MONITORING REPORT

CARBON OFFSET UNIT (CoU) PROJECT

Title: Wastewater Methane Recovery Biogas Project at Dharikheda, Gujarat

UCR PROJECT ID: 004

Version 1.0
Date 19/10/2021
First CoU Issuance Period: 1 year, 9 months
Date: 01/02/2020 to 30/09/2021 (both days included)

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

BASIC INFORMATION	
Title of the project activity	Wastewater Methane Recovery Biogas Project at Dharikheda, Gujarat
Scale of the project activity	Small Scale
UCR PROJECT ID	004
Completion date of the MR	19/10/21
Project participants	Synergy Technologies UCR ID: 397176827
Host Party	India
Applied methodologies and standardized baselines	**AMS-III.H.** Methane recovery in wastewater treatment **AMS-I.C**.: Thermal energy production with or without electricity UCR Standard Protocol Emission Factors
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources) 13 Waste handling and disposal
Calculated amount of annual average GHG emission reductions	2020: 22979 tCO_2 (22979 CoUs)
	2021: 32966 tCO_2 (32966 CoUs)
Calculated total GHG emission reductions this crediting period	**55945 tCO_2 (55945 CoUs)**

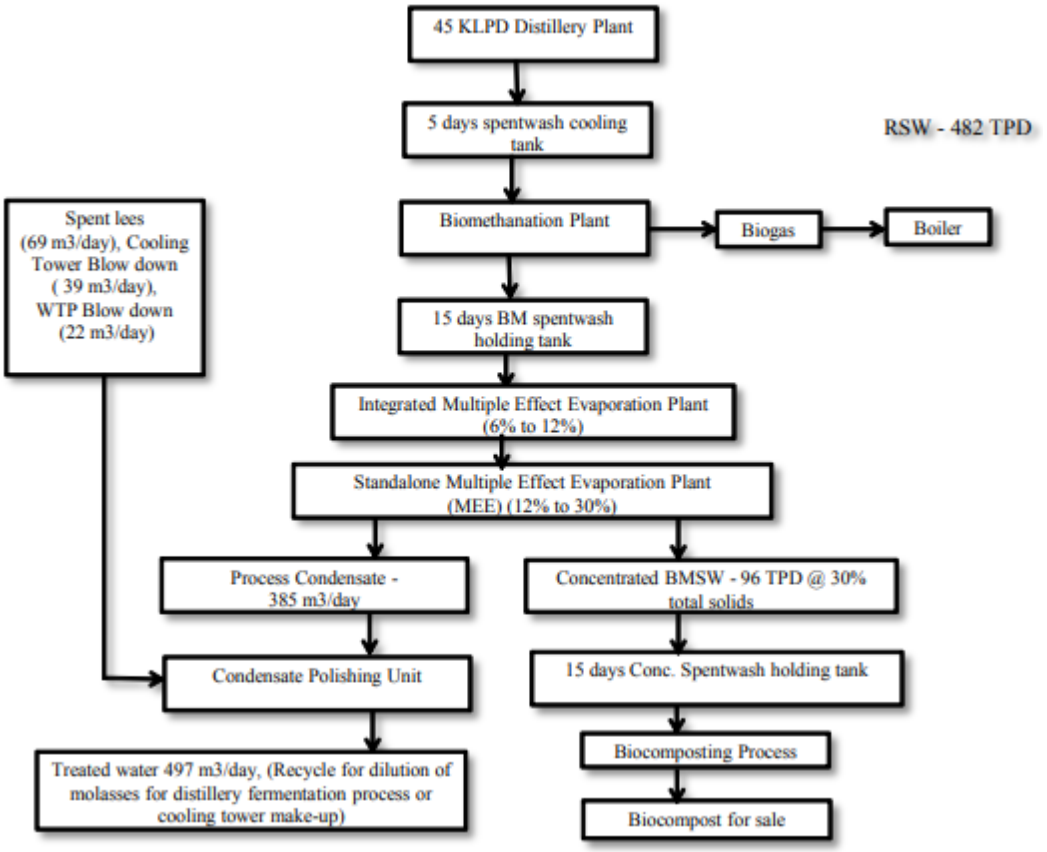
SECTION A. Description of project activity

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

The project **Wastewater Methane Recovery Biogas Project at Dharikheda, Gujarat** is located at Shree Narmada Khand Udyog Sahakari Mandli Ltd. (SNKUSML), in Village Dharikheda, Region Timbi, Taluka - Rajpipla (Nandod), District Narmada, Gujarat

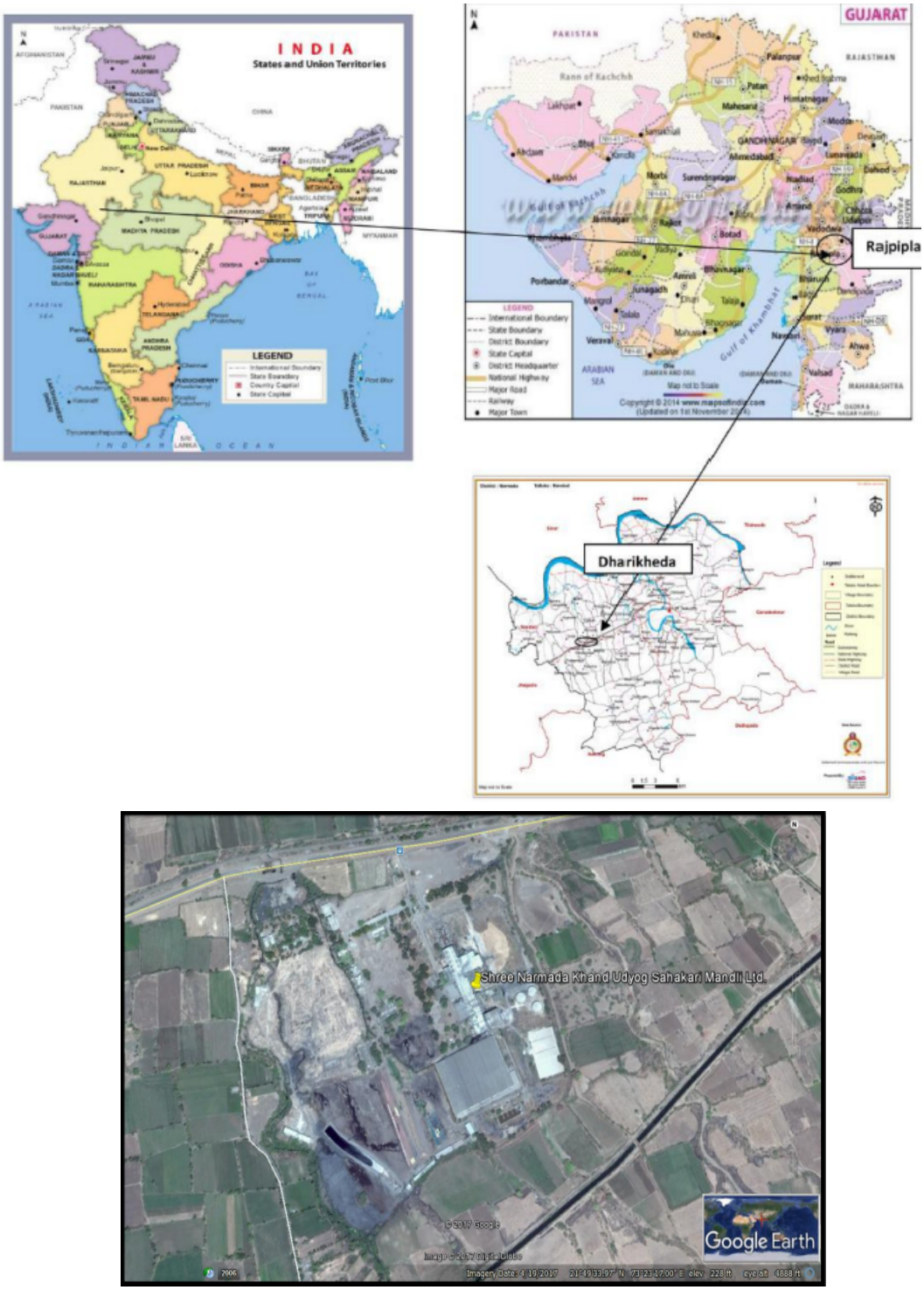
The details of the registered project are as follows:

Purpose of the project activity:
The project activity involves the setup of a biogas digester for the molasses based distillery with a production capacity of 45 klpd that were both commissioned for operation on 25/01/2020. This project activity entails treatment of high BOD/COD Spent-Wash anaerobically in a closed digester and capturing the Methane generated in a controlled manner. The Methane captured is combusted in a boiler for steam generation and further to generate power through a turbo-generator. The project activity also includes combustion of other GHG neutral biomass residue fuels such as bagasse to supplement biogas fuel in the boiler. The capacity of the power generation plant is ~2.0 MW. The project activity is thus the extraction and combustion of biogas in boilers at the project activity site for power generation for captive usage. The project activity is hence the anaerobic treatment of wastewater for methane recovery and since the project activity includes generation of power with utilization of recovered biogas (methane), this avoids grid electricity imports thus reducing emissions from thermal sources connected to the project electricity grid system.



A.3. Location of project activity >>

Country: India.
District: Narmada
Village: Dharikheda,
Region: Timbi,
Taluka - Rajpipla (Nandod)
State: Gujarat



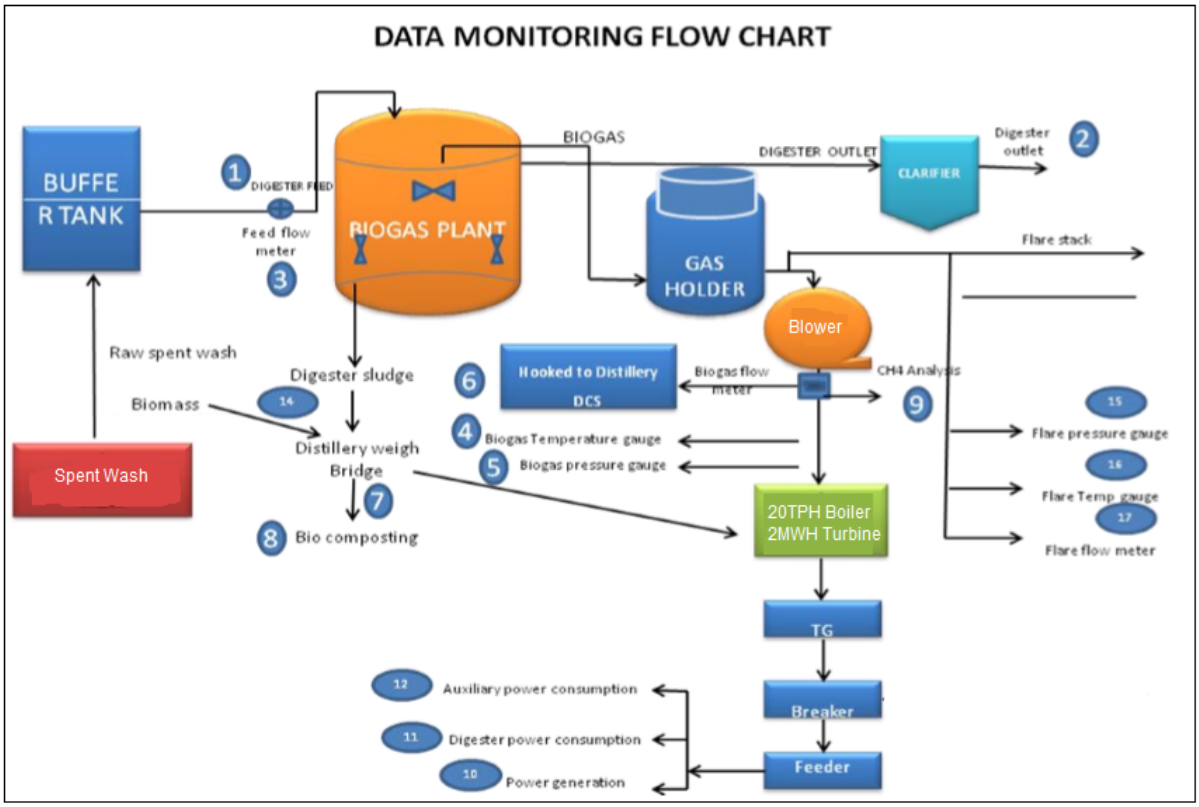
A.4. Technologies/measures >>

The project activity has been commissioned and is operating since 25/01/2020. The project activity is undergoing verification for its first monitoring period.

Biogas is a mixture of methane and carbon dioxide. It also has traces of hydrogen sulphide (3%), ammonia, oxygen, hydrogen, water vapour etc., depending upon feed materials and other conditions. Biogas is generated by fermentation of cellulose rich organic matter under anaerobic conditions. In anaerobic conditions, the methane-producing bacteria become more active. Thus, the gas produced becomes rich in methane.

The bio-methanation plant has been procured from M/s Ecoboard Industries Ltd, Pune. The plant runs on a process essentially based on CSTR technology. The reactor operates in mesophilic temperature range. Central and lateral agitators are provided for achieving complete turbulence in the reactor.

Treated spent wash is passed through one Lamella clarifier for removal of active bacterial mass, which is circulated again to the reactor to improve the overall effectiveness of the reactor. Biogas is collected in the gas holder and sent to the boiler. The process is sensitive to temperature and pH levels in the reactor, which requires continuous supervision and technological intervention. The technology used in digester is suitable to waste water with high concentration of particulates or extremely high concentration of soluble biodegradable organic materials.



The technical specifications of the boiler and back pressure turbine are as follows:

Specification	Value
Capacity of Boiler	20 TPH
Capacity of Turbine	2.0 MW
Number of Boilers /Turbine	1
Feed Material	Biogas/Bagasse
Biogas Temp	45°C

Operation days/annum	Molasses based distillery – 270 days/yr, 24hrs/day Total working days are as per log book and O&M records to be provided to the verifier during verification.
%CH4, Volumetric content of Methane in biogas ($\mu_{WCH4,y}$)	60.00%
Density of methane in the boiler	0.68 kg/m^3

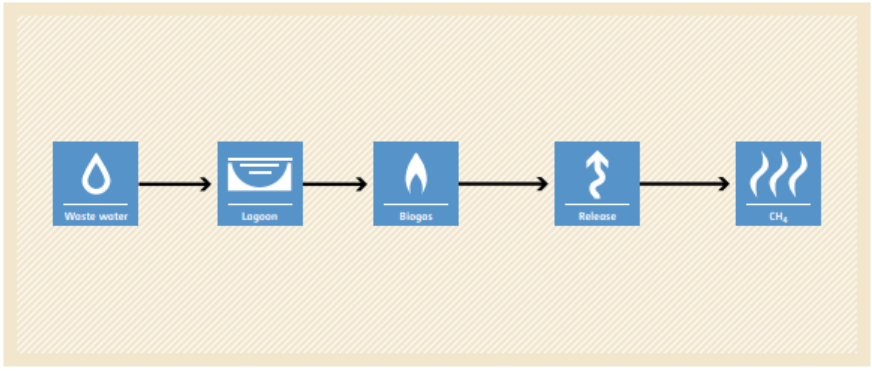
The project is in operation since the commissioning. There is no exchange of equipments or major breakdown of equipments during the current monitoring period. Also, no such event occurred during the current monitoring period that may have impact on the applicability of methodology.

A.5. Parties and project participants >>

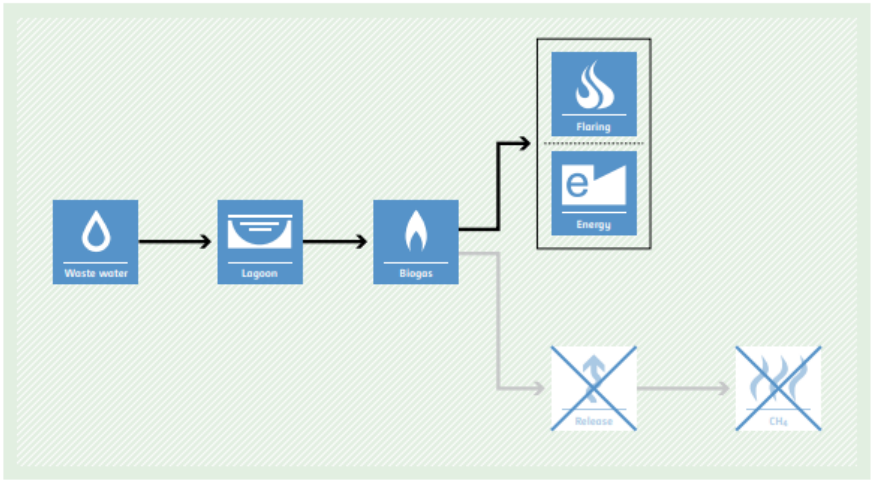
Party (Host)	Participants
India	Synergy Technologies UCR ID: 397176827 Plot No.9, SonaSarita, Abrama, Valsad. GJ. IND krunal@synergyvalsad.com

A.6. Baseline Emissions>>

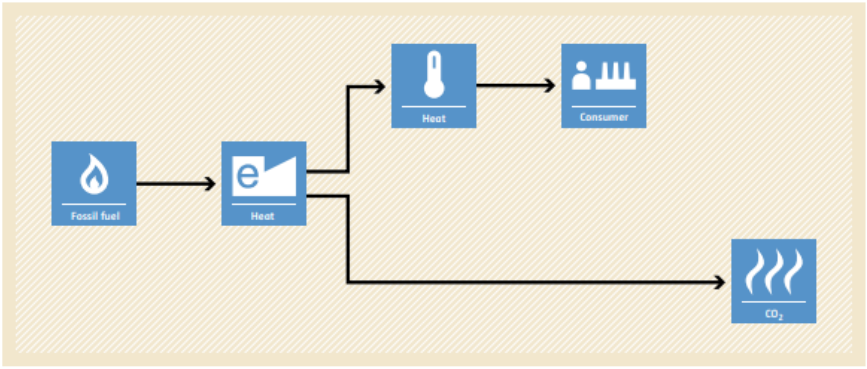
BASELINE SCENARIO
Methane from the decay of organic matter in wastewater or sludge is being emitted into the atmosphere.



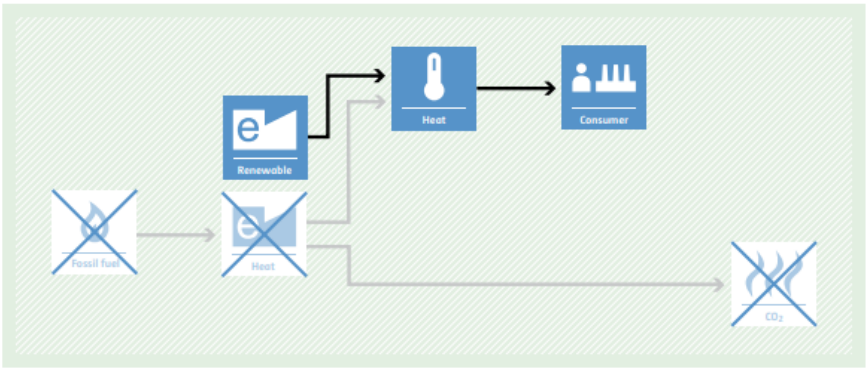
PROJECT SCENARIO
Methane is recovered and destroyed due to the introduction of new or modification of existing wastewater or sludge treatment system. In case of energetic use of biogas, displacement of more-GHG-intensive energy generation.



BASELINE SCENARIO
Energy generation (thermal heat and / or electricity) by more-carbon-intensive technologies based on fossil fuel. In case of retrofits or capacity addition, operation of existing renewable power units without retrofit and capacity addition.



PROJECT SCENARIO
Energy generation by installation of new renewable energy generation units, by retrofitting or replacement of existing renewable energy generation units as well as by switch from fossil fuel to biomass in modified existing facilities.



A.7. 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)
13 Waste handling and disposal

TYPE I - Renewable Energy Projects

CATEGORY- ***AMS-III.H. Methane recovery in wastewater treatment***
This methodology comprises measures that recover biogas from biogenic organic matter in wastewater by means of substitution of aerobic wastewater or sludge treatment systems with anaerobic systems with biogas recovery and combustion.

AMS-I.C.: Thermal energy production with or without electricity
This methodology comprises renewable energy technologies that supply users i.e. residential, industrial or commercial facilities with thermal energy that displaces fossil fuel use. These units include technologies such as energy derived from renewable biomass and other technologies that provide thermal energy that displaces fossil fuel.

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

Biomass used by the project plant is limited to biomass residues from sugarcane (bagasse) and biogas from spent wash
The biogas recovered is measured using on-line gas flow meters. The gas samples are tested in the inhouse laboratory for Methane content of biogas. Temperature and pressure are measured using on-line meters.
The annual average temperature of the biogas site is higher than 15°C
The biomass used by the project plant is not stored for more than one year. The plant has implemented ISO 9001:2000 standards. And has annual maintenance and calibration system in place for equipments/ instruments, which are religiously adhered to. Audits are also conducted in a planned manner.
End-use of final sludge is monitored in the plant on a regular basis. The plant is Zero Pollution Discharge Plant.
The biogas is generated by anaerobic digestion of wastewater.
Biogas is used for renewable power generation for captive use.
The project activity involves the introduction of biogas recovery to an anaerobic wastewater treatment system such as anaerobic biogas reactor. Thus in absence of the project activity the project activity would have treated spent wash in the open lagoon until it attained the requisite discharge standards.
In absence of the project activity, the wastewater would have been treated in anaerobic open lagoons. The lagoons are ponds with a depth greater than two meters, without aeration.
The minimum interval between two consecutive sludge removal events is 30 days
The recovered biogas is utilised for captive power usage. The recovered biogas from the above measures is utilised for power generation directly instead of combustion/flaring.
Measures are limited to those that result in aggregate emissions reductions of less than or equal to 60 kt CO2 equivalent annually from all Type III components of the project activity
The applicability criteria of project category and measure – Type III.H. Methane Recovery in Wastewater Treatment are: 1. This project category comprises measures that recover methane from biogenic organic matter in wastewaters

by means of one of the following options: (i) Substitution of aerobic wastewater or sludge treatment systems with anaerobic systems with methane recovery and combustion. The recovered methane is used for captive electricity generation, hence the project can use a corresponding methodology under Type I project activities, i.e. I.C
The total installed electrical energy generation capacity of the project equipment does not exceed 15 MW. This is a small scale project with total electricity capacity of 2 MW which is not greater than small scale thresholds defined by the applied methodology I.C. under Type I – renewable energy project activity, i.e. the total installed electrical energy generation capacity of the project equipment does not not exceed 15 MW.
The generated electricity at the project activity displaces grid electricity being generated from mix of fossil fuel and renewable sources. Energy meters are in place to monitor the electricity generated from the plant. Also, gas flow meter shall account for the biogas combusted in the boiler and weigh scales are used to account for the quantity of other fuels combusted in the plant.

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

The biogas unit is constructed by the project proponent close to the distillery. The biogas unit, boiler and turbine have unique IDs, which is visible on the units. The details of these units will be provided to the UCR verifier during the verification process.

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

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

- The wastewater, anaerobic digester and sludge treatment activity, in the baseline and project situations.
- All plants generating electricity located at the project site.

	Source	GHG	Included?	Justification/Explanation
Baseline	Emissions from electricity generated using fossil fuels	CO_2	**Included**	Major source of emission
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative
	Methane Emissions from treatment of organic wastewater/lagoons on site	CO_2	Excluded	Excluded for simplification. This is conservative
		CH_4	**Included**	Major source of emission
		N_2O	Excluded	Excluded for simplification. This is conservative
Project Activity	Combustion of biomass for electricity and heat Emissions from anaerobic digester sludge drying bed	CO_2	Excluded	CO2 emissions from the decomposition of organic waste is not present. It is assumed that CO_2 emissions from surplus biomass do not lead to changes of carbon pools in the LULUCF sector
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative

This is a new installation and the energy generating equipment is not transferred from another activity or the existing equipment was not transferred to another activity. So, no leakage is considered.

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

The baseline scenario identified 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. Hence the baseline scenario is the electricity imported from a grid. ($BE_{power,y}$) ;
- Methane emissions from baseline wastewater treatment systems ($BE_{ww,treatment,y}$)

$$BE_y = BE_{power,y} + BE_{ww,treatment,y} - PE_{transport,y}$$

Important information for determination of baseline scenario
• Methane recovery in SpentWash treatment COD of Spent-Wash going into digester
• COD of Spent-Wash coming out from the digester outlet
• Quantity of Spent-Wash flow into digester
• Max. Methane producing capacity of Spent-Wash
• Methane conversion factor
• Power generation Grid Emissions Factor as per UCR Standard

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

$$BE_{power,y} = EG_{y,grid} \times EF_{y,grid}$$

$BE_{power,y}$	=	Baseline emissions for the grid electricity displaced by the project in year y (t CO2e)
$EG_{y,grid}$	=	Amount of grid electricity displaced by project in year y (MWh)
$EF_{y,grid}$	=	Emission factor of the grid (t CO2e/MWh) = 0.9 (UCR Standard)

$BE_{ww,treatment,y}$ = Methane emissions from the baseline wastewater treatment systems affected by the project are determined using the COD removal efficiency of the baseline plant.

$$BE_{ww,treatment,y} = \Sigma_i (Q_{ww,i,y} \times COD_{inflow,i,y} \times \eta_{COD,BL,i} \times MCF_{ww,treatment,BL,i}) \times B_{o,ww} \times UF_{BL} \times GWP_{CH4}$$

Where:

$Q_{ww,i,y}$	=	Volume of wastewater treated in baseline wastewater treatment system i in year y (m^3). The ex post emissions reduction calculation shall be based on the actual monitored volume of treated wastewater. (482m^3/day)
$COD_{inflow,i,y}$	=	Chemical oxygen demand of the wastewater inflow to the baseline treatment system *i* in year *y* (t/m^3). (0.15 t/m^3) (150000 ppm)
$\eta_{COD,BL,i}$	=	COD removal efficiency of the baseline treatment system *i*, determined as per

		monitored data (65%)
$MCF_{ww, treatment, BL, i}$	=	Methane correction factor for baseline wastewater treatment systems *i* (MCF values as per Table 1 below) (0.8)
i	=	Index for baseline wastewater treatment system
$B_{o,ww}$	=	Methane producing capacity of the wastewater (IPCC value of 0.25 kg CH_4/kg COD)
UF_{BL}	=	Model correction factor to account for model uncertainties (0.89)
GWP_{CH4}	=	Global Warming Potential for methane (21)
NCV_{BG}		Net calorific value of the biogas [GJ/t] (50.4) IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2)

The Methane Correction Factor (*MCF*) shall be determined based on the following table:

Table 1 IPCC default values for Methane Correction Factor (*MCF*)

Type of wastewater treatment and discharge pathway or system	***MCF* value**
Discharge of wastewater to sea, river or lake	0.1
Land application	0.1
Aerobic treatment, well managed	0.0
Aerobic treatment, poorly managed or overloaded	0.3
Anaerobic digester for sludge without methane recovery	0.8
Anaerobic reactor without methane recovery	0.8
Anaerobic shallow lagoon (depth less than 2 metres)	0.2
Anaerobic deep lagoon (depth more than 2 metres)	0.8
Septic system	0.5
Land application	0.1

The following baselines emissions are not applicable:

- Methane emissions from baseline sludge treatment systems ($BE_{s,treatment,y}$);
- Methane emissions on account of inefficiencies in the baseline wastewater treatment systems and presence of degradable organic carbon in the treated wastewater discharged. ($BE_{ww,discharge,y}$);
- Methane emissions from the decay of the final sludge generated by the baseline treatment systems ($BE_{s,final,y}$). Dried sludge is used as manure in farm land for cultivation surrounding the project boundary.

Project Emissions

Project emissions consists of:

- **$PE_{y,dissolved}$** = Methane fugitive emissions in treated wastewater effluent
- **$PE_{y, fugitive}$** = Methane fugitive emissions due to inefficiencies in capture systems;
- **$PE_{flare, y}$** = Methane emissions due to incomplete flaring;
- **$PE_{transport,y}$** = Project activity emissions on account of yearly transport of biomass to

project site

$$PE_{flare,y} = Q_{biogas\ flare} * (1 - \eta_{flare}) * GWP\_CH_4$$

$$PE_{y,fugitive} = (1-CEF_{ww})*(Q_{y,ww} * COD_{y,ww,untreated} * Bo_{,ww} * MCF_{ww,untreated}) * GWP\_CH_4$$

$$PE_{y,dissolved} = Q_{y,ww} * [CH_4]_{y,ww,treated} * GWP\_CH_4$$

Parameter	UoM	Value	
EF	tCO2/ MWh	0.9	Fixed ex-ante in the PCN
$B_{o,ww,Baseline}$	kg CH4/ kg COD	0.21	As per methodology AMS III.H version 01
$B_{o,ww,project}$	kg CH4/ kg COD	0.25	As per methodology AMS III.H version 01
MCF	-	0.8	IPCC default
$MCF_{ww,treated}$		0.5	As per methodology AMS III.H version 01
CFE ww		0.9	As per methodology AMS III.H version 01
GWP_{CH4}		21	As per methodology AMS III.H version 01
CH4 ww,treated	tonne/m3	0.0001	Default value (As per registered PCN)
η_{flare}	%	0%	Conservative value
Density_CH4 at STP*	kg / m3	0.68	http://encyclopedia.airliquide.com/Encyclopedia.asp?GasID=41#GeneralData

The project activity involves transportation of molasses/bagasse from outside the plant and therefore the emission associated with consumption of fossil fuel due to transportation is calculated as follows:

$$PE_{transport,y} = \Sigma BF_{T,k,y} / TL_y \times ADV_y \times EF_{km,CO2,y,}$$

$BF_{T,k,y}$ = Quantity of biomass residue type k that has been transported to the project site during the year y (tons of dry matter or liter)

TL_y = Average truck loads of the trucks used (tons or liter) during the year y

ADV_y = Average round trip distance (from and to) between the biomass residue fuel supply sites and the site of the project plant during the year y (km)

$EF_{km,CO2,y}$ = Average CO_2 emission factor for the trucks measured during the year y (tCO_2/km)

$BF_{T,k,y}$	Quantity of biomass bought and transported from outside	11840 t/yr
TL_y	Average truck load of the trucks used	10 t/y
$EF_{km,CO2,y}$	Average CO2 emission factor of the trucks	0.001 tCO_2/km
ADV_y	Average return trip distance between the biomass fuel supply sites and the project plant	30 km
	$PE_{transport,y}$	**35.52 ~36 tCO_2/y**

Monitoring Parameters	$ME_{y,ww,untreated}$	$PE_{y,ww,treated}$	Flow of spent wash in digester	Biogas Flow (Methane content) into Boiler
UoM	tonnes	tCO_2	m^3	tonnes
02-20	224.15	859.16	9599.00	306.93
03-20	174.05	678.21	6843.00	207.28
04-20	0.00	0.00	0.00	0.00
05-20	0.00	0.00	0.00	0.00
06-20	0.00	0.00	0.00	0.00
07-20	0.00	0.00	0.00	0.00
08-20	0.00	0.00	0.00	0.00
09-20	0.00	0.00	0.00	0.00
10-20	0.00	0.00	0.00	0.00
11-20	221.45	863.16	7518.00	170.08
12-20	225.38	1190.68	9436.00	277.64
01-21	224.50	1139.09	8567.00	246.76
02-21	267.18	1449.40	9690.00	294.82
03-21	253.32	1385.02	8848.00	277.09
04-21	205.25	1162.35	7117.00	200.61
05-21	289.28	1608.38	9493.00	289.16
06-21	65.46	365.81	2123.00	63.88
07-21	0.00	0.00	0.00	0.00
08-21	0.00	0.00	0.00	0.00
09-21	0.00	0.00	0.00	0.00

Month	BE_y- Methane Avoidance (tCO2eq)
02-20	6446
03-20	4353
11-20	3572
12-20	5830
01-21	5182
02-21	6191
03-21	5819
04-21	4213
05-21	6072
06-21	1342
Total	49019

Month	BE_y - tCO2 Power Generation
02-20	826
03-20	612
11-20	789
12-20	804
01-21	781
02-21	854
03-21	856
04-21	890
05-21	907
06-21	194
Total	7511

$$BE_y = BE_{\text{power},y} + BE_{ww,treatment,y} - PE_{\text{transport,y}}$$

Year	Baseline Emissions (tCO2)
2020	**22979**
2021	**32966**
Total	**55945**

B.6. Prior History>>

The project activity has not applied to any other GHG program for generation or issuance of carbon offsets or credits.

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

There is no change in the start date of crediting period.

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

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

B.9. Monitoring period number and duration>>

First CoU Issuance Period: 1 year, 9 months
Date: 01/02/2020 to 30/09/2021

B.8. Monitoring plan>>

Data and parameters fixed ex ante or at monitoring period

Data/Parameter	GWP_{CH4}
Data unit	tCO2e/tCH4
Description	Global Warming Potential of methane
Source of data Value(s) applied	21
Measurement methods and procedures	As per methodology AMS III.H version 01
Monitoring frequency	NA
Purpose of data	Baseline and Project emissions

Data / Parameter:	**$BG_{burnt,y}$**
Data unit:	m^3
Description:	Biogas volume in month/year *y*
Measurement procedures (if any):	The amount of biogas recovered or otherwise utilized (e.g. injected into via a dedicated piped network) is monitored ex post, using continuous flow meters.
Monitoring frequency:	Monitored continuously.
Any comment:	-

Data / Parameter:	% CH_4
Data unit:	60.00%
Description:	Methane content in biogas in the year *y*
Source of data:	IPCC
Measurement procedures (if any):	The fraction of methane in the biogas (default value of 60% methane content is used)
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-Baseline emission calculation

Data / Parameter:	Q_{ww}
Data unit:	m^3/month
Description:	The flow of wastewater
Measurement procedures (if any):	Measurements are undertaken using flow meters
Monitoring frequency:	Monitored continuously.
Any comment:	Baseline emission calculation -

UoM	m^3
02/20	9599.00
03/20	6843.00
11/20	7518.00
12/20	9436.00
01/21	8567.00
02/21	9690.00
03/21	8848.00
04/21	7117.00
05/21	9493.00
06/21	2123.00

Data / Parameter:	Days of operation (d)
Data unit:	Actual as per log sheets
Description:	Operation of the industrial facility using the process heat in year *y* (days)
Source of data:	On-site measurements
Measurement procedures (if any):	Sum of the days of operation of the UCR project activity facilities during year *y*
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	Baseline emission calculation

Data / Parameter:	$COD_{WW,y}$
Data unit:	150000 ppm
Description:	Average chemical oxygen demand of the waste water in year *y* mg/l
Source of data:	On-site measurements
Measurement procedures (if any):	-
Monitoring frequency:	Measured at least every six months, taking at least three samples for each measurement.
QA/QC procedures:	-
Any comment:	-

Data / Parameter:	CFE_{ww}
Data unit:	0.9
Description:	Capture and flare efficiency of the methane recovery and combustion equipment in the wastewater treatment
Source of data:	As per methodology AMS III.H version 01
Measurement procedures (if any):	NA-
Monitoring frequency:	
QA/QC procedures:	-
Any comment:	Project emission calculation

Data / Parameter:	MCF
Data unit:	0.8
Description:	Methane conversion factor
Source of data:	IPCC Default
Measurement procedures (if any):	NA
Monitoring frequency:	NA
QA/QC procedures:	NA
Any comment:	Project emission calculation -

Data / Parameter:	EF
Data unit:	0.9 tCO2e/MW
Description:	Grid Emission Factor
Source of data:	UCR Standard
Measurement procedures (if any):	NA
Monitoring frequency:	NA
QA/QC procedures:	NA
Any comment:	Baseline emission calculation

Data / Parameter:	$CH4_{ww,treated}$
Data unit:	0.0001 Tonnes/m3
Description:	Dissolved Methane content in the treated waste water
Source of data:	Default
Measurement procedures (if any):	NA
Monitoring frequency:	NA
QA/QC procedures:	NA
Any comment:	Project emission calculation

Data / Parameter:	$COD_{treated}$
Data unit:	33000 ppm
Description:	Chemical Oxygen Demand of treated water from digester in mg/l
Source of data:	Measured onsite
Measurement procedures (if any):	Lab test data
Monitoring frequency:	Daily
QA/QC procedures:	Data is estimated using standard “Reflux method” as per Central Pollution Control Board (CPCB), Government of India norms.
Any comment:	Baseline emission calculation

Data / Parameter:	P_{Biogas}
Data unit:	1800 mm WC (0.18kg/cm2)
Description:	Pressure of Biogas
Source of data:	
Measurement procedures (if any):	Plant data
Monitoring frequency:	Continuous Reading Recording frequency: Daily
QA/QC procedures:	The data is collected as part of normal plant level operations. QA/QC requirements consist of cross- checking these with other internal company report.
Any comment:	Baseline emission calculation

Data / Parameter:	T_{Biogas}
Data unit:	45 Deg C
Description:	Temperature of Biogas
Source of data:	
Measurement procedures (if any):	Plant data
Monitoring frequency:	Recording frequency : Continuous Reading frequency: Continuous Recording frequency: Daily
QA/QC procedures:	The data is collected as part of normal plant level operations. QA/QC requirements consist of cross- checking these with other internal company report.
Any comment:	Baseline emission calculation