Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 14.88 MW Bagasse based Co-generation by M/s Utopian Sugars Ltd. Dist. Solapur, Maharashtra

Version 1.0

Date: 05-08-2024

UCR ID : 442

1st CoU Issuance Period: 02/12/2014 to 31/12/2022 (08 years 1 month)

1st Monitoring Period: 02/12/2014 to 31/12/2022 (08 years 1 month)

1st Crediting Period: 02/12/2014 to 31/12/2022 (08 years 1 month)

Monitoring Report	
Title of the project activity	14.88 MW Bagasse based Co-generation by M/s Utopian Sugars Ltd. Dist. Solapur, Maharashtra
UCR Project Registration Number	442
Version	1.0
Completion date of the MR	05-08-2024
Monitoring period number and duration of this monitoring period	**Monitoring Period Number:** 01 **Duration of this monitoring Period:** 08 Year 01 Month (first and last days included (02/12/2014 to 31/12/2022)
Project participants	**Project Proponent:** M/s Utopian Sugars Limited **Aggregator:** Climekare Sustainability Pvt ltd. **UCR ID**: 336812961
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: **CDM UNFCCC** **Small-scale Methodology** **AMS-I D**: Grid connected renewable electricitygeneration, Version 18
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Actual amount of GHG emission reductions for this monitoring period (2014-2022)	2014: 3,646 CoUs
	2015: 45,248 CoUs
	2016: 19,436 CoUs
	2017: 11,999 CoUs
	2018: 36,886 CoUs
	2019: 23,673 CoUs
	2020: 24,595 CoUs
	2021: 21,180 CoUs
	2022: 27,015 CoUs
	Total:2,13,678 CoUs

SECTION A. Description of project activity

A Purpose and general description of project activity >>

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

Utopian Sugars Limited, a limited company registered under the Companies Act 1956 in the State of Maharashtra and promoted by experts in the sugar industry under the leadership of Shri Prashant Paricharak, has set up a green field 3500 TCD sugar factory for 100% white plantation sugar along with **14.88 MW** Cogeneration Power Plant at Post Kacharewadi Tal Mangalweda Dist Solapur Maharashtra. The sugar plant consists of a mill house with a capacity of **4800 TCD** and a boiling house with the capacity to produce 100% white plantation sugar and all necessary equipment / auxiliaries for semi-automated operation of the plant. Further the crushing capacity was increased from 3500 to 4800 TCD. The purpose of the project activity is to generate electricity using renewable biomass (Bagasse) and thereby reduce GHG emissions by displacing the fossil fuel dominated grid based electricity with biomass based renewable electricity.

Cogeneration, also known as combined heat and power (CHP), involves the simultaneous production of electricity and useful heat from the same energy source. In the context of a sugarcane mill, bagasse, the fibrous by-product remaining after sugar extraction, is used as the primary fuel. By using it as fuel, mills effectively manage waste, turning a disposal problem into an energy solution.

Bagasse is a renewable resource, unlike fossil fuels. Using it for energy supports sustainable energy practices. A sugar mill with cogeneration plants becomes energy self-sufficient, reducing reliance on external electricity supplies and increasing energy security. Cogeneration plants produce more electricity than needed for the mill's operations. The surplus can be sold to the national grid, providing an additional revenue stream and supporting local energy supply.

In summary, sugarcane bagasse-based cogeneration plants enhance energy efficiency, manage waste, provide environmental benefits, ensure energy supply security, generate economic benefits, and support sustainable agriculture. These plants transform a by-product into a valuable energy resource, contributing to both economic and environmental sustainability.

The purpose of establishing a co-generation plant with the sugar plant is to maximize the productive utilization of by-product from the sugar manufacturing unit. When sugar cane is crushed and juiced, it leaves behind a semi-dry by-product called bagasse. This by-product, when dried and burnt in the boiler, can generate heat and/or power. The steam and power generated in the Co-gen power plant can be used in the sugar plant. The excess power may be exported to the state electricity grid and sold to end-users downstream.

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

The project 14.88 MW Bagasse based Co-generation by M/s Utopian Sugars Ltd. is a bagasse-based Co-Generation (co-gen) Power Project successfully commissioned by **Maharashtra State Electricity Transmission Company Limited (MSETCL)** and operational since **02-12-2014**. The Project is owned by M/s Utopian Sugars Ltd. (hereby to be called as Project Proponent, PP).

The purpose of the project activity is to generate electricity using renewable biomass and thereby reduce GHG emissions by displacing the fossil fuel dominated grid based electricity with biomass based renewable electricity. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases (GHGs) into the atmosphere by displacing an equivalent amount of fossil power at grid. Hence, project activity is displacing the net electricity generation i.e., **253,426 MW** from the Indian grid system in first monitoring period, which otherwise would have been generated by the operation of fossil fuel-based grid-connected power plants. The project activity doesn't involve any GHG emission sources. The CO2e emission reductions by the project activity are **213,678 tCO2e**.

The PP has set up an integrated sugar mill with sugar crushing capacity of 3500 TCD and installs new 14.88 MW turbine commissioning on 02/12/2014 Bagasse based Cogeneration power plant. This has removed the dependency of the sugar mill on the power supplied from the state grid. Power generated from this project activity is used for meeting plant requirement. After fulfilling its captive energy requirement, remaining power is sold to the state grid as per the Power Purchase Agreement / Energy Purchase agreement.

The Co-gen power project of 14.88 MW capacities is operating for a period of 160 to 180 days during the cane crushing season of the sugar plant. The plant was also operating during the off-season with saved bagasse. At the designed level, the project was generating clean energy and after meeting the captive requirement, the excess energy was exported to the Maharashtra State Electricity Transmission Company Limited (MSEDCL). All the steam and power requirements of the sugar mill and co-gen power plant are met internally from the project itself. The project activity employs 14.88 MW aggregated generators along with one boiler of **82.5 TPH** with high pressure and temperature configuration (45kg/cm2, 515^0C).

As per the power purchase agreement (**PPA**) between the state electricity board (MSETCL) andproject proponent, dated **29/03/2014**, the project activity generates a total of 14.88MW of power and supplies approximately 7 to 9MW of this bagasse based power to the grid. 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 implementation of the project does not result in an increase in the processing capacity of the raw input or any other changes in the sugar manufacturing process.

The power generation is synchronization is with the 132 KV substation of MSETCL (substation at Mangalwedha, Pandharpur). All the biomass used at the site qualifies under the definition of biomass residues as outlined in the methodology, i.e. the biomass residue is a by-product of agricultural activities and no other types of biomass is used. In the case of the project activity, the biomass residue is bagasse, which is generated from the crushing of sugar cane.

Hence, the project activity is a grid-connected biomass (bagasse based) cogeneration power plant with a high pressure steam-turbine configuration. The high pressure boilers are fired by bagasse,a biomass byproduct from the sugar manufacturing process, to generate steam which in turn is fed to the steam turbine to generate power. The power co-generation units generate biomass based power for captive consumption of the sugar plant and the sale of surplus power to the state grid. The project plant exports power to the Maharashtra State Electricity Transmission Company Limited (MSETCL), in absence of the project activity, MSETCL would have withdrawn electricity from regional grid.

Site Image

The project activity uses bagasse as fuel for in the cogeneration power unit, which is a renewable bio-mass fuel and does not add any net carbon-dioxide to the atmosphere because of the carbon recycling during growth of sugar cane. Therefore, the project activity leads to zero CO_2 on-site emissions associated with bagasse combustion. Biomass residue is not prepared prior to its use in the boilers, the bagasse is transferred from the crushing process directly to the boiler or to the storage yard, from the storage yard the bagasse is returned to the boiler without any material change.

The project activity also induces environmental and sustainable development benefits. The project activity has introduced efficient high pressure cogeneration technology to the Indian sugar industry; reducing power shortages in the state of Maharashtra India; and fostering sustainable economic growth through promoting energy self-sufficiency and resource conservation in India's sugarcane industry. The policy to grow in a sustainable manner with a commitment towards the environment has been adopted by M/s Utopian Sugars Ltd. The

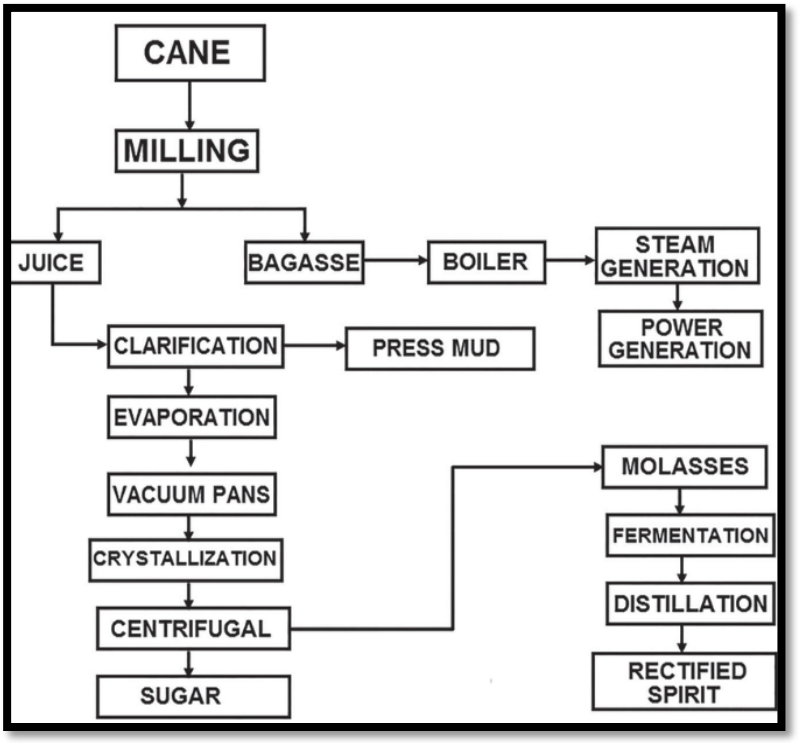
technology used in the project activity is highly replicable as the country's sugar mills produce large quantities of bagasse that could be efficiently utilized to generate power.

The export of electricity hence reduces GHG emissions by replacing the fossil fuel dominated grid based electricity with a renewable source of electricity. The high pressure boilers are firedby bagasse, a byproduct from the sugar manufacturing process to generate steam, which in turn powers all the steam turbines to generate electricity.
The power generated from the turbine is utilized for captive consumption and the surplus powerof approximately 9MWh is exported to the grid.

The UCR project activity is the construction and operation of a power plant/unit that uses renewableenergy sources and supplies renewable electricity to the grid. The UCR 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. The UCR project activity qualifies under the environmental additional positive list of pre-approved project types under the UCR carbonincentive model for issuance of voluntary carbon credits.

The concept of only cane crushing and production of sugar will lead neither the industry nor farmer to a level of economic advantage. Therefore the promoters of this sugar factory have decided to adopt by products or co-generation such as co-generation of surplus power. The surplus power is generated by using steam at high pressure and using exhaust steam from TG set at required low pressure to sugar manufacturing.

- The Project activity in a process **flow diagram** is expressed below:



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

Boiler:

Make	M/s LIPI BOILERS ltd.	Type	Water Tube
Heating Surface	4526.35 M^2	Capacity	82.5 M.T. /hr.
Working Pressure	86 Kg/cm^2	Heating Surface	4526.35 M^2
Super-heated Steam Temp.	515^0 C +-5 % ^{0} C	Air Heater Heating Surface	4530 M^2
Super Heater Heating Surface	1032.8 M^2	Furnace Area	1330 M^2
No. Of Soot Blowers	12 No's	Economizer Heating Surface	1474.88M^2 (Tubular Type).

Turbine:

A) General Description:

Make	Shin-Nippon Machinery Co. Ltd.
Type	Double Extraction cum condensing route multi stage steam turbine.
Capacity	14.88 mw
Type-Frame	Multi stage reaction, 14m
stages	10 No's
Speed	7810 rpm

B) Steam Parameter:

Turbine parameter	Pressure (kg/cm2)	Temperature ^{0}C	Flow, TPH
Main steam parameter	84	510	78
Extraction -1 cum backpressure parameter	9.1	247	7
Extraction -2 cum backpressure parameter	2.5	145	60
Extraction -3 cum backpressure parameter	0.18	45	7
Full Condensing type	0.18	45	35

C) Alternator:

Make	T.D.P.S. – 01 No.		
kVA	18750 KVA		
Voltage	11000 Volt	Limiting speed	1800 rpm
Current	984 Amps	No of phases	3
Power factor	0.80 p.f.	No of pole	4
Speed	1500 rpm	HZ	50 hz
Specification standard	54722:2001		

D) Turbine gear box:

Make	Triveni Gears	Model No.	2719 NCLF
Gear Ratio	6.30 : 1	Power HP/KW	15000 KW
Rated input	7810 RPM	Rated output	1500 RPM

E) Air Cooler Condenser:

Capacity	35 T/Hr	Type	Air Cooled Conderser
Diameter	10 meter	Motor Hp	110 Hp
Final RPM	98 rpm	Design Vacuum	0.8
Gear box Make	Premium Ratio 16.197 : 1		

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	:	**442**
Start Date of Crediting Period	:	**02/12/2014**
The project was commissioned on	:	**02/12/2014**

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	02/12/2014
Carbon credits claimed up to	31/12/2022
Total ERs generated (tCO_{2eq})	**2,13,678 tCO2eq**

A.1. Location of project activity>>

There are no sensitive, historical, forest reserves and wild life sanctuaries etc within 10 Km radius of the factory site.
The proposed State Highway (Jath-Mangalwedha) is 100 meters away from the factory site. The Latitude and longitude are 170 28' 46.34" N & 750 24' 7.35" E respectively. The Elevation above the Mean Sea Level is 475 m.

The Project Site is conveniently located for development of the Project.

a. 60 Km away from Solapur, which is district place

b. Other important towns nearby are:

i) Mangalwedha, at a distance of 9 Kms.
ii) Pandharpur, at a distance of 32 kms.

c. Environmental Setting:

1) Location – 170 28' 46.34" N & 750 24'7.35" E
2) Nearest Village – Kacharewadi / Pathkhal
3) Nearest town – Mangalwedha- 9 Km / Pandharpur- 32 Km
4) Nearest City – Solapur – 60 Km
5) Nearest Head Quarters – Solapur – 60 Km
6) Nearest National Highway – 60 Km
7) Nearest Railway Station – Sangola-22Km / Pandharpur – 32 Km
8) Nearest Airport – Pune – 240 Km Utopian Sugars Limited, Kacharewadi, Taluka-Mangalwedha, District-Solapur 3
9) Nearest River – Bhima River – 11 KM 10) Seismicity – Seismic Zone III

Country: India

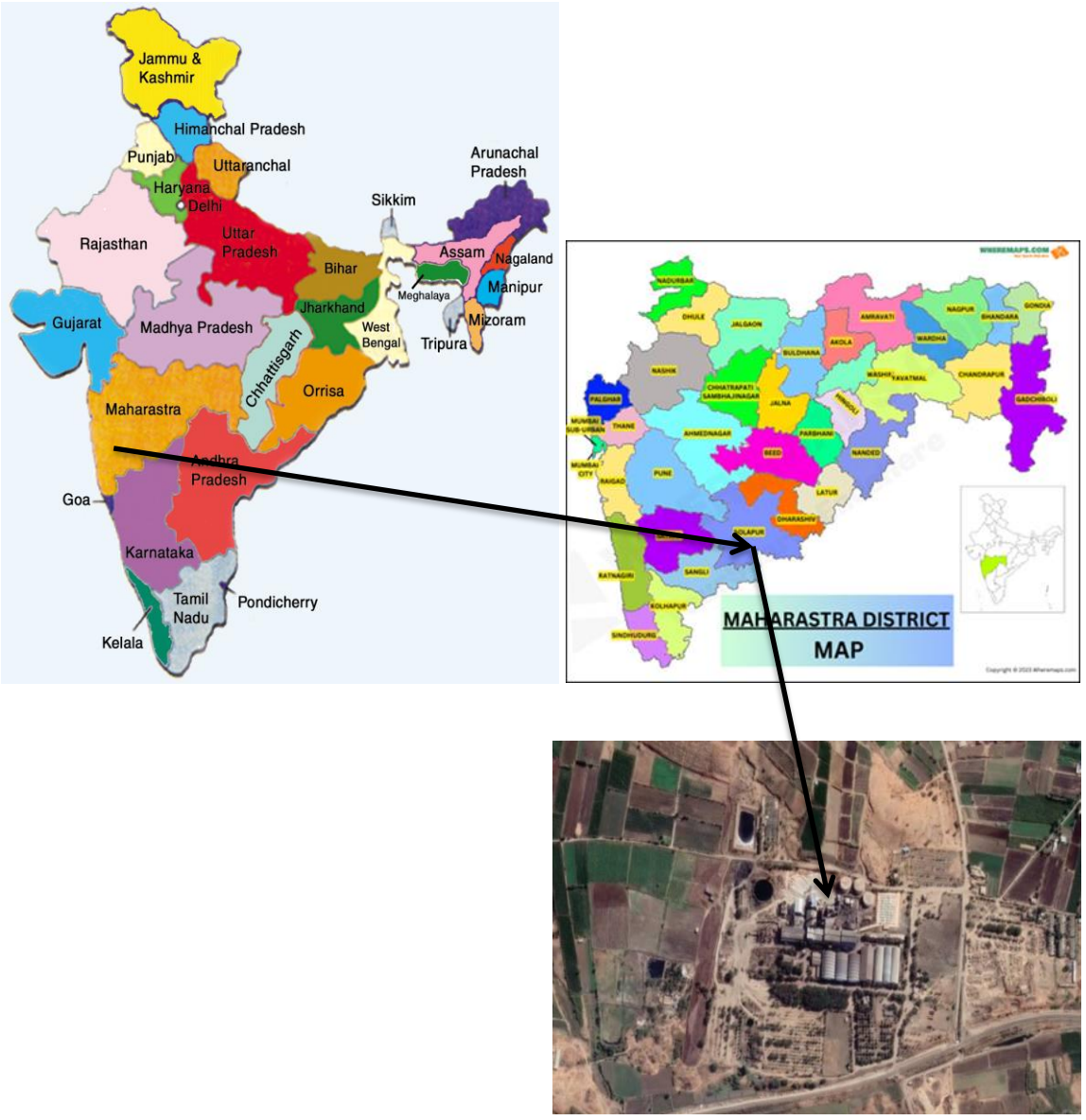
Village: Kachrewadi,

Tehsil: Mangalwedha, District: Solapur,

State: Maharashtra,

Latitude: 17° 28’ 46.34” N

Longitude: 75° 24’ 7.35” E



Source: Google Map.

A.2. Parties and project participants >>

Party (Host)	Participants
India	**Project Owner:** M/s Utopian Sugars Ltd. Dist. Solapur, Maharashtra **Project Aggregator:** Climekare sustainability Pvt. Ltd**.** **UCR ID**: 336812961

Table 3

A.3. References to methodologies and standardized baselines >>

TYPE - Renewable Energy Projects

SECTORAL SCOPE - 01 Energy industries (Renewable/Non-Renewable Sources)

CATEGORY – AMS I.D: "Electricity and heat generation from biomass" Version 16.0

A.4. Crediting period of project activity >>

Start date	:	02/12/2014
Crediting period corresponding to this monitoring period 02/12/2014 to 31/12/2022 (Both the dates are inclusive)	:	**08 Year 01 Month**.

A.5. Contact information of responsible persons/entities >>

Consultant: Climekare Sustainability Pvt. Ltd.

Email: sustainability@climekare.com

Phone: 9811752560

UCR ID: 336812961

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 total Co-gen power project of 14.88 MW capacity operates on bagasse for around 160 season days of the sugar mill operation.

Sr No	Sugarcane Crushing Season	Gross Days	Sugarcane Crushing MT	Date of Monitoring	Date of Closure season	Date of co-gen Closure
1	2014-15	149	456529.390	06/12/2014	05/05/2015	02/07/2015
2	2015-16	122	431698.944	16/10/2015	14/02/2016	14/02/2016
3	2016-17	56	155594.764	02/11/2016	31/12/2016	31/12/2016
4	2017-18	146	616025.398	02/11/2017	27/03/2018	01/05/2018
5	2018-19	137	632311.314	20/10/2018	05/03/2019	27/11/2019
6	2019-20	94	433932.224	27/11/2019	28/02/2020	01/04/2020
7	2020-21	120	503813.319	22/10/2020	18/02/2021	18/02/2021
8	2021-22	150	635335.091	24/10/2021	22/03/2022	22/03/2022
9	2022	72	226578.997	21/10/2022	31/12/2022	31/12/2022

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

All the steam and power requirements of the sugar mill and Co-gen power plant will be met internally from the project itself. The excess electricity generated is exported to the grid. The project activity employs three **1 boiler and 1 turbo-generator**. The technical details of the project activity can be found out in **section A. (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.

The Government of India has stipulated following indicators for sustainable development in the interim approval guide lines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. It has been envisaged that the project shall contribute to sustainable development using the following ways.

Social well-being: Sugar factory require a diverse workforce, including engineers, technicians, laborers, and administrative staff. The project has created numerous job opportunities for local residents, reducing unemployment rates and improving the economic stability of the community.
Due to this project activity the necessitate improvements in local infrastructure, such as roads, transportation networks, and utilities. These enhancements can benefit not only the factory but also the entire community by facilitating easier access to markets, healthcare facilities, and educational institutions.
The project would help in generating direct and indirect employment benefits accruing out of ancillary units for implementation of the cogeneration power plant and for maintenance during operation of the project activity. It will lead to development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.
Sugar factories often source their raw materials, such as sugarcane or sugar beets, from local farmers. By providing a stable market for agricultural produce, the factory can support farmers' livelihoods and encourage investment in agricultural activities. This support can help enhance food security and promote sustainable farming practices in the region.

Environmental well-being: The project utilizes biomass energy for generating electricity which is a clean source of energy. The project activity will not generate any air pollution, water pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Also, it will contribute to reduction GHG emissions. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

Many of the farmers are increasingly adopting sustainable practices throughout their operations, including energy efficiency improvements, waste minimization, and environmental monitoring.

Economic well-being: Being a renewable resource, using biomass energy to generate electricity contributes to conservation precious natural resources. The project contributes to the economic sustainability through promotion of decentralization of economic power, leading to diversification of the national energy supply, which is dominated by

conventional fuel based generating units.
Locally, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

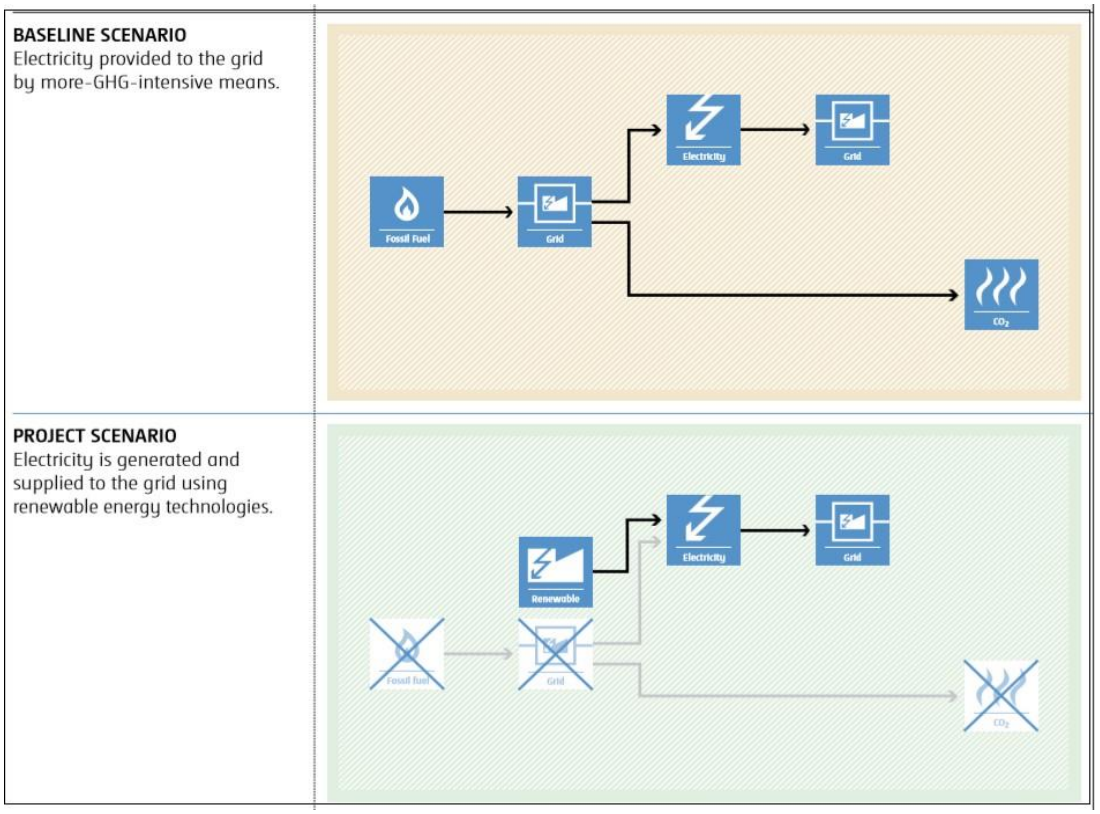
Technological well-being: The project activity leads to the promotion of cogeneration power plant into the region and will promote practice for small scale industries to reduce the dependence on carbon intensive grid supply to meet the captive requirement of electrical energy and also increasing energy 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.

Baseline Scenario:

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 sectorial 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 accumulated as a result of carbon credits generated will help repay the loans and help in the continued maintenance of this project activity.

The approved baseline methodology has been referred from the indicative simplified baseline and monitoring methodologies for selected small scale UNFCCC CDM project activities that involve generation and export of power to the local or national grid using biomass.

Typical activities, under *AMS ID* comprise of renewable energy generation units, such as renewablebiomass, including:

- (a) Supplying electricity to a national or a regional grid; or are new plants, capacity expansions, energy efficiency improvements or fuel switch projects.

The applicable baseline scenario is

- *"Displacement of more-GHG-intensive electricity generation in grid."*

B.4. De-bundling>>

This project activity is not a de-bundled component of a larger 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 (Small Scale).

Applied Baseline Methodology: *AMS I.D. Small Scale Consolidated Methodology*
"**Grid connected renewable electricity generation", version 18**
This methodology is applicable to project activities that comprises renewable energy generation units, such as renewable biomass involving:
(a) Supplying electricity to a national or a regional grid;

UCR CoU Standard is used to determine the baseline grid emission factor for the 2014-2022 period.

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

The project activity involves generation of grid connected electricity from the construction and operation of a cogeneration power-based project and selling the additional generation to the

national grid. The project activity has installed capacity of 14.88 MW which will qualify for a small-scale project activity under Type-I of the small-Scale methodology. The project status is corresponding to the methodology AMSI.D, Version 18 and applicability of methodology is discussed below:

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 utilizes 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 included in the Positive List of UCR Approved Scope under the UCR CoU Standard.
The total installed capacity of project activity is **14.88 MW**, of which 9 MW is supplied to the grid, which is acceptable as per the applied **small scale methodology**, since the eligibility limit of 15 MW has been applied underthis 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.
The project activity is not a hydro power project. The project activity does not recover methane from landfill gas,waste gas, wastewater treatment and agro-industries.
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 fuelcriteria 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 is 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 boilers are fired by bagasse, a byproduct 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 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.

C.3Applicability of double counting emission reductions >>

There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the generation/feeding point with the grid.

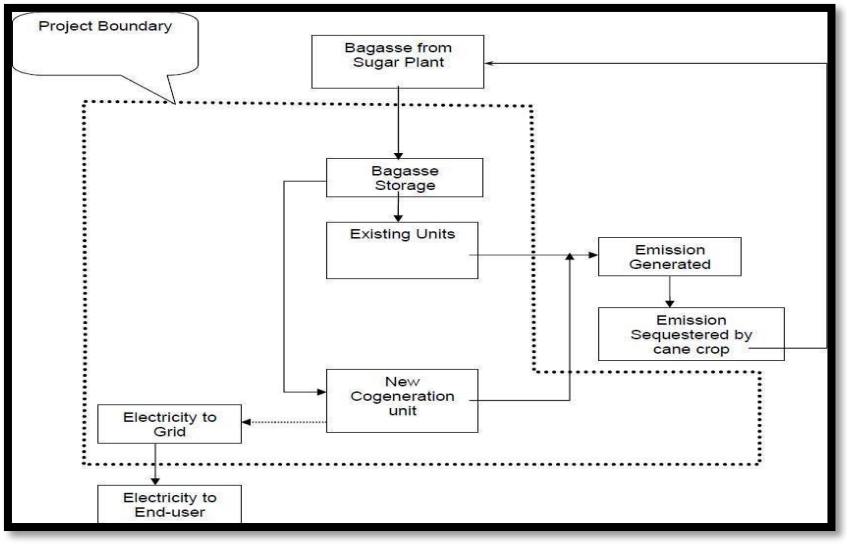
Hence the UCR project activity has never been issued voluntary carbon credits for the current 2014- 2022 vintage years and there is no double counting of the credits envisioned. Additionally, the same has been stated in the undertaking provided in the Double Counting Avoidance Assurance Document (DAA).

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



By using locally sourced GHG-neutral biomass, the PP is successfully able to avoid the fossil fuel emissions and thereby GHG emissions due to in-house cogeneration energy requirements and also vehicular emissions avoiding sourcing of biomass fuel from a large distance.

	Source	GHG	Included?	Justification/Explanation
Baseline	CO_2 Emissions from burning of fossil fuels in boilers	CO_2	**Included**	Major source of GHG emissions
		CH_4	Excluded	Excluded for simplification.
		N_2O	Excluded	Excluded for simplification.
Project Activity	Emissions from Biomass Project Activity	CO_2	Excluded	Excluded for simplification.
		CH_4	Excluded	Excluded for simplification.
		N_2O	Excluded	Excluded for simplification.

Figure 6

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

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 and also the UCR grid emission factor results in conservative estimates of the carbon credits. Direct off-site emissions in the project activity arise from the biomass transport. The biomass and/or biomass residues may be used as either fuel or feedstock in the project activity as per the Tool16 for project and leakage emissions from biomass. However, the biomass is generated from the in-house processes pertaining to the sugar processing industry; hence biomass transport is only accounted if biomass is imported from outside the project boundary.

The baseline scenario identified at the MR 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 CO_2 emission factor for the electricity displaced due to the project activity during the year y in tons CO_2/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 GHGfrom the present electricity generation mix.

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:

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

Where,

ER_y = Emissions reductions in year y (t CO_2)

BE_y = Baseline emissions in year y (t CO_2)

PE_y = Project emissions in year y (t CO_2)

LE_y = Leakage emissions in year y (t CO_2)

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

$$BE_y = EL_{MWhy} \text{ X } EF_{Gridy}$$

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 (tCO_2/MWh)

BE_y = 253,426 * 0.9 = 228,079 (Round down)

❖ Since this is a biomass fired cogeneration project, emission reduction is calculated for the net electricity imported to the grid. This amount will be deducted from the total value of emission reduction post-ante.

Project emissions (PE_y) involve emissions resulting from the cultivation of biomass, transportation of biomass, processing of biomass, transportation of biomass residues and processing of biomass residues. As an alternative to the monitoring of the parameters needed to calculate the emissions from the biomass (sugarcane) transportation, PP is allowed to apply the following option:

Project emissions are calculated as follows:

$$PE_y = PE_{Biomas,y} + PE_{FF,y} + PE_{GR1,y} + PE_{GR2,y} + PE_{CBR,y} + PE_{BG2,y}$$

Where:

PE_y	=	Project emissions in year *y* (t CO_2)
$PE_{Biomass,y}$	=	Project emissions associated with the biomass and biomass residues in year *y* (t CO_2)
$PE_{FF,y}$	=	Emissions during the year *y* due to fossil fuel consumption at the project site (t CO_2)
$PE_{GR1,y}$	=	Emissions during the year *y* due to grid electricity imports to the project site (t CO_2)
$PE_{GR2,y}$	=	Emissions due to a reduction in electricity generation at the project site in year *y* (t CO_2)
$PE_{CBR,y}$	=	Emissions from the combustion of biomass during the year *y* (t CO2e)
$PE_{BG2,y}$	=	Emissions from the production of biogas in year *y* (t CO2e)

$PE_{Biomass,y}$ = For micro scale and small-scale project activities, a default emission factor of 0.0142 tCO2/tone of biomass. *(Source: TOOL16 Methodological tool Project and leakage emissions from biomass Version 05.0*)

$PE_{Biomass,y}$ = 963,747 * 0.0142 = 13,685

$PE_{FF,y}$= Emissions during the year *y* due to fossil fuel consumption at the project site (t CO_2)

CO2 emissions from fossil fuel combustion in process j are calculated based on the quantity of fuels combusted and the CO2 emission coefficient of those fuels, as follows:

$$PEFC,j,y = \sum FCi,j,y \times COEFi,y\ i$$

Where:

$PEFC,,$ = Are the CO2 emissions from fossil fuel combustion in process j during the year y (tCO2/yr)

$FCi,,$ = Is the quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$COEFi,$ = Is the CO2 emission coefficient of fuel type i in year y (tCO2/mass or volume unit)

i = Are the fuel types combusted in process j during the year y

$\boldsymbol{COEFi, = NCVi, \times EFCO2,}$

Where:

$\boldsymbol{COEFi,}$ = Is the CO2 emission coefficient of fuel type i in year y (tCO2/mass or volume unit)

$\boldsymbol{NCVi}$, = Is the weighted average net calorific value of the fuel type i in year y (GJ/mass or volume unit)

= NCV of wood is 15.5 TJ/kg (15.5 GJ/ton)

$\boldsymbol{EFCO2,}$ = Is the weighted average CO2 emission factor of fuel type i in year y (tCO2/GJ)

= Co2 emission coefficient For wood is 100500 kg/TJ (0.1005 ton/GJ) (Confirmed from IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG)

i = Are the fuel types combusted in process j during the year y

= fuel type combusted in process is wood.

$\boldsymbol{COEFi,}$ = $NCVi, \times EFCO2,,$

= 15.5 * 0.1005

= 1.557

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

$\mathbf{LE}_{\boldsymbol{y}} = 0$

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

Year	Electricity supplied to grid (mw)	Baseline Emission	PE(B)	PE (FC)	ER
2014	4431.6	3988	265	77	3646
2015	53632.863	48269	2944	77	45248
2016	23052.495	20747	1234	77	19436
2017	14145.61	12731	647	85	11999
2018	43120.427	38808	1837	85	36886
2019	27804.394	25023	1265	85	23673
2020	29394.176	26454	1782	77	24595
2021	25428.567	22885	1628	77	21180
2022	32416.327	29174	2082	77	27015
Total	**253,426.459**	**228,079**	**13,685**	**717**	**213,678**

C.6. Prior History>>

The project activity is a large-scale Biomass cogeneration project and was not applied under any other GHG mechanism prior to this registration with UCR. Also, project has not been applied for any other environmental crediting or certification mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

C.7. Monitoring period number and duration>>

First Monitoring Period : 8 Year 01 Month

02/12/2014 to 31/12/2022 (inclusive of both dates)

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

There is no change in crediting date as mentioned in the PCN, i.e., crediting period start date is 02/12/2014.

C.9. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

There is no change in PCN. No permanent changes in monitoring plan and applied methodology.

C.10. Monitoring plan>>

The monitoring of electricity data revolves around the power generation from the turbine generators and the auxiliary consumption of the power plant. All auxiliary units at the power plant are metered and there are also main meters attached to each turbine generator to determine

their total generation.

Operational records and other evidences have been documented, collected and archived in either hard-copies or electronic manners. The energy generation is metered by calibrated meters. Steam quantity, temperature and pressure are measured by calibrated meters. All the values can be checked from the source data i.e. Plant records.

The total amount of bagasse generated by the sugar plant can be calculated from the amount of cane crushed in the season (monitored variable), which is obtained from the in Daily records. Therefore, bagasse can be calculated using the formula: Bagasse = Cane + Added water – Juice

The electricity generation from turbines and auxiliary consumption is recorded continuously on an hourly basis by the operators in the shift. At the end of the day this data is collated by the engineer in charge and signed off by the power plant manager. The steam data is also manually recorded on an hourly basis from the meters. The data is recorded in logbooks by the operators and the engineer in charge collates the data from these log books and stores them electronically. This data is used by engineer in charge to prepare a monthly report and send it to Plant Head for verification. The monthly reports become a part of the Management Information System (MIS) and are reviewed by the management during the quarterly review meeting.

All the meters are checked and calibrated by an independent agency and they are maintained as per the instructions provided by their suppliers. Hence there are no uncertainties or adjustments associated with data to be monitored. An internal audit team, comprising of personnel from the factory but from a department other than utility, reviews the daily reports, monthly reports, procedure for data recording and maintenance reports of the meters. This team checks whether all records are being maintained as per the details provided in the PCN.

All the data and reports will be kept at the offices of the sugar mill until 2 years after the end of the crediting period or the last issuance of CoUs for the project activity, whichever occurs later.

Data/Parameter	**FCi,j,y**
Data unit	Mass unit per year (ton/yr)
Description	Quantity of fuel type i combusted in process j during the year y (Wood)
Source of data Value(s) applied	Onsite measurements
Measurement methods and procedures	Weighing bridge
Monitoring frequency	Yearly.
Purpose of data	Project emission

<table>
<tr><td>Data/Parameter</td><td>Electricity exported to grid MWh/annum</td></tr>
<tr><td>Data unit</td><td>MWh</td></tr>
<tr><td>Description</td><td>Total export to MSEDCL in MWh – monthly joint meter reading (JMR) statement; summed for annual figure in MWh</td></tr>
<tr><td>Measurement methods and procedures

Value(s) applied</td><td><table><tr><td>Year</td><td>MWh exported</td></tr><tr><td>2014</td><td>4431.6</td></tr><tr><td>2015</td><td>53632.863</td></tr><tr><td>2016</td><td>23052.495</td></tr><tr><td>2017</td><td>14145.61</td></tr><tr><td>2018</td><td>43120.427</td></tr><tr><td>2019</td><td>27804.394</td></tr><tr><td>2020</td><td>29394.176</td></tr><tr><td>2021</td><td>25428.567</td></tr><tr><td>2022</td><td>32416.327</td></tr></table></td></tr>
<tr><td>Source of data</td><td>JMR / Credit note</td></tr>
<tr><td>Monitoring frequency</td><td>Meter readings are daily, while the billing is monthly</td></tr>
<tr><td>Purpose of data</td><td>Baseline Emissions. The net quantity of electricity generated in the project plant during the year y can be compared with the monthly sales tothe connected grid and actual supplied electricity can be verified.</td></tr>
</table>

Data/Parameter	**EG project plant, y**
Data unit	MWh
Description	Net quantity of electricity generated in the project plant during theyear y
Source	utopian sugar factory - factory records
Measurement methods and procedures	This value will be determined annually from the records maintained at the factory. All auxiliary units at the power plantare metered and there is also a main meters attached to each turbine generator to determine their total generation.
Monitoring frequency	The hourly recordings of data are 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 annually by an independent third party
QA/QC	Net electricity production has been calculated by deducting auxiliary consumption from gross generation of the plant. Digital meters calibration procedures are planned. Daily productions details are kept in log books and electronic data base. Energy meters are of class 0.2 with tolerance of 0.5%. All Meters are calibrated by accredited external third party, as per standard procedures, periodically.
Data/Parameter	**EF grid,y**
Data unit	Grid Emission Factor
Description	tCO2/MWh
Source of data Value(s) applied	UCR CoU Standard Default for Indian grid **0.9 tCO2/MWh** for the period 2014-2022
QA/QC	The parameter is conservative.
Purpose of data	To estimate baseline emissions

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 receipts.

Year	**Quantity (MT)**
2014	18645
2015	207339
2016	86897
2017	45577
2018	129369
2019	89089
2020	125524
2021	114676
2022	146627

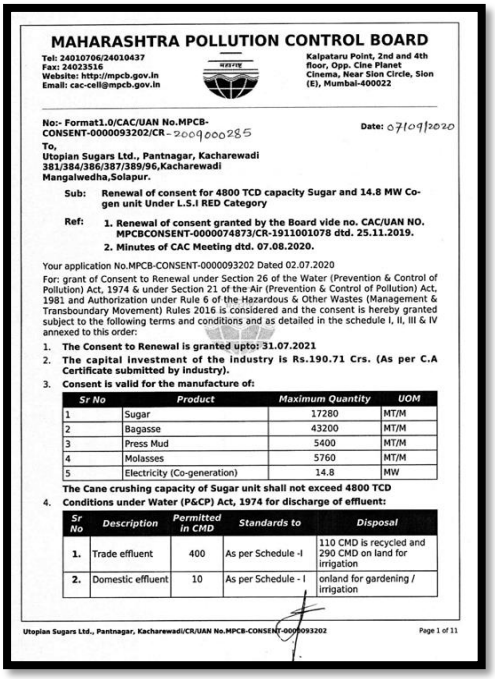
Monitoring frequency	monthly
QA/QC	The amount of Bagasse used can be cross checked by the documents. Quantity of Bagasse has been monitored.

Data/Parameter	**NCVi,y**
Data unit	GJ per mass or volume unit (GJ/ton)
Description	Weighted average net calorific value of fuel type i in year y
Source of data Value(s) applied	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories
Value	15.5 TJ/kg (15.5GJ/ton) (Wood)
Purpose of data	Quality control

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:	48%
Indicate what the data are used for	Baseline emissions

Data/Parameter	EFCO2,i,y
Data unit	tCO2/GJ
Description	Weighted average CO2 emission factor of fuel type i in year y

Source of data Value(s) applied	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories
Value	(0.1005GJ/ton) (Wood)
Purpose of data	Quality control



MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: http://mpcb.gov.in
Email: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

No:- Format1.0/CAC/UAN No.MPCB-CONSENT-0000093202/CR – 2009000285

Date: 07/09/2020

To,
Utopian Sugars Ltd., Pantnagar, Kacharewadi
381/384/386/387/389/96,Kacharewadi
Mangalwedha,Solapur.

Sub: Renewal of consent for 4800 TCD capacity Sugar and 14.8 MW Co-gen unit Under L.S.I RED Category

Ref:
1. Renewal of consent granted by the Board vide no. CAC/UAN NO. MPCBCONSENT-0000074873/CR-1911001078 dtd. 25.11.2019.
2. Minutes of CAC Meeting dtd. 07.08.2020.

Your application No.MPCB-CONSENT-0000093202 Dated 02.07.2020

For: grant of Consent to Renewal under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. The Consent to Renewal is granted upto: 31.07.2021
2. The capital investment of the industry is Rs.190.71 Crs. (As per C.A Certificate submitted by industry).
3. Consent is valid for the manufacture of:

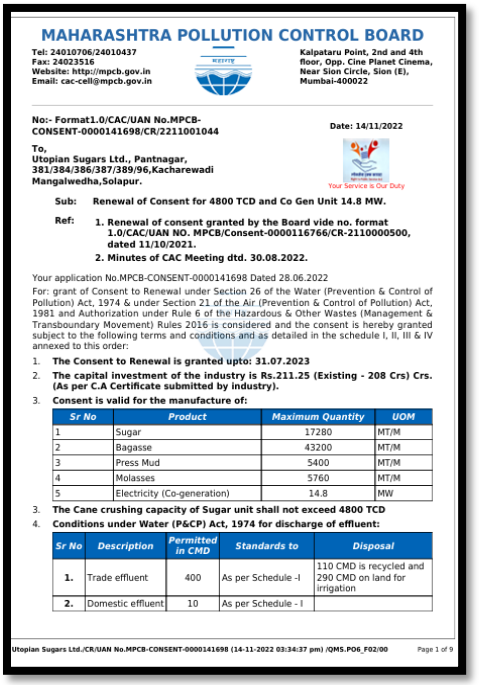
Sr No	Product	Maximum Quantity	UOM
1	Sugar	17280	MT/M
2	Bagasse	43200	MT/M
3	Press Mud	5400	MT/M
4	Molasses	5760	MT/M
5	Electricity (Co-generation)	14.8	MW

The Cane crushing capacity of Sugar unit shall not exceed 4800 TCD

4. Conditions under Water (P&CP) Act, 1974 for discharge of effluent:

Sr No	Description	Permitted in CMD	Standards to	Disposal
1.	Trade effluent	400	As per Schedule -I	110 CMD is recycled and 290 CMD on land for irrigation
2.	Domestic effluent	10	As per Schedule - I	onland for gardening / irrigation

Utopian Sugars Ltd., Pantnagar, Kacharewadi/CR/UAN No.MPCB-CONSENT-0000093202 Page 1 of 11



MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: http://mpcb.gov.in
Email: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

No:- Format1.0/CAC/UAN No.MPCB-CONSENT-0000141698/CR/2211001044

Date: 14/11/2022

To,
Utopian Sugars Ltd., Pantnagar,
381/384/386/387/389/96,Kacharewadi
Mangalwedha,Solapur.

Your Service is Our Duty

Sub: Renewal of Consent for 4800 TCD and Co Gen Unit 14.8 MW.

Ref:
1. Renewal of consent granted by the Board vide no. format 1.0/CAC/UAN NO. MPCB/Consent-0000116766/CR-2110000500, dated 11/10/2021.
2. Minutes of CAC Meeting dtd. 30.08.2022.

Your application No.MPCB-CONSENT-0000141698 Dated 28.06.2022

For: grant of Consent to Renewal under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

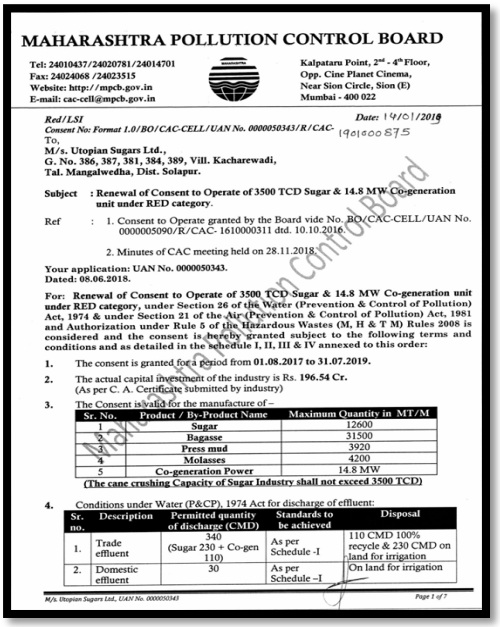
1. The Consent to Renewal is granted upto: 31.07.2023
2. The capital investment of the industry is Rs.211.25 (Existing - 208 Crs) Crs. (As per C.A Certificate submitted by industry).
3. Consent is valid for the manufacture of:

Sr No	Product	Maximum Quantity	UOM
1	Sugar	17280	MT/M
2	Bagasse	43200	MT/M
3	Press Mud	5400	MT/M
4	Molasses	5760	MT/M
5	Electricity (Co-generation)	14.8	MW

3. The Cane crushing capacity of Sugar unit shall not exceed 4800 TCD
4. Conditions under Water (P&CP) Act, 1974 for discharge of effluent:

Sr No	Description	Permitted in CMD	Standards to	Disposal
1.	Trade effluent	400	As per Schedule -I	110 CMD is recycled and 290 CMD on land for irrigation
2.	Domestic effluent	10	As per Schedule - I	

Utopian Sugars Ltd./CR/UAN No.MPCB-CONSENT-0000141698 (14-11-2022 03:34:37 pm) /QMS.PO6_F02/00 Page 1 of 9



MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701
Fax: 24024068 /24023515
Website: http://mpcb.gov.in
E-mail: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd - 4th Floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E) Mumbai - 400 022

Red/LSI
Consent No: Format 1.0/BO/CAC-CELL/UAN No. 0000050343/R/CAC- 1901000875

Date: 19/01/2019

To,
M/s. Utopian Sugars Ltd.,
G. No. 386, 387, 381, 384, 389, Vill. Kacharewadi,
Tal. Mangalwedha, Dist. Solapur.

Subject : Renewal of Consent to Operate of 3500 TCD Sugar & 14.8 MW Co-generation unit under RED category.

Ref : 1. Consent to Operate granted by the Board vide No. BO/CAC-CELL/UAN No. 0000005090/R/CAC- 1610000311 dtd. 10.10.2016.

2. Minutes of CAC meeting held on 28.11.2018.

Your application: UAN No. 0000050343.
Dated: 08.06.2018.

For: Renewal of Consent to Operate of 3500 TCD Sugar & 14.8 MW Co-generation unit under RED category, under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2008 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. The consent is granted for a period from 01.08.2017 to 31.07.2019.
2. The actual capital investment of the industry is Rs. 196.54 Cr. (As per C. A. Certificate submitted by industry)
3. The Consent is valid for the manufacture of –

Sr. No.	Product / By-Product Name	Maximum Quantity in MT/M
1	Sugar	12600
2	Bagasse	31500
3	Press mud	3920
4	Molasses	4200
5	Co-generation Power	14.8 MW

(The cane crushing Capacity of Sugar Industry shall not exceed 3500 TCD)

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent	340 (Sugar 230 + Co-gen 110)	As per Schedule -I	110 CMD 100% recycle & 230 CMD on land for irrigation
2.	Domestic effluent	30	As per Schedule –I	On land for irrigation

M/s. Utopian Sugars Ltd., UAN No. 0000050343 Page 1 of 7

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701
Fax: 24024068 /24023515
Website: http://mpcb.gov.in
E-mail: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd - 4th Floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E) Mumbai - 400 022

Red/LSI
Consent No: Format 1.0/BO/CAC-CELL/UAN No. 0000005090 /R/CAC- 1610000311

Date: 16/10/2016

To,
M/s. Utopian Sugars Ltd.,
G. No. 386, 387, 381, 384, 389, Vill. Kacharewadi,
Tal. Mangalwedha, Dist. Solapur.

Subject : Renewal of Consent to Operate of 3500 TCD Sugar & 14.8 MW Co-generation unit under RED category.

Ref : 1. Consent to Operate granted by the Board vide No. BO/CAC-CELL/EIC No. PN-25545-15/R/CAC- 14981 dtd. 01.12.2015.

2. Minutes of CAC meeting held on 16/09/2016.

Your application: UAN No. 0000005090.
Dated: 03/06/2016.

For: Renewal of Consent to Operate of 3500 TCD Sugar & 14.8 MW Co-generation unit under RED category, under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2008 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. The consent is granted for a period from 01.08.2016 to 31.07.2017.
2. The actual capital investment of the industry is Rs. 206.00 Cr. (As per C. A. Certificate submitted by industry)
3. The Consent is valid for the manufacture of –

Sr. No.	Product / By-Product Name	Maximum Quantity in MT/M
1	Sugar	12600
2	Bagasse	31500
3	Press mud	3920
4	Molasses	4200
5	Co-generation Power	14.8 MW

(The cane crushing Capacity of Sugar Industry shall not exceed 3500 TCD)

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent	340 (Sugar 230 + Co-gen 110)	As per Schedule -I	110 CMD 100% recycle & 230 CMD on land for irrigation
2.	Domestic effluent	30	As per Schedule –I	On land for irrigation

Consent to operate from MPCB

Sai Services

(Calibration Services)

A/P – Mahalung, Tal – Malshiras, Dist – Solapur, Maharashtra, Pin – 413112

CALIBRATION CERTIFICATE

Certificate No	: SS/DPT/2122/2117	O A No	: 103	
Calibration date	: 27.08.2021	Due Date	: 26.08.2022	
Customer Name	: M/s Utopian Sugars Ltd. Pantnagar, At - Kacharewadi,Tal - Mangalwedha, Dist - Solapur, Maharashtra 413305			

Details of Transmitter

Type of Transmitter	: Flow Transmitter	Display Range	: 0-85.50 TPH	
Model No/S No	: ST700 / 14W31C4000000763543	Calibrated Range	: 0-85.50 TPH	
Tag No	: 01_FT_101	Accuracy	: (±) 1.0 %	of Reading
Location	: SH Steam Flow M/M	Output	: 4-20mA	
Power Supply	: 24VDC	Calibration Factor	: 1	
Calibration Method	: ISO 4185:1980	Flow Charactristic	: Square Root	
Traceability	: All the instruments used are traceable to National Standards through reference standards and their calibrations are valid.			

Calibration Results

S No	Diffrential Pressure	Flow	Output	Displayed Flow	Deviation
	MMWC	TPH	mA	TPH	%
1	0.00	0.00	4.00	0.00	0.000
2	750.00	21.38	5.00	21.29	0.001
3	1500.00	42.75	8.00	42.18	0.006
4	2250.00	64.13	13.00	64.02	0.001
5	3000.00	85.50	20.00	85.22	0.003

Calibrated & Verified By : Samir Sayyad

Signature :

It is hereby certified that the equipment mentioned above has been tested and found to meet its specifications.
The Calibration of the above equipment is guaranteed for a period of 12 months from the date of inspection.

Sai Services

(Calibration Services)

A/P – Mahalung, Tal – Malshiras, Dist – Solapur, Maharashtra, Pin – 413112

CALIBRATION CERTIFICATE

Certificate No	: SS/DPT/2223/2221	O A No	: 103	
Calibration date	: 27.08.2022	Due Date	: 26.08.2023	
Customer Name	: M/s Utopian Sugars Ltd. Pantnagar, At - Kacharewadi,Tal - Mangalwedha, Dist - Solapur, Maharashtra 413305			

Details of Transmitter

Type of Transmitter	: Flow Transmitter	Display Range	: 0-85.50 TPH	
Model No/S No	: ST700 / 14W31C4000000763543	Calibrated Range	: 0-85.50 TPH	
Tag No	: 01_FT_101	Accuracy	: (±) 1.0 %	of Reading
Location	: SH Steam Flow M/M	Output	: 4-20mA	
Power Supply	: 24VDC	Calibration Factor	: 1	
Calibration Method	: ISO 4185:1980	Flow Charactristic	: Square Root	
Traceability	: All the instruments used are traceable to National Standards through reference standards and their calibrations are valid.			

Calibration Results

S No	Diffrential Pressure	Flow	Output	Displayed Flow	Deviation
	MMWC	TPH	mA	TPH	%
1	0.00	0.00	4.00	0.00	0.000
2	750.00	21.38	5.00	21.33	0.000
3	1500.00	42.75	8.00	42.68	0.001
4	2250.00	64.13	13.00	64.06	0.001
5	3000.00	85.50	20.00	85.10	0.004

Calibrated & Verified By : Samir Sayyad

Signature :

It is hereby certified that the equipment mentioned above has been tested and found to meet its specifications.
The Calibration of the above equipment is guaranteed for a period of 12 months from the date of inspection.

FORM VI

Directorate of Steam Boilers

CERTIFICATE FOR USE OF A BOILER

(Regulation 389)

NO.: 2371105310023317

Registry Number of Boiler - MR/16351	Type of Boiler - WATER TUBE
Boiler Rating - 4526 sq.mtr.	
Maximum Continuous Evaporation - 82500.00 kg. Per hr.	Place and year of manufacture - AURANGABAD-2014
Name of Owner - UTOPIAN SUGARS PVT. LTD.,	
Situation of Boiler - AT-KACHAREWADI,TAL- MANGALWEDHA SOLAPUR 413305	
Repairs - 2015 - 2016 : Few PSH & SSH coils stratightend & straight pieces renewed. 2018 : 04 Nos. Eco coils renewed. (Modificaion) H.S. increased 4526 to 4699m2. 2021 : 02 Nos. Eco coil bend partially renewed. 2022 : All Eco coils renewed. 2023 : Front w/w bottom header to middle header all tubes & biogas burner all tubes renewed.	
Remark - Boiler to be entirely bared at the time of next annual inspection.	
Hydraulically Tested on 05/10/2023 to **130.00** kg. per sq. cm.	

I hereby certify that the above described Boiler is permitted by me / the Director under the provisions of Section 7/8 of the Boilers Act, No. V of 1923, to be worked at a maximum pressure of 106 kg. per sq. cm. for the period from 05/10/2023 to 04/10/2024

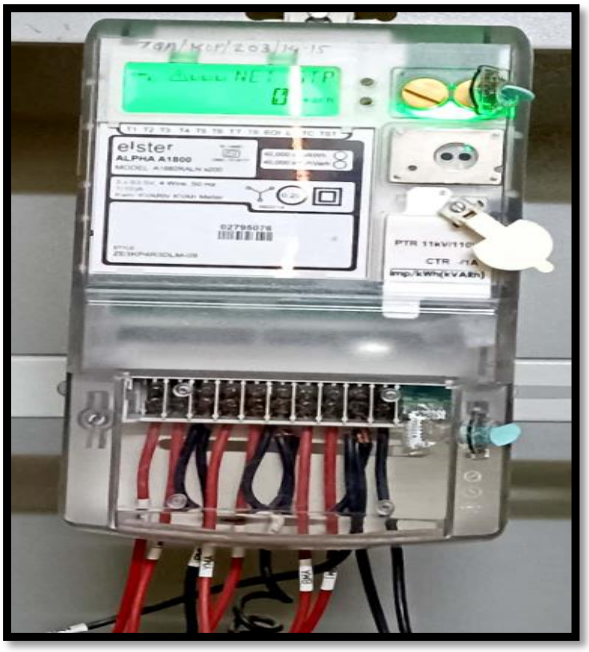
The Loading on 34.29mm, 0.00mm 0.00mm mm diameter SLSVs not to exceed 106 kg/cm2 on steam drum, CWS F/L=18.58mm, R=16.00 mm thick & the loading on 18.65 mm, diameter not to exceed SH WP 92.50 kg/cms2 thick.

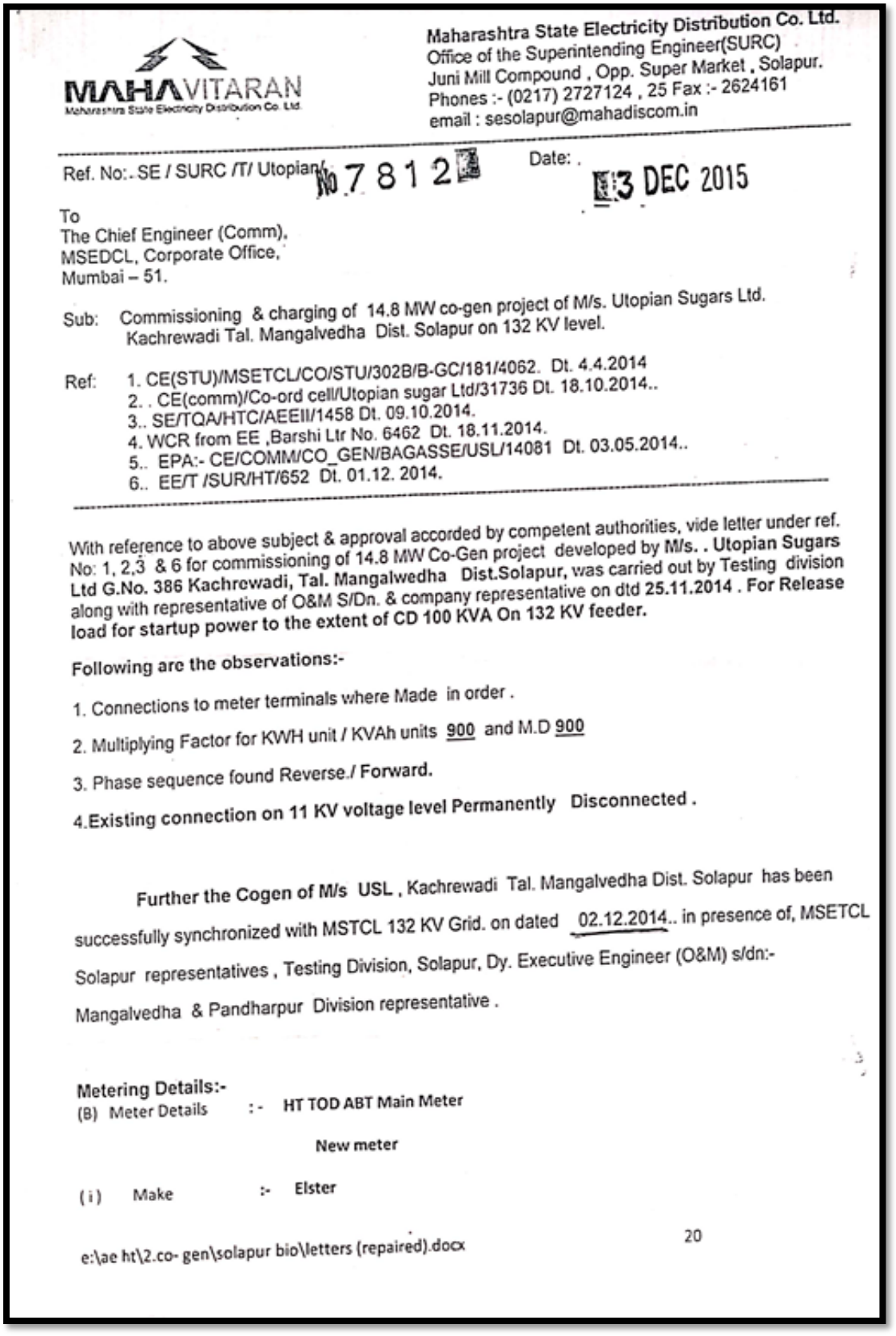
Fee Rs. 23000.00 paid on 03/10/2023
Dated at Tuesday this 31stOctober, 2023

Validity unknown
Digitally Signed by ANIL MADHAVRAO ZUNZURE (GOVERNMENT OF MAHARASHTRA)
Date : 01-Nov-2023 16:29:42 IST

ANIL MADHAVRAO ZUNZURE
Joint Director,
Maharashtra State,SOLAPUR
Approved by Joint Director,
SOLAPUR on dt.31/10/2023

Main Meter and check meter:





MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.

Maharashtra State Electricity Distribution Co. Ltd.
Office of the Superintending Engineer(SURC)
Juni Mill Compound , Opp. Super Market , Solapur.
Phones :- (0217) 2727124 , 25 Fax :- 2624161
email : sesolapur@mahadiscom.in

Ref. No:- SE / SURC /T/ Utopian/ No 7812 Date: 13 DEC 2015

To
The Chief Engineer (Comm),
MSEDCL, Corporate Office,
Mumbai – 51.

Sub: Commissioning & charging of 14.8 MW co-gen project of M/s. Utopian Sugars Ltd. Kachrewadi Tal. Mangalvedha Dist. Solapur on 132 KV level.

Ref:
1. CE(STU)/MSETCL/CO/STU/302B/B-GC/181/4062. Dt. 4.4.2014
2. . CE(comm)/Co-ord cell/Utopian sugar Ltd/31736 Dt. 18.10.2014..
3.. SE/TQA/HTC/AEEII/1458 Dt. 09.10.2014.
4. WCR from EE ,Barshi Ltr No. 6462 Dt. 18.11.2014.
5.. EPA:- CE/COMM/CO_GEN/BAGASSE/USL/14081 Dt. 03.05.2014..
6.. EE/T /SUR/HT/652 Dt. 01.12. 2014.

With reference to above subject & approval accorded by competent authorities, vide letter under ref. No: 1, 2,3 & 6 for commissioning of 14.8 MW Co-Gen project developed by M/s. . Utopian Sugars Ltd G.No. 386 Kachrewadi, Tal. Mangalwedha Dist.Solapur, was carried out by Testing division along with representative of O&M S/Dn. & company representative on dtd 25.11.2014 . For Release load for startup power to the extent of CD 100 KVA On 132 KV feeder.

Following are the observations:-

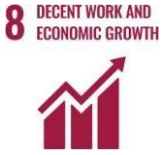
1. Connections to meter terminals where Made in order .
2. Multiplying Factor for KWH unit / KVAh units 900 and M.D 900
3. Phase sequence found Reverse./ Forward.
4. Existing connection on 11 KV voltage level Permanently Disconnected .

Further the Cogen of M/s USL , Kachrewadi Tal. Mangalvedha Dist. Solapur has been successfully synchronized with MSTCL 132 KV Grid. on dated 02.12.2014.. in presence of, MSETCL Solapur representatives , Testing Division, Solapur, Dy. Executive Engineer (O&M) s/dn:- Mangalvedha & Pandharpur Division representative .

Metering Details:-
(B) Meter Details :- HT TOD ABT Main Meter
New meter
(i) Make :- Elster

e:\ae ht\2.co- gen\solapur bio\letters (repaired).docx 20

Commissioning Certificates

Development GoalsTargeted	SDG Target	Indicator (SDG Indicator)
SDG 7: Affordableand Clean Energy 	**7.2:** By 2030, increase substantially the share of renewable energy in the global energy mix **Target Achieved: Renewable Power in 253,426 MWh**	**7.2.1**: Renewable energy share in the total final energy consumption
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 staff annually • Employment of staff	**8.5.1**: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
SDG 09: Industries, Infrastructure and Innovation 	**9.2:** Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	The project activity provides employment to people 115 villages in the area. **9.1.1:** It measures the proportion of the rural population who live within 2 km of an all-season road. This indicator helps assess access to infrastructure and connectivity.
SDG 13: Climate Action 	**13.2**: Integrate climate change measures into national policies, strategies and planning **Target Achieved: 213,678 quantity of tCO2 reduced**	**13.2.1**: Number of countries that have communicated the establishment or Operationalization of an integrated policy/ strategy