15 MVA TRANSFORMER	SECURE	XCS31553	110/V3V	— / 1 A	1000/1 A	10.5KV/110 V	2	MILL-1(4 MVA)	SECURE	XC477294	0.5KV/110	— / 1 A	400/1 A	10.5KV/110 V	3	MILL-2(2.5 MVA)	SECURE	XC477296	0.5KV/110	— / 1 A	200/1	10.5KV/110 V
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Monitoring frequency	Meter readings are daily, while the billing is monthly
Purpose of data	Baseline Emissions. The net quantity of electricity generated in the project plant during the year y can be compared with the monthly sales to the connected grid and actual supplied electricity can be verified.

Data / Parameter:	Tonnes/annum				
Data unit:	Tonnes coal				
Description:	Total used – computerised daily feed values				
Value(s) applied	<table> <tr> <th>Year</th><th>Tonnes</th></tr> <tr> <td>2013-2022</td><td>0</td></tr> </table>	Year	Tonnes	2013-2022	0
Year	Tonnes				
2013-2022	0				
Measurement procedures (if any):	-				
Monitoring frequency:	Monitored continuously.				
Any comment:	Electronic data sheets and invoices maintained-				

Data / Parameter:	Tonnes/year																						
Data unit:	Tonnes Biomass																						
Description:	Total used – computerised daily feed values																						
Measurement procedures (if any):	Belt weigher -224410, 224510, 224610 & 224710																						
Value(s) applied	<table> <tr> <th>Year</th><th>Biomass Quantity Consumed (Tonnes)</th></tr> <tr><td>2013</td><td>26273</td></tr> <tr><td>2014</td><td>323653</td></tr> <tr><td>2015</td><td>184815</td></tr> <tr><td>2016</td><td>429133</td></tr> <tr><td>2017</td><td>379826</td></tr> <tr><td>2018</td><td>304947</td></tr> <tr><td>2019</td><td>219362</td></tr> <tr><td>2020</td><td>224917</td></tr> <tr><td>2021</td><td>177330</td></tr> <tr><td>May-22</td><td>140903</td></tr> </table>	Year	Biomass Quantity Consumed (Tonnes)	2013	26273	2014	323653	2015	184815	2016	429133	2017	379826	2018	304947	2019	219362	2020	224917	2021	177330	May-22	140903
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2019	219362																						
2020	224917																						
2021	177330																						
May-22	140903																						
Monitoring frequency:	-Monitored continuously by PP. The quantity of bagasse is being measured daily through the belt weigher system installed at the project activity and stock changes in the yard. The daily records are aggregated monthly and reported in the monitoring report after adjusting it for the moisture content. The monitoring approach has been found consistent with the accepted revised monitoring plan which requires monthly reporting																						
QA/QC procedures:	-The values can be cross checked against the daily purchase records and stocks records. RT8 (C) form (Final manufacturing report) for sugar season 2013-2022 submitted to Central Excise Department for taxation purposes.																						

Any comment:	-Baseline emission calculation.. The entire quantity of biomass residue (bagasse) combusted in the project activity is generated in the crushing process of the cane in the sugar industry where the project activity is located. The reported consumption of bagasse can be crosschecked with the plant logbooks. It is noteworthy to mention here this parameter is not used in the determination of emission reductions but as a crosscheck for EG project plant, y, EG total,y, Q project plant,y and Q total,y. It is also confirmed that it is industrial practice to keep a small amount of bagasse for the commencement of boiler operation in next season, which usually has a gap of 6/7 months (due to cropping season of cane) and therefore does not exceed one year in any case. The quantity of bagasse combusted in the project activity serves the purpose of cross check to assess the electrical efficiency of plant and in no manner used in the emission reduction. Further it is confirmed that the entire quantity of biomass residue (bagasse) is generated in house and therefore does not create project emissions (on account of transportation or leakage).
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Data / Parameter:	Fixed
Data unit:	Kg Biomass/kWh
Description:	Specific Biomass consumption
Measurement procedures (if any):	Calculated from SSML computer data. These results are obtained from external lab and therefore do not have any measurement equipment under the scope of calibration by the PP
Value(s) applied	1.13 kg/kWh
Monitoring frequency:	Default
Comment:	Baseline emission calculation -

Data / Parameter:	Fixed
Data unit:	Kg coal/kWh
Description:	Specific Coal consumption
Source of data:	Calculated from SSML computer data
Value(s) applied	1.19 kg/kWh
Measurement procedures (if any):	<i>Default</i>
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	Fossil fuel electricity generation from total grid supply calculations.

Data / Parameter:	Moisture content of biomass residues
Data unit:	% water content
Description	Moisture content of each biomass residue k
Measured /Calculated /Default:	Measured
Source of data:	On-site measurements. The moisture content is measured daily and based on the analysis conducted at laboratory in house. The daily results are determined by science graduates who are trained and follow procedure as defined in the approved revised monitoring plan and internal SOPs part of management system. The monthly average values were used for reporting purpose in the monitoring report.
Value(s) of monitored parameter:	50.89

Indicate what the data are used for	Baseline emissions			
Monitoring equipment (type, Calibration frequency, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Type: Weighing balance, Calibration frequency: Annually			
	Serial No	Make	Accuracy class	Calibration Valid till
	55-86006	Anamed	±0.01 gm	2023
	0-3000 gm			
	—	Weston	±0.01 kg	2023
	0-10 kg			
	The weighing balance used for the measurement calibrated in line with the national standards			