7.5 MW WASTE-TO-ENERGY POWER PLANT BY GOODWATTS WTE JAMNAGAR PRIVATE LIMITED IN GUJARAT, INDIA

Kosher Climate India Private Limited

Project Title	7.5 MW Waste-to-Energy Power Plant by Goodwatts WTE Jamnagar Private Limited in Gujarat,India
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1 PROJECT DETAILS

1.1 Summary Description of the Project

The project activity is 7.5MW Waste to Energy Power Plant located at Jamnagar City in Gujarat, India. The plant utilizes the Refuse-Derived Fuel ("RDF") as feedstock derived from the separation and sorting of Municipal Solid Waste ("MSW") excluding the recyclable or potentially hazardous materials from the waste stream. The MSW is sourced from the Jamnagar City as per concession agreement with Jamnagar Municipal Corporation. M/s GoodWatts WTE Jamnagar Private Limited (GWJPL) includes the construction and operation of RDF based waste to Energy plant. This project is SPV (A special purpose vehicle) of Abellon CleanEnergy Ltd. based in Ahmedabad, Gujarat, India and Jamnagar Municipal Corporation (JMC).

The main purpose of this project activity is to generate clean form of electricity through waste to energy-based power generation. The project will utilise about 311 ton of RDF per day and generate electricity with the installed capacity of 7.5 MW. The waste to energy plant will use 1 travelling grate-type boiler for treating RDF and a combination of 1 steam turbines and 1 generator to recover heat from combustion of RDF for generating electricity. Generated electricity is supplied to the national grid through contractual agreement with the DISCOM. The project is located in Nava gam Ghed, Jamnagar, Gujarat state of India.

Scenario existing prior to the implementation of project activity:

This is a greenfield project activity. Prior to the implementation of the project activity, MSW in Jamnagar city was mainly subjected to landfill in anaerobic condition without any methane recovery system for flaring or energy recovery purpose, therefore in the absence of the project activity, methane emissions from anaerobic decay of waste would have been released into the atmosphere.

For electricity component, prior to the implementation of the project activity, the electricity supply for Jamnagar city was generated mainly from grid connected power plants.

The project activity helps to avoid methane emissions from open dump site in the absence of the project activity and generate renewable electricity, which displaced part of the electricity otherwise supplied by grid connected power plants. The expected CO_2 emission reduction from the proposed project is 37,318 tCO_2e annually and 2,61,226 tCO_2e in total over the first 7 years renewable crediting period.

1.2 Sectoral Scope and Project Type

The types/categories of the project are classified as follow:

Waste treatment component:

Type III: Other project activities
Sectoral Scope 13: Waste handling and disposal

Switch of fossil fuel component:
Type I: Renewable energy projects
Sectoral Scope 1: Energy industries (renewable/non-renewable sources)

This is not a grouped project and there are no other project participants.

1.3 Project Eligibility

The project activity results in GHG emission reductions included in six Kyoto Protocol greenhouse gases, which are listed under the scope of the VCS Program according to VCS Standard version 4.4.[1]. The scope of VCS programme includes

The Seven Kyoto Protocol Greenhouse gases	The project is expected to avoid two greenhouse gases[2]: i. Methane (CH_4) emissions from the municipal solid wase (MSW) disposal site in the baseline scenario, which will be destroyed in the project scenario. ii. CO_2 emissions from the production of equivalent amount of electricity replaced by the project that would otherwise have been produced by conventional fuel-sourced power plants. Thus, the project is applicable to this scope.
Ozone-depleting substances (ODS)	Not applicable, CH_4 and CO_2 are not Ozone-depleting substances.
Project activities supported by a methodology approved under the VCS Program through the methodology development and review process.	Not applicable

[1] https://verra.org/wp-content/uploads/2022/12/VCS-Standard-v4.4-FINAL.pdf

[2] https://unfccc.int/sites/default/files/08_unfccc_kp_ref_manual.pdf

Project activities supported by a methodology approved under an approved GHG program, unless explicitly exclude.	The applied methodology "AMS-III.E. and AMS-I.D.", are approved under CDM Program, which is a VCS approved GHG program.
Jurisdictional REDD+ programs and nested REDD+ projects as set out in the VCS Program document Jurisdictional and Nested REDD+ (JNR) Requirements.	Not applicable

The project uses AMS-III.E. ver. 17.0 – "Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment" and AMS-I.D. ver. 18.0- "Grid connected renewable electricity generation". The methodology AMS-III.E. applies to project activities involving the prevention of decay of the wastes through controlled combustion; or gasification to produce syngas/producer gas; or mechanical/thermal treatment to produce refuse-derived fuel (RDF) or stabilized biomass (SB) and the methodology AMS-I.D. applies to project activities that comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass, that is supplying electricity to a national or a regional grid.

Since AMS-III.E and AMS-I. D are approved methodology under an approved GHG program, the project is eligible under the scope of the VCS Program according to VCS Standard.

Furthermore, the project activity is not included in any of the excluded project activities, those listed under the Table 1 of VCS Standard ver. 4.4

Hence the proposed project activity is eligible to register under the VCS program standard version 4.4.

1.4 Project Design

☒ The project includes a single location or installation only

☐ The project includes multiple locations or project activity instances, but is not being developed as a grouped project

☐ The project is a grouped project

Eligibility Criteria

This is single location project and not a grouped project.

1.5 Project Proponent

Organization name	Goodwatts WTE Jamnagar Private Limited
Contact person	Mr. Pankaj Patel
Title	President & Member of Board - Abellon
Address	10th Floor, Sangeeta Complex, Nr. Parimal Crossing, Ellis bridge Ahmedabad – 380 006, GUJARAT, INDIA
Telephone	+91-79-66776100
Email	pankaj@abellon.com

1.6 Other Entities Involved in the Project

Organization name	Kosher Climate India Private Limited.
Contact person	Mr. Vamsi Krishna
Title	Managing Director
Address	Zee Plaza, No.1678, 27th Main Road, Sector 2, HSR Layout, Bengaluru, Karnataka 560102, India
Telephone	+91-99453 43475
Email	vamsi@kosherclimate.com

1.7 Ownership

GoodWatts WTE Jamnagar Pvt. Ltd. is a SPV of Abellon CleanEnergy Ltd. Abellon CleanEnergy Ltd. is the legal owner of Jamnagar Waste to Energy Plant (GoodWatts WTE Jamnagar Pvt. Ltd.). They have the legal right to control and operate the project activities.

The Concession Agreement, Power Purchase Agreement (PPA), land lease agreement and other documents as mentioned in Section 1.14 are evidences for the ownership of the plant, equipment and process that generates GHG emission reductions.

1.8 Project Start Date

15-November-2021 (Date of commissioning of the plant)

1.9 Project Crediting Period

The VCS Standard 4.4[3] states that the project crediting period for non-AFOLU projects shall be either seven years, twice renewable for a total of 21 years, or ten years fixed. Since this project is a non-AFOLU project, the renewable crediting period of 7 years, twice renewable for a total of 21 years is chosen by the Project Proponent (PP).

The first crediting period starts on 15-November-2021 and ends on 14-November-2028.

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reductions/removals of the project are:

☐ <20,000 tCO_2e/year

☒ 20,000 – 100,000 tCO_2e/year

☐ 100,001 – 1,000,000 tCO_2e/year

☐ >1,000,000 tCO_2e/year

Project Scale	
Project	✓
Large project	

Year	Estimated GHG emission reductions or removals (tCO_2e)
Year 1	8,126
Year 2	22,261
Year 3	32,896
Year 4	41,063
Year 5	47,470
Year 6	52,605

[3] https://verra.org/wp-content/uploads/2022/12/VCS-Standard-v4.4-FINAL.pdf

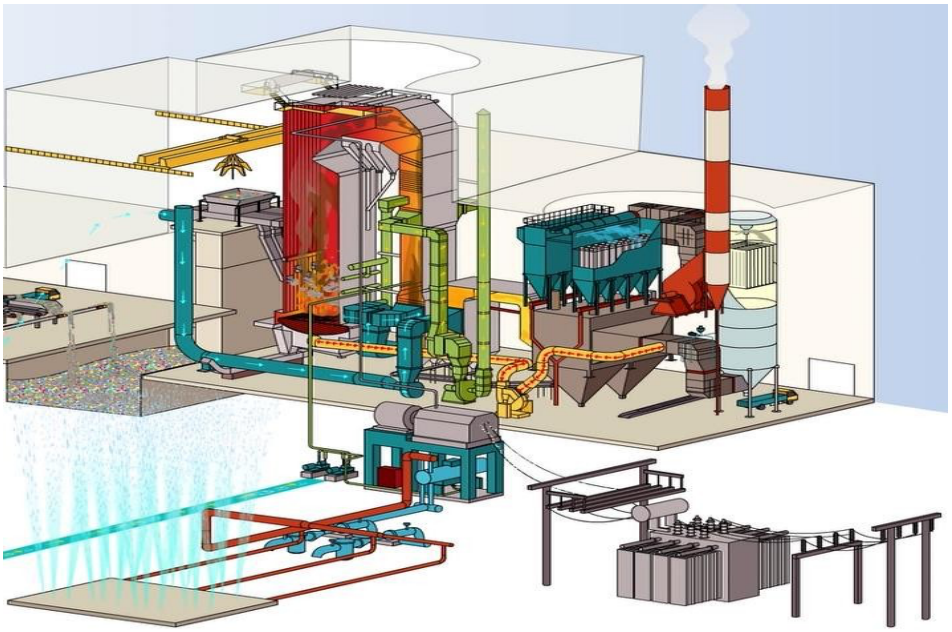
Year 7	56,805
Total estimated ERs	**2,61,226**
Total number of crediting years	**07**
Average annual ERs	**37,318**

1.11 Description of the Project Activity

The project activity involves travelling grate incineration technology to incinerate RDF prepared from MSW sourced from Jamnagar city that would otherwise be disposed of at a local landfill site. The main equipment in the project activity includes 1 incinerator (400 ton of RDF per day), 1 boiler (40 tons per hour), 1 steam turbines and 1 generator (7.5 MW), the transformer station and electricity transmission line, exhaust gas cleaning systems and ash remove systems.

After entering the treatment area through radial grabber, RDF is being moved to the waste feeding section. RDF is fed to the boiler by grabber through vibro feeder at the rate of 14 TPH. RDF is incinerated on travelling grate. The unburnt components continue to move on the grates to get out of the combustion chamber and fall into the slag collector of furnace bottom in form of bottom ash. The heat recovered from the incineration process will be provided to boilers. The superheated steam generated from the boilers will be fed into the steam turbine to generate kinetic energy. Turbines are connected to generators to produce electricity. The electricity generated from the project activity will be exported to the national grid through the electricity transmission line. The flue gases from the incineration process including NOx, SOx, HCl, and dioxin or furan if any will be treated by the flue gas cleaning technology. This includes combustion control, electrostatic precipitator, lime power dosing, activated carbon adsorption, bag filter. After the treated clean gas, which meets states and national Environmental Quality Standard will be release to the atmosphere from chimneys. The bottom ash will be collected and sent back to JMC for its disposal. While fly ash will be used for paver production.

The layout of the plant is shown in below figure:

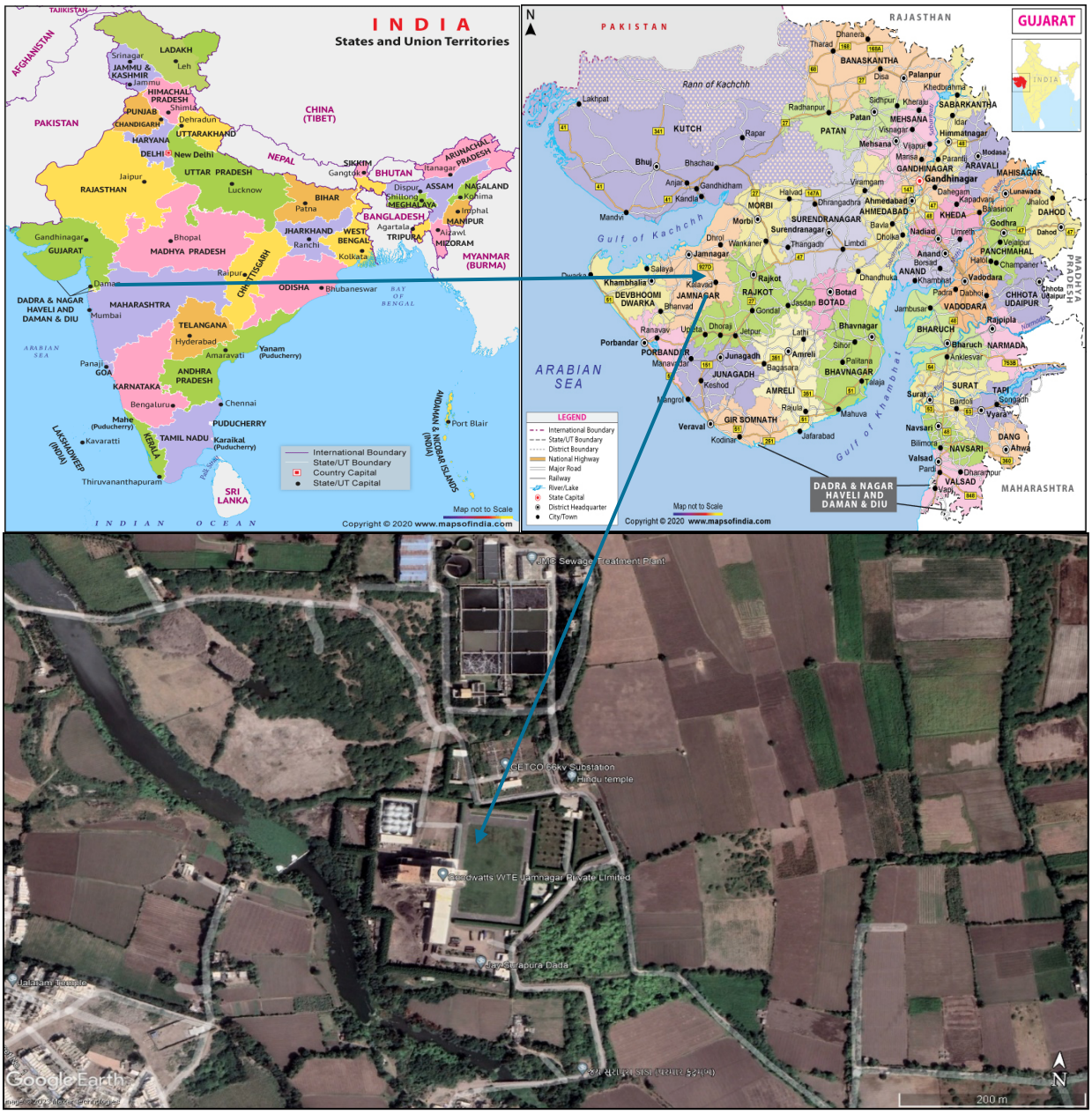


The main technical details of Jamnagar Waste to Energy plant project are shown in table below:

Main Component	Indicator	Values
Incinerator/ Furnace	Type	Travelling Grate Type
	Manufacturer	Thermodyne Technology Pvt. Ltd. (TTPL)
	Number	1
	Unit capacity	400 ton/day
Boiler	Number	1
	Unit steam output	40 ton/h
	Rated Outlet Steam Pressure	42 Kg/cm^2 (G)
	Rated Steam Temperature	410˚C ± 10˚C
	Efficiency	85.9 %
Steam turbine	Type	Condensing turbine (Bleed Cum)
	Number	1
	Rated capacity	7.5 MW
	Speed	7611 rpm
	Input steam	40 BAR (A) – 400^{o}C
Generator	Number	1
	Capacity	7.5 MW
	Frequency	50 Hz
	Rated voltage	11 kV

1.12 Project Location

The Project is located in, Nava gam Ghed, Jamnagar 361008, Gujarat, India. The geo-coordinate of the project is 22°29'44.83"N, 70° 4'0.43"E. The location map is given below.



1.13 Conditions Prior to Project Initiation

The scenario existing prior to the start of the implementation of the project activity is:

Waste Treatment:

In the absence of the project activity, the municipal solid waste generated in Jamnagar city were subjected to landfill, where the waste was left to decay in anaerobic conditions. The greenhouse gases (GHG) generated from the solid waste were released directly into atmosphere.

Electricity Generation:

In the absence of the project activity, the electricity supply for Jamnagar city was generated mainly from grid connected power plants, where the use of fossil fuel would also lead to GHG emissions.

The baseline scenario is the same as the scenario existing prior to the start of the implementation of the project activity. Please refer to Section 3.4 (Baseline Scenario) for details.

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

The project activity does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment, Forest & Climate Change (MOEF&CC), Government of India (As per MOEF&CC Notification No. - S.O. 1533, dated 14th September 2006[4]). In addition to that, all applicable laws and regulations in India were complied with.

The Consent to Establish (CTE) and Consent to Operate (CTO) are obtained from the state Pollution Control Board under Air (Prevention and Control of Pollution Act, 1981[5] and Water (Prevention and Control of Pollution) Act 1974[6].

The project activity is implemented in compliance to The Factories Act, 1948[7] & The Indian Boilers Act-1923[8].

The project activity has obtained approval from Gujarat Energy Development Agency (GEDA) to set up the Municipal Solid Waste based Power Project.

[4] https://environmentclearance.nic.in/writereaddata/EIA_Notifications/1_SO1533E_14092006.pdf

[5] https://cpcb.nic.in/displaypdf.php?id=aG9tZS9haXltcG9sbHV0aW9uL0dTUi02RS5wZGY=

[6] https://maitri.mahaonline.gov.in/pdf/The_Water_Prevention_and_Control_of_Pollution_Act_1974.pdf

[7] https://environmentclearance.nic.in/report/EIA_Notifications.aspx

[8] https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/48110/114241/F-1729379182/IND48110.pdf

The project activity is in compliance with all relevant statutory and regulatory laws applicable in the host country.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The proposed project activity is neither registered nor applied for registration in other GHG or Non GHG program(s) to obtain the certified GHG emission reductions. Project proponent is here by declaring that the emission reductions claimed under this project activity will not be double counted under any other GHG program.

1.15.2 Projects Rejected by Other GHG Programs

The proposed project activity is neither registered nor rejected by any other GHG program.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Does the project reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading?

☐ Yes ☒ No

If yes, provide the name of the emissions trading program or other mechanism that allows GHG allowance trading.

1.16.2 Other Forms of Environmental Credit

Has the project sought or received another form of GHG-related credit, including renewable energy certificates?

☐ Yes ☒ No

If yes, provide the name of the other program(s) under which the project has sought or received another form of GHG-related credit.

Supply Chain (Scope 3) Emissions

Have the owner(s) or retailer(s) of the impacted goods and services9 posted a public statement saying, "VCUs may be issued for the greenhouse gas emission reductions and removals associated with [organization name(s)] [name of good or service]" since the project's start date?

☐ Yes ☒ No

Explain your response.

Has the project proponent posted a public statement saying, "VCUs may be issued for the greenhouse gas emission reductions and removals associated with [name of good or service] [describe the region or location, including organization name(s), where practicable]."

☐ Yes ☒ No

Explain your response.

Have the producer(s) or retailer(s) of the impacted good or service been notified of the project and the potential risk of Scope 3 emissions double claiming via email?

☐ Yes ☒ No

Explain your response.

1.17 Sustainable Development Contributions

This plant operation directly covers key areas of sustainable development including renewable power generation, solid waste management, wastewater management and efficient usage, environment protection, innovative technological integrations, and partnership for sustained growth. Moreover, the design and infrastructure development for this 7.5 MW WTE campus also incorporated green building attributes to enhance overall sustainability of the system. With reference to the above mentioned all parameters; the MSW based waste to energy plant has incorporated many of the Sustainable Development Goals (SDGs) of United Nations.

Among 17 SDGs, 10 SDGs are directly linked with the design of the campus and process innovation of this MSW to renewable energy production facility:

[9] Impacted goods and services are all goods and services directly impacted by the technologies and measures specified as project activities in the project description. Please see the VCS Program document *VCS Program Definitions* for additional information.

1. Good health & wellbeing (SDG-3): Reduction of health hazard by sustainable and non-human interface based solid waste operations and avoiding water pollution by wastewater utilization.

2. Clean water and sanitation (SDG-6) by efficient reuse of around 1-million-liter city's treated leftover sewage wastewater per day in power operations,

3. Affordable and clean energy (SDG-7) by 7.5MW renewable power generation,

4. Decent work & economic growth (SDG-8) by additional revenue generation from municipal waste, post combustion ash and recovering valuable metals and non- metals from the waste.

5. Industry innovation and infrastructure (SDG-9) by integration of advance patented technology

6. Sustainable cities and communities (SDG-11) by reducing major environmental liabilities of the city waste and wastewater.

7. Responsible consumption and production (SDG-12) by adopting material conservation and waste recycling approaches in plant design and operations. Recovery of metal and non-metal waste from MSW for re-using to boost circular economy. All plant components are made in India.

8. Climate action (SDG-13): Reduction of 37,318 tons of CO_2 eq. greenhouse gas (GHG) emissions per year by coal replacement and avoiding open dumping of waste.

9. Life on land (SDG-15) by significant efforts in enhancing biodiversity by more than 10,000 tree plantations in campus (landscaping in 48% area of total campus) and conserving water biodiversity by diverting city leftover water-based pollution in local surface water streams.

10. Partnership for the goals (SDG-17) by setting up of WTE plant in PPP (Public-Private Partnership) between GWJPL (Goodwatts WTE Jamnagar Pvt. Ltd) and JMC (Jamnagar Municipal Corporation)

The project has been rated and pre-certified with 'Platinum Rating' as green campus by Indian Green Building council (IGBC).

1.18 Additional Information Relevant to the Project

Leakage Management

Not Applicable.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

Further Information

Not Applicable

2 SAFEGUARDS

2.1 No Net Harm

The project activity is generation of electricity by combustion of RDF, which is produced by treatment of municipal solid waste. This is a green technology which replaces the conventional fuel-source and results in greenhouse gas emission reduction. The project activity contributes to a significant higher ecological sustainability by treating the municipal solid waste.

Hence, the project has no negative environmental and socio-economic impacts and contributes positively by providing environment friendly power generation leading to sustainable development of the region.

2.2 Local Stakeholder Consultation

The scope of Local Stakeholder Consultation (LSC) meeting is to provide an opportunity to engage stakeholders in a meaningful manner at an early stage of the project activity which helps them to understand the project, participate in decision-making and exchange views and/or concerns regarding the project impacts and opportunities. This also enables or helps the project owner to identify, avoid and minimize adverse impacts and establish ongoing communications with relevant stakeholders during the lifetime of the project activity. The meeting provides an opportunity to inform local stakeholders about the waste-to-energy project, including its objectives, technology, environmental and health considerations, and potential benefits and drawbacks. Engaging the community can lead to a sense of ownership and collaboration in shaping the project's outcomes. The LSC meeting is intended to create a transparent, inclusive, and collaborative process that addresses concerns, maximizes benefits, and ensures that the project aligns with the needs and values of the local community.

Since the local communities are the predominant stakeholders for the meeting, sending individual invitations is not a possible option. So, the local people were invited through the public notice which is more appropriate.

The Local stakeholder consultation meeting was conducted on 09.05.2023 in the project location, which is located in Nava gam Ghed, Jamnagar city of Gujarat state, India. The LSC meeting was arranged by considering the VCS rules and requirements.

Minutes of the meeting

The project representative welcomed all the panel members and provided the technical description of the waste to energy plant including environmental, social and economic impacts on the local community. He described the operational flow of the project activity starting from the waste reception and preparation, pre-processing of waste, electricity generation, residue management, environmental compliance and concluded with the sustainability views of the project activity. Further, he explained the role of this waste management project over the years in addressing community development and livelihood issues and its contribution towards promoting sustainable development by linking local priorities to global challenges.

He explained how the WTE plants were contributing to the global warming and provided a comparison between baseline scenario and the project scenario to the stakeholders, where it was shown how an WTE plant is beneficial for the environment. Further, he briefed the stakeholders about the precautionary and safety measures to be kept in mind while working or visiting the plant. He explained the benefits of WTE plant and its contribution to waste management and climate mitigation. Further, he briefed the stakeholders about the UN Sustainable Development Goals and how this project was contributing towards the UN SDGs.

The feedback questionnaire was distributed to the stakeholders to collect the comments and concerns about the project activity. The following questions were asked in the questionnaire.

- Are you aware of this project activity?
- Does the construction and operation of the project provide the contribution to local employment?
- Does the project activity generate any kind of hazardous waste affecting the local premises?
- Does the project construction impact the quality of soil or soil erosion?
- Does the project construction impact the quality and quantity of ground water?
- Does the project construction and operation cause air pollution?
- Does the project operation cause noise pollution?
- Does the project construction have any negative impact on local population or animal or plant species?

- Does the project developer contribute any social development activities to the local community?
- Are you aware of the carbon credit program and carbon revenue?
- What do you like about the project?
- What do you don't like about the project?

This was followed by questions and experience sharing from the participating stakeholders. After listening to all the stakeholder comments, suggestions and answering their queries successfully, the meeting reached a closure and thanked everyone for being part of the stakeholder consultation meeting and requested everyone to keep up the momentum towards tackling climate change.

There were no concerns raised by the local stakeholders. The potential benefits of the project activity for the local stakeholders were acknowledged.

No negative comments have been received on project activity from any of the local stakeholders consulted. As all comments were very positive about the project, no further action is required. There were no further comments raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region.

Project owner has requested the stakeholders to contact the site in-charge any time through the email or phone or to the site address mentioned in the invitation to express their grievances in future. Also assured that a grievance register is always made available at the project site to register their complaints if any in the register and same will be addressed and resolved in the earliest possible time. The meeting list of stakeholders and photographs are provided in the appendix.

2.3 Environmental Impact

The possible environmental impacts of the project and responding measurements taken by the project owner are summarized as follows:

Impacts and mitigation measures in the construction phase:

Dust and exhaust gases, noise:

Dust, exhaust gases and noise generated from vehicles for transportation of materials, machines, equipment and construction equipment, or ground leveling activities. However, these emissions are short term and localized at the project area. The mitigation measures had been conducted to minimize any potential native impacts as follow:

- Requested the contractors to implement environmental protection measures as well as supervise their compliance.

- Using advanced vehicles, machines and equipment, meeting the state standard on technical and environmental safety. They also had to be maintained periodically.
- Avoiding transportation of excess regulated weight; covering materials on transportation equipment when incoming or going out of the project site.
- Arranging operation time of vehicles and construction suitably, avoiding gather materials at the same time. Avoid construction activities during peak-hours.
- Covering and watering construction areas, to prevent from dispersion of dust into the ambient environment.
- Provide labour protection equipment such as safety masks, safety helmets, and protective clothes for workers.

Wastewater

To mitigate the impacts of wastewater, the following measures were conducted:

- Rainfall flew on construction site; it could contain excavated soil or waste. It shall be preliminarily deposited at pits before flowing into the drainage system.
- Prohibit washing equipment, machines at water sources or places from which washing water can directly flow into the drainage system of the area.
- Construction wastewater from washing area, mixing materials mainly contained suspended dust and may fall into and make blockage in the general drainage system. Therefore, mitigation measures were implemented to prevent from this like construction wastewater was led to pits before flow into the general drainage system.

Impacts and mitigation measures in the operation phase:

Gases emission

Gases emission from the transportation of MSW. These emissions will be managed and handled with the following measures:

- Trucks loading MSW must be covered to avoid dropping or emitting the bad odour of MSW.
- After moving MSW to waste bunkers, trucks will be washed before coming out of the plant.
- Periodically spaying deodorant chemical to minimize bad odour, bacteria.
- Planted around 10,000 trees around the plant to improve the microclimate.
- For flue gas, they will be treated in gas emission treatment system including, acid neutralization, dioxin and heavy metal removal by activated carbon, bag filters to extract dust from gas stream and chimney system. The continuous monitoring system will be installed to monitor main pollutants in flue gas (NO_2, SO_2, CO, HCl and dust) and

treated gases emission need to meet the environmental quality standard before emitting into the atmosphere.

- Fly ash is used for paver production while bottom ash is sent back to JMC for proper disposal.

Wastewater

The wastewater from domestic activities (handled in septic tanks), leachates, washing of workshop and equipment will be led to the leachate treatment system and treated to meet the environmental quality standard before discharging to the receiver sources.

Solid waste

The solid waste will be gathered and moved to the waste reception area to be used as input waste of the plant.

2.4 Public Comments

Will be updated later.

2.5 AFOLU-Specific Safeguards

This is a Non AFOLU project activity hence this is not applicable.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

The project uses two approved CDM small-scale methodologies

Type III, Other project activities:

AMS III.E "Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment", Version 17.0

Type I, Renewable Energy Projects:

AMS I.D, "Grid connected renewable electricity generation", Version 18.0

The methodology also refers to the latest approved version of the following tools:

- Tool 04- Tool to calculate emissions from solid waste disposal sites, Version 08.1[10]
- Tool 07- Tool to calculate the emission factor for an electricity system, Version 07.0[11]
- Tool 21- Demonstration of additionality of small-scale project activities, Version 13.1[12]
- Tool 27- Investment analysis, Version 12.0[13]

3.2 Applicability of Methodology

The applicability criteria of the applied methodology are demonstrated below.

Title: Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment **Reference of methodology applied: AMS III.E, ver. 17.0**		
S. No	**Applicability conditions**	**Project Eligibility**
1	The project activity does not recover or combust methane unlike AMS-III.G. Nevertheless, the location and characteristics of the disposal site in the baseline condition shall be known, in such a way as to allow the estimation of its methane emissions.	The project activity involves methane avoidance through controlled combustion, gasification or mechanical/thermal treatment of municipal solid waste. There is no methane recovery or combustion process involved. Hence the project activity meets the applicable condition.
2	If the project activity involves combustion, gasification or mechanical/thermal treatment of partially decayed waste mined (i.e., removed) from a solid waste disposal site in addition to freshly generated waste the project participants shall demonstrate that there is adequate capacity of the combustion, gasification	The project activity uses fresh waste sourced from Jamnagar Municipal Corporation and there is sufficient capacity available for the utilisation of waste to produce electricity. Hence the project activity meets the applicability condition.

[10] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v8.1.pdf

[11] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

[12] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-21-v13.1.pdf

[13] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf

	or mechanical/thermal treatment facility to treat the newly generated wastes in addition to the partially decayed wastes removed from the disposal site. Alternately justifications for combusting, gasifying or mechanically/thermally treating the partially decayed wastes instead of the newly generated wastes shall be provided.	
3	If the combustion facility, the produced syngas, producer gas or RDF/SB is used for heat and electricity generation within the project boundary, that component of the project activity may use a corresponding methodology under Type I project activities.	The project activity involves utilisation of 311 TPD RDF and generation of electricity with the installed capacity of 7.5 MW. The electricity generated is supplied to the national grid. The relevant methodology AMS- I.D is applied to the project activity. Hence the condition is applicable to the project activity.
4	In case of RDF/SB production, project proponents shall provide evidence that no GHG emissions occur, other than biogenic CO_2, due to chemical reactions during the thermal treatment process for example limiting the temperature of thermal treatment to prevent the occurrence of pyrolysis and/or the stack gas analysis.	The project activity does not involve any GHG other than biogenic CO_2. Hence, the project activity meets the applicability condition.
5	In case of gasification, the process shall ensure that all the syngas produced, which may contain non-CO_2 GHG, will be combusted and not released unburned to the atmosphere. Measures to avoid physical leakage of the syngas between the gasification and combustion sites shall also be adopted.	The project activity does not involve gasification process. Hence this condition is not applicable.
6	In case of RDF/SB processing, the produced RDF/SB should not be stored in such a manner as resulting in high	The RDF produced in the plant will be combusted in day-to-day basis. However, the surplus RDF produced will

	moisture and low aeration favouring anaerobic decay. Project participants shall provide documentation showing that further handling and storage of the produced RDF/SB does not result in anaerobic conditions and do not lead to further absorption of moisture.	be stored in enclosed RCC bunkers. The project proponent ensures that the storage of RDF will not lead to anaerobic decay. Hence this condition is not applicable.
7	In case of RDF/SB processing, local regulations do not constrain the establishment of RDF/SB production plants/thermal treatment plants nor the use of RDF/SB as fuel or raw material.	There are no local regulations that constrain the production/ utilisation of RDF. However, the project proponent has obtained necessary consent from State Pollution Control Board (SPCB) for the establishment of waste to energy plant. Hence this criterion is not applicable.
8	During the mechanical/thermal treatment to produce RDF/SB no chemical or other additives shall be used.	The RDF is produced from the municipal solid waste sourced from Jamnagar city. The waste is pre-processed to remove the unwanted/inert materials. During the mechanical/thermal treatment, no chemical or additives is used to produce RDF. Hence this criterion is not applicable.
9	In case residual waste from controlled combustion, gasification or mechanical/thermal is stored under anaerobic conditions and/or delivered to a landfill, emission from the residual waste shall to be taken into account using the first order decay model (FOD) described in AMS-III.G.	The project activity does not produce any residual waste maintained in anaerobic condition and hence the applicability condition is irrelevant.
Title: Grid connected renewable electricity generation **Reference of methodology applied: AMS I.D, ver. 18.0**		
1	This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an)	The proposed project activity is a green field, Indian grid connected renewable waste to energy plant. Therefore, it confirms to the said

	existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	criteria.
2	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2; (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2.	The proposed project activity is installation of new waste to energy plant. Therefore, the said criterion is not applicable.
3	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The project activity is the installation of a new grid connected waste to energy plant. Hence this criterion is not applicable
4	Combined heat and power (co-generation) systems are not eligible under this category.	The project activity is the installation of a new grid connected waste to energy plant. Hence this criterion is not applicable

5	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct1 from the existing units.	The project activity is the installation of a new grid connected waste to energy plant. Hence this criterion is not applicable
6	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The project activity is the installation of a new grid connected waste to energy plant. Hence this criterion is not applicable.
7	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	The project activity involves treatment of municipal waste generated from Jamnagar City to produce RDF (Refused Derived Fuel). The relevant methodology AMS-III. E. is used for the methane avoidance component through controlled combustion, gasification or mechanical/thermal treatment. There is no recovery of methane from waste. Hence this criterion is not applicable.
8	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	The project activity involves treatment of municipal waste generated from Jamnagar City to produce RDF (Refused Derived Fuel). Hence this criterion is not applicable.
Title: Tool to calculate emissions from solid waste disposal sites Tool 04, Version 08.1		
1	The tool can be used to determine	The project activity involves treatment

	emissions for the following types of applications Application A: The CDM project activity mitigates methane emissions from a specific existing SWDS. Methane emissions are mitigated by capturing and flaring or combusting the methane (e.g., "ACM0001: Flaring or use of landfill gas"). The methane is generated from waste disposed in the past, including prior to the start of the CDM project activity. In these cases, the tool is only applied for an ex-ante estimation of emissions in the project design document (CDM-PDD). The emissions will then be monitored during the crediting period using the applicable approaches in the relevant methodologies (e.g., measuring the amount of methane captured from the SWDS); Application B: The CDM project activity avoids or involves the disposal of waste at a SWDS. An example of this application of the tool is ACM0022, in which municipal solid waste (MSW) is treated with an alternative option, such as composting or anaerobic digestion, and is then prevented from being disposed of in a SWDS. The methane is generated from waste disposed or avoided from disposal during the crediting period. In these cases, the tool can be applied for both ex-ante and ex post estimation of emissions. These project activities may apply the simplified approach detailed in 0 when calculating baseline emissions.	of municipal waste generated from Jamnagar City to produce RDF (Refused Derived Fuel). The methane emissions from waste disposed is avoided during the crediting period through controlled combustion of RDF. Hence the condition B is applicable to the project activity.
Title: Tool to calculate the emission factor for an electricity system		

Tool 07, Version 07.0		
1	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g., demand-side energy efficiency projects).	The project activity is a greenfield waste to energy generation plant and hence, according to the applied methodology, the baseline scenario is electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in "TOOL07: Tool to calculate the emission factor for an electricity system".
2	Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e., option II a and option IIb. If option II a is chosen, the conditions specified in "Appendix 1: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission	Since the project activity is grid connected waste to energy project this condition is applicable. Combined margin grid emission factor has been calculated as per the CO_2 emission factor data base published by the CEA in which for the calculation of emission factor CEA have only considered grid connected plants.

	capacity.	
Title: Demonstration of additionality of small-scale project activities **Tool 21, Version 13.1**		
1	The use of the methodological tool "Demonstration of additionality of small-scale project activities" is not mandatory for project participants when proposing new methodologies. Project participants and coordinating/managing entities may propose alternative methods to demonstrate additionality for consideration by the Executive Board.	Since the applied technology is not a new methodology project proponent has applied this tool for the demonstration additionality in compliance with the tool. Hence this tool is applicable.
2	Project participants and coordinating/managing entities may also apply "TOOL19: Demonstration of additionality of microscale project activities" as applicable.	This is a small-scale project activity hence TOOL19: "Demonstration of additionality of microscale project activities" is not applicable.
Title: Investment analysis **Tool 27, Version 12.0**		
1	This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", the guidelines "Non-binding best practice examples to demonstrate additionality for SSC project activities", or baseline and monitoring methodologies that use the investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.	The project activity applies "non-binding best practice examples to demonstrate additionality for SSC project activities", Hence this tool is applicable.
2	In case the applied approved baseline and monitoring methodology contains requirements for the investment analysis that are different from those described in this methodological tool, the	The project activity is a small-scale grid connected Waste to Energy power project. It refers to the "non-binding best practice examples to demonstrate additionality for SSC project activities",

	requirements contained in the methodology shall prevail.	Hence this tool is applicable.

3.3 Project Boundary

The project boundary defined as per the applied methodologies are:

(i) According to paragraph 21 of AMS-III.E, version 17.0

The project boundary are the physical, geographical sites:

(a) Where the solid waste would have been disposed or is already deposited and the avoided methane emission occurs in absence of the proposed project activity;

(b) Where the treatment of biomass through controlled combustion, gasification or mechanical/thermal treatment takes place;

(c) Where the final residues of the combustion process will be deposited (this parcel is only relevant to controlled combustion activities);

(d) And in the itineraries between them, where the transportation of wastes and combustion residues and/or residues of gasification and mechanical/thermal treatment process occurs.

(ii) According to paragraph 18 of AMS-I. D, version 18.0

The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.

The project activity involves the incineration of RDF prepared from MSW and exports electricity to the national grid. The project boundary includes the site of treatment process, on-site electricity and/or heat generation. The project boundary is shown in the figure below:

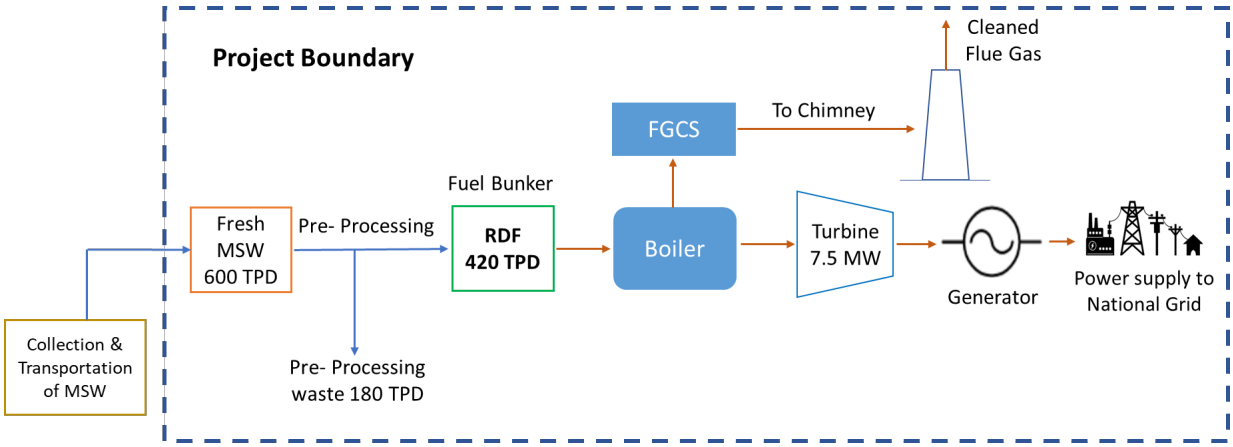


Figure 3: Project Boundary

Source		Gas	Included?	Justification/Explanation
Baseline	Emissions from decomposition of waste at the SWDS	CO_2	No	CO_2 emissions from the decomposition of fresh waste are not accounted for
		CH_4	Yes	The major source of emissions in the baseline.
		N_2O	No	N_2O emissions are small compared to CH_4 emissions from landfills. Exclusion of this gas is conservative
	Emissions from electricity generation	CO_2	Yes	Major source. Electricity generation emission is included in electricity grid-based emissions.
		CH_4	No	Excluded for simplification. This is conservative.
		N_2O	No	Excluded for simplification. This is conservative.
Project	Emissions from on-site fossil fuel consumption due to the project activity other than for electricity generation	CO_2	No	This project may consume fossil fuel during the production. 0 is used for ex-ante, and the actual value will be monitored for ex-post calculation.
		CH_4	No	Excluded for simplification. This is conservative.
		N_2O	No	Excluded for simplification. This is conservative.
	Emissions from on-site electricity use	CO_2	Yes	Electricity consumed for the operation of the proposed project activity will be supplied from the Grid.
		CH_4	No	Excluded for simplification. This is conservative.
		N_2O	No	Excluded for simplification. This is conservative.
	Emission from the waste	CO_2	Yes	CO_2 emission generated from incineration of RDF – fissile fraction.

Source		Gas	Included?	Justification/Explanation
	treatment processes	CH_4	No	CH_4 might be emitted from composting
		N_2O	No	N_2O might be emitted from composting.

3.4 Baseline Scenario

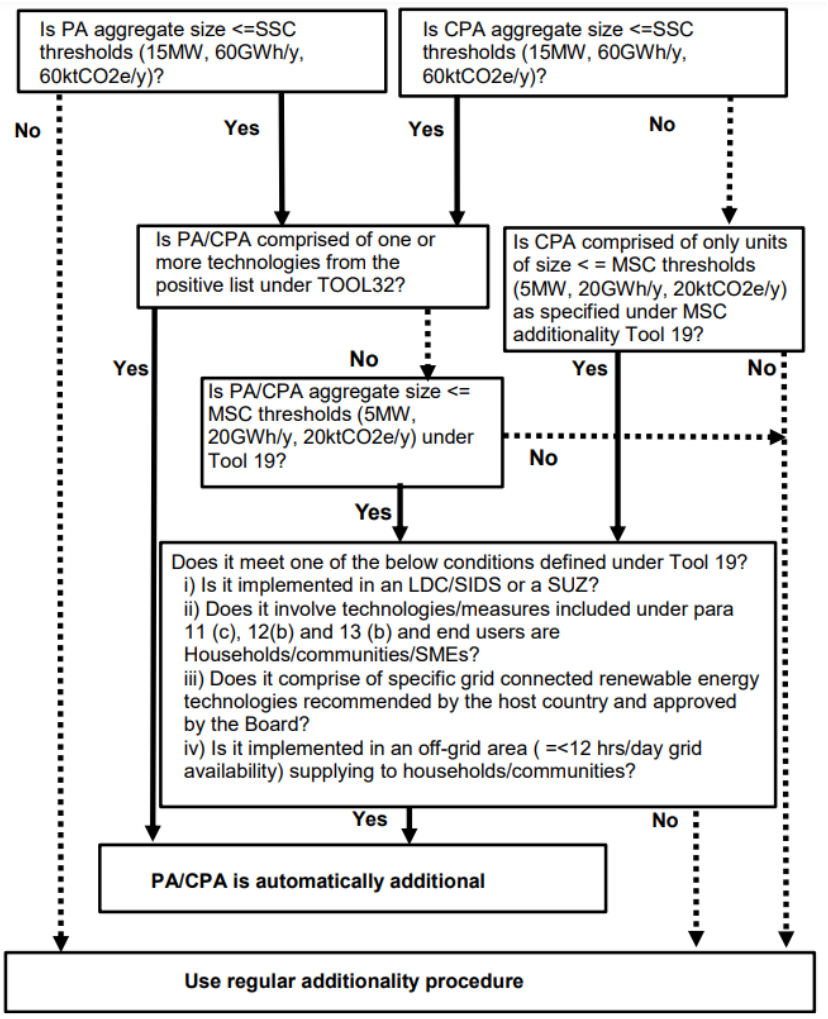
The baseline study was conducted using relevant methodology AMS-III.E (Version 17.0) and AMS-I. C (Version 18.0) as shown below:

As per para. 28 of AMS-III.E, the baseline scenario is the situation where, in the absence of the project activity, organic waste matter is left to decay within the project boundary and methane is emitted to the atmosphere. The yearly baseline emissions are the amount of methane that would have been emitted from the decay of the cumulative quantity of the waste diverted or removed from the disposal site, to date, by the project activity, calculated as the methane generation potential using the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site".

As per para. 19 of AMS-I. D, 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.

3.5 Additionality

The present VCS project generates power using waste to energy which is a renewable, zero emission source of energy. Baseline considerations for the project are based on approved consolidated baseline methodology AMS- III.E and AMS- I.D. The methodology requires the project investor to determine the additionality based on "Methodological Tool 21- Demonstration of additionality of small-scale project activities", Version 13.1. The step-wise approach to establish additionality of the project activity has been followed, details of which are provided in the following paragraphs:



Step 1: Is PA aggregate size <= SSC thresholds (15 MW, 60 GWh/y, 60 $ktCO_2e/y$)

The size of the proposed project activity is less than 15MW and hence within the SSC thresholds.

Step 2: Is PA/CPA comprised of one or more technologies from the positive list under TOOL 32

This is a waste to energy-based Grid connected Power generation Project. As per the latest version of the Tool 32: Positive List of Technologies" version 04, This technology is not included in the positive list.

Step 3: Is PA/CPA Aggregate size <= MSC thresholds (5 MW, 20 GWh/Y, 20 $ktCO_2e/y$) under Tool19?

Installed capacity of the project is 7.5 MW and hence doesn't come under micro activity thresholds.

Step 4: Does it meet one of the below conditions defined under Tool 19?

1. Is it implemented in an LDC/SIDC or a SUZ?
2. Does it involve technologies/measures included under para 11 (c), 12(b) and 13 (b) and end users are Households/communities/SMEs?
3. Does it comprise of specific grid connected renewable energy technologies recommended by the host country and approved by the Board?
4. Is it implemented in an off-grid area (=<12 hrs/day grid availability) supplying to households/communities?

Justification:

The above said conditionalities does not apply and hence the regular additionality approach needs to be followed as stated below:

As per Methodological Tool for the demonstration of Additionality of Small-scale Project Activities (Version 13.1, EB 105, Annex 0418), to establish the project additionality, it has to be shown that the project activity would not have occurred anyway due to at least one of the following barriers:

- **Investment barrier:** a financially more viable alternative to the project activity would have led to higher emissions;
- **Technological barrier:** a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;
- **Barrier due to prevailing practice:** prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;
- **Other barriers:** without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emission would have been higher

The project investor has selected the Investment barrier to demonstrate in a conservative and transparent manner that the project activity is financially unattractive. In line with the guidelines stipulated under Annex 34 of EB 358 ("Non-binding best practice examples to demonstrate additionality for SSC project activities"), a benchmark analysis has been used for the analysis and Equity IRR has been chosen as the financial indicator for the demonstration of the additionality.

Selection of Appropriate Benchmark:

The benchmark has been considered in accordance with CDM Tool 27- Investment Analysis, Version 12.0 EB 116 Annex 2, "The values in the table in the Appendix may also be used, as a simple default option".

Methodology deployed for arriving at a suitable value of Benchmark using Default Value has been described below:

As the proposed project activity generates power utilizing waste to energy, Group 1 as per para 5a of Appendix of EB 116 Annex 2 has been identified as a suitable category.

The investment analysis has been carried out in Nominal terms. Accordingly, Default value as given in table under the Appendix, EB 116 Annex 2 has been adjusted by adding suitable forecasted inflation rate taken from RBI.

In case of inflation data from RBI, Benchmark has been calculated based on inflation rate. As per Para 16 of EB 116, Annex 2, the inflation forecast should be for the duration of the crediting period. However, since RBI provides forecast inflation only for 5 years, the project investor has calculated benchmark using 5-year forecast is considered as Benchmark for the project activity.

The benchmark has been computed in the following manner:

Default Value Benchmark:

The cost of equity is determined by selecting the values provided in the table of the Appendix, i.e., Default values for cost of equity (expected return on equity) in the Tool 27: Investment analysis.

The Required return on equity (benchmark) was computed in the following manner:

Nominal Benchmark[14] = {(1+Real Benchmark) * (1+Inflation rate)}-1

Where:

Default value for Real Benchmark = 9.77% (as per Appendix of EB 116, Annex 2)

Inflation Rate forecast by RBI[15].

[14] https://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid15_v01.pdf

[15] Reserve Bank of India - Publications (rbi.org.in)

The Inflation rate forecast of the host country; India is published by the Reserve bank of India until the financial. Since the investment decision was made in 2017 the RBI Inflation rate forecast has been considered. In line with investment analysis tool, the project owner has considered the next 10 years average inflation rate.

Benchmark estimation:

The Cost of Equity has been considered using the "Tool 27: Investment analysis" available at the time of decision making as well as the latest available value. As a conservative approach, the minimum value of benchmark has been considered as calculated using these 2 approaches.

Table under Appendix in EB 116, Annex 2 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India= 9.77%

Inflation Forecast	Benchmark
10 Years	10 Years
4.60%	14.82%

Hence a benchmark of 14.82% has been selected for both the project activities.

Calculation and comparison of financial indicators

The period considered for Post Tax Equity IRR calculations is 25 years, which corresponds to the concession agreement period.

Depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, is added back to net profits for the purpose of calculating the financial indicator.

Post Tax Equity IRR for the project activity against the benchmark values are shown in table below. Thus, it is evident that the project is not financially attractive as the equity IRR is below the benchmark value.

Post tax Equity IRR	
Project Activity	7.08%
Benchmark Value	14.82%

Sensitivity Analysis:

The robustness of the conclusion drawn above, namely that the project is not financially attractive, has been tested by subjecting critical assumptions to reasonable variation. As required by Annex 02 of EB 116, only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation. PP has identified the total revenue from the project activity is dependent on the Tariff, Plant Load Factor, Project Cost, Fuel cost and O&M Costs constitute more than 20% of the project costs. These factors have been subjected to a 10% variation on either side and the results of the sensitivity analysis indicate that even after applying such variation the EIRR does not cross the benchmark.

Variation %	-10%	Normal	10%	Variation required to reach benchmark	Value required to reach benchmark
Tariff	-1.13%	7.08%	13.25%	12.60%	7.961 INR/kWh
Project Cost	10.71%	7.08%	4.21%	-18.56%	1071.42 Mn INR
O&M Cost	8.71%	7.08%	5.22%	NA	NA

An analysis has been done to identify the percentage variation at which the financial indicators will equal/breach the benchmark and the probability of its occurrence. Based on sensitivity analysis it can be concluded that the proposed project activity is additional with reasonable variation in values and is not likely to reach the benchmark value. The occurrence of these events is unlikely.

Conclusion:

As described above, the project fulfils all necessary requirements of additionality specified in the Tool 21- Demonstration of Additionality of Small-scale Project Activities, version 13.1. Hence, the project is deemed additional.

3.6 Methodology Deviations

There are no deviations in the applied methodology.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Baseline Emissions from Solid Waste Disposal Sites

As per para tool 04, version 08.1, the baseline emissions for a year are calculated using the following formula:

$$\left.\begin{matrix} BE_{CH4,SWDS,y} \\ PE_{CH4,SWDS,y} \\ LE_{CH4,SWDS,y} \end{matrix}\right\} = \varphi_y \times (1 - f_y) \times GWP_{CH4} \times (1 - OX) \times \frac{16}{12} \times F \times DOC_{f,y} \times MCF_y \times \sum_{x=1}^{y} \sum_{j} \left(W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times \left(1 - e^{-k_j}\right) \right)$$

Where,

$BE_{CH4,SWDS,y}$ $PE_{CH4,SWDS,y}$ $LE_{CH4,SWDS,y}$	= Baseline, project or leakage methane emissions occurring in year y generated from waste disposal at a SWDS during a time period ending in year y (t CO_2e/yr)
X	= Years in the time period in which waste is disposed at the SWDS, extending from the first year in the time period (x = 1) to year y (x = y)
y	= Year of the crediting period for which methane emissions are calculated (y is a consecutive period of 12 months)
$DOC_{f,y}$	= Fraction of degradable organic carbon (DOC) that decomposes under the specific conditions occurring in the SWDS for year y (weight fraction)
$W_{j,x}$	= Amount of solid waste type j disposed or prevented from disposal in the SWDS in the year x (t)
φ_y	= Model correction factor to account for model uncertainties for year y
f_y	= Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the emissions of methane to the atmosphere in year y
GWP_{CH4}	= Global Warming Potential of methane
OX	= Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)
F	= Fraction of methane in the SWDS gas (volume fraction)

MCF_y = Methane correction factor for year y
DOC_j = Fraction of degradable organic carbon in the waste type j (weight fraction)
k = Decay rate for the waste type j (1 / yr)
j = Type of residual waste or types of waste in the MSW

Baseline Emissions from Electricity Generation

As per para 22 of AMS- I.D, version 18.0, the baseline emissions include only CO_2 emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

$$\mathrm{BE}_{\mathrm{y}} = \mathrm{EG}_{\mathrm{PJ,y}} \times \mathrm{EF}_{\mathrm{grid,y}}$$

Where,

BE_y = Baseline emissions in year y (t CO_2)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{grid,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO_2/MWh)

Combined margin emissions factor

As per para 14 of Tool 7, version 07.0 the following steps have been followed.

(a) **Step 1:** Identify the relevant electricity systems;
(b) **Step 2:** Choose whether to include off-grid power plants in the project electricity system (optional);
(c) **Step 3:** Select a method to determine the operating margin (OM);
(d) **Step 4:** Calculate the operating margin emission factor according to the selected method;
(e) **Step 5:** Calculate the build margin (BM) emission factor;
(f) **Step 6:** Calculate the combined margin (CM) emission factor.

Step 1: Identify the relevant electricity systems

As described in tool "For determining the electricity emission factors, identify the relevant project electricity system. Similarly, identify any connected electricity systems". It also states

that "If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used". Keeping this into consideration, the Central Electricity Authority (CEA), Government of India has divided the Indian Power Sector into five regional grids viz. Northern, Eastern, Western, North-eastern and Southern.

However, since August 2006, all regional grids except the Southern Grid had been integrated and were operating in synchronous mode, i.e., at same frequency. Consequently, the Northern, Eastern, Western and North-Eastern grids were treated as a single grid named as NEWNE grid from FY 2007-08 onwards for the purpose of this CO_2 Baseline Database. As of 31 December 2013, the Southern grid has also been synchronized with the NEWNE grid; hence forming one unified Indian Grid. Since the project supplies electricity to the Indian grid, emissions generated due to the electricity generated by the Indian grid as per CM calculations will serve as the baseline for this project.

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)

Project owners may choose between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.

Option II: Both grid power plants and off-grid power plants are included in the calculation.

The project owner has chosen only grid power plants in the calculation.

Step 3: Select a method to determine the operating margin (OM)

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods, which are described under Step 4:

(a) Simple OM; or
(b) Simple adjusted OM; or
(c) Dispatch data analysis OM; or
(d) Average OM.

The data required to calculate Simple adjusted OM and Dispatch data analysis OM is not possible due to lack of availability of data to project developers. The choice of other two options for calculating operating margin emission factor depends on generation of electricity from low-

cost/must-run sources. In the context of the methodology low cost/must run resources typically include hydro, geothermal, Solar, low-cost biomass, nuclear and solar generation.

Share of Must Run (Hydro/Nuclear) (% of Net generation)							
India	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	15.1%	14.6%	14.3%	14.5%	17.0%	16.5%	15.81%

Source: Central Electricity Authority (CEA) Database Version 18, 2022[16]

The above data clearly shows that the percentage of total grid generation by low-cost/ must-run plants (on the basis of average of five most recent years) for the Indian grid is less than 50 % of the total generation. Thus, the Average OM method cannot be applied, as low cost/must run resources constitute less than 50% of total grid generation.

The simple OM emission factor is calculated as the generation-weighted average CO_2 emissions per unit net electricity generation (tCO_2/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.

For the simple OM, the simple adjusted OM and the average OM, the emissions factor can be calculated using either of the two following data vintages:

(a) **Ex-ante option:** if the ex-ante option is chosen, the emission factor is determined once at the validation stage, thus no monitoring and recalculation of the emissions factor during the crediting period is required.

OR

(b) **Ex-post option:** if the ex-post option is chosen, the emission factor is determined for the year in which the project activity displaces grid electricity, requiring the emissions factor to be updated annually during monitoring.

PP has chosen ex-ante option for calculation of Simple OM emission factor using a 3-year generation-weighted average, based on the most recent data available at the time of submission of the PD to the VCS verifier for verification. OM determined at validation stage will be the same throughout the crediting period. There will be no requirement to monitor & recalculate the emission factor during the crediting period.

[16] https://cea.nic.in/wp-content/uploads/baseline/2023/01/version_18.zip

Step 4: Calculate the operating margin emission factor ($EF_{grid,OM\ Simple,y}$) according to the selected method:

The operating margin emission factor has been calculated using a 3-year data vintage:

Net Generation in Operating Margin (GWh) (incl. Imports)			
INDIAN Grid	2019-2020	2020-2021	2021-2022
	9,65,009	9,58,218	10,35,672
Simple Operating Margin (tCO_2/MWh) (incl. Imports)			
INDIAN Grid	2019-2020	2020-2021	2021-2022
	0.9541	0.9402	0.9605

Weighted Generation Operating Margin	
INDIAN Grid	0.9518

STEP 5: Calculate the build margin emission factor ($EF_{BM,y}$):

Option 1 as described above is chosen to calculate the build margin emission factor for the project activity. BM is calculated ex-ante based on the most recent information available at the time of submission of PDD and is fixed for the entire crediting period.

Build Margin (tCO_2/MWh) (not adjusted for imports)	
INDIAN Grid	2021-2022
	0.8687

STEP 6: Calculate the combined margin (CM) emissions factor:

Combined Margin – The combined margin is the weighted average of the simple operating Margin and the build margin. In particular, for intermittent and non-dispatch able generation types such as wind and solar photovoltaic, the tool to calculate the emission factor for an electricity system, Version 07.0.0, EB 100, Annex100, Annex 4, allows to weigh the operating margin and Build margin at 75% and 25%, respectively for wind and solar projects and 50% and 50%, respectively for hydro and biomass projects.

As per para 85 of Tool 07, version 07.0, the combined margin emissions factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$$

Where,

$EF_{grid,BM,y}$ = Build margin CO_2 emission factor in year y (t CO_2/MWh)
$EF_{grid,OM,y}$ = Operating margin CO_2 emission factor in year y (t CO_2/MWh)
w_{OM} = Weighting of operating margin emissions factor (per cent)
w_{BM} = Weighting of build margin emissions factor (per cent)

Baseline Emission factor (INDIAN Grid) = 0.50*0.9518 + 0.50*0.8687 = 0.9102 tCO_2/MWh

4.2 Project Emissions

As per para 22 of AMS- III. E, version 17.0, the project emissions consist of

$$PE_y = PE_{y,comb} + PE_{y,transp} + PE_{y,power}$$

Where,

PE_y = Project activity direct emissions in the year y (t CO_2e)
$PE_{y,comb}$ = Emissions through combustion and gasification of non-biomass carbon of waste and RDF/SB in the year y (t CO_2e)
$PE_{y,transp}$ = Emissions through incremental transportation in the year y (t CO_2e)
$PE_{y,power}$ = Emissions through electricity or diesel consumption in the year y (t CO_2e)

As per para 24 of AMS- III. E, version 17.0, the project emissions from combustion of combustion of the non-biomass (i.e., fossil) carbon content of the wastes and RDF/SB and from the auxiliary fossil fuel consumed will be estimated as follows:

$$PE_{y,comb} = Q_{y,non-biomass} \times 44/12 + Q_{y,fuel} + EF_{y,fuel}$$

Where,

$Q_{y,non-biomass}$ = Non-biomass carbon of the waste and RDF/SB combusted/gasified in the year y (tonnes of carbon)
$Q_{y,fuel}$ = Quantity of auxiliary fossil fuel used in the year y (tonnes)
$EF_{y,fuel}$ = CO_2 emission factor for the combustion of the auxiliary fossil fuel (tonnes CO_2 per tonne fuel, according to latest IPCC Guidelines)

As per para 20 of tool 12, version 01.10, the project or leakage emissions are determined as follows:

$$PE_{TR,m} = \sum_f D_{f,m} \times FR_{f,m} \times EF_{CO2,f} \times 10^{-6}$$

Where,

$PE_{TR,m}$ = Project emissions from transportation of freight monitoring period m (t CO_2)

$D_{f,m}$ = Return trip distance between the origin and destination of freight transportation activity f in monitoring period m (km)

$FR_{f,m}$ = Total mass of freight transported in freight transportation activity f in monitoring period m (t)

$EF_{CO2,f}$ = Default CO_2 emission factor for freight transportation activity f (g CO_2/t km)

f = Freight transportation activities conducted in the project activity in monitoring period m

The collection and transportation of MSW is under the scope of Jamnagar Municipal Corporation. However, during monitoring if there are any emissions from incremental transportation, the same will be measured and accounted under project emissions.

4.3 Leakage

According to the applied methodology of AMS- III.E, version 17.0, para 37, the RDF produced is not subjected to anaerobic conditions before its combustion. Hence, no leakage emission is considered for incineration of RDF.

4.4 Net GHG Emission Reductions and Removals

As per para 43, equation 9 of AMS.I.C, ver. 18.0, Emission reductions are calculated as follows

$$\mathrm{ER_y} = \mathrm{BE_y} - \mathrm{PE_y} - \mathrm{LE_y}$$

ER_y = Emission reductions in year y (t CO_2e)

BE_y = Baseline emissions in year y (t CO_2e)

PE_y = Project emissions in year y (t CO_2e)

LE_y = Leakage emissions in year y (t CO_2e)

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)

Year 1	61,970	53,844	0	8,126
Year 2	76,105	53,844	0	22,261
Year 3	86,740	53,844	0	32,896
Year 4	94,907	53,844	0	41,063
Year 5	101,314	53,844	0	47,470
Year 6	106,449	53,844	0	52,605
Year 7	110,649	53,844	0	56,805
Total	**638,134**	**376,908**	**0**	**261,226**

5 MONITORING

5.1 Data and Parameters Available at Validation

Data / Parameter	GWP_{CH4}
Data unit	tCO_2e/tCH_4
Description	Global Warming Potential for methane
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories, 5th ASR
Value applied	28
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	$EF_{grid,OM,y}$
Data unit	tCO_2e/MWh

Description	Operating Margin CO_2 emission factor in year y
Source of data	CO_2 Emission Database, Version 18.0, Sep- 2022 published by Central Electricity Authority (CEA), Government of India.
Value applied	0.9518
Justification of choice of data or description of measurement methods and procedures applied	NA
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	$EF_{grid,BM,y}$
Data unit	tCO_2e/MWh
Description	Build Margin CO_2 emission factor in year y
Source of data	CO_2 Emission Database, Version 18.0, Sep- 2022 published by Central Electricity Authority (CEA), Government of India.
Value applied	0.8687
Justification of choice of data or description of measurement methods and procedures applied	NA
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2e/MWh
Description	Combined Margin CO_2 emission factor in year y
Source of data	CO_2 Emission Database, Version 18.0, Sep- 2022 published by

	Central Electricity Authority (CEA), Government of India.
Value applied	0.9102
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where, $EF_{grid,OM,y}$ = Operating margin CO_2 emission factor in year y (tCO_2/MWh) $EF_{grid,BM,y}$ = Build margin CO_2 emission factor in year y (tCO_2/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 50% W_{BM} = Weighting of operating margin emissions factor (%) = 50%
Purpose of Data	For the calculation of baseline emissions
Comments	NA

Data / Parameter	$Ø_{default}$
Data unit	-
Description	Default value for the model correction factor to account for model uncertainties
Source of data	Default
Value applied	0.85
Justification of choice of data or description of measurement methods and procedures applied	For baseline emissions: refer to the table below to identify the appropriate factor based on the application of the tool (A or B) and the climate where the SWDS is located. Default values for the model correction factor

	Humid/wet conditions	Dry conditions
Application A	0.75	0.75
Application B	0.85	0.80

Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	F
Data unit	-
Description	Fraction of methane in the SWDS gas (volume fraction)
Source of data	Default
Value applied	0.5
Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	OX
Data unit	-
Description	Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)
Source of data	Default
Value applied	0.1
Justification of choice of data or description of measurement methods and procedures applied	Based on an extensive review of published literature on this subject, including the IPCC 2006 Guidelines for National Greenhouse Gas Inventories
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	$DOC_{f,default}$
Data unit	Weight fraction

Description	Default value for the fraction of degradable organic carbon (DOC) in MSW that decomposes in the SWDS
Source of data	IPCC 2006 Guidelines for National Greenhouse Gas Inventories
Value applied	0.5
Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	$MCF_{default}$
Data unit	-
Description	Methane correction factor
Source of data	IPCC 2006 Guidelines for National Greenhouse Gas Inventories
Value applied	1.0
Justification of choice of data or description of measurement methods and procedures applied	In case that the SWDS does not have a water table above the bottom of the SWDS and in case of application A, then select the applicable value from the following: (a) 1.0 for **anaerobic managed solid waste disposal sites**. These must have controlled placement of waste (i.e., Waste directed to specific deposition areas, a degree of control of scavenging and a degree of control of fires) and will include at least one of the following: (i) cover material; (ii) mechanical compacting; or (iii) levelling of the waste; (b) 0.5 for **semi-aerobic managed solid waste disposal sites**. These must have controlled placement of waste and will include all of the following structures for introducing air to the waste layers: (i) permeable cover material; (ii) leachate drainage system; (iii) regulating pondage; and (iv) gas ventilation system; (c) 0.8 for **unmanaged solid waste disposal sites – deep**. This comprises all SWDS not meeting the criteria of managed SWDS and which have depths of greater than or equal to 5 meters;

	(d) 0.4 for **unmanaged-shallow solid waste disposal sites or stockpiles that are considered SWDS**. This comprises all SWDS not meeting the criteria of managed SWDS and which have depths of less than five meters. This includes stockpiles of solid waste that are considered SWDS (according to the definition given for a SWDS)
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	DOC_j
Data unit	-
Description	Fraction of degradable organic carbon in the waste type j (weight fraction)
Source of data	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Tables 2.4 and 2.5)
Value applied	For MSW, the following values for the different waste types j should be applied: Default values for DOCj

Waste type j	DOCj (% wet waste)
Wood and wood products	43
Pulp, paper and cardboard (other than sludge)	40
Food, food waste, beverages and tobacco (other than sludge)	15
Textiles	24
Garden, yard and park waste	20
Glass, plastic, metal, other inert waste	0

Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Tables 2.4 and 2.5)
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	k_j
Data unit	1/yr
Description	Decay rate for the waste type j
Source of data	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3)
Value applied	For MSW, the following values for the different waste types j should be applied: Default values for kj **Waste type j** / **kj** Pulp, paper, cardboard (other than sludge), textiles: 0.070 Wood, wood products and straw: 0.035 Other (non-food) organic putrescible garden and park waste: 0.17 Food, food waste, sewage sludge, beverages and tobacco: 0.40
Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3)
Purpose of Data	For the calculation of the Baseline Emission
Comments	NA

Data / Parameter	FFC_j
Data unit	%
Description	Fraction of fossil carbon in total carbon content of waste type j
Source of data	Table 2.4, chapter 2, volume 5 of IPCC 2006 guidelines

Value applied	For MSW the following values for the different waste types j may be applied: Default values for FFCj

Waste type j	Fossil carbon fraction in % of total carbon
Paper/cardboard	1
Textiles	20
Food waste	-
Wood	-
Garden and Park waste	0
Nappies	10
Rubber and Leather	20
Plastics	100
Metal	NA
Glass	NA
Other, inert waste	100

Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 2.4)
Purpose of Data	For the calculation of the Project Emission
Comments	NA

Data / Parameter	FCC_j
Data unit	%
Description	Fraction of total carbon content in waste type j
Source of data	Table 2.4, chapter 2, volume 5 of IPCC 2006 guidelines

Value applied	For MSW the following values for the different waste types j may be applied: Default values for FCCj

Waste type j	Total carbon content in % of dry weight
Paper/cardboard	46
Textiles	50
Food waste	38
Wood	50
Garden and Park waste	49
Nappies	70
Rubber and Leather	67
Plastics	75
Metal	NA
Glass	NA
Other, inert waste	3

Justification of choice of data or description of measurement methods and procedures applied	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 2.4)
Purpose of Data	For the calculation of the Project Emission
Comments	NA

5.2 Data and Parameters Monitored

Data / Parameter	$EG_{facility,y}$
Data unit	GWh/Year
Description	Quantity of net electricity generation supplied by the project (Waste to Energy) plant/unit to the grid in year y
Source of data	Measured & calculated
Value applied	44.43 GWh/year
Justification of choice of	The value of net electricity generation supplied to the grid as

data or description of measurement methods and procedures applied	invoice forms the basis for calculation of the emission reductions; which can be with the onsite monitoring records The Net electricity is calculated based on Export- import. Monthly meter readings are taken from the main and check meter installed at metering point and certified by the representatives of Electricity Officials and the representatives of the project participant. The Joint Meter Reports is cross checked with the Invoices.
Purpose of Data	For the calculation of the baseline Emission
Comments	NA

Data / Parameter	W_x
Data unit	t
Description	Total amount of waste disposed in a SWDS in year x or month i
Source of data	Measured & calculated
Value applied	311 TPD
Justification of choice of data or description of measurement methods and procedures applied	The MSW load transported to the project site is measured using weigh bridge. In addition, since the applied methodology requires quantity of solid waste to be measured in dry basis, the weigh bridge data is multiplied with dry matter parameter. The quantity of waste delivered will be monitored on daily basis and recorded. The weigh bridge will be calibrated once every two years as per the monitoring plan laid out by the project participants.
Purpose of Data	For the calculation of the baseline emission and project emission
Comments	NA

Data / Parameter	$Q_{y,fuel}$

Data unit	tonnes
Description	Quantity of auxiliary fossil fuel used in the year y
Source of data	Measured
Value applied	0
Justification of choice of data or description of measurement methods and procedures applied	The quantity of fuel consumed will be monitored on daily basis and recorded.
Purpose of Data	For the calculation of project emission
Comments	NA

5.3 Monitoring Plan

The monitoring plan is developed to establish suitable data collection method for measurement & collection of data and maintenance of records according to the monitoring methodology of AMS.III. E. Version 17.0 and AMS.I.D. Version 18.0. The monitoring plan is project specific for which, the project performance with all relevant criteria will be monitored. Proper training will be provided to concerned personnel for operation purpose.

The purpose of monitoring is to calculate and monitor GHG emission reduction by the project activity. The monitoring plan, which is implemented by the project participant describes about the following aspects:

- Overall project management
- Monitoring Plan
- Emergency Preparedness
- Training on Monitoring & Archiving of Data and Internal Audit Procedures
- Quality Assurance and Quality Control (QA/QC) procedures

Overall Project Management and Team

The project owner organizes a separate team to be responsible for data collection, supervision and witness the whole process of data measuring and recording. A senior manager will be appointed to take full responsibility for the overall monitoring of the project. The monitoring and

measurement will be carried out by designated monitoring officers. The site in-charge will be responsible for carrying out internal auditing and QA/QC. All the values from generation record will be checked with the invoices for consistency.

Monitoring Plan

The monitoring procedures will be carried out as mentioned in section 5.2. The data will be recorded on a continuous basis or as indicated in section 5.2 and backup of the same will be maintained.

In addition, the SDG parameters stated in section 1.17 will be monitored.

Personal Training:

The project employs qualified and experienced persons for plant operation. The training period shall be for three months, as this would be adequate and necessary to ensure proper imparting of the objective. The training course will be thoroughly and meticulously designed, highlighting the objectives, salient features, operational aspects and trouble shooting.

Emergency preparedness:

In case of any unforeseen event that is not covered under this monitoring plan, staff of the operation division will immediately inform the chief of the operation division. The chief of the operation division is then responsible to ensure that the cause for the unforeseen event is detected, the event is remedied and for the period of time in which the unforeseen event has occurred uncertainty in data gathered is limited as much as possible.

Internal auditing

Project owner will conduct the internal auditing by cross checking the data from the invoices and data logbooks for ensuring the quality and consistency of data measured and monitored for the purpose of emission reduction calculations.

Quality Assurance and Quality Control (QA/QC) procedures

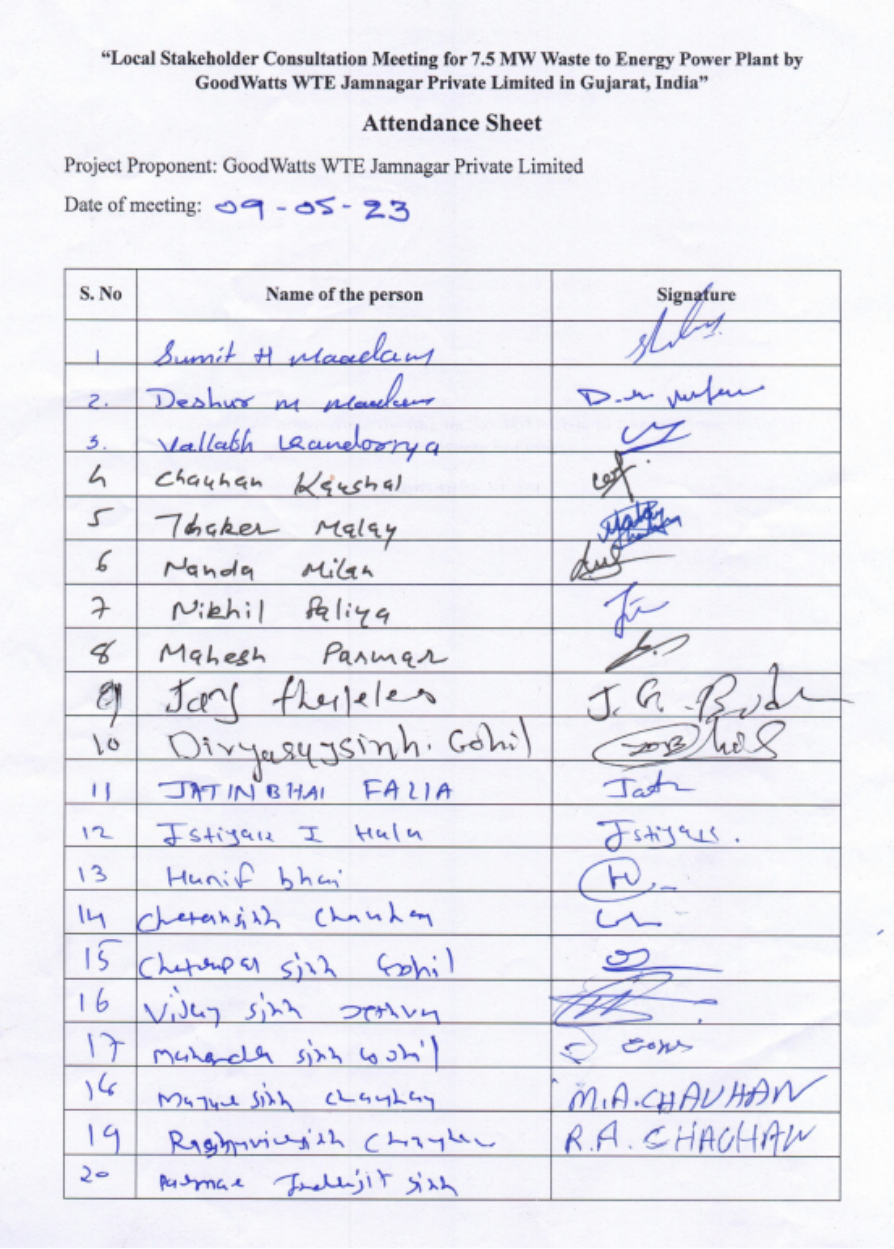
Calibration of Measuring Equipment's:

The reliability of the monitoring system depends on the accuracy of the measuring instrument and the quality of the relevant equipment. Thus, all the meters will be regularly calibrated as

per the frequency specified by the manufacturer. To assist in future verifications, the project owner will preserve the calibration records, along with the data files of project monitoring.

APPENDIX

Attendance sheet and photographs of stakeholder's consultation meeting:



"Local Stakeholder Consultation Meeting for 7.5 MW Waste to Energy Power Plant by GoodWatts WTE Jamnagar Private Limited in Gujarat, India"

Attendance Sheet

Project Proponent: GoodWatts WTE Jamnagar Private Limited

Date of meeting: 09-05-23

S. No	Name of the person	Signature
1	Sumit H Maadam	
2.	Deshur M Maadam	
3.	Vallabh Kanabarya	
4	Chauhan Kaushal	
5	Thaker Malay	
6	Nanda Milan	
7	Nikhil Paliya	
8	Mahesh Parmar	
9	Jay Thakkar	
10	Divyarajsinh. Gohil	
11	JATIN BHAI FALIA	
12	Istiyak I Hala	
13	Hanif bhai	
14	Chetansinh Chauhan	
15	Chetanpal sinh Gohil	
16	Vijay sinh	
17	Mahendra sinh Gohil	
18	Mayur sinh Chauhan	M.A.CHAUHAN
19	Rajnivirsinh Chauhan	R.A.CHAUHAN
20	Ramrao Jadejit sinh	

"Local Stakeholder Consultation Meeting for 7.5 MW Waste to Energy Power Plant by GoodWatts WTE Jamnagar Private Limited in Gujarat, India"

Attendance Sheet

Project Proponent: GoodWatts WTE Jamnagar Private Limited

Date of meeting: 09-05-23

S. No	Name of the person	Signature
21	Parmar Indrajit sinh	[illegible]
22	Brijraj sinh Chauhan	B.A. CHAUHAN
23	Surpalsinh V. Gohil	[illegible]
24	Digpalsinh M Jadeja	[illegible]

Figure: Local Stakeholders Consultation Meeting