

TEMPLATE

0KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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VERSION **v.1.5**

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KEY PROJECT INFORMATION

GS ID of Project	GS 6193
Title of Project	Sakarya Landfill Gas Power Plant
Time of First Submission Date	20/09/2025
Date of Design Certification	10/06/2021
Version number of the PDD	05
Completion date of version	31/08/2026
Project Developer	SAKARYA ENTEGRE KATI ATIK YÖNETİMİ A.Ş
Project Representative	CLIMETREK LTD
Project Participants and any communities involved	SAKARYA ENTEGRE KATI ATIK YÖNETİMİ A.Ş
Host Country (ies)	TURKEY
Activity Requirements applied	☐ Community Service Activity ☒ Renewable Energy ☐ Land-Use and Forests Activity Requirements/Risks & Capacities ☐ N/A
Scale of the project activity	☐ Micro scale ☐ Small Scale ☒ Large Scale
Other Requirements applied	N/A
Methodology (ies) applied and version number	ACM0001 Version 19.0: 'Flaring or use of landfill gas
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle:	☐ Regular ☒ Retroactive

Table 1 – Estimated Sustainable Development Contributions

SUSTAINABLE DEVELOPMENT GOALS TARGETED	SDG IMPACT (DEFINED IN B.6)	ESTIMATED ANNUAL AVERAGE	UNITS OR PRODUCTS
13 Climate Action	Emission Reduction	114,762	tCO ₂ /year
7 Affordable and Clean Energy	Generating Clean Energy	37,440	MWh/Year
11 Sustainable Cities and Communities	Municipal waste used for electricity generation	339,356	Tons/year

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi has build a 5 MW landfill gas power plant (hereafter referred to as the “project”) on a area of around 200,000 m² in municipal landfill site of Sakarya, Turkey. According to the production license granted by the EMRA (Energy Market Regulatory Authority) the realized capacity of the project is 4.68 MW.

In the scope of the project, project activity reduces GHG emissions (1) by using electricity from a renewable energy source instead of a fossil fuel and therefore displacing electricity which otherwise would have been generated by thermal power plants connected to the national grid, and (2) capturing resulting methane of the municipal waste and using it for electricity production.

The project activity stimulates the commercial use of municipal waste for electricity production as a renewable energy source in Turkey. In addition to existing renewable energy sources hydro, wind, geothermal and biogas it will significantly contribute to the sustainable development of the region by achieving the following benefits:

The project will help Turkey to stimulate and commercialize the use of grid-connected renewable energy technologies and markets. Furthermore, the project will demonstrate the viability of grid-connected landfill gas-to-energy plants which can support improved energy security, improved air quality, alternative sustainable energy futures, improved local livelihoods and sustainable renewable energy industry development. The specific goals of the project are to:

- Reduction of GHG in Turkey compared to the business-as-usual scenario (using fossil fuel for electricity production)

- Improvement of local livelihoods by creating local employment during the construction and operation phase of the facility
- The risk for explosion and fire of the municipal waste from open and uncontrolled dumping is eliminated
- Reduction of the bad odour and thus improvement of the air quality for the region
- Knowledge transfer on municipal waste-to-energy principles and stimulation of the municipal waste-to-energy industry in Turkey
- Contribution to the decrease of Turkey's energy deficit and import dependency

The electricity production license of the Project was granted by EMRA (Energy Market Regulatory Authority) on 04/10/2018. The waste disposal site is delivered by the municipality on 02/01/2018 and the start of operation of the facility is 30/10/2018.

Environmental Development

The project activity does not only avoid fossil fuel combustion and therefore reduce CO₂ emissions, but, through the avoided amount of municipal waste to be dumped in open areas near to the human habitats, the project activity also leads to an improvement of the air quality by the decrease of the strong bad odour for the region. Also, the explosion risk of methane through its use for electricity generation is reduced.

The project activity results in a negligible amount of SO_x, NO_x, and H₂S emissions since for Landfill Gas (LFG) fired plants they are significantly lower than the average (mainly coal-fired) grid-connected power plant in the baseline.

Social Development

The project generates permanent employment in the operation of the power plant itself. The employees in the facility are ensured to be provided by the project participant with health and safety training and also be trained in O&M of the project equipment and units by the machinery and equipment supplier. Furthermore, health and safety training procedures for laborers collecting, transporting and handling of municipality waste is provided by the project owner such as to prevent transmission of diseases and maintain healthy site working conditions. All these jobs have a significant impact on job quality. Furthermore, the project owner provides training and information meetings for the local population and students for the creation and increase of their social and

environmental awareness. For this purpose, an education center for the training of local people and the visitors (SACEM) is built.

Economic Development

The project leads to permanent employment both in the power plant itself and also for the services outsourced. The employees, most of them being unskilled, are fully employed in the plant and receive social security. The project has also created part-time employment during the construction phase for construction workers, resulting in an improvement of their living conditions.

All these created jobs will have a significant impact on economic development and contribute to the economic well-being of the region.

Another benefit, related with the project activity is its positive contribution to the net foreign currency savings of Turkey related to natural gas imports by shifting some of the electricity generation away from natural gas towards using internally available renewable sources. This will result in an improvement of Turkey's balance of payments and investment, and thus making more money free for the re-investment in the economic well-being of the population in Turkey.

A.1.1. Eligibility of the project under Gold Standard

Sakarya Landfill Gas Power Plant is a renewable energy project which reduces CO₂ and CH₄ emissions. Therefore, as per section 3.1.1 of GS4GG Principles & Requirements document Version 2.1; the project is associated with GS4GG Energy Activity Requirements.

Moreover, the project is neither associated with geoengineering or energy generated from fossil fuel or nuclear, fossil fuel switch, nor supports, enhances or prolongs such energy generation.

As per paragraph 2.1.2 of General Eligibility Criteria of GS4GG Renewable Energy Activity Requirements v1.4;

- The Project generates and deliver energy services from non-fossil and renewable energy sources,

- The Project is a waste to energy project which supplies electricity to the national grid,
- The project applies methodologies ACM0001
- The project is a large scale.

As stated in ACM0001 v.19 under section 2; Scope of methodology applies to project activities that include the destruction of methane emissions and displacement of a more-GHG-intensive service by capturing landfill gas from the landfill site and/or flaring and/or using to produce energy (i.e. electricity). Besides that ACM0001 refers to "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" tool to calculate baseline emissions from electricity generation and project emissions from electricity consumption. So ACM0001 covers all conditions related with ACM0002 in the project scenario. And ACM0002 methodology has been removed from the PDD during this crediting period compared to the previous crediting period.

The sectoral scopes of the project are 1 (Energy industries) and 13 (Waste handling and disposal) since the project involves renewable energy production from municipal waste.

The project Sakarya Landfill Gas Power Plant is neither applied nor registered in any under relevant registries other than Gold Standard.

A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi is the legal owner of the project and Gold Standard VERs that are generated under Gold Standard Certification

A.2 Location of project

The project is located in the Adapazari District of Sakarya, Turkey. The closest settlement area to the project site is Taşkısığı Neighborhood.

The other settlement areas and their distances to the project location are as below;^{1, 2}

Table 1- Closest Settlement Areas and Their Distances

Settlement	Distance to the Project Location
Taşkısığı	760 m
Çiftlik	1,085 m
Keresteciler (Industrial timber site)	1,120 m

The coordinates of the project activity are as follows:

Dots:	Latitude (N)	Longitude (E)
1	4523710.266	532471.064
2	4523738.890	532462.087
3	4523744.826	532481.012
4	4523743.172	532488.700
5	4523718.245	532496.508

The exact project location of the project is illustrated in Figure 1 from Figure 4

FIGURE 1 LOCATION OF THE PROJECT

¹ EIA Report, Page 56

² Google Earth

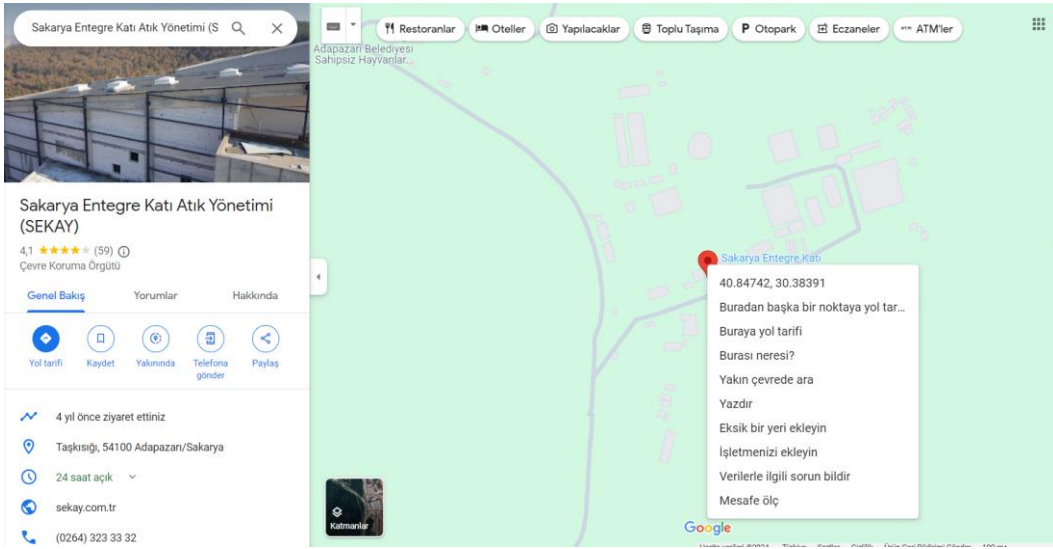


Figure 2 Satellite View

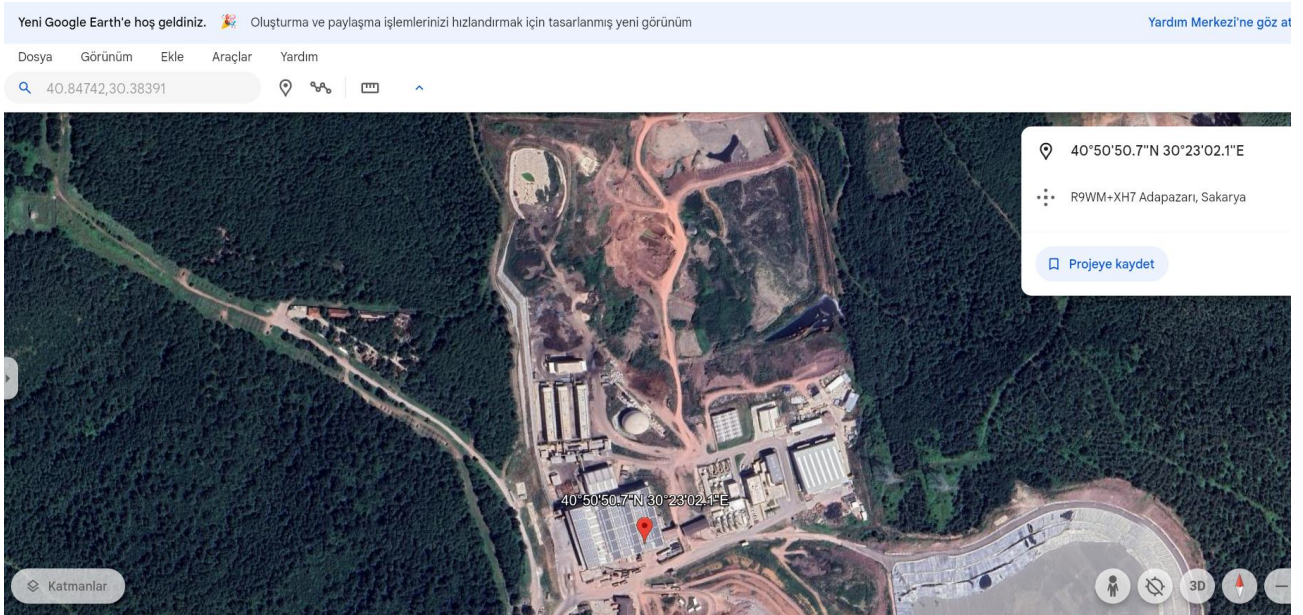


Figure 3 Project Location on Google Maps



Figure 4 Satellite View on Google Maps



A.3 Technologies and/or measures

The project installation is completed according to the description in CP1 PDD Version 10 and is completely operational. The project consists of only one site. The activity includes installing a landfill gas extraction system, an enclosed flare, and three biogas driven gensets for electricity production each with a capacity of 1,560 kW. The total licensed, installed capacity of the project is 4.68 MWe. Additionally, one gas generator with the same capacity is in reserve for the purpose of substitution of the engine which might be stopped due to malfunction or maintenance issues. The extraction system includes a network of vertical gas extraction wells, de-watering units and gas transport pipelines connected to the main collector system. The gas is driven to the gas engine and the flare via a booster system. The Sakarya Landfill Project reduces methane gas generated at the Sakarya landfill by combusting the collected gas in an engine to generate electricity.

By implementing the project, gas extraction and control system was implemented. The control activities include periodic adjustment of the gas wells by means of measuring equipment - gas flow, methane content, and oxygen content are very important parameters (landfill gas may form an explosive mixture when it combines with air in certain proportions; methane is explosive between its LEL of 5% by volume and its UEL4 of 15% by volume).

The gas extraction plant is equipped with boosters that create a suction vacuum in the system necessary for LFG extraction (booster system). Landfill gas is used for electricity generation, and excess gas is flared in a high-temperature flare (800-1200°C, retention time 0.3 s). The produced energy is fed into the national grid. There is also an emergency diesel genset in the plant, which was only used during construction.

Table 3- Technical Specifications of Gas Generators

Gas Generator	
Brand/Model	Caterpillar CG170-16
Max Continuous Rating (Electrical Power at 100% Load)	1560 kW
Max Electrical Efficiency (at 100% Load)	42.1 %
Frequency	50Hz

Table 4- Technical specifications of Gas Extraction and Combustion System

Gas Extraction and Combustion System	
Brand/Model	HT2000x2 (+2000) F1000 CO
Flow m³/h	4000
Blowers	2 (+1 predisposition)
Blower diff. pressure	300 mbar
Suction Pressure	-150 mbar
Outlet Pressure	+150 mbar

The most important milestones are included in the following table:

No.	Date	Key Event
1	08/03/2016	EIA Positive Decision
2	25/12/2017	LSC Meeting
4	27/02/2018	Gas Engine Contract Date
5	21/03/2018	Submission of LSC Report to the Gold Standard
6	04/10/2018	Issuance of EMRA License
7	30/10/2018	Start of Commercial Operation
8	01/07/2019 – 30/06/2024	First Crediting Period Start and End Date (Start date is within two years prior to the date of Project Design Certification)
9	10/06/2021	Design Certification Date CP1
10	01/03/2021- 31/12/2023	First Monitoring Report
11	01/07/2024- 30/06/2029	2 nd Crediting Period Start and End Date. (As per the DEVRQ-211 Approval)

A.4 Scale of the project

> The estimated average annual emission reduction of the project activity is 114,762 tCO₂e. Therefore, scale of the project is large.

A.5 Funding sources of project

The funding sources of the project is equity provided by Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi who is the owner of the project. The project is still not supported by Official Development Assistance (ODA).

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

Reference	Title of methodology	Eligible (Yes/No)	Referred Tools
ACM0001 (V 19.0)	Flaring or use of landfill gas	Yes	1- Tool 04 Emissions from solid waste disposal sites (V 08.1) ³ 2- Tool 32 Positive lists of technologies (V 04.0) ⁴ 3- Tool 10 to determine the remaining lifetime of equipment (V 01) ⁵ 4- Tool 05 Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0) ⁶ 5- Tool 06 Project emissions from flaring (V 04.0) ⁷ 6- Tool 08 to determine the mass flow of a greenhouse gas in a gaseous stream (V 03.0) ⁸ 7- Tool 02 Combined tool to identify the baseline scenario and demonstrate additionality (V 07.0) ⁹

³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v8.1.pdf>

⁴ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-32-v4.0.pdf>

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf>

⁶ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v3.0.pdf>

⁷ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-06-v4.0.pdf>

⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-03-v3.pdf>

⁹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v7.0.pdf>

			8- Tool 03 to calculate project or leakage CO2 emissions from fossil fuel combustion (V 03.0)¹⁰ 9- Tool 09 Determining the baseline efficiency of thermal or electric energy generation systems (V 03.0)¹¹ 10- Tool 07 to calculate the emission factor for an electricity system (V 07.0)¹² 11- Tool 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (V 03.0.1)¹³
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B.2. Applicability of methodology

Applicability of ACM0001

As per Applicability section of ACM0001 (V 19.0);

Applicability Requirements of ACM0001 (V 19.0)	Evaluations
3. The methodology is applicable under the following conditions:	
(a) Install a new LFG capture system in an existing or new (Greenfield) SWDS where no LFG capture system was or would have been installed prior to the implementation of the project activity; or (b) Make an investment into an existing LFG capture system to increase the recovery rate or change the use of the captured LFG, provided that:	A new LFG capture system has been installed in an existing SWDS where no LFG capture system was or would have been installed prior to the implementation of the project activity.

¹⁰ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-03-v3.pdf>

¹¹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-09-v3.0.pdf>

¹² <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

¹³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf>

(i) The captured LFG was vented or flared and not used prior to the implementation of the project activity; and (ii) In the case of an existing active LFG capture system for which the amount of LFG cannot be collected separately from the project system after the implementation of the project activity and its efficiency is not impacted on by the project system: historical data on the amount of LFG capture and flared is available;	
(c) Flare the LFG and/or use the captured LFG in any (combination) of the following ways: (i) Generating electricity; (ii) Generating heat in a boiler, air heater or kiln (brick firing only) or glass melting furnace;¹⁴ and/or (iii) Supplying the LFG to consumers through a natural gas distribution network; (iv) Supplying compressed/liquefied LFG to consumers using trucks;¹⁵ (v) Supplying the LFG to consumers through a dedicated pipeline;	In scope of the project activity, the captured LFG is used for only generating electricity.

¹⁴ For claiming emission reductions for other heat generation equipment (including other products in kilns), project participants may submit a revision to this methodology.

¹⁵ In case other means of transportation are used a revision to this methodology may be requested.

(d) Do not reduce the amount of organic waste that would be recycled in the absence of the project activity.	The project activity has no effect on the amount of organic waste that would be recycled in the absence of the project activity, since there is no current treatment for the wastes on the landfill site. This is proven by the production license and land delivery protocol which have been submitted to the VVB
2. The methodology is only applicable if the application of the procedure to identify the baseline scenario confirms that the most plausible baseline scenario is:	
(a) Atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons; and	The baseline scenario for LFG is assumed to be the atmospheric release of the LFG since there was no capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons before the project activity.

(b) In the case that the LFG is used in the project activity for generating electricity and/or generating heat in a boiler, air heater, glass melting furnace or kiln: (i) For electricity generation: that electricity would be generated in the grid or in captive fossil fuel fired power plants; and/or (ii) For heat generation: that heat would be generated using fossil fuels in equipment located within the project boundary;	The LFG is used in the project activity for generating electricity that is fed into the grid.
(c) In the case of LFG supplied to the end-user(s) through natural gas distribution network, trucks or the dedicated pipeline, the baseline scenario is assumed to be displacement of natural gas.	In scope of the project, there is no LFG supply to the end-user(s).
(d) In the case of LFG from a Greenfield SWDS, the identified baseline scenario is atmospheric release of the LFG or capture of LFG in a managed SWDS and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons.	A new LFG capture system has been installed in an existing SWDS. The baseline scenario for LFG is assumed to be the atmospheric release of the LFG since there was no capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons before the project activity.
5. This methodology is not applicable:	

(a) In combination with other approved methodologies. For instance, ACM0001 cannot be used to claim emission reductions for the displacement of fossil fuels in a kiln or glass melting furnace, where the purpose of the CDM project activity is to implement energy efficiency measures at a kiln or glass melting furnace;	Project is not involved in an activity related with kiln, glass melting furnace or any other energy efficiency activity.
(b) If the management of the SWDS in the project activity is deliberately changed during the crediting in order to increase methane generation compared to the situation prior to the implementation of the project activity	If any situation occurs related with change of the management of the SWDS in the project activity during the crediting, the VVB and the Gold Standard will be informed.

B.3. Project boundary

The spatial extent of the project boundary is the Project site where the facility units of the project connected to the the grid-system are located. The project boundary is the physical and geographical site of the methane recovery and renewable energy production, respectively. Both the physical and geographical project boundaries is schematically illustrated in the Figure 3 below:

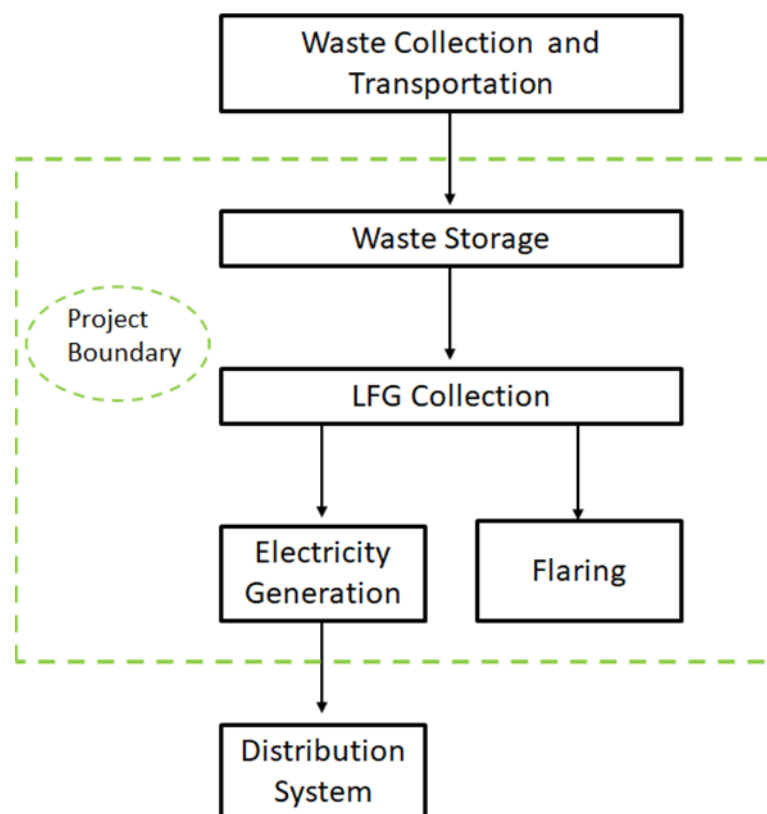


Figure 6- Physical and Geographical Boundaries of the Project

Emission sources included in or excluded from the project boundary (For ACM0001)

Source	GHGs	Included?	Justification/Explanation
Baseline scenario	CO ₂	No	CO ₂ emissions from decomposition of organic waste are not accounted since the CO ₂ is also released under the project activity
		Yes	The major source of emissions in the baseline
		No	N ₂ O emissions are small compared to CH ₄ emissions from SWDS. This is conservative
	CO ₂	Yes	Major emission source since power generation is included in the project activity
		No	Excluded for simplification. This is conservative
		No	Excluded for simplification. This is conservative

Project scenario	Emissions from heat generation	CO ₂	No	Heat generation is not included in the project activity
		CH ₄	No	Heat generation is not included in the project activity
		N ₂ O	No	Heat generation is not included in the project activity
	Emissions from fossil fuel consumption for purposes other than electricity generation or transportation due to the project activity	CO ₂	No	Excluded for simplification. This emission source is assumed to be very small since the waste collection and transportation is out of project boundaries
		CH ₄	No	Excluded for simplification. This emission source is assumed to be very small
		N ₂ O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from electricity consumption due to the project activity	CO ₂	Yes	May be an important emission source
		CH ₄	No	Excluded for simplification. This emission source is assumed to be very small
		N ₂ O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from flaring	CO ₂	No	Emissions are considered negligible
		CH ₄	Yes	May be an important emission source
		N ₂ O	No	Emissions are considered negligible

The facility includes three gas generators (3 x 1.56 MW) that is in charge of electricity production regularly. Additionally, one spare gas generator is in reserve for the purpose of substitution of the engine which might be stopped due to malfunction or maintenance issues. Therefore, in case of malfunction or maintenance the facility will continue to produce electricity in full capacity so that the possibility and amount of the LFG to be sent to the flare is minimized compared to the LFG facilities which does not include any spare gas generator.

B.4. Establishment and description of baseline scenario

> As per ACM0001 (V 19.0) project participants may either apply the simplified procedures to identify the baseline scenario and demonstrate additionality or the procedures according to the “Combined tool to identify the baseline scenario and demonstrate additionality” to select the most plausible baseline scenario and demonstrate additionality.

According to the TOOL11: “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” version 03.0.1 the baseline scenario is reassessed for the revalidation of the crediting period.

The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period

Step 1: Assess the validity of the current baseline for the next crediting period.

The validity of the current baseline is assessed using the following Sub-steps

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

From the beginning of the first crediting period to current date (beginning of the second crediting period), there has been no changes related with given laws and regulations and also there has been no change to the project concerning the compliance status of the project.

Related laws and regulations to the project activity are as followed:

Electricity Market Law¹⁶ [Law Number: 6446 Ratification Date: 14/03/2013 Enactment Date: 30/03/2013]

- Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy¹⁷ [Law Number: 5346 Ratification Date: 10/05/2005 Enactment Date: 18/05/2005]

- Environmental Law¹⁸ [Law Number: 2872 Ratification Date: 09/08/1983 Enactment Date: 11/08/1983]

¹⁶ <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6446&MevzuatTur=1&MevzuatTertip=5>

¹⁷ <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5346.pdf>

¹⁸ <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.2872.pdf>

- Regulation on Solid Waste Control¹⁹ [Last updated on 02/04/2015]
- Regulation on Managed Waste Land Filling²⁰ [Regulation number 27533 Enactment Date: 26/03/2010]

Relevance of mentioned Laws and Regulations

Electricity Market Law: The objective of this legislation is to facilitate the establishment of a financially robust and transparent electricity market that functions within a competitive framework governed by civil law. The primary aims include providing consumers with an ample supply of high-quality, cost-effective, and environmentally friendly electricity. The law further seeks to enable autonomous regulation and supervision of this market. Importantly, the scope of this law encompasses electricity generation, making it a pertinent regulatory framework for the project activity, given its significant focus on electricity generation.

Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy:

This legislation aims to promote the widespread use of renewable energy resources for the production of electricity, ensuring their secure, economical, and efficient utilization. The objectives include enhancing the diversification of energy sources, minimizing greenhouse gas emissions, evaluating waste products, safeguarding the environment, and fostering the growth of the associated manufacturing sector. Notably, at the time of making investment decisions, the law provided assurance by guaranteeing a price range for electricity generation. This is provided by the YEKDEM²¹ (Türkiye's Renewable Energy Support Mechanism) As one of the important aspects of the project activity is electricity generation from renewable energy sources the "Renewable Energy Law" is one of the regulating legislations regarding the project activity.

¹⁹ <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5>

²⁰ [https://www.mevzuat.gov.tr/anasayfa/MevzuatFihristDetayIframe?MevzuatTur=7&MevzuatNo=13887&MevzuatTertip=5#:~:text=MADDE%202%20%E2%80%93%20\(1\)%20Bu,ve%20tabi%20olunacak%20sorumluluklar%C4%B1%20kapsar](https://www.mevzuat.gov.tr/anasayfa/MevzuatFihristDetayIframe?MevzuatTur=7&MevzuatNo=13887&MevzuatTertip=5#:~:text=MADDE%202%20%E2%80%93%20(1)%20Bu,ve%20tabi%20olunacak%20sorumluluklar%C4%B1%20kapsar)

²¹ YEKDEM for the project will expire in 2028.

Environmental Law:

This legislation provides a broad framework for Türkiye's environmental policy, with the overarching goal of preserving the environment and the country's natural resources for the well-being of future generations. It incorporates the polluter pays principle and has specific regulations addressing air quality protection, water pollution control, environmental impact assessment, waste control, noise control, and the management of hazardous materials. The Environmental Law holds significant relevance to the project activity, particularly in relation to waste management activities.

Two specific sub-regulations within this law directly pertain to the Project Activity:

Regulation on Solid Waste Control: In summary, the regulation emphasizes the responsibility of the party overseeing solid waste management to safeguard the health and welfare of society. However, it does not specify any particular technology for achieving this goal (as outlined in articles 5 and 27), nor does it outline sanctions or penalties for deviating from prescribed solid waste management practices.

Consequently, the regulation provides guidance on solid waste management matters without establishing strict norms. It is noteworthy that while some landfills engage in the semi-controlled release of landfill gas into the air, the law does not mandate the mandatory destruction of methane.

Regulation on Managed Waste Landfilling:

Regulation on managed waste landfilling, dated March 26, 2010, is designed to achieve several objectives: (1) minimize the adverse effects of leachate and landfill gas (LFG) on soil, air, and water quality; (2) govern the acceptance of waste in landfill areas; and (3) outline procedures for the opening and closure of landfill areas.

According to the regulation, newly established landfill areas, established after the enactment date, must implement measures such as covering waste and constructing LFG drainage wells to mitigate potential risks like explosions and fires within the landfill (stipulated in article 17).

For existing landfill areas, the regulation mandates that the Ministry will establish legislation in the future for enhancing landfill practices. However, the regulation does not specify when these regulations will be implemented, providing no indication or reference to a timeline.

In summary: While Türkiye has established regulations for solid waste management, they are not effectively enforced, lacking defined sanctions or penalties. In practice none of the landfill areas adhere to these regulations, as evidenced by landfill statistics. The majority of landfill areas in Türkiye are essentially 'waste dumps,' lacking proper waste management practices, including landfill covering. Given the above considerations, the baseline scenario involves waste disposal at landfills without capturing or flaring landfill gas. This scenario reflects the ongoing uncontrolled and unmanaged landfill practices. Electricity is generated through existing grid-connected power plants in this baseline scenario.

Result of Substep 1.1: No change regarding the compliance to laws and regulation is determined. So we follow to Step 1.2

Step 1.2: Assess the impact of circumstances

The conditions used to determine the baseline emissions in the previous crediting period are still valid. The baseline scenario, identified at the second crediting period, was the continuation of the current practice without any investment. The baseline scenario was the release of methane gaseous (resulting from the wastes) to the atmosphere and supply of electricity to the grid by grid connected power plants. The availability of fuels or raw materials and the impact of electricity or fuel prices in the identification of the current practice for the baseline emissions are same when you compared with the previous crediting period. So, there is no need to update to baseline for the subsequent this second crediting period.

There is no significant change to the investment environment and to the electricity tariff had happened during second crediting period to the current date.

The number of SWDS with methane recovery and the amount of recovered methane also did not significantly change when compared to total SWDS and amount of methane released to the atmosphere. The change of SWDS in Türkiye has not been significantly changed as explained below after the first crediting period.

Existing Landfill Sites

As per the latest data available²² for Türkiye, total waste emissions for the year 2022 are 16.3 Mt CO₂ eq., or 2.9% of total GHG emissions (without LULUCF). Within the sector, 65.2% of the emissions were from solid waste disposal, followed by 34.6% from wastewater treatment and discharge, 0.13% from biological treatment of solid waste and 0.07% from open burning of waste. The major GHG emissions from the waste sector are CH₄ emissions, which represent 86.8% of total emissions from this sector in 2022, followed by N₂O emissions with 13.2% and a very small percent of CO₂ as 0.03%.

Table 1- CO₂ equivalent emissions for the waste sector, 2022 (kt CO₂e)²³

GHG source and sink categories	CO ₂	CH ₄	N ₂ O	Total
5. Waste	5.3	14 119.4	2 140.1	16 264.9
A. Solid waste disposal	NA	10 612.8	NA	10 612.8
B. Biological treatment of solid waste	NA	13.0	7.4	20.4
C. Incineration and open burning of waste	5.3	5.7	0.8	11.8
D. Wastewater treatment and discharge	NA	3 488.0	2 131.9	5 619.9
E. Other	NO	NO	NO	NO

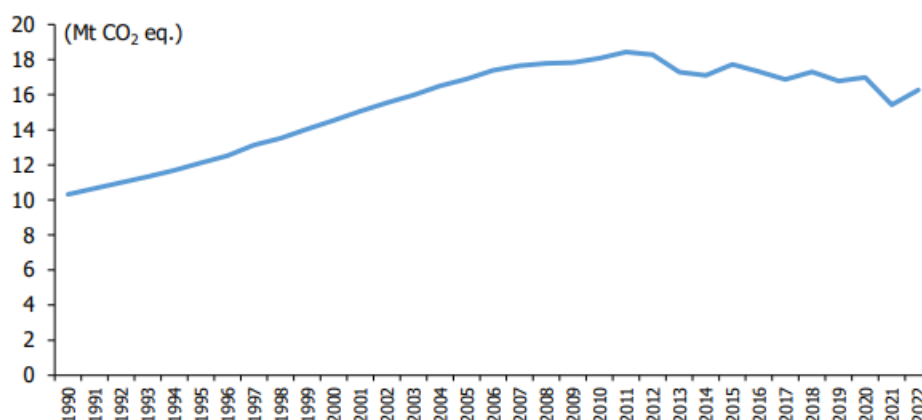


Figure 7-Total GHG emissions of waste sector, 1990-2021²⁴

The total amount of CH₄ generated, CH₄ recovered and net CH₄ emissions from solid waste disposal sites are estimated as given below:

²² https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf

²³ https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf (Table 7.1)

²⁴ https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf

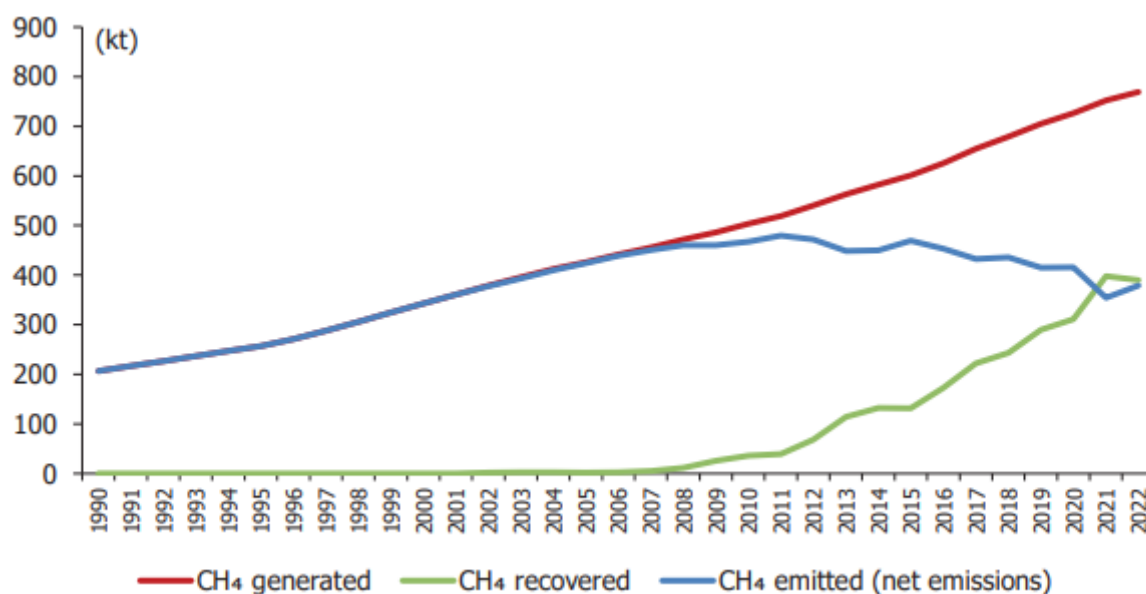


Figure 4-CH₄ emissions from solid waste disposal, 1990-2022²⁵

Net methane emissions tend to decrease with the increase in methane recovery amount due to the increase in the capacity and number of methane recovery facilities producing electricity/heat energy from landfill gas in Türkiye.

Solid Waste Disposal Sites and Methane Recovery: The total number of managed SWDS has increased by years as shown in the table below:

1992	1993	1994	1995	1996	1997	1998	2000	2001	2002	2003
1	1	2	6	6	8	8	10	12	12	15
2004	2005	2006	2008	2010	2012	2014	2016	2018	2020	2022
16	18	22	37	52	80	113	134	159	174	191

Table 2-Number of managed SWDS, 1992–2022²⁶

Methane recovery and its utilization began in Turkey in 2002. Since then, the amount of recovered methane has been subtracted from the total methane produced. In 2013, the "Waste Disposal and Recovery Facilities Survey, 2012" was conducted across all

²⁵ https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf

²⁶ https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf

licensed or temporarily licensed facilities, as well as controlled landfills, incineration, and composting plants operated by or on behalf of municipalities. The number of managed and unmanaged SWDS with landfill gas recovery and the amount of recovered methane, by year, are given in the table below:

Table 7-Methane Recovery,1990-2022²⁷

Year	Number of managed SWDS with landfill gas recovery	Number of unmanaged SWDS with landfill gas recovery	Recovered methane in managed SWDS (kt)	Recovered methane in unmanaged SWDS (kt)
1990–2001	NA	NA	NO	NO
2002	1	NA	1.5	NO
2005	1	NA	1.7	NO

²⁷ https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf

2010	5	NA	36.3	NO
2011	8	NA	39.4	NO
2012	13	NA	68.6	NO
2013	15	1	109.5	4.4
2014	17	1	128.4	4.0
2015	24	1	127.6	4.0
2016	34	1	169.7	4.2
2017	36	1	214.3	6.5
2018	40	1	236.8	7.9
2019	51	1	282.6	7.0
2020	68	1	308.6	2.7
2021	64	1	396.2	1.6
2022	79	1	388.8	1.2

The Turkish National Inventory Report (1990–2022), submitted to the UNFCCC, establishes the baseline scenario of methane emissions resulting from the anaerobic decomposition of solid waste in landfills, exacerbated by the limited implementation of landfill gas (LFG) recovery and utilization systems. According to the report, 65.2% of greenhouse gas (GHG) emissions from the waste sector originate from the decomposition of solid waste at landfill sites. While Türkiye’s regulations on solid waste management provide guidelines for the collection and disposal of domestic and industrial waste, they do not mandate the capture or utilization of landfill gas for electricity generation. This lack of regulatory enforcement contributes to the continued atmospheric release of methane from landfills.

Result of Substep 1.2: The conditions used to determine the baseline emissions in the previous crediting period are evaluated as still valid.

Step 1.3 Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

The equipments lifetime exceeds the crediting period for which renewal is requested.

Equipment only requires regular maintenance. The landfill site also does not require any investments.

Result of Substep 1.3 Current baseline equipment is still in use and expected to be use in for the next crediting period

Step 1.4 Assessment of the validity of the data and parameters

The data and parameters regarding the emission reduction benefited from substitution of electricity generated by grid connected power plant do change annually.

Information on the data that has changed can be found in Step 2.2.

Result of Substep 1.4. The data and parameters are not valid for the next crediting period.

Result of Step 1: The result of Substep 1.4 states that the data and parameters are not valid for the subsequent crediting period so we proceed to the Step 2.

Step 2: Update the current baseline and the data and parameters

Substep 2:1 Update the current baseline

The former tools were:

For the emission reductions stemming from LFG capture, the ACM0001 v.19.0

“Consolidated baseline and monitoring methodology for landfill gas project activities”, hereinafter referred to as the methodology, is used. The methodology refers to the following tools:

- 1- Tool 04 Emissions from solid waste disposal sites (V 08.1)
- 2- Tool 32 Positive lists of technologies (V 04.0)
- 3- Tool 10 to determine the remaining lifetime of equipment (V 01)
- 4- Tool 05 Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0)
- 5- Tool 06 Project emissions from flaring (V 04.0)
- 6- Tool 08 to determine the mass flow of a greenhouse gas in a gaseous stream (V 03.0)
- 7- Tool 02 Combined tool to identify the baseline scenario and demonstrate additionality (V 07.0)
- 8- Tool 03 to calculate project or leakage CO₂ emissions from fossil fuel combustion (V 03.0)

- 9- Tool 09 Determining the baseline efficiency of thermal or electric energy generation systems (V 03.0)
- 10- Tool 07 to calculate the emission factor for an electricity system (V 07.0)
- 11- Tool 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (V 03.0.1)

Substep 2.2 Update the data and parameters

The application of Step 1.4 showed that the data and/or parameter(s) that were only determined at the start of the crediting period and not monitored during the crediting period are not valid anymore. The data and parameters are updated.

As per the latest data published by the the emission factor of the Turkish Natonal grid has been decreased to 0.4459 from 0.5044 compared to the previous crediting period.

As the data was not available at the time of the first PDD at CP1 default value (50%) for Efficiency of the LFG capture system that has been installed in the project activity has been used. And as the data is now available 75% efficiency value has been used during the second crediting period.

Accordingly, (1) the baseline scenario for LFG is assumed to be the atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons. Moreover, (2) if all or part of the electricity generated by the project activity is exported to the grid, the baseline scenario for all or the part of the electricity exported to the grid is assumed to be electricity generation in existing and/or new grid-connected power plants.

(1) Therefore, in the absence of the project activity, the organic waste would have otherwise been left to decay under clearly anaerobic conditions throughout the crediting period at the landfill site, thereby continuously emitting methane to the atmosphere. Thus, as per the approved methodological tool "Emissions from solid waste disposal sites", the annual baseline emissions are calculated as the amount of methane that would otherwise 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 in accordance with the methodological tool.

(2) Additionally , without the existence of the project activity, supplied electricity to the grid by the project would have otherwise been generated by already grid-connected mainly fossil-fuel based power plants or by addition of new generation sources. Thus, the baseline emissions from electricity production are calculated by multiplying the electricity (kWh) sold to the grid by the emission factor of the grid.

Sakarya LFG project is eligible for the above condition, thus “Combined tool to identify the baseline scenario and demonstrate additionality” is also applied under the section B.5

B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	As per 21st paragraph of ACM0001 (V 19.0) and referenced “TOOL32: Positive lists of technologies”; “The project activities and PoAs at new or existing landfills (greenfield or brownfield) are deemed automatically additional, if it is demonstrated that prior to the implementation of the project activities and PoAs the landfill gas (LFG) was only vented and/or flared (in the case of brownfield projects) or would have been only vented and/or flared (in the case of greenfield projects) but not utilized for energy generation, and that under the project activities and PoAs any of the following conditions are met:: (a) The LFG is used to generate electricity in one or several power plants with a total nameplate capacity that equals or is below 10 MW; (b) The LFG is used to generate heat for internal or external consumption; (c) The LFG is flared.”
Describe how the proposed project meets the criteria for deemed additionality.	The Project is a greenfield project which uses LFG as a renewable energy source for electricity generation and feed into the grid. Therefore, prior to the implementation of the project activity the LFG was not utilized for energy generation. Additionally, the LFG is used to generate electricity in one power plant with a total nameplate capacity that equals 4.68 MW which is less than the total benchmark capacity (10 MW) defined by the applicable methodology ACM0001 (V 19.0) and the methodological tool “Positive lists of technologies (V 03.0)” Hence, the proposed project meets the criteria for deemed additionality

B.5.1 Prior Consideration

Prior consideration is not required.

B.5.2 Ongoing Financial Need

The project is facing substantial financial challenges that threaten its sustainability and ability to deliver environmental and developmental benefits. These challenges stem from a decline in electricity generation, and the expiration of the YEKDEM program, and external market factors such as fluctuating carbon credit prices. During the previous crediting period, the project relied heavily on stable revenues generated under Türkiye's Renewable Energy Support Mechanism (YEKDEM), which enabled the sale of electricity at fixed, higher prices. However, with the expiration of YEKDEM in this crediting period, The project is now required to sell electricity in the open market, where prices are significantly lower and more volatile. The challenges are compounded by the complex nature of landfill gas generation, which is subject to unpredictable factors such as waste quality, rehabilitation of uncontrolled waste dumps, and fluctuating water table levels. These uncertainties introduce considerable financial risk, particularly for projects like this one that combine waste management and power generation

The sharp decline in voluntary carbon credit prices in recent years has disrupted the carbon market, hindering the project's ability to generate sufficient revenue from the sale of Verified Emission Reductions (VERs). Considering the project type which is LFG to electricity, the expected trading price of the carbon credits from this project in the carbon market is approximately 2.0 USD per GSVER. The Project is anticipated to generate around 120,000 GSVERs annually, resulting in estimated carbon credit revenues of approximately 240,000 USD per year. The Project's operational expenditures (OPEX) are around 3,233,000 USD annually. Therefore, the carbon credit revenue corresponds to about 7.42% of the total OPEX. This clearly illustrates that the Project remains in need of carbon finance support to maintain the project.

As a result the LFG is used to generate electricity in one power plant with a total nameplate capacity that equals 4.68 MW which is less than the total benchmark capacity (10 MW) defined by the applicable methodology ACM0001 (V 19.0) and the methodological tool "Positive lists of technologies (V 04.0)"

Hence, the proposed project is additional and the project still needs the carbon revenue to be financially attractive to sustain its operations.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

SUSTAINABLE DEVELOPMENT GOALS TARGETED	MOST RELEVANT SDG TARGET	SDG IMPACT INDICATOR (PROPOSED OR SDG INDICATOR)
SDG13 Climate Action	T:13.2.2 Integrate climate change measures into national policies, strategies and planning	Reduction in GHGs emissions. (tCO ₂ eq)
SDG7 Affordable and Clean Energy	T:7.2.1 By 2030, increase substantially the share of renewable energy in the global energy mix.	Renewable energy generation (MWh)
SDG11 Sustainable Cities and Communities	T:11.6.1 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	Improved waste management services. Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities. (Tons of Municipal Solid Waste Landfilled and used for Electricity Generation)

B.6.1 Explanation of methodological choices/approaches for estimating the SDG Impact

1– SDG13 Climate Action

The project activity will reduce 573,810 tCO₂e GHG emissions during five years crediting period which refers 114,762 tCO₂e per annum.

2 – SDG7 Affordable and Clean Energy

The project activity increases clean energy supply to the national grid which is dominated by fossil fuel fired plants by producing 37,440 MWh of electricity per year.

3 – SDG11 Sustainable Cities and Communities

In order to generate electricity, the project activity is expected to use 1,696,780 tons of municipal waste which was left to decay on landfill site, for 5 years crediting period.

1 – SDG13 Climate Action

1. Emission Reductions

As per the paragraph 73 of ACM0001 "Project participants should provide an ex-ante estimation of emissions reductions in the CDM-PDD. This requires projecting the future GHG emissions of the SWDS for the calculation of baseline emissions." Therefore, realized ex post emission reductions will be calculated in the monitoring period after the operation.

According to ACM0001 methodology, emission reductions are calculated as follows;

$$ER_y = BE_y - PE_y \text{ Equation (1)}$$

Where:

ER_y = Emission reductions in year y (t CO₂e/yr)

BE_y = Baseline emissions in year y (t CO₂e/yr)

PE_y = Project emissions in year y (t CO₂/yr)

2. Baseline Emissions

Baseline emissions are determined according to equation (2) and comprise the following sources:

- (a) Methane emissions from the SWDS in the absence of the project activity;
- (b) Electricity generation using fossil fuels or supplied by the grid in the absence of the project activity;
- (c) Heat generation using fossil fuels in the absence of the project activity; and
- (d) Natural gas used from the natural gas network in the absence of the project activity.

$$BE_y = BE_{CH_4,y} + BE_{EC,y} + BE_{HG,y} + BE_{NG,y} \text{ Equation}$$

Where:

BE_y	=	Baseline emissions in year y (t CO ₂ e/yr)
$BE_{CH_4,y}$	=	Baseline emissions of methane from the SWDS in year y (t CO ₂ e/yr)
$BE_{EC,y}$	=	Baseline emissions associated with electricity generation in year y
$BE_{HG,y}$	=	Baseline emissions associated with heat generation in year y (t CO ₂ e/yr)
$BE_{NG,y}$	=	Baseline emissions associated with natural gas use in year y (t CO ₂ e/yr)

Project activity does not include heat generation and natural gas use. Therefore;

$$BE_{HG,y} = 0$$

$$BE_{NG,y} = 0$$

Thus, baseline emissions are;

- Emissions of methane from the SWDS,
- Emissions associated with electricity generation

a. Emissions of methane from the SWDS

As per the paragraph 30 of ACM0001; Baseline emissions of methane from the SWDS are determined as follows, based on the amount of methane that is captured under the project activity and the amount that would be captured and destroyed in the baseline (such as due to regulations). In addition, the effect of methane oxidation that is present in the baseline and absent in the project is taken into account:

$$BE_{CH_4} = ((1 - OX_{top_layer}) \times F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \times GWP_{CH_4} \quad \text{Equation 3.1}$$

Where:

$BE_{CH_4,y}$	=	Baseline emissions of methane from the SWDS in year y (t CO ₂ e/yr)
OX_{top_layer}	=	Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless)
$F_{CH_4,PJ,y}$	=	Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH ₄ /yr)
$F_{CH_4,BL,y}$	=	Amount of methane in the LFG that would be flared in the baseline in year y (t CH ₄ /yr)
GWP_{CH_4}	=	Global warming potential of CH ₄ (t CO ₂ e/t CH ₄)

Since there is no regulatory or contractual requirement to destroy methane in the baseline;

$$F_{CH4,L,y} = 0$$

An ex ante estimate of $F_{CH4,PJ,y}$ is required to estimate baseline emission of methane from the SWDS (according to equation (4)) in order to estimate the emission reductions of the proposed project activity in the PDD. It is determined as follows:

$$F_{CH4,PJ,y} = \eta_{PJ} \times BE_{CH4,SWDS,y} / GWP_{CH4} \quad \text{Equation (4)}$$

Where:

$F_{CH4,PJ,y}$	=	Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH ₄ /yr)
$BE_{CH4,SWDS,y}$	=	Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y (t CO ₂ e/yr)
η_{PJ}	=	Efficiency of the LFG capture system that will be installed in the project activity
GWP_{CH4}	=	Global warming potential of CH ₄ (t CO ₂ e/t CH ₄)

The amount of methane in the LFG generated from disposal of waste at the SWDS is calculated based on a first order decay (FOD) model in line with the methodological tool "Emissions from solid waste disposal sites", V.08.1. The model differentiates between the different types of waste j with respective constant decay rates (k_j) and fractions of degradable organic carbon (DOC_j).

$$BE_{CH4,SWDS,y} = \varphi_y \times (1 - f_y) \times GWP_{CH4} \times (1 - OX) \times (16/12) \times F \times \sum_{x=1}^y (W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times (1 - e^{-k_j})) \quad \text{Equation (5)}$$

$BE_{CH4,SWDS,y}$	=	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 ₂ e/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
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) (0.5)
$W_{j,x}$	=	Amount of solid waste type j disposed or prevented from disposal in the
φ_y	=	Model correction factor to account for model uncertainties for year y (0.75)
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_{CH_4}	=	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
F	=	Fraction of methane in the SWDS gas (volume fraction) (0.5)
MCF_y	=	Methane correction factor for year y (1)
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

Therefore;

Year	$BE_{CH_4, SWDS,y}$	GWP_{CH_4}	η_{PJ}	$F_{CH_4,PJ,y}$
	(tCO ₂ e)	(tCO ₂ e/tCH ₄)	%	(tCH ₄)
2024	126.144	28	75%	3.379
2025	134.007	28	75%	3.589
2026	141.669	28	75%	3.795
2027	149.176	28	75%	3.996
2028	156.570	28	75%	4.194
2029	163.887	28	75%	4.390

Additionally, “Project emissions from flaring” (V04.0) tool will be applied to determine the project emissions due to the residual gas.

According to the tool the project emissions calculation procedure is given in the following steps:

STEP 1: Determination of the methane mass flow of the residual gas

The residual gas is monitored continuously in normal conditions (Nm³/h) every 10 min for 24/7. The mass flow of methane in the residual gas in (kg/m) is calculated

$$F_{CH\ 4, RG, t} = V_{t, db} * v_{CH\ 4, wb, t} * \rho_{CH\ 4, n}$$

(Equation 6)

Where;

- $F_{CH4, t}$
=
Mass flow of greenhouse gas (*CH4*) in the gaseous stream in time interval *t* (kg gas/h)
- $V_{t, wb}$
=
Volumetric flow of the gaseous stream in time interval *t* on a dry basis (m³ dry gas/h)
- $v_{CH4, t, wb}$
=
Volumetric fraction of greenhouse gas *CH4* in the gaseous stream in a time interval *t* on a dry basis (m³ gas *i*/m³ dry gas)
- $\rho_{CH\ 4, n}$
Density of greenhouse gas CH4 in the gaseous stream at normal conditions *t* (kg gas *i*/m³ gas *i*)

STEP 2: Determination of the flare efficiency

The project activity will use enclosed flare and default value will be applied to determine the flare efficiency Therefore, Option A is selected. Thus;

- (a) The temperature of the flare (TEG,m) and the flow rate of the residual gas to the flare (FRG,m) is within the manufacturer’s specification for the flare (SPECflare) in minute m; and
- (b) The flame is detected in minute m (Flamem).
- Otherwise $\eta_{flare, m}$ is 0%.

Since the enclosed flare could be defined as low height flare the efficiency is adjusted 10 percentile points less from the default value:

$\eta_{flare, m}$	80%
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STEP 3: Calculation of project emissions from flaring

Project emissions from flaring are calculated as the sum of emissions for each minute *m* in year *y*, based on the methane mass flow in the residual gas (*FCH4, RG, m*) and the flare efficiency ($\eta_{flare, m}$), as follows:

$$PE_{flare,y} = GWP_{CH4} \times \sum_{m=1}^{52560} F_{CH4,RG,m} \times (1 - \eta_{flare,m}) \times 10^{-3} \quad \text{Equation (7)}$$

$$PE_{flare,y} = GWP_{CH4} \times \sum_{m=1}^{52560} F_{CH4,RG,m} \times (1 - \eta_{flare,m}) \times 10^{-3} \quad \text{Equation (8)}$$

Where;

- $PE_{flare,y}$ = Project emissions from flaring of the residual gas in year y (tCO₂e)
- GWP_{CH4} = Global warming potential of methane valid for the commitment period (tCO₂e/tCH₄)
- $F_{CH4,RG,m}$ = Mass flow of methane in the residual gas in the minute m (kg)
- $\eta_{flare,m}$ = Flare efficiency in minute m

Baseline emissions associated with electricity generation (BE_{EC,y});

The baseline emissions associated with electricity generation in year y (BE_{EC,y}) shall be calculated using the "Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". When applying the tool:

The electricity sources k in the tool correspond to the sources of electricity generated identified in the selection of the most plausible baseline scenario; and

EC_{BL,k,y} in the tool is equivalent to the net amount of electricity generated using LFG in year y (EGPJ,y).

Taking into account the approach provided by the tool, baseline emissions are then calculated using the generic approach based on the quantity of electricity dispatched into the National Grid, an emission factor for electricity generation and a factor to account for transmission losses, as follows:

In the baseline scenario, the electricity amount produced by the biogas plant would be consumed by national grid which is operated by fossil fuels. As baseline emissions for electricity and thermal energy consumed in the absence of the project activity for operating all AWMs facilities is considered zero, the equation is simplified as follows:

$$BE_{elec}^{heat,y} = EG_{d,y} \times CEF_{grid} \quad \text{(Equation 9)}$$

Where:

$BE_{elec/heat,y}$	=	Baseline CO2 emissions from electricity and/or heat used in the baseline, in tCO2e/year
$EG_{d,y}$	=	Amount of electricity generated utilizing the biogas collected during project activity and exported to the grid during the year y (MWh)
CEF_{grid}	=	Carbon emissions factor for the grid in the project scenario (tCO2e/MWh)

Emission Factor calculation (CEF_{grid})

According the "Tool to Calculate the Emission Factor for an Electricity System v 07.0.0". Option 1 has been selected.

Option 1: A delineation of the project electricity system and connected electricity systems published by the DNA or the group of the DNAs of the host country(ies), In case a delineation is provided by a group of DNAs, the same delineation should be used by all the project participants applying the tool in these countries:

For the emission factor, the Turkish Ministry of Energy and Natural Resources publication²⁸, which indicates Turkey's National Electric Grid Emission Factor for the year 2023 calculated on 26/12/2025, was used. The publication includes calculated Emission Factor values for the relevant year with the usage of the IPCC's Clean Development Methodology Tool 07-v07.0.

For this calculation, information regarding the data set is given below in detail;

- TEİAŞ Turkey's electricity generation-consumption and loss statistics,
- Common prepared report under Turkey's National Greenhouse Gas Inventory Reporting Format. - Common Reporting Format (CRF) tables for electricity generation (1.A.1.a.i) emission values
- Chronological order of power generation plants from TEİAŞ Load Dispatch Department with commissioning dates, plant names, fuel types, installed power values, electricity generation for the calculated year

²⁸

https://enerji.gov.tr//Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klm/%C4%B0klmDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2023.pdf

- Checking off Volunteers from the websites of Gold Standard (GS), Verified Carbon Standard (VCS) and Global Carbon Council for the ownership status of the carbon reduction certificate and,
- From Clean Development Mechanism (CDM) Tool 009- V03.0, Power plant efficiency figures are used

So as; According to the applicable "Tool to calculate the emission factor for an electricity system", version 07.0, the calculation of the combined margin (CM) emission factor ($EF_{grid, y}$) is based on one of the following methods:

Weighted average CM; or

Simplified CM

Weighted average CM option has been chosen to calculate the combined margin (CM).

The combined margin emissions factor is calculated as follows:

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

Equation (9-a)

Where;

$EF_{grid, BM, y}$	=	Build margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EF_{grid, OM, y}$	=	Operating margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EF_{grid, CM, y}$	=	Combined margin CO ₂ emission factor in year y (tCO ₂ /MWh)
w_{OM}	=	Weighted of operating margin emissions factor (per cent)
w_{BM}	=	Weighted of build margin emissions factor (per cent)

As per the applicable "Tool to calculate the emission factor for an electricity system", version 07.0, the default weights for the operating margin and build margin emission factors for the proposed project's second crediting period is defined as:

$$w_{OM} = 0.25$$

$$w_{BM} = 0.75$$

Whereas defined under Tool 7 para 86 (b) "All other projects: $w_{OM} = 0.5$ and $w_{BM} = 0.5$ for the first crediting period, and $w_{OM} = 0.25$ and $w_{BM} = 0.75$ for the second and third crediting period unless otherwise specified in the approved methodology which refers to this tool.

And

Based on the national EF published by Turkish Republic Ministry of Energy The build in margin is 0.3567 tCO₂/MWh and operating margin is calculated as 0.7134 tCO₂/MWh using the latest official emission factor of Turkey that can be used in the projects published by the Ministry of Energy and Natural Resources on 26/12/2025.

$$EF_{grid, BM, y} = 0.3567$$

$$EF_{grid, OM, y} = 0.7134$$

Thus;

$$EF_{grid, CM, y} = 0.3567 \times 0.75 + 0.7134 \times 0.25$$

$$EF_{grid, CM, y} = 0.4459$$

3. Project Emissions

According to the methodology ACM0001 (V19.0) project emissions are calculated as follows:

$$PE_y = PE_{EC, y} + PE_{FC, y} + PE_{DT, y} + PE_{SP, y} + PE_{flare, y} \quad \text{Equation (10)}$$

Where;

PE_y	=	Project emissions in year y (t CO ₂ /yr)
$PE_{EC, y}$	=	Emissions from consumption of electricity due to the project activity in year y (t CO ₂ /yr)
$PE_{FC, y}$	=	Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity
$PE_{DT, y}$	=	Emissions from the distribution of compressed/liquefied LFG using trucks, in year y (t CO ₂ /yr)
$PE_{SP, y}$	=	Emissions from the supply of LFG to consumers through a dedicated pipeline, in year y (t CO ₂ /yr)
$PE_{flare, y}$	=	Project emissions from flaring of the residual gas in year y

The project does not include any activities consuming fossil fuels except electricity generation, so $PE_{FC, y}$ will be 0. In addition, the project does not involve the distribution of compressed/liquefied LFG using trucks nor pipelines. Therefore, $PE_{FC, y}$, $PE_{DT, y}$, $PE_{SP, y}$ will be 0. Hence, PE_y is the same with $PE_{EC, y}$. $PE_{EC, y}$ is determined by "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" as follows:

$$PE_{EC,y} = \sum_j EC_{PJ,j,y} * EF_{EL,j,y} * (1 + TDL_{j,y}) \quad (\text{Equation 11})$$

Where;

$PE_{EC,y}$	= Project emissions from electricity consumption in year y (tCO ₂ /yr)
$EC_{PJ,j,y}$	= Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr)
$EF_{EL,j,y}$	= Emission factor for electricity generation for source j in year y (tCO ₂ /MWh)
$TDL_{j,y}$	= = Average technical transmission and distribution losses for providing electricity to source j in year y

As described above Project activity does not include consumption of fossil fuels, distribution of compressed/liquefied LFG and supply of LFG to consumers through a dedicated pipeline. Therefore the only project emission are emissions from consumption of electricity and flaring of the residual gas due to the project activity. ACM0001 (V19.0) refers the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0)" to calculate emissions from consumption of electricity due to the project activity and this tool directs to the methodological tool "Tool to calculate the emission factor for an electricity system (V 07.0)". Additionally, "Project emissions from flaring" (V04.0) tool will be applied to determine the project emissions due to the residual gas. "Tool to calculate the emission factor for an electricity system (V 07.0)" is applied in the above section to calculate the combined margin emission factor of the applicable electricity system for the calculations of baseline emissions. Thus, project emissions can be considered ex post during this monitoring period by subtracting the total electricity consumed from the total electricity generation.

4. Leakage

No leakage effects are accounted for under ACM0001 (V19.0) The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport etc.) are neglected.

2 – SDG7 Affordable and Clean Energy

The amount of the clean energy to be produced and fed in to the grid will be calculated based on the installed capacity and working hours. Even though one spare gas generator would be in reserve for the purpose of substitution of the engine which might be stopped due to malfunction or maintenance issues, to be conservative, it is assumed that the gas engines would operate 8,000 hours (11 months in average) per year and the remaining time would be allocated for maintenance. Therefore;

$EG_{PJ,y}$ = Delivery amount - Withdrawal amount (Production – Consumption)

Where;

$EG_{PJ,y}$ = 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/yr)

3 – SDG11 Sustainable Cities and Communities

Waste projection is calculated based on the:

- a) Population statistics of previous years data in Sakarya Province
- b) Proliferation coefficient Ilbank (Bank of Provinces)
- c) Current waste amount in the landfill.

2024	317,236	tons
2025	325,802	tons
2026	334,598	tons
2027	343,632	tons
2028	352,910	tons
2029	362,439	tons
TOTAL	2,036,618	tons

B.6.2 Data and parameters fixed ex ante

SDG13 Climate Action

13.2.2 Reduction in GHGs emissions

Data/Parameter	$\rho_{CH_4, n}$
Unit	kg/m ³
Description	Density of methane gas at reference conditions
Source of data	Default Value of TOOL06 (https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-06-v4.0.pdf/history_view)
Value(s) applied	0.716
Choice of data or measurement methods and procedures	Default value at reference conditions
Purpose of data/parameter	Determination of the methane mass flow of the residual gas to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comments	No additional comments

Data/Parameter	Φ_{default}		
Unit	-		
Description	Default value for the model correction factor to account for model uncertainties		
Source of data	"Methodological Tool: Emissions from solid waste disposal sites" (Version 08.1) (https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-04-v6.0.1.pdf)		
Value(s) applied	0.75		
	Default values for the model correction factor	Humid/wet conditions	Dry conditions
	Application A	0.75	0.75
	Application B	0.85	0.80
Choice of data or measurement methods and procedures	Default value for the model correction factor to account for model uncertainties for Application A		
Purpose of data/parameter	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning		
Additional comments	No additional comment		

Data/Parameter	OX
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	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 5 Waste, Table 3.2. (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html)
Value(s) applied	0.1
Choice of data or measurement methods and procedures	As the landfill was covered by soil, the default value for oxidation could be applied. Default value. No measurement methods and procedures are necessary.
Purpose of data/parameter	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comments	-

Data/Parameter	F
Unit	-
Description	Fraction of methane in the SWDS gas (volume fraction)
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 5 Waste, (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html)
Value(s) applied	0.5
Choice of data or measurement methods and procedures	Default value. No measurement methods and procedures are necessary.
Purpose of data/parameter	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning WDS
Additional comments	No Additional Comments

Data/parameter	DOC _{f,default}
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 (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html)
Value(s) applied	0.5

Choice of data or Measurement methods and procedures	Default value
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	-

Data/parameter	MCFdefault
Unit	-
Description	Methane correction factor
Source of data	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html)
Value(s) applied	1
Choice of data or Measurement methods and procedures	The project site is anaerobic managed solid waste disposal site which has controlled placement of waste and cover material.
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	-

Data/parameter	DOC_j
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(s) applied	For MSW, the following values for the different waste types j should be applied: Default values for DOC_j <table> <tr> <th>Waste type j</th><th>DOC_j (% wet waste)</th></tr> <tr> <td>Wood and wood products</td><td>43</td></tr> <tr> <td>Pulp, paper and cardboard (other than sludge)</td><td>40</td></tr> <tr> <td>Food, food waste, beverages and tobacco (other than sludge)</td><td>15</td></tr> <tr> <td>Textiles</td><td>24</td></tr> <tr> <td>Garden, yard and park waste</td><td>20</td></tr> <tr> <td>Glass, plastic, metal other inert waste</td><td>0</td></tr> </table>	Waste type j	DOC_j (% 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
Waste type j	DOC_j (% 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														
Choice of data or Measurement methods and procedures	The percentages listed in table above are based on wet waste basis which are concentrations in the waste as it is delivered to the SWDS.														
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning														
Additional comment	-														

Data/parameter	k_j
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) https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html)

Value(s) applied	<table><tr><th colspan="2" rowspan="2">Waste type j</th><th colspan="2">Boreal and Temperate (MAT≤20°C)</th><th colspan="2">Tropical (MAT>20°C)</th></tr><tr><th>Dry (MAP/ PET<1)</th><th>Wet (MAP/PET >1)</th><th>Dry (MAP< 1000mm)</th><th>Wet (MAP > 1000mm)</th></tr><tr><td rowspan="2">Slowly degrading</td><td>Pulp, paper, cardboard (other than sludge), textiles</td><td>0.04</td><td>0.06</td><td>0.045</td><td>0.07</td></tr><tr><td>Wood, wood products and straw</td><td>0.02</td><td>0.03</td><td>0.025</td><td>0.035</td></tr><tr><td>Moderately degrading</td><td>Other (non-food) organic putrescible garden and park waste</td><td>0.05</td><td>0.10</td><td>0.065</td><td>0.17</td></tr><tr><td>Rapidly degrading</td><td>Food, food waste, sewage sludge, beverages and tobacco</td><td>0.06</td><td>0.185</td><td>0.085</td><td>0.40</td></tr></table>						Waste type j		Boreal and Temperate (MAT≤20°C)		Tropical (MAT>20°C)		Dry (MAP/ PET<1)	Wet (MAP/PET >1)	Dry (MAP< 1000mm)	Wet (MAP > 1000mm)	Slowly degrading	Pulp, paper, cardboard (other than sludge), textiles	0.04	0.06	0.045	0.07	Wood, wood products and straw	0.02	0.03	0.025	0.035	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.05	0.10	0.065	0.17	Rapidly degrading	Food, food waste, sewage sludge, beverages and tobacco	0.06	0.185	0.085	0.40
	Waste type j		Boreal and Temperate (MAT≤20°C)		Tropical (MAT>20°C)																																		
			Dry (MAP/ PET<1)	Wet (MAP/PET >1)	Dry (MAP< 1000mm)	Wet (MAP > 1000mm)																																	
	Slowly degrading	Pulp, paper, cardboard (other than sludge), textiles	0.04	0.06	0.045	0.07																																	
		Wood, wood products and straw	0.02	0.03	0.025	0.035																																	
	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.05	0.10	0.065	0.17																																	
Rapidly degrading	Food, food waste, sewage sludge, beverages and tobacco	0.06	0.185	0.085	0.40																																		
Choice of data or Measurement methods and procedures	Climatic conditions for Sakarya where project site located in: MAT – mean annual temperature: 14.6 °C MAP – Mean annual precipitation: 840.3 mm PET – potential evapotranspiration: 750 mm (max-annual) Therefore, Boreal and Temperate (MAT≤20°C) and wet (MAP/PET >)1 conditions are observed in the project site and Sources: https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?m=SAKARYA																																						
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning																																						
Additional comment	-																																						

Data/Parameter	GWP _{CH4}
Unit	tCO ₂ e/tCH ₄
Description	Global warming potential of CH ₄
Source of data	IPCC Fifth Assessment Report: AR5 https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf
Value(s) applied	28
Choice of data or measurement methods and procedures	Default value. No measurement methods and procedures are necessary.
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comments	

Data/parameter	nPJ
Unit	Dimensionless
Description	Efficiency of the LFG capture system that is installed in the project activity
Source of data	Feasibility study
Value(s) applied	75%
Choice of data or Measurement methods and procedures	The collection system which has been installed on the Project site is able to collect a certain fraction of the total LFG generation. This collection ratio is affected principally by the Project's technical design, therefore the value suggested in the feasibility study is used.
Purpose of data	To calculate baseline emissions due to methane from the SWDS to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	-

Data/parameter	η flare,m
Unit	% (Percentage)
Description	Flare efficiency
Source of data	Default Value of TOOL06
Value(s) applied	80%

Choice of data or Measurement methods and procedures	Since option A conditions are met and enclosed flare could be defined low height, 80% has been chosen.
Purpose of data	Determination of project emissions from flaring to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	It has not been used as the flare was not used during this monitoring period

Data/parameter	SPEC _{flare}
Unit	Temperature - °C Flow rate m ³ /h Maintenance schedule - number of days
Description	Density of methane gas at reference conditions
Source of data	Default Value of TOOL06
Value(s) applied	The ones specified on the technical sheet
Choice of data or Measurement methods and procedures	High temperature combustion and extraction system
Purpose of data	Calculation of project emissions from residual gas to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	-

SDG 7 Affordable and Clean Energy

7.2.1 "Renewable energy share in the total final energy consumption"

Data/Parameter	EF _{grid,CM,y}
Unit	tCO ₂ eq/MWh
Description	Combined Margin Emission factor for Turkish electricity grid
Source of data	The national EF is published by Turkish Republic Ministry of Energy ²⁹

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https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2023.pdf

Value(s) applied	0.4459 tCO ₂ /MWh
Choice of data or measurement methods and procedures	According the "Tool to Calculate the Emission Factor for an Electricity System v 07.0.0". Option 1 has been selected.
Purpose of data/parameter	Calculation of baseline and project emissions to demonstrate contribution to SDG 7.2.1 "Renewable energy share in the total final energy consumption".
Additional comments	No Additional Comments

B.6.3 Ex ante estimation of SDG Impact

1. Emission Reductions

According to ACM0001 V19.0 emission reductions are calculated as follows;

$$ER_y = BE_y - PE_y \quad \text{Equation (1)}$$

Where;

ER_y	=	Emission reductions in year y (t
BE_y	=	Baseline emissions in year y (t
PE_y	=	Project emissions in year y (t CO ₂ /yr)

2. Baseline Emissions

a. Emissions of methane from the SWDS

Methodological choices and data-parameters to be used for calculations are explained in the sections B.6.2 and B.6.3, respectively.

As per equations (3), (4) and (5) ex ante estimation of baseline emissions due to methane from the SWDS are as below:

Table 12- Baseline emissions due to methane from the SWDS

	2024 (July- December r	2025	2026	2027	2028	2029 (January -June
$BE_{CH_4,SWDS,y}$ (t CO₂e)	42,574	90,455	95,626	100,694	105,685	55,312

b. Emissions associated with electricity generation

As per equation (15), the calculated value for $EF_{grid,CM,y}$ is 0.535 tCO₂/MWh.

Therefore, according to equation (11),

Where;

$EG_{PJ,y}$ **37,440³⁰** 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/yr)

$EF_{grid,CM,y}$ **0.4459** Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of "Tool to calculate the emission factor for an electricity system" (t CO₂/MWh)

Thus;

$$BE_{EC,y} = 16,693 \text{ tCO}_2/\text{year}$$

Summary of the above ex ante calculations for the baseline emissions due to electricity generation (in tCO₂e) for the years 2024-2029 are provided in Table 13 below

Table 13 – Baseline emissions due to electricity generation

	2024 (July-December)	2025	2026	2027	2028	2029 (January-June)
$BE_{EC,y}$ (tCO ₂ e)	8,346.5	16,693	16,693	16,693	16,693	8,346.5

3. Project Emissions

Project activity does not include consumption of fossil fuels, distribution of compressed/liquefied LFG and supply of LFG to consumers through a dedicated pipeline. Therefore the only project emission are emissions from consumption of electricity and

³⁰ Capacity of Project activity is 4.68 MWe and expected annual operation time is 8000 hours

flaring of the residual gas due to the project activity. ACM0001 (V19.0) refers the methodological tool “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0)” to calculate emissions from consumption of electricity due to the project activity and this tool directs to the methodological tool “Tool to calculate the emission factor for an electricity system (V 07.0)”. Additionally, “Project emissions from flaring” (V04.0) tool will be applied to determine the project emissions due to the residual gas. “Tool to calculate the emission factor for an electricity system (V 07.0)” is applied in the above section to calculate the combined margin emission factor of the applicable electricity system for the calculations of baseline emissions. Thus, project emissions can be considered ex post during the monitoring period by subtracting the total electricity consumed from the total electricity generation.

As flaring is not a common occurrence in Turkey and does not work in the region of the project as the power plants do not have enough gas to operate the gas engines in full potential, hence, emissions from flaring are negligible and can be considered zero. The calculation for deriving emissions from flaring has been covered in Section B.6.2, and should there be a change in circumstances in the future, it will accordingly be addressed in the monitoring reports. However, since expected project emissions are quite insignificant compared to the emission reductions, it will be ignored.

4. Leakage

No leakage effects are accounted for under ACM0001 (V19.0).

B.6.4 Summary of ex ante estimates of each SDG Impact

SDG 13 Climate Action

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE (tCO ₂ eq)	NET BENEFIT (tCO ₂ eq)
01/07/2024-31/12/2024	50,920	0	50,920
01/01/2025-31/12/2025	107,148	0	107,148
01/01/2026-31/12/2026	112,319	0	112,319
01/01/2027-31/12/2027	117,387	0	117,387
01/01/2028-31/12/2028	122,378	0	122,378
01/01/2029-30/06/2029	63,658	0	63,658
Total	573,810	0	573,810

Total number of crediting years	5	5	5
Annual average over the crediting period	114,762	0	114,762

SDG 7 Affordable and Clean Energy

YEAR	BASILINE ESTIMATE	PROJECT ESTIMATE (MWh)	NET BENEFIT (MWh)
01/07/2024-31/12/2024	0	18,720	18,720
01/01/2025-31/12/2025	0	37,440	37,440
01/01/2026-31/12/2026	0	37,440	37,440
01/01/2027-31/12/2027	0	37,440	37,440
01/01/2028-31/12/2028	0	37,440	37,440
01/01/2029-30/06/2029	0	18,720	18,720
Total	0	187,200	187,200
Total number of crediting years	5	5	5
Annual average over the crediting period	0	37,440	37,440

SDG 11 Sustainable Cities and Communities

YEAR	BASILINE ESTIMATE	PROJECT ESTIMATE (Tons)	NET BENEFIT (Tons)
01/07/2024-31/12/2024	0	158,618	158,618
01/01/2025-31/12/2025	0	325,802	325,802
01/01/2026-31/12/2026	0	334,598	334,598
01/01/2027-31/12/2027	0	343,632	343,632
01/01/2028-31/12/2028	0	352,910	352,910
01/01/2029-30/06/2029	0	181,220	181,220
Total	0	1,696,780	1,696,780
Total number of crediting years	5	5	5

Annual average over the crediting period	0	339,356	339,356
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B.7. Monitoring plan

B.7.1 Data and parameters to be monitored

SDG13 Climate Action

13.2.2 Reduction in GHGs emissions

Data / Parameter	LFG_{total,y}			
Unit	Nm ³			
Description	Total amount of landfill gas captured under Normal Temperature and Pressure in year y			
Source of data	Flow meters			
Value(s) applied	16,636,902			
Measurement methods and procedures	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
	ORIFICE PLATE - DCMD2000 16CS	TECNOVA HT	16218-FE-01 16218-FE-02	10 years
Monitoring frequency	Continuous measurement by the flowmeters in real time. (Measurement every minute aggregated to hourly measurement)			
QA/QC procedures	Maintenance and calibration of flow meters is carried out according to the instructions of the manufacturer and legal requirements. Electricity meter Class: IEC-EN 60687 0.5 class			
Purpose of data	To calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning			
Additional comment	No Additional Comment			

Data / Parameter	LFG_{flare,y}
Unit	Nm ³

Description	Total amount of landfill gas flared under Normal Temperature and Pressure in year y			
Source of data	Flow meters installed by Project Investor at flare pipe			
Value(s) applied	0			
Measurement methods and procedures	Measured by flow meters. The data will be aggregated regularly (monthly-yearly)			
	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
	ORIFICE PLATE - DCMD20001 6CS	TECNOVA HT	16218-FE-02	10 years
Monitoring frequency	Continuous measurement by the flowmeters in real time every second aggregated to hourly daily and monthly measurements			
QA/QC procedures	Maintenance and calibration of flow meters is carried out according to the instructions of the manufacturer or legal requirements.			
Purpose of data	To calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning			
Additional comment	No Additional Comment			

Data / Parameter	LFG_{electricity,y}
Unit	Nm ³
Description	Total amount of landfill gas combusted in the gas generator under Normal Temperature and Pressure in year y
Source of data	Flow meters installed by Project Investor at gas generator pipe
Value(s) applied	16,636,902

Measurement methods and procedures	Measured by flow meters. The data will be aggregated regularly (monthly-yearly) for each gas generator.			
	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
	ORIFICE PLATE - DCMD2000 16CS	TECNOVA HT	16218-FE-02	10 years
Monitoring frequency	Continuous measurement by the flowmeters in real time.			
QA/QC procedures	Maintenance and calibration of flow meters is carried out according to the instructions of the manufacturer or legal requirements.			
Purpose of data	To calculate baseline emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning			
Additional comment	No Additional Comment			

Data / Parameter	F_{CH4,RG,m}
Unit	tCH ₄ /y
Description	Mass flow of methane in the residual gas in the minute m (Dry Basis)
Source of data	Calculated based on the flow of LFG and the concentration of methane in the LFG that is sent to the gensets
Value(s) applied	6,582

Measurement methods and procedures	Measured by flow meters and gas analysers. The data will be aggregated regularly (monthly-yearly) for each gas generator.				
	MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
	Gas Analyser 1	SWG-100BIOGAS	MRU	80942	10 years
	Gas Analyser 2 Manual	OPTIMA 7	MRU	315854	10 years
	Flow meter 1	ORIFICE PLATE - DCMD20 0016CS	NOVA HT	16218-FE-01	10 years
	Flowmeter 2	ORIFICE PLATE - DCMD20 0016CS	TECNOVA HT	16218-FE-02	10 years
Monitoring frequency	Continuous measurement by the flowmeters and gas analyser in real time.				
QA/QC procedures	Maintenance and calibration of flow meters and gas analysers is carried out according to the instructions of the manufacturer or legal requirements. If the main analyser is not working use the 2 nd analyser (OPTIMA 7)				
Purpose of data	To calculate baseline emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning				
Additional comment	No Additional Comment				

Data / Parameter	W_{CH4}
Unit	%
Description	Methane fraction in the landfill gas
Source of data	Gas analyzers
Value(s) applied	54.43

Measurement methods and procedures	Methane concentration is controlled by means of regular sampling.				
	MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
	Gas Analyser 1	SWG-100 BIOGAS	MRU	80942	10 years
	Gas Analyser 2 Manual	OPTIMA 7	MRU	315854	10 years
Monitoring frequency	Continuous measurement by the gas analyzer in real time.				
QA/QC procedures	Maintenance and calibration gas analysers is carried out according to the instructions of the manufacturer or legal requirements. If the main analyser is not working use the 2 nd analyser (OPTIMA 7)				
Purpose of data	To calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning				
Additional comment	No Additional Comment				

Data / Parameter	PE_{flare,y}
Unit	t CO ₂ e
Description	Project emissions from flaring of the residual gas stream in year y
Source of data	Flowmeters and efficiency value of equipment manufacturer or default values stated in the tool "Project emissions from flaring" Version 04.0
Value(s) applied	0
Measurement methods and procedures	The values measured by flow meters will be used for calculation. The data will be aggregated regularly (monthly-yearly)

Monitoring frequency	Continuous measurement by the flow meters in real time.			
	MODEL	MANUFACTURE R	SERIAL NO.	CALIBRAT ION FREQUENCY
	ORIFICE PLATE - DCMD200 016CS	TECNOVA HT	16218-FE-02	10 years
QA/QC procedures	Maintenance and calibration of flow meters is carried out according to the instructions of the manufacturer or legal requirements.			
Purpose of data	To calculate project emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning			
Additional comment	No Additional Comment			

Data / Parameter	$V_{i,t,wb}$			
Unit	m ³ gas i/m ³ dry gas			
Description	Volumetric fraction of greenhouse gas i in a time interval t on a dry basis			
Source of data	PLC (Measured based on the flow of LFG)			
Value(s) applied	16,636,902			
Measurement methods and procedures	The values are measured by flow meters will be used for calculation. The data will be aggregated regularly (monthly-yearly)			
	MODEL	MANUFACTU RER	SERIAL NO.	CALIBRAT ION FREQUENCY
	ORIFICE PLATE - DCMD200016C S	TECNOVA HT	16218-FE-02	10 years
Monitoring frequency	Measured by a flow meter, which is a turbine system with a special internal shell for biogas, completed with a volume checker and a fiscal converter of frequency. Continuous measurement and hourly recording aggregated to monthly and yearly.			

QA/QC procedures	The instrument is calibrated regularly utilizing a certified span gas on site until the unit is no longer able to be calibrated on site. Should the instrument not be able to be calibrated then the instrument sensor is replaced.
Purpose of data	Calculation of Baseline Emissions to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	Temperature and pressure are automatically measured, and LFG volumes are expressed in normalised cubic meters

Data / Parameter	T_{EG,m}
Unit	°C
Description	Temperature in the exhaust gas of the enclosed flare in minute m
Source of data	Measured by means of a temperature meter (Thermocouple)
Value(s) applied	-
Measurement methods and procedures	Thermocouple measure the temperature of the exhaust gas in the flare by an appropriate temperature measurement equipment. Measurements outside the operational temperature specified by the manufacturer may indicate that the flare is not functioning correctly and may require maintenance.
Monitoring frequency	Monitored annually
QA/QC procedures	Maintenance and calibration of the temperature measurement equipment is carried out according to the instructions of the manufacturer or legal requirements.
Purpose of data	To calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG13- 13.2.2 Integrate climate change measures into national policies, strategies and planning
Additional comment	During the previous crediting period there was no flow recorded to the flare.

Data / Parameter	Operation of the power plant
Unit	h

Description	Operational duration of the power plant
Source of data	Data log system of the power plant
Value(s) applied	8000 h
Measurement methods and procedures	Plant assumed to be operating when there is a gas flow to the engines and electricity is fed to the national grid.
Monitoring frequency	Monitored annually
QA/QC procedures	Maintenance and calibration of the equipment is carried out according to the instructions of the manufacturer or legal requirements.
Purpose of data	This information is not used in any calculation.
Additional comment	No Additional Comment

SDG 7 Affordable and Clean Energy

7.2.1 "Renewable energy share in the total final energy consumption"

Data / Parameter	$TDL_{k,y}$
Unit	-
Description	Average technical transmission and distribution losses for providing electricity to source k in year y
Source of data	Türkiye Electricity Distribution Sector Report, page 21; https://www.tedas.gov.tr/FileUpload/MediaFolder/ff204253-90d1-4560-8946-cdc529dceff2.pdf
Value(s) applied	11.2%
Measurement methods and procedures	TEİAŞ is publicly owned transmission company which publishes official statistics about electricity <i>generation</i> and distribution.
Monitoring frequency	Once each verification
QA/QC procedures	Check TEİAŞ latest published data for the monitoring period
Purpose of data	Calculation of Project emissions from Electricity Consumption to demonstrate contribution to SDG 7.2.1 "Renewable energy share in the total final energy consumption"
Additional comments	

Data / Parameter	$EG_{PJ,y}$				
Unit	MWh/yr				
Description	Quantity of net electricity (difference between the total quantity of electricity generated by the power plant/unit and electricity consumption, “Delivery amount - Withdrawal amount”) generation that is produced and fed into the grid as a result of the implementation of the project activity in year y				
Source of data	Electricity meter measurement at project site				
Value(s) applied	37,440 MWh (Net electricity export)				
Measurement methods and procedures	The quantity of net electricity generation supplied to the grid by the project plant will be recorded and reported based on the TEIAS meters at the project site.				
	MEASUREMENT EQUIPMENT	MODEL	MANUFACTURE R	SERIAL NO.	CALIBRATION FREQUENCY
	ELECTRICITY METER 1 (MAIN)	LANDISGYR ZG405CR4	LANDIS +GYR	40761750	10 years
	ELECTRICITY METER 2 (SPARE)	LANDISGYR ZG405CR4	LANDIS +GYR	40761749	10 years
	ELECTRICITY METER 3 INSTALLED INSTEAD OF ELECTRICTY METER WITH SERIAL 40761750	LANDISGYR ZG405CR4	LANDIS +GYR	50714836	10 years
Monitoring frequency	The quantity of net electricity generation supplied to the grid is measured continuously and recorded at least monthly.				

QA/QC procedures	According to the Article 2 of the 'Communiqué Regarding the Meters to be used in the Electricity Market '³¹ (Communiqué): <i>'The meters to be used in the electricity market shall be compliant with the standards of Turkish Standards Institute or IEC and have obtained "Type and System Approval" certificate from the Ministry of Trade and Industry.'</i> Therefore, Ministry of Science, Industry and Technology (Ministry) is responsible from control and calibration of the meters. Paragraph b) of the Article 9 of the 'Regulation of Metering and Testing of Metering Systems'³² (Regulation) of Ministry states that: <i>' b) Periodic tests of meters of electricity, water, coal gas, natural gas and current and voltage transformers are done every 10 years.'</i> Therefore, periodic calibration of the meters will be done every 10 years. Also, according to Article 67 (page 20) of this regulation, the calibration shall be done in calibration stations which have been tested and approved by Ministry of Trade and Industry. Article 10-d) of Communiqué requires the meters shall be three phase four wire and Article 64 of Regulation clearly states how calibration shall be performed for this kind of meters. According to Article 3 of System Usage Agreement³³ done by SEKAY and TEIAS; other than periodic tests, if a party alleges the meters are not working appropriately tests of the meters will be done by presence of both parties. If, after controls, it is seen that the meter is not working appropriately, the measurements of reserve meters are taken into account beginning from date both meters are reading the same (page 3, 2-c) As above mentioned, the data acquisition and management and quality assurance procedures that are anyway in place, no additional procedures have to be established for the monitoring plan.
Purpose of data	To measure the quantity of net electricity generation that is produced from a renewable energy source and fed into the grid to demonstrate contribution to SDG 7.2.1 "Renewable energy share in the total final energy consumption"
Additional comment	No Additional Comment

³¹ <http://www.epdk.org.tr/english/regulations/electric/meters.doc>, (page 6)

³² http://www.sanayi.gov.tr/download/osgm/olcu_aletleri_muayene_yonetmelik.zip (page 2)

³³ <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=18985&MevzuatTur=7&MevzuatTertip=5>

SDG11 Sustainable Cities and Communities

11.6.1 Improved waste management services

Data / Parameter	W _x																						
Unit	tons																						
Description	Total amount of waste disposed in a SWDS in year x																						
Source of data	Measurements by project participants by a weighbridge and plant records.																						
Value(s) applied	<table><tr><th>Monitoring Period</th><th>W_x (tons)</th></tr><tr><td>01/07/2024-31/12/2024</td><td>158,618</td></tr><tr><td>01/01/2025-31/12/2025</td><td>325,802</td></tr><tr><td>01/01/2026-31/12/2026</td><td>334,598</td></tr><tr><td>01/01/2027-31/12/2027</td><td>343,632</td></tr><tr><td>01/01/2028-31/12/2028</td><td>352,910</td></tr><tr><td>01/01/2029-30/06/2029</td><td>181,220</td></tr><tr><td>TOTAL</td><td>1,696,780</td></tr><tr><td>AVG</td><td>339,356</td></tr></table>					Monitoring Period	W _x (tons)	01/07/2024-31/12/2024	158,618	01/01/2025-31/12/2025	325,802	01/01/2026-31/12/2026	334,598	01/01/2027-31/12/2027	343,632	01/01/2028-31/12/2028	352,910	01/01/2029-30/06/2029	181,220	TOTAL	1,696,780	AVG	339,356
Monitoring Period	W _x (tons)																						
01/07/2024-31/12/2024	158,618																						
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01/01/2027-31/12/2027	343,632																						
01/01/2028-31/12/2028	352,910																						
01/01/2029-30/06/2029	181,220																						
TOTAL	1,696,780																						
AVG	339,356																						
Measurement methods and procedures	The garbage truck which carries municipal waste is weighed and printed receipts are filed.																						
Monitoring frequency	The total amount of waste is continuously measured and the data is aggregated at least annually.																						
QA/QC procedures	<table><tr><th>MEASUREMENT EQUIPMENT</th><th>MODEL</th><th>MANUFACTURER</th><th>SERIAL NO.</th><th>CALIBRATION FREQUENCY</th></tr><tr><td>Weighbridge</td><td>LL2</td><td>TUNAYLAR</td><td>17657</td><td>2 Years</td></tr></table> Maintenance and calibration of weighbridges is carried out according to the instructions of the manufacturer or legal requirements.					MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY	Weighbridge	LL2	TUNAYLAR	17657	2 Years								
MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY																			
Weighbridge	LL2	TUNAYLAR	17657	2 Years																			

Purpose of data	To measure municipal waste prevented to be used for electricity generation to demonstrate contribution to SDG11.6.1 Improved waste management services
Additional comment	-

B.7.2 Sampling plan

Not applicable

There are no data or parameter monitored to be determined by a sampling approach

B.7.3 Other elements of monitoring plan

All monitoring procedures and requirements of the proposed project activity are in accordance with the methodology ACM0001 "Flaring or use of landfill gas (V 19.0)"

The project developer SEKAY A.Ş. has planned and will implement monitoring procedures and measures with regard to the monitoring methodology chosen for this project activity, guaranteeing that emission reductions are calculated in an accurate and conservative manner.

SEKAY A.Ş. has designated a person in charge for monitoring and recording of all the required information and documentation related with the GHG emissions covered in this PDD. The designated person in charge is directly under the control of the Managing Director of the company. He collects, records and stores all the information for further archival or verification. Detailed responsibilities and authorities for project management, monitoring procedures and QA/QC procedures would be drawn up for the purpose and put in place. Duties therefore are incorporated in the personnel's daily activity schedules to ensure data continuity and high-quality data collection. The collected information is stored in the form of raw data in log books developed especially for the purpose of monitoring and recording data related to GS VER protocols.

These records will form part of the registered monitoring protocol for the use by verification companies. All the parameters monitored under the monitoring plan will be kept for a period of 2 years after the end of the crediting period or the last issuance of GS VERs, whichever occurs later.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1 Start date of project

The starting date of a project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. Therefore, the earliest considerable financial agreement is the contract of gas engine supply signed by the project developer on 27/02/2018. Thus, 27/02/2018 is determined as the start date of the project.

C.1.2 Expected operational lifetime of project

Expected operational lifetime of the SAKARYA LFG Power Plant is 19 years. (150,000 hours)

C.2. Crediting period of project

C.2.1 Start date of crediting period

Start and End date of the first crediting period: 01/07/2019- 30/06/2024

Start and End date of the second crediting period: 01/07/2024- 30/06/2029

As in-line with the Deviation approval (DEVRQ-211) section 4.2.2 ; The project have submitted the Design Certification Renewal request on 09/03/2026 which is not later than 6 months after the deviation decision date (12/09/2025). So Project can claim credits starting from 01/07/2024 as per the DEVRQ-211.

C.2.2 Total length of crediting period

Each crediting period is 5 years. The crediting period will be renewed one time more. Therefore, total length of the crediting period will be 15 years.

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in [Appendix 1](#)

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?

As per Gold Standard Gender Policy (<https://globalgoals.goldstandard.org/101-1-g-goldstandard-gender-policy/>), p. 10 “Foundational gender sensitive requirement. This strengthens Gold Standard’s ‘do no harm’ approach and addresses safeguards to prevent or mitigate adverse impacts on women or men and girls and boys. Such action is mandatory for all projects seeking Gold Standard certification and includes compliance with the gender ‘do no harm’ safeguards, gender gap analysis and gender sensitive stakeholder consultations.” The project being a LFG project is not gender sensitive project. The project does not adversely impact women or men.

Question 2 - Explain how the project aligns with existing country policies, strategies and best practices

The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis. Türkiye is party to Convention on Discrimination since 1972 to prevent any form of discrimination. https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-2&chapter=4&clang=en

The Project shall complete the following gender assessment questions

(<https://globalgoals.goldstandard.org/101-4-goldstandard-for-the-global-goals-safeguardingprinciples-requirements/>) below:

Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?

1. Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? No, the Project being a LFG project does not reduce access to or control of resources for women.
2. Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? No, the project beneficiaries in terms of employment and social upliftment of the area are common for both the gender. The project does not involve in any form discrimination in any kind of form.
3. Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, childcare duties, low literacy or educational levels, or societal discrimination)? No, this project does not involve in any form discrimination in any kind of form.
4. Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? Yes the project takes into account gender roles and abilities of women/men. Job profile is allocated based on the type of work to be carried out.
5. Does the Project design contribute to an

increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? No, on the contrary the project leads to increased availability of electricity in the regional grid thereby uplifting the living standards.

6. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? No, since the project is a renewable electricity generation project, thus it does not have discriminated against women.

7. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? No, in fact, the project leads to improved electricity in the regional grid.

Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?

The project is applying for regular GS registration and the Stakeholder Consultation & Engagement Procedure Requirements has been done as explained below.

The project owner has organized the complimentary stakeholder consultation meeting according to related requirements of GS4GG for Sakarya Landfill Gas Power Plant Project, Turkey. In developing a Project, "taking gender issues into account would require that local stakeholder consultation processes reach a wide range of community representatives in ways that ensure equal and effective participation of women and men in consultation, and that gender issues are fully factored into comprehensive social and environmental impact assessments. The general outcome of the stakeholder consultation interview was positive. The stakeholders stated that they are in favour of the project and underlined the significant contribution of the project to regions sustainable image and stressed the importance of renewable and clean energy every time.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

E.1 Summary of stakeholder mitigation measures

There were no mitigations agreed to be monitored with stakeholders during the validation process of the project activity.

E.2 Final continuous input / grievance mechanism

METHOD	INCLUDE ALL DETAILS OF CHOSEN METHOD (S) SO THAT THEY MAY BE UNDERSTOOD AND, WHERE RELEVANT, USED BY READERS.
Continuous Input / Grievance Expression Process Book (mandatory)	There are 3 communication ways for the stakeholder to express their inputs and concerns related with the on-going project. Stakeholder's can raise their inputs through the website of the project owner (https://sekay.com.tr/iletisim.aspx) Or Stakeholders can directly raise their inputs and concerns to the municipality's help desk by dialing 153 (https://www.sakarya.bel.tr/tr/Iletisim) related with the project. And lastly The process book has been located at mukhtar's office of Taskısıgı village. Project Participant is checking the comments in the book on a regular basis, and record responses. They are respectful to the views of stakeholders and suggest alternative solutions or compromises wherever possible.
GS Contact (mandatory)	help@goldstandard.org
Other	Project Owner: SEKAY (SAKARYA ENTEGRE KATI ATIK YONETİM A.Ş) Adres: Tekeler Mahallesi, Atık Sokak. No:16 Adapazarı/SAKARYA Telefon: +90 (264) 323 33 32 E-posta: sakarya@sekay.com.tr

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

SOCIAL SAFEGUARDING PRINCIPLES		
Reference requirement	Question	Response
P.1 Human Rights		
P.1.1.1 	Does the project developer, its representatives and the Project disrespect internationally proclaimed human rights?	☐ YES ☒ NO
P.1.1.1 	Is the project involved or complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights?	☐ YES ☒ NO
P.1.1.2 	Have local communities or individuals raised human rights concerns regarding the project (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.1.1.3 	Is there a risk that rights-holders (e.g., Project-affected stakeholders) do not have the capacity to claim their rights?	☐ YES ☒ NO
P.1.1.3 	Does this project undermine national or regional measures for the realisation of the right to development?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements. <i>The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. Project activities are not expected to cause any human rights abuse. As a member of United Nations and part of UN Agreement on Human Rights, it is ensured by law in Türkiye that no action can be taken against human rights.</i>		
Would the project potentially involve or lead to:		
P.1.1.1 	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalised groups?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.2 	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalised or excluded individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalised individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	☐ YES ☐ POTENTIALLY

		☒ NO
--	--	--

Briefly describe below how the project incorporates a human rights-based approach.

As Described above

P.2 | GENDER EQUALITY AND WOMEN'S EMPOWERMENT

P.2.1.1 	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.2.1.2 	Does the project undermine the principles of non-discrimination, equal treatment, and equal pay for equal work?	☐ YES ☒ NO
P.2.1.2 	Does the project prevent men and women from having equal opportunities to participate in identified tasks and activities, whether through paid work, volunteer work, or community contributions, as appropriate?	☐ YES ☒ NO
P.2.1.2 	Does the project limit the participation of women or men based on pregnancy, maternity/paternity leave, or marital status?	☐ YES ☒ NO
P.2.1.2 	Is information about project objectives being communicated in a way that is inappropriate for the local context and not tailored to the methods of understanding of both women and men, which could hinder their participation?	☐ YES ☒ NO
P.2.1.3 	Has the project assessed gender risks without referencing the country's gender strategy or equivalent national commitment?	☐ YES ☒ NO
P.2.1.4 	Has expert stakeholder(s) been involved, and has their input been requested for the project design on gender equality and women's empowerment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Would the project potentially involve or lead to:		
P.2.1.1 	adverse impacts on gender equality and/or the situation of women and girls?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.1 	exacerbation of risks of gender-based violence? For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.	☐ YES ☐ POTENTIALLY ☒ NO

P.2.1.2 	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.2 	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well-being.	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk to gender equality and women's empowerment.

The Project does not disregard gender roles and in fact actively engages both women and men. Community meetings are scheduled considering participation by both Men and Women. The project does not adversely affect men and women in marginalized or vulnerable communities because it creates stable jobs and incomes for local men and women. The project does not reduce or put at risk women's access to or control of resources, entitlements. Samsun Landfill Gas to Energy Project, Turkey does not involve in any form discrimination in any kind of form. Turkey ratified ILO 100 Equal Remuneration Convention³⁴ and 111 Discrimination (Employment and Occupation) Convention. Therefore, the safeguarding principle related to Gender Equality and Women's Rights is not triggered during the project design and implementation. The project does not have any scope to apply gender strategy.

[P.3 | COMMUNITY HEALTH AND SAFETY](#)

P.3.1.1 	Does the project involve potential risks to the health and safety of affected communities during its life cycle?	☐ YES ☒ NO
P.3.1.2 	Does the project involve any potential risks to the workers' safety and health?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

The project owner is committed to the safe and healthy working conditions during all phases of the project. All employees will attend trainings health & safety. This issue is protected by Labor Law and regulations³⁵ and UN Agreement on Human Rights³⁶.

Would the project potentially involve or lead to:

³⁴ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200_COUNTRY_ID:102893

³⁵ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

³⁶ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6701.pdf>

P.3.1.1 	construction and/or infrastructure development (e.g., roads, buildings, dams)?	☐ YES ☒ NO
P.3.1.2 	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 	harm or losses due to failure of structural elements of the project (e.g., collapse of buildings or infrastructure)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 	risks of water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel and other chemicals during construction and operation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g., food, surface water purification, natural buffers from flooding)?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk related to community health and safety.

All the employees have been trained about health and safety issues during operation phase of the project.

P.4 | CULTURAL HERITAGE, INDIGENOUS PEOPLE, DISPLACEMENT AND RESETTLEMENT

P.4.1 | Sites of Cultural and Historical Heritage

P.4.1.1 	Does the project involve altering, damaging, or removing sites, objects, or structures of significant cultural heritage?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

During the operation of the Sakarya Landfill Gas Power Plant Project, Turkey has not be any damage, alteration or removal to the critical cultural heritage. Cultural and environmental heritage is protected against alteration, damage or removal by the law³⁷.

Would the project potentially involve or lead to:

P.4.1.1 	activities adjacent to or within a cultural heritage site?	☐ YES ☐ POTENTIALLY ☒ NO
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³⁷ <https://teftis.ktb.gov.tr/TR-263665/dunya-kulturel-ve-dogal-mirasin-korunmasi-sozlesmesi.html>

P.4.1.1 	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 	alterations to landscapes and natural features with cultural significance?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 	utilisation of tangible and/or intangible forms (e.g., practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 	If answer to question above is "YES" or "POTENTIALLY" - are the communities made aware of their right under the law, scope and nature of proposed development and its potential consequences?	☐ YES ☐ NO ☒ NA
P.4.1.3 	If answer to question above is "YES" - does the project provide equitable sharing of benefits from commercialisation of such knowledge, innovation, or practice, consistent with their customs and traditions?	☐ YES ☐ NO ☒ NA
P.4.1.4 	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.1.4 	If answer to question above is "YES", has project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here....

[P.4.2 |Forced Eviction and Displacement](#)

P.4.2.1 	Does the project involve any risks related to involuntary relocation of people?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

No the project is not involve any risks related to involuntary relocation of people

Would the project potentially involve or lead to:

P.4.2.1 	risk of forced evictions or involuntary relocation of people?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 	temporary or permanent and full or partial physical displacement (including people without legally recognisable claims to land)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 	economic displacement (e.g., loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 	If answer to question above is “YES” or “POTENTIALLY”, - has the project developed Resettlement Action Plan or Livelihood Action Plan in consultation and agreement with affected individual, group or community? - has the project integrated Resettlement Action Plan or Livelihood Action Plan into the Project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 	If answer to question above is “YES” - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 	If answer to question above is “YES”, have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.4.3 | LAND TENURE AND OTHER RIGHTS](#)

P.4.3.1 	Does the project involve any risks related to identifying and managing legitimate tenure rights that may be affected by the project?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

This Sakarya Landfill Gas Power Plant Project, Turkey is not involving land-use tenure and does not require any changes to land tenure arrangements or other rights. Furthermore, there is not any uncertainties with regards land tenure, access rights, usage rights or land ownership.

Would the project potentially involve or lead to:

P.4.3.1 	impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.3.1 	uncertainties with regards to land tenure, access rights, usage rights or land ownership?	☐ YES ☐ POTENTIALLY

	Examples include, but are not limited to water access rights, community-based property rights and customary rights.	☒ NO
P.4.3.2 	Changes in legal arrangements, if yes, are the changes done in line with relevant laws and regulations?	☐ YES ☐ NO ☒ NA
P.4.3.2 	Changes in legal arrangements, if yes, are these changes agree with free, prior and informed consent of the involved stakeholders?	☐ YES ☐ NO ☒ NA
P.4.3.3 	Does some other entity (other than the project developer) hold uncontested land title for the entire Project Boundary?	☐ YES ☐ NO ☒ NA
P.4.3.4 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.3.4 	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
P.4.3.5 	Have project developer in consultation with stakeholders established a functioning mechanism to receive, process, resolve, communicate and record grievances?	☒ YES ☐ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

This Sakarya Landfill Gas Power Plant Project, Turkey is not involving land-use tenure and does not require any changes to land tenure arrangements or other rights. Furthermore, there is not any uncertainties with regards land tenure, access rights, usage rights or land ownership.

[P.4.4 | INDIGENOUS PEOPLES](#)

P.4.4.1 	Does the project involve Indigenous People within the Project area of influence who may be affected directly or indirectly by the Project?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

No cultural heritage/ indigenous people are displaced due to the project.

Would the project potentially involve or lead to:

P.4.4.1 	affect areas where indigenous peoples are present (including project area of influence)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.1 	affect areas, land and territory claimed by indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO

P.4.4.1 	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.7 	If answer to above questions is "YES" or "POTENTIALLY", - Is it determined that the proposed project may affect the rights, lands, resources, or territories of indigenous people? - Has an "Indigenous People Plan" (IPP) or "Indigenous People Plan Framework" been elaborated and included in the project documentation? - Was the plan developed in accordance with the effective and meaningful participation of indigenous peoples and in accordance with UNDP Guidelines?	☐ YES ☐ NO ☒ NA
P.4.4.3 	risk of forcibly removing indigenous people from their lands and territories?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.4 	utilisation and/or commercial development of natural resources on lands and territories claimed by indigenous peoples? Consider, and where appropriate ensure, consistency with the answers under Principle 4.1 above	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.5 P.4.4.6 	If answer to question above is "YES" or "POTENTIALLY" - Did the project obtain free, prior and informed consent from indigenous people before taking their cultural, intellectual, religious, and/or spiritual property? - Does the project ensure that the indigenous people receive an equitable sharing of benefits resulting from the use of their traditional knowledge and practices? ? - Does the project ensure that the sharing of benefits resulting from the use of indigenous peoples' traditional knowledge and practices is culturally appropriate and inclusive? - Does the project ensure that the provision of equitable sharing of benefits does not impede land rights or equal access to basic services including health services, clean water, energy, education, safe and decent working conditions, and housing?	☐ YES ☐ NO ☒ NA
P.4.4.8 	Does the project lack appropriate feedback and grievance channels for Indigenous Peoples and their representatives?	☐ YES ☐ NO

		☒ NA
P.4.4.8 	Has a grievance mechanism not been established at the beginning of programme or project implementation with due consideration given to customary dispute settlement mechanisms among the Indigenous Peoples concerned and will it remain operational throughout the project cycle?	☐ YES ☐ NO ☒ NA
P.4.4.9 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.4.9 	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A No cultural heritage/ indigenous people are displaced due to the project.

P.5 | CORRUPTION

P.5.1.1 	Does the project involve, or is it complicit in, contributing to or reinforcing corruption or corrupt projects?	☐ YES ☒ NO
P.5.1.1 	Does the project have a risk of encouraging bribery, kickbacks, or other unethical behavior?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Sakarya Landfill Gas Power Plant Project, Turkey does not involve and is not complicit in any kind of corruption Turkey has ratified UN Convention against Corruption and the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions.

ECONOMIC SAFEGUARDING PRINCIPLES

P.6 | ECONOMIC IMPACTS

P.6.1 | LABOUR RIGHTS AND WORKING CONDITIONS

P.6.1.1 	Does the project involve, facilitate, or condone forced labor, or pose a potential risk of forced labor?	☐ YES ☒ NO
P.6.1.1 	Does the project violate any labor or health and safety laws, international obligations, or ILO conventions?	☐ YES ☒ NO
P.6.1.2 	Does the project violate the principles of equal opportunity and fair treatment in its employment decisions?	☐ YES ☒ NO
P.6.1.3 	Does the project violate national laws, if available regarding non-discrimination in employment?	☐ YES ☒ NO
P.6.1.4 	Does the project allow child labor?	☐ YES

P.6.1.5 		☒ NO
P.6.1.7 P.6.1.8 	Does the project have insufficient processes and measures in place to ensure the safety and health of project workers?	☐ YES ☒ NO
P.6.1.9 	Does the project have insufficient measures to safeguard and support vulnerable project workers, such as women, people with disabilities, migrant workers, and young workers, and to prevent any kind of harassment, abuse, bullying, or exploitation, including gender-based violence (GBV)?	☐ YES ☒ NO
P.6.1.10 	Does the project have no grievance mechanism available for workers to voice workplace concerns? Is information about this mechanism not provided to workers at the time of recruitment, or is it not easily accessible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

SEKAY A.S company and their subcontractors complying with all relevant national laws. Also this company does not employ children in any shape or form for their works. Turkey has ratified ILO 138 Minumum Age Conventions and 182 Worst Forms of Child Labour Convention³⁸.

Would the project potentially involve or lead to:

(NOTE: APPLIES TO BOTH PROJECT AND CONTRACTOR WORKERS)

P.6.1.1 	use of forced labour?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 	working conditions that do not meet national labour laws and international commitments?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 	working conditions that may deny freedom of association and collective bargaining?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 	absence of documented working agreements with all individual workers <i>if such agreements do not exist, or do not address working conditions and terms of employment, the project developer shall provide reasonable working conditions and terms of employment.</i>	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 	use of migrant workers?	☐ YES ☐ POTENTIALLY

³⁸ http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200_COUNTRY_ID:102893

	<i>if engaged, the developer shall ensure that they are engaged substantially equivalent terms and conditions to non-migrant workers carrying out similar work.</i>	☒ NO
P.6.1.1 	having no arrangements for basic services ³⁹ for workers? <i>the project developer shall put in place and implement policies on the quality and management of the accommodation and provision of basic services in a manner consistent with the principles of non-discrimination and equal opportunity. Workers' accommodation arrangements should not restrict workers' freedom of movement or of association</i>	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 	any form of discrimination or harassment based on factors unrelated to job requirements, such as gender, race, nationality, ethnicity, social or indigenous origin, religion or belief, disability, age, or sexual orientation?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 	any form of discrimination in any aspect of employment, such as recruitment, compensation, working conditions, training, job assignment, promotion, termination, or discipline?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 	harassment, intimidation, and/or exploitation, especially in regard to women?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.3 	discriminatory working conditions and/or lack of equal opportunity where national law provides provision to address non-discrimination in employment?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 	use of child labour? (including third-party engaged workers)	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 	inadequate and verifiable mechanisms for age verification?	☐ YES ☒ NO
P.6.1.7 	no processes and measures in place for the safety and health of project workers?	☐ YES ☒ NO
P.6.1.7 	No provision of safety and health training provisions, including on the proper use and maintenance of personal protective equipment conducted by competent persons and the maintenance of training records?	☐ YES ☒ NO
P.6.1.7 	No provision to record and document accidents, diseases, incidents, and any resulting injuries, illnesses, or deaths?	☐ YES

³⁹ Basic services requirements refer to minimum space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.

		☒ NO
P.6.1.8 	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	☐ YES ☒ NO
P.6.1.9 	No measures to protect vulnerable project workers from harassment, exploitation, and gender-based violence (GBV)? This includes women, people with disabilities, migrant workers, and young workers.	☐ YES ☒ NO
P.6.1.10 	No grievance mechanism available for workers to voice workplace concerns.	☐ YES ☒ NO
P.6.1.11 	No measures for due diligence and the establishment of policies and procedures to manage and monitor the performance of third-party employees in the project?	☐ YES ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

*All the employees have been trained about health and safety issues during operation phase of the project. The project owner is committed to the safe and healthy working conditions all phases of the project. This issue is protected by Labor Law and regulations and UN Agreement on Human Rights
SEKAY A.S company and appointed subcontractors have not involved in any form forced or compulsory labour Turkiye has ratified ILO 29 Forced Labour Convention
Furthermore, tis Samsun Landfill gas to energy projevt has a positive impact on the social and economic benefits*

[P.6.2 |NEGATIVE ECONOMIC CONSEQUENCES](#)

P.6.2.1 	Is there a risk of project failure during implementation or after project certification due to a lack of financial resources?	☐ YES ☒ NO
P.6.2.2 	Does the project have potential negative impacts or pose a risk to the local economy?	☐ YES ☒ NO
P.6.2.2 	Are there any potential risks or negative impacts this project may have on vulnerable or marginalised social groups, despite the benefits it may bring?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The project has only one activity and it is producing electricity using waste. It provides the produced energy to the national grid. Other than providing clean energy to the nation, it has no negative impact on local economy during and after project implementation. Furthermore, it has positive impact by providing employment, to local people.

Would the project involve or lead to:

P.6.2.2 	economic impacts (negative/detrimental) to the local economy?	☐ YES ☐ POTENTIALLY ☒ NO
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P.6.2.2 	negative economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?	☐ YES ☐ POTENTIALLY ☒ NO
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If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.7 | CLIMATE AND ENERGY](#)

[P.7.1 | GHG EMISSIONS](#)

P.7.1.1 	Does the project have a risk of increasing greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here...

Would the project involve or lead to:

P.7.1.1 	increase greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ POTENTIALLY ☒ NO
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If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

The Project reduce the emission compared to the Baseline Scenario as it replaces electricity generated from fossil fuel fired power plants with zero emissions electricity from the waste.

[P.7.2 | ENERGY SUPPLY](#)

P.7.2.1 	Does the project pose a risk to the availability and reliability of energy supply to other users?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The Project's purpose is to supply clean energy from the waste to the national grid. It does not use energy from a local grid or power supply or fuel resource that provides for other local users.

Would the project involve or lead to:

P.7.2.1 	negative impact on the availability and reliability of energy supply to other users?	☐ YES ☐ POTENTIALLY
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		☒ NO
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If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

P.8 | WATER

P.8.1 | IMPACT ON NATURAL WATER PATTERNS/FLOWS

P.8.1.1 	Does the project increase water usage to a level that will not allow for the maintenance of environmental flows?	☐ YES ☒ NO
P.8.1.1 	Does the project result in the discharge of wastewater that does not meet the required standard for beneficial reuse and could therefore negatively impact the environmental flow?	☐ YES ☒ NO
P.8.1.1 	Does the project have the potential risk to exceed the rate of recharge for the groundwater source?	☐ YES ☒ NO
P.8.1.1 	Does the project involve any processes or activities that could contaminate the groundwater and render it unsuitable for use?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here....

Would the project involve or lead to:

P.8.1.1 	affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.1 	Wastewater discharge of quality that does not meet the required standard for beneficial reuse?	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.1 	significant extraction, diversion of ground water? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.2 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

P.8.2 EROSION AND/OR WATER BODY INSTABILITY		
P.8.2.1 	Does the project have a risk of negatively impacting the catchment and has it been assessed and addressed?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
<i>The Project directly or indirectly does not cause additional erosion and/or water body instability or disrupt the natural pattern of erosion. The project is susceptible to decreased vulnerability to erosion, flooding, drought or water body instability.</i>		
Would the project involve or lead to:		
P.8.2.2 	negatively impact on the catchment area?	
-		
P.8.2.5 	<i>If yes, Erosion prevention measures, including soil and slope protection measures, must be implemented before project commencement. These measures should involve natural terracing, infiltration strips, permanent ground cover, hedge and tree rows, and effective slope length assessment. Regular reassessment of these measures is necessary.</i>	☐ YES ☐ POTENTIALLY ☒ NO
P.8.2.6 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
N/A		
P.9 ENVIRONMENT, ECOLOGY AND LAND USE		
P.9.1 LANDSCAPE MODIFICATION AND SOIL		
P.9.1.1 	Is there any risk of soil resource degradation or loss of ecosystem services provided by soils in the project?	
-		
P.9.1.3 	<i>If yes, the project shall maintain healthy soils by minimising negative impacts on soil health, productivity, structure, and water retention. Steps to minimise soil degradation include crop rotation, composting, using N-fixing plants, and reducing tillage and ecologically harmful substances.</i>	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
<i>This project activity is to generate electricity from waste It does not involve the use of land</i>		

and soil for production of crops or other products. The project area has been rented from the Municipality

Would the project involve or lead to:

P.9.1.4 	production, harvesting, and/or management of living natural resources by small-scale landholders and/or local communities?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.1.4 	if answer to above question "yes" or "potentially", does project adopt appropriate and culturally sensitive sustainable resource management practices?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.2 | VULNERABILITY TO NATURAL DISASTER](#)

P.9.2.1 	Does the project have any risks associated with natural or man-made hazards that could result from land use changes due to the project?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The project is not susceptible to decreased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme conditions.

Would the project involve or lead to:

P.9.2.2 	any potential risks that require emergency preparedness and response planning?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.2.2 	if answer to above question "yes" or "potentially", did the project developer disclose appropriate information about emergency preparedness and response to affected communities?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.3 | BIOSAFETY AND GENETIC RESOURCES](#)

P.9.3.1 	Does the project involve the transfer, handling, and use of genetically modified organisms/living modified organisms that may result in adverse effects on biological diversity?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

N/A

Would the project involve or lead to:

P.9.3.1 	the transfer, handling and use of genetically modified organisms/living modified organisms (GMOs/LMOs) that result from modern biotechnology	☐ YES ☐ POTENTIALLY ☒ NO
P.9.3.1 	If answer to above question is "yes" has a risk assessment by a competent Expert stakeholder been carried out in accordance with Annex iii of the Cartagena protocol on biosafety to the convention on biological diversity?	☐ YES ☐ NO ☒ NA
P.9.3.2 	If answer to above question is "yes" has any risks identified in the risk assessment?	☐ YES ☐ NO ☒ NA
P.9.3.3 	Forestry (for example Afforestation/Reforestation) involving GMO planting? <i>Note - Forestry projects (for example Afforestation/Reforestation) involving GMO planting are not eligible for Certification under Gold Standard for the Global Goals.</i>	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.4 | RELEASE OF POLLUTANTS](#)

P.9.4.1 	Does the project have a risk of releasing pollutants to air, water, and land in routine, non-routine, or accidental circumstances?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The solid waste was being dumped to the landfill site without a soil capping layer before this project. Now, with soil capping layers, the landfill site is more robust, with a reduced risk of erosion and landslidThe project is susceptible to decreased vulnerability to wind, earthquakes, subsidence, land slides, erosion, flooding, drought or other extreme conditions. The Project is not function as a hazardous waste disposal or processing facility (i.e. as a hazardous waste gasification or incineration facility). Furthermore, there is not effect negatively organism, flora, fauna or GMOs. The project takes a precautionary approach in regard to environmenta challenges and is not complicit in practices contrary to the precautionary principle. The environment is protected by several Laws and Regulations in Turkey. The purpose of the "Law on Environmental Protection" is to protect the environment with principles of sustainable development and environment. The project owner also follows necessary procedures for environmental safety at the project site at international standard (such as Bern Convention).The all wastes have been disposed of according to related regulations.

Would the project involve or lead to:

P.9.4.1	any potential risk of pollutant release that cannot be avoided?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.4.3	If answer to above question is "Yes" or "potentially", has the project identified all potential pollution sources that may degrade the quality of soil, air, surface, and groundwater in the project area?	☐ YES ☐ NO ☒ NA
P.9.4.2	If answer to above question is "Yes" or "potentially", do the pollution prevention and control technologies and practices applied during the project life cycle align with national regulations or international best practices?	☐ YES ☐ NO ☒ NA
P.9.4.3	If answer to above question is "Yes", is there a monitoring plan to ensure that mitigation measures are implemented, and resources are protected?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

The management of all fractions of waste should be carried out in accordance with the legislation on waste and individual waste types.

[P.9.5 | HAZARDOUS AND NON-HAZARDOUS WASTE](#)

P.9.5.1	Does the project involve the generation of waste materials (both hazardous and non-hazardous)?	☐ YES ☒ NO
P.9.5.3	Does the project involve risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☒ NO
P.9.5.5	Does the project involve the use of any chemicals or materials subject to international bans or phase-outs?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The Project producing electricity from the waste to the national grid. Therefore, this project does not produce any chemicals or hazardous waste (NOx, SOx, VOC, mercury)

Would the project involve or lead to:

P.9.5.1	the generation and management of waste materials?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.5.1	treatment, destruction, or disposal of waste material?	☐ YES ☐ NO ☒ NA
P.9.5.1	If answer to above question is "Yes", does the project involve an environmentally friendly method that includes	☐ YES ☐ NO

	appropriate control of emissions and residues resulting from the handling and processing of waste material?	☒ NA
P.9.5.3 	risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☐ NO ☒ NA
P.9.5.3 	If answer to above question is "yes", does project has measures in place to address health risks?	☐ YES ☐ NO ☒ NA
P.9.5.4 	Involve manufacture, trade, and use of chemicals and hazardous materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here....

[P.9.6 | PESTICIDES & FERTILISERS](#)

P.9.6.1 	Does the project involve the use of chemical pesticides?	☐ YES ☐ NO
P.9.6.5 	Does the project involve purchase, store, manufacture, trade or use products that fall in Classes IA (extremely hazardous) and IB (highly hazardous)	☐ YES ☐ NO
P.9.6.6 	Does the project use fertilisers, and if so, are measures being taken to minimise their use and nutrient losses to the environment?	☐ YES ☐ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

N/A

Would the project involve or lead to:

P.9.6.1 	chemical pesticides use for pest management?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.6.4 	If answer to question above is "yes" or "potentially", does project has documented Chemical Pesticides Policy in place?	☐ YES ☐ NO ☒ NA
P.9.6.5 	purchase, store, use, manufacture, or trade in Class II (moderately hazardous) pesticides?	☐ YES ☐ POTENTIALLY ☒ NO

P.9.6.5 	If answer to question above is "yes" or "potentially", does project have appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals?	☐ YES ☐ NO ☒ NA
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If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.7 | HARVESTING OF FORESTS](#)

P.9.7.1 	Does the project have a risk of unsustainable forest management, including timber harvesting?	☐ YES ☒ NO
P.9.7.1 	Does the project pose a risk of depleting biodiversity and ecosystem functionality in areas where improved forest management is undertaken?	☐ YES ☒ NO
P.9.7.1 	Does the project risk not meeting requirements for environment-friendly, socially beneficial, and economically viable plantations using native species whenever possible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

This is waste project, so the project does not involve the harvesting of forests.

[P.9.8 | FOOD SECURITY](#)

P.9.8.1 	Does the project involve the risk of negatively influencing access to and availability of food for people affected?	☐ YES ☒ NO
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If the answer to the question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The Project is generating electricity from waste to the national grid. Therefore, the Project does not modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.

Would the project involve or lead to:

P.9.8.1 	modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	☐ YES ☐ POTENTIALLY ☒ NO
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If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.9 | ANIMAL WELFARE](#)

P.9.9.1 	Does the project involve any risks to animal welfare?	☐ YES ☒ NO
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	Animal welfare shall be ensured by providing access to water and food, appropriate environment, humane treatment, and staff training. Evidence of mistreatment will be treated as an immediate non-conformity.	
P.9.9.2 	Does the project involve any potential risk of excessive or inadequate use of veterinary medicines?	☐ YES ☒ NO
P.9.9.4 	Does the project involve the risk of administering synthetic growth promoters, including hormones?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The Project does not involve in animal husbandry

Would the project involve or lead to:

P.9.9.1 	animal husbandry or harvesting of fish populations or other aquatic species? ⁴⁰	☐ YES ☐ NO ☒ NA
P.9.9.1 	limiting access for animals to basic needs like drinking water, adequate food, daylight, appropriate shelter etc.?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.9.3 	inadequate measures to isolate sick animals and control the spread of disease, especially zoonotic diseases?	☐ YES ☐ NO ☒ NA
P.9.9.5 	inadequate low-stress methods, equipment, and facilities that facilitate calm animal movement.	☐ YES ☐ NO ☒ NA
P.9.9.6 	inadequate measures to ensure that animals are exposed to the least stress possible during transportation and slaughtering?	☐ YES ☐ NO ☒ NA
P.9.9.7 	inappropriate spacing per animal and stocking rates per land unit?	☐ YES ☐ NO ☒ NA
P.9.9.8 	inadequate measures to address the specific needs of aquatic animals?	☐ YES ☐ NO ☒ NA
P.9.9.9 P.9.9.10 	primary production of living natural resources such as animal husbandry, aquaculture, and fisheries? If the answer is yes, implement industry-standard sustainable management practices in line with to one or	☐ YES ☐ NO ☒ NA

⁴⁰ 'Involve' means if the project mechanism and/or impact(s) are achieved via changing animal husbandry practices in some way.

	more relevant and credible standards and utilise available technologies.	
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If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

P.9.10 | HIGH CONSERVATION VALUE AREAS AND CRITICAL HABITATS

P.9.10.1 	Does the project have the risk of negatively impacting HCV areas and/or critical habitats?	☐ YES ☒ NO
P.9.10.2 	Does the project in the project area or area of downstream impacts have risks to the following: native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The project does not affect or alter High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or cultural sites.

Would the project involve or lead to:

P.9.10.1 	identified habitats as HCV areas and or Critical habitats?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.10.1 	If answer to above question is "yes", does the project have any risks that could negatively impact the catchment, project success, and surrounding HCV and ecological assets, as well as any measurable adverse impacts on the criteria or biodiversity values for which the critical habitat was designated, and on the ecological processes supporting that biodiversity?	☐ YES ☐ NO ☒ NA
P.9.10.1 	If answer to above question is "yes", is a robust, appropriately designed, and long-term Habitats and Biodiversity Action Plan absent which will make the project unable to achieve net gains of those biodiversity values for which the critical habitat was designated?	☐ YES ☐ NO ☒ N/A
P.9.10.2 	Does the project area or area of downstream impacts have native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.10.2 	If the answer to the above question is "yes", will the project have any adverse effects on these areas?	☐ YES ☐ No ☒ NA
P.9.10.3 	If the answer to above question is "yes", does the project has opportunities to minimise unwarranted conversion or	☐ YES

	degradation of the habitat and to enhance the habitat as part of its development?	☐ No ☒ NA
P.9.10.4 	Is the project applying Land Use & Forest Activity Requirements and managing a minimum 10% of the project area to protect or enhance the biological diversity of native ecosystems following HCV approach as per the given requirements?	☐ YES ☐ No ☒ NA
P.9.10.5 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

[P.9.11 | ENDANGERED SPECIES](#)

P.9.11.1 	Does the project lead to the reduction or negative impact on any recognised Endangered, Vulnerable or Critically Endangered species?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

There are no endangered species identified as potentially being present within the Project boundary (including those that may route through the area). The project is not within the vicinity of area that contains endangered species.

Would the project involve or lead to:

P.9.11.2 	distortion of habitats of endangered species?	☐ YES ☐ POTENTIALLY ☒ NA
P.9.11.2 	If answer to the above question is "yes", does the project plan to protect and enhance them?	☐ YES ☐ POTENTIALLY ☐ NO ☒ N/A
P.9.11.2 	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

P.9.12 | INVASIVE ALIEN SPECIES

P.9.12.1	Does project introduce any alien species (not currently established in the country or region of the project) into new environments?	☐ YES ☒ NO
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If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

N/A

Would the project involve or lead to:

P.9.12.1	risk of introducing any alien species with a high risk of invasive behaviour regardless of whether such introductions are permitted under the existing regulatory framework?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.12.1	risk of potential accidental or unintended introductions including the transportation of substrates and vectors (such as soil, ballast, and plant materials) that may harbour alien species.	☐ YES ☐ POTENTIALLY ☒ NO
P.9.12.2	risk of spreading alien species into areas in which they have not already been established?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

N/A

APPENDIX 2 - CONTACT INFORMATION OF PROJECT DEVELOPER(S)

Organization name	CLIMETREK LTD
Registration number with relevant authority	Registered in England and Wales No: 13347526
Street/P.O. Box	33 Hanworth Road
Building	Summit House
City	Sunbury-on-Thames
State/Region	Surrey
Postcode	TW16 5DA
Country	United Kingdom
Telephone	
E-mail	dk.balian@climetrek.com
Website	www.climetrek.com
Contact person	DK Balian
Title	CEO
Salutation	Mr
Last name	Balian
Middle name	Kumar
First name	Daksh
Department	
Mobile	00447825094785
Direct tel.	
Personal e-mail	

APPENDIX 3 - LUF ADDITIONAL INFORMATION

N/A

APPENDIX 4 - DESIGN CHANGES

A4.1. Details of proposed or actual design change

Actual design change is based on the wrong estimation of Gas Collection Efficiency (0.5) during the first crediting period. A higher value of Gas collection efficiency (0.75) has now been used to calculate baseline emissions during this second crediting period to avoid higher gaps that could occur between the estimated Emission reductions and the realized emission reductions.

This wrong estimation has caused inconsistency in emission reductions calculations with the values estimated in the registered PD and the realized Emission reductions during the first performance review.

A4.2. Describe the impacts of design change on the following

a. Additionality

The project activity is having capacity of 4.68 MWe landfill gas power plant. According to the positive list of technologies landfill gas projects having below 10 MWe capacity are deemed additional. Design Change has no effect on project's additionality.

b. Applicability of methodology and other methodological regulatory documents with which the project activity has been certified

The project activity is still avoidance of release of methane gaseous (resulting from the wastes) to the atmosphere and supply of electricity to the grid by grid connected power plants with the same electricity generation capacity using ACM0001 methodology. There is also no change to the project start date. The project started its commercial operation on the day it is planned. Design change does not affect any additionality of the project activity. There is no change to the PD applicability.

c. Compliance with the monitoring plan of the applied methodology

No negative impact due to the proposed design change as there is no change to the monitoring plan and the applied methodology

d. Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the registered monitoring plan

There is no need to make any changes to design certified monitoring plan regards to Local Stakeholder's feedback; applicability of the methodology, SDG Impact, safeguarding assessments. As the proposed design change does not have any effect on principles and requirements as stated in the above analysis. There is also no changes to the EIA report so no new mitigations have been added due to the proposed design change.

e. Scale of the project activity

There is no change to the project scale. Project is still a large project

f. Stakeholder consultation

There is no change in the project activity and project activity started its operations as it is planned. There is no capacity increase or any location change of the project activity compared to the design certified project. The stakeholder consultation is not necessary for this change.

g. Sustainable development criteria

There are no changes in the project location or no extension of the project boundaries according to the proposed design change. So re-assessment of the SDG impacts is not necessary

h. Safeguarding assessment

There are no changes in the project location or no extension of the project boundaries according to the proposed design change. So re-assessment of the Safeguarding Principles is not necessary

i. Compliance with applicable legislation

There is no document or any approvals/licenses required or obtained from the environmental or regulatory agencies as the project has started operations on time with the licensed capacity within the same boundary of the existing approvals and licenses.

j. **Only for LUF Projects:** Transparent summary of all approved changes in Project Area, Eligible Area and accompanying changes in ex-ante emissions removals.

DATE OF APPROVED DESIGN CHANGE (MM/DD/YYYY)	PROJECT AREA (HA)		ELIGIBLE AREA (HA)		EX-ANTE ESTIMATE (TCO2E)	
	INCREASE OR DECREASE ?	VALUE (HA)	INCREASE OR DECREASE?	VALUE (HA)	INCREASE OR DECREASE ?	PERCENTAGE (%)

DOCUMENT HISTORY

Version	Date	Remarks
1.5	29 June 2023	Editorial changes to match V2.1 of the Safeguarding Principles Requirements
1.4	21 June 2023	Editorial changes to match V2.0 of the Safeguarding Principles Requirements
1.3	14 April 2023	Integrated the design change memo as annex of the document. Editorial changes
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption