Gold Standard
for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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VERSION **v.1.5**

RELATED SUPPORT

- TEMPLATE GUIDE Key Project Information & Project Design Document

This document contains the following sections

KEY PROJECT INFORMATION

GS ID of Project	GS 764
Title of Project	Bolu Landfill Gas to Energy Project, Turkey
Time of First Submission Date	13/06/2025
Date of Design Certification	12/08/2011
Version number of the PDD	4
Completion date of version	08/08/2025
Project Developer	CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti.
Project Representative	Climate Balanced İklim Enerji Ticaret ve Eğitim Ltd. Şti.
Project developers and any communities involved	N/A
Host Country (ies)	Türkiye
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	AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 AMS-III.G.: Landfill methane recovery --- Version 10.0
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
SDG 13- Take urgent action to combat climate change and its impacts	Emission reductions	15,259	tCO_2e GSVER's
SDG 7– Ensure access to affordable, reliable, sustainable and modern energy for all	MWh of renewable energy generated	8,483 MWh/year	MWh
SDG 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Number of trainings and employment	9 employee/year 1 training/employee/ year	Number

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

The Bolu Landfill Gas to Energy Project, developed and operated by CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti. (hereinafter referred to as "project developer"), which is the regional office of the Korea-based company; CEV Clean Energy & Vehicle. The proposed activity involves the collection and utilization of the LFG with an electricity component with a maximum installed capacity reaching 1.131 MWe. On 23/09/2022, the proposed activity commissioned another unit with installed capacity of 1.413MWe to deal with potential operational pauses resulted by the existing engine in future. With the new commissioning, there has been no increase in project installed capacity and power generation.The total installed capacity is 1.131MWe. Due to the fact that there has been no change in the total capacity of the project, there will not be any adverse impact on the additionality of the project or there will be no additional environmental impact. Please refer to the clarification request form obtained by Gold Standard[1]. The project is located in the Bolu landfill site, Turkey which is the main landfill area of the Bolu province, which has more than 150,000 inhabitants. The landfill started operations in 1992.[2] As of 2017,the landfill currently holds more than 2 million tons of waste. In 2008, the disposed waste amount reached 42,926 tones, corresponding to 160-180 t/day on average. In recent years 2023 and 2024, the disposed waste amount reached approximately 80,000 tones, corresponding to 219 t/day on average.[3] In the baseline scenario, the landfill has 8 venting pipes with the release of the LFG to the atmosphere without any flaring or utilization activity. The Project activity does not only aim at utilizing the already existing waste, but it also makes use of the new waste. The Project has started with construction on 11/11/2010 and the operation has started as of 12/08/2011.The electricity generation started on 26/08/2011.

Date	Milestone
20/01/2009	Bolu Municipality organizes a tender for managing the waste on its landfill.
09/02/2009	The Project developer wins the tender and concludes a contract with the Municipality. Carbon consideration is included in the contract.
17/02/2009	The Municipality issues site access permit to the Project developer.
22/08/2009	Technical experts from Korea make a site visit to carry out various gas tests and measurements.
06/03/2009	An informative meeting is organized in Bolu to inform stakeholders about the Project.
15/04/2009	Bolu Provincial Directorate of Environment and Forestry issues the "EIA is not required" document to the Project.

[1] Please see CL_183.pdf
[2] Please refer to the 2nd CP PDD:GS764_PDD_12.20.2017.pdf
[3] Please see the ER Calculation sheet for the waste amount.

07/2009	Feasibility study contract is signed
17/06/2010	Electricity generation license obtained.
25/11/2010	Equipment order is signed.
26/08/2011	Start date of electricity generation[4]
12/08/2011	Start of first crediting period
12/08/2011	Start of first crediting period
11/08/2018	End date of first crediting period
12/08/2018	Start date of second crediting period
11/08/2025	End date of second crediting period
12/08/2025	Start date of third crediting period

The main purpose of the project activity is to generate electrical energy through sustainable means using landfill gas, to delivers the generated output to the Turkish national grid to contribute to climate change mitigation efforts.

The details of the project are mentioned in Table 2 below:

Table 2: Project Details

Name of PP	**Capacity in MW**	**Connection with Grid**	**State**	**Usage of Electricity**
CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti.	1.131 MWe[5]	Turkish National Grid	Bolu	Sale to grid

The project activity is promoted by CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti. Thus, CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti. is acting as PP for the project activity.

The project is estimated to generate 8,483 MWh/year electricity annualy. The project is estimated to achieve 15,259 tCO_2e/year emission reductions annualy and 106,814 tCO_2e over the crediting period.

[4] Please refer to CEV Marmara Kabul document for the start of electricity generation date.
[5] The Project Developer added another generation unit with a capacity of 1.413 MWe.However, this unit is only added to the project as a backup unit to deal with potential operational pauses resulting from the existing engine in the future and does not contribute to the electricity generation activity. Therefore, the plant's total capacity is the same as the registered capacity.Please refer to the clarification request indicates the same obtained by GS(CL_183)

A.1.1. Eligibility of the project under Gold Standard

The project activity meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document, V2.1[6] , as described below:

The following General Eligibility Criteria applies to all projects seeking Gold Standard Certification:

(a) Types of Project: The project involves extracting and utilizing landfill gas (LFG), Since the project includes methane recovery and considers emission reductions from both methane avoidance and make use of methane recovered for the delivery of energy services (electricity) the project is an eligible project in accordance with 1.3.1 of the Annex A – Additional Eligibility Criteria for Specific Project Types under Gold Standard for The Global Goals Renewable Energy Activity Requirements, Version 1.4. The project applies two methodologies which approved methodology under Gold Standard namely, AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 and AMS-III.G.: Landfill methane recovery --- Version 10.0.

(b) Location of Project: Project is located in Türkiye.

(c) Project Area, Project Boundary and Scale: The project Area and Boundary is in line with methodological requirement. The project activity is a Waste Handling and Disposal project along with electricity generation units and qualifies under small scale projects.

(d) Host Country Requirements: The necessary approvals for project commissioning have been secured from the host country government, and the project is in accordance with the relevant legal, environmental, ecological, and social regulations of the host country.

(e) Contact Details: Please refer Appendix 2 for the contact details. The Project developer is CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti.

(f) Legal Ownership: For legal ownership please refer to section A.1.2 for the legal ownership details.

(g) Other Rights: The project activity complies with the Turkish Republic Laws and Regulations [7]governing the landfill gas component.

[6] https://globalgoals.goldstandard.org/standards/101_V2.1_PAR_Principles-Requirements.pdf
[7] Please refer to page 9 of this PDD for laws and regulations.

(h) Official Development Assistance (ODA) Declaration: Refer Section A.5 for the information of funding sources of projects.

The project results in the displacement of electricity from fossil fuel-powered stations supplying the grid, contributing to the sustainable development of Türkiye and aligning with the Gold Standard Vision and Mission. In accordance with the GS4GG-Renewable Energy-Activity-Requirements-v1.4[8], the project adheres to the Gold Standard for the Global Goals Principles & Requirements and associated documents, as well as the Gold Standard Renewable Energy Activity Requirements.

As outlined in the Renewable-Energy-Activity-Requirements-v1.4, Section 2 Eligible Project Types, the project conforms to the following criteria:

- The project generates electricity from non-fossil fuel sources, specifically landfill gas. As per para 2.1.2 a Project demonstrates eligibility.
- It involves electricity generation through landfill gas (waste-to-energy) and supplies electricity to the national grid. As per para 2.1.2 b Project demonstrates eligibility.
- The project is a grid-connected energy project. As per para 2.1.2 b Project demonstrates eligibility.
- Given its waste-to-energy nature, it is exempt from satisfying the eligibility conditions of Section 2.1.3.
- The project utilizes landfill gas for power generation, claiming emission reductions from both methane avoidance and non-renewable fuel substitution. The system is designed to use at least some of the recovered biogas or delivering energy services in line with Annex A of the Renewable-EnergyActivity-Requirements-v1.4 document.
- The project does not seek renewable energy labels, making criteria 2.1.6 of the Renewable-Energy-Activity-Requirements-v1.4 document not applicable to the project activity.

[8] https://globalgoals.goldstandard.org/standards/202_V1.4_AR-Renewable-Energy-Activity-Requirements.pdf

- As per para 2.1.3 of Renewable-Energy-Activity-Requirements-v1.4[9], new Gold Standard Verified Emission Reductions (GS VER) or Gold Standard labels for Certified Emission Reductions (GS CER), Renewable Energy projects connected to national or a regional electricity grid must be located in either a;

  a. Least Developed Country (LDC), Small Island Developing State (SIDS) or a Land Locked Developing Country (LLDC) or

  b. Low Income and Low Middle-income country where the penetration level of the proposed Renewable Energy Technology type is less than 5% of the total grid installed capacity, at the time of the first submission to preliminary review Renewable Energy projects connected to national or a regional electricity grid are ineligible for GS VERs/CERs, if located in:

  - an Upper Middle-Income Country or High-Income Country or
  - SIDS and LLDC, defined as a High- Income Country

  Since this is not a new project, project is considered eligible.

- Projects is not generating on-site electricity for captive use.Therefore para 2.1.4 is not applicable.
- As per para 3.5.1, a single Renewable Energy project may potentially pursue any number and combination of Certified Impact Statements or Products. However, certain Product Requirements, which supersede the generic requirements stated in GS4GG-Renewable-Energy-Activity-Requirements-v1.4 can set restrictions on co-issuance of Certified Impact statements or Products. For instance, GS VERs or GS CERs with REC labels cannot be claimed for the same MWh
  - Project only claims GSVERs. Therefore, Project complies with the 3.5.1 criteria.
- Project is eligible for emission reductions from both methane avoidance (including from the flared biogas fraction) and non-renewable fuel substitution as long as evidence is provided on time for validation to demonstrate that the system was designed in a way to at least make use of some of the biogas recovered for the

[9] https://globalgoals.goldstandard.org/standards/202_V1.4_AR-Renewable-Energy-Activity-Requirements.pdf

delivery of energy services (e.g., electricity, heat). Therefore, the Project is eligible as per para 1.4.2.

Project is eligible under section 4 of GS4GG-Renewable-Energy-Activity-Requirements v1.4:

- Project contributes to 3 SDGs. These are SDG 13, SDG 7 and SDG 8. This project is generating electricity from LFG. Thus, it contributes to SDG 7. Project provides employment opportunities to people which contribute to SDG 8. Therefore, complying with para 4.1.1.
- Project Developer conducted safeguarding pirinciples assessment and conforming to the relevant requirements.Please see Appendix 1 for detailed information.Therefore, complying with para 4.1.2.
- Project identified and engaged relevant stakeholders and complied to stakeholder consultation requirements.Therefore, complying with para 4.1.3
- Project start date is determined according to the GS4GG Principles & Requirements document.Therefore, complying with para 4.4.1
- Project undergoes Design Certification Renewal as per GS4GG Principles & Requirements document. The project's design certification date is 12/08/2011. At that time GS4GG version was not available.The crediting period was determined to be 7 years. Thus, the Project undergoes design certification renewal every 7 years.
- The baseline reassessment conducted at the time of Crediting Period Renewal as per GS4GG Principles & Requirements document in the B.4 section.Therefore, complying with para 4.4.4
- Project is in compliance with principle 5- Financial Additionality and Ongoing Financial Need of Renewable Energy Activity Requirements. Therefore, complying with para 4.5.

Project activity is not located in a host country, region, locality or state that has an emission reduction cap enforced or has the possibility to trade emissions that include the scope of the proposed Project. Türkiye doesn't have any Emission Trading System or regulation that enforces emission reduction cap.

There is no potential for double counting of impacts and Project area does not overlap with another Gold Standard or other voluntary or compliance standard programme of a similar nature.Project is not registered with any other voluntary or compliance schemes.

Project is in compliance with applicable Host Country's legal, environmental, ecological and social regulations. Related laws and regulations to the project activity are as followed:

- Electricity Market Law[10] [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 Energy[11] [Law Number: 5346 Ratification Date: 10/05/2005 Enactment Date: 18/05/2005]
- Environmental Law[12] [Law Number: 2872 Ratification Date: 09/08/1983 Enactment Date: 11/08/1983]
    - Regulation on Solid Waste Control[13] [Last updated on 02/04/2015]
    - Regulation on Managed Waste Land Filling[14] [Regulation number 27533 Enactment Date: 26/03/2010]

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

CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti. is the Project owner and developer.

A.2 Location of project

The project is located in approximately 3 km northeast of Bolu City Centre (flight distance) and 1.5 km south of the main Anatolian highway. The location of project activity is in Marmara Region, Bolu Province, Yukarısoku Village as seen in Figure 1. Host party is Turkey.

[10] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6446&MevzuatTur=1&MevzuatTertip=5
[11] https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5346.pdf
[12] https://www.mevzuat.gov.tr/mevzuatmetin/1.5.2872.pdf
[13] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[14] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=13887&MevzuatTur=7&MevzuatTertip=5

Name of the PP	Village	District	Latitude	Longitude
CEV Marmara Enerji Üretim San. Ve Tic. Ltd. Şti.	Yukarısoku	Center	40° 45' 8" N	31° 38' 28" E

Figure 1-Location of the project

A.3 Technologies and/or measures

The Project mainly consists of the following components: Landfill cover, LFG collection system, electricity generation unit and other controlling / measurement equipment. The Project will generate electricity from LFG to cover its own electricity consumption and to feed the rest to the national power grid.

The project activity involves the collection and utilization of the LFG with an electricity component (i.e., gas engine) with total installed capacity of 1.131 MWe. The proposed activity involves the collection and utilization of the LFG with an electricity component. As per the license of the project, project is allowed to operate until 02/09/2038.

On 23/09/2022, the proposed activity commissioned another unit with installed capacity of 1.413MWe to deal with potential operational pauses resulted by the existing engine in future. With the new commissioning, there has been no increase in project installed capacity and power generation. Due to the fact that there has been no change in the total capacity of the project, there will not be any adverse impact on the additionality

of the project or there will be no additional environmental impact. Please refer to the clarification request form obtained by Gold Standard.[15]

The details of equipment installed at CEV Marmara Enerji Üretim San. Ve Tic. Ltd. Şti. are as follows:

Equipment	Specification
Gas Engine	**Manufacturer:** GE Jenbacher A-6200 **Type:** JGS416GS-L.L **Rated Power:** 1131 kWe **Serial Number:** 1021522 **Date of Manufacture:** 2011
Gas Engine (for use in emergencies)	**Manufacturer:** GE Jenbacher A-6200 **Type:** JGS 420 GS-L.L **Rated Power:** 1414 kWe **Serial Number:** 1146063 **Date of Manufacture:** 2015

The details of the electricity meters are provided below:

Meter	Brand/Model	Serial Number	Accuracy Class	Calibration Date	Calibration Frequency
Main Meter	Baylan/BTK.40	BYL067000832	0.5S	10/06/2021	10 years
Spare Meter	Baylan/BTK.40	BYL067000833	0.5S	10/06/2021	10 years

Equipment	Brand/Model	Serial Number	Accuracy Class	Calibration Date	Calibration Frequency[16]
Gas Analyzer	EMERSON / X-Stream /XMC02102854726	XMC02102854726	1%	02/01/2025	10 years

[15] Please refer to the Clarification obtained by the GS. (CL_183)
[16] Please refer to the Regulation on Measurement Devices of Turkey.

Flowmeter[17]	EPI / 540-INT-SSS-D51-DC24-MW075-0406NA-1RC-BIOGAS-NA-MB	22041803	1% of Reading + (0.5% + 0.02%/°C of Full Scale)	05/10/2022	10 years

A.4 Scale of the project

As per the Renewable Energy Activity Requirements v1.4 para. 3.3.2 (b) For the purpose of applying GS approved methodologies for quantification of GS VERs/CERs, 'small scale' is defined as per the indicated type, renewable energy Project with a maximum output capacity of 15 MW (or an appropriate equivalent). The total capacity of the project is 1.131 MWe. Therefore, project is defined as small scale as the capacity is less than 15 MW.

A.5 Funding sources of project

The project activity doesn't have any public funding or Official Development Assistance (ODA) funding.

[17] There has been a change on the flow meter. (Sierra,640S-NAA-L13-M0-E2-P2-V4-DD-5-CRWS,141381 with serial number 141381 is the previous flow meter. This change is an internal decision by Project developers , this change was done due to the intention of changing the flow meter . Instead of recalibrating the equipment in the future Project developer has chosen to replace the flow meter.

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

B.1. Reference of approved methodology (ies)

Applied methodologies:

- AMS-III.G. "Landfill Methane Recovery" version 10.0[18]
- AMS-I.D. "Grid connected renewable electricity generation" version 18.0[19]

AMS-III.G version 10.0 also refers to the following methodology and tools where applicable:

- "TOOL04:Emissions from solid waste disposal sites" version 08.1[20]
- "TOOL05:Tool to calculate baseline, project or leakage emissions from electricity consumption and monitoring of electricity generation" version 03.0[21]
- "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[22]

AMS-I.D version 18.0 also refers to the following methodology and tools where applicable:

- "TOOL07:Tool to calculate the emission factor for an electricity system" version 07.0[23]

B.2. Applicability of methodology (ies)

AMS-I.D. "Grid connected renewable electricity generation" version 18.0	
Applicability Conditions	Explanation
This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s);	Applicable since the project is a Greenfield Plant.

[18] https://cdm.unfccc.int/UserManagement/FileStorage/HN2W3BMY6RKUQOZDCVXS08F9LT1AI7
[19] https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK
[20] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v8.1.pdf
[21] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v3.0.pdf
[22] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf
[23] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

(d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	
Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m2 ; (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m2 .	Not applicable since project is not a hydropower plant.
If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The project is small scale project and all units are renewable. Thus, project satisfies the applicability condition.

Combined heat and power (co-generation) systems are not eligible under this category	Project does not involve co-generation systems.Hence, not applicable.
In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Project is a greenfield plant.The project does not involve the capacity addition of renewable energy generation units at an existing renewable power generation facility. Thus, not applicable.
In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	Project is a greenfield plant.The project is not retrofit, rehabilitation or replacement thus, not applicable.
In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	In the project activity, recovered methane is used for electricity generation for supply to grid. The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
In case biomass is sourced from dedicated plantations, the applicability	There is no biomass in the project. Thus, not applicable.

criteria in the tool "Project emissions from cultivation of biomass" shall apply.	

AMS-III.G.: Landfill methane recovery --- Version 10.0	
Applicability Conditions	Explanation
Different options to utilise the recovered landfill gas as detailed in paragraph 4 of "AMS-III.H.: Methane recovery in wastewater treatment" (version 19.0) are eligible for use under this methodology. The relevant procedures in AMS-III.H. shall be followed in this regard.	Although AMS-III.H is refered in the□methodology, this should not automatically result in applicability of AMS-III.H to the project activity. AMS-III.H descripes methodology where recovery of biogas resulting from anaerobic decay of organic matter in wastewaters through introduction of an anaerobic treatment system for wastewater and/or sludge treatment with biogas recovery. The project activity does not include a waste water treatment service neither accepts wastewater or sludge. Therefore AMS-III.H is not applicable and there is no ground to follow the methodology.
Measures are limited to those that result in aggregate emission reductions of less than or equal to 60 kt CO_2 equivalent annually from all Type III components of the project activity.	Project will not reduce more than 60kt CO_2 equivalent annually.The project is estimated to achieve 15,259 tCO_2e/year annualy. Therefore, this condition is applicable and project satisfies this condition.
The proposed project activity does not reduce the amount of organic waste that would have been recycled in the absence of the project activity.	There are no recycling activities in the□baseline scenario.Therefore, this condition is not applicable.
This methodology is not applicable if the management of the solid waste disposal	No changes or intervene has been made□deliberately to increase

site (SWDS) in the project activity is deliberately changed in order to increase methane generation compared to the situation prior to the implementation of the project activity (e.g. other than to meet a technical or regulatory requirement). Such changes may include, for example, the addition of liquids to a SWDS, pre-treating waste to seed it with bacteria for the purpose of increasing the rate of anaerobic degradation of the SWDS or changing the shape of the SWDS to increase methane production.	generation compared to situation prior to the□implementation of the project activity.Therefore, this condition is not applicable.

Applicability of "TOOL04:Emissions from solid waste disposal sites" Version 08.1	
The tool outlines methods for computing baseline, project, or leakage emissions of methane arising from the disposal or prevention of solid waste at a Solid Waste Disposal Site (SWDS). This tool is relevant when the site where the waste would be deposited can be distinctly identified, and the proposed project does not involve stockpiling or processing hazardous waste.	
The tool can be used to determine emissions for the following types of applications: Application A: The CDM project activity mitigates methane emissions from a specific existing SWDS. Methane emissions are mitigated by capturing and flaring or combusting the methane (e.g. "ACM0001: Flaring or use of landfill gas"). The methane is generated from waste disposed in the past, including prior to the start of the CDM project activity. In these cases, the tool is only applied for an ex ante estimation of emissions in the project design document (CDM-PDD). The emissions will then be monitored during the	Project is generating electricity from captured LFG. Project mitigates methane emissions from a specific existing SWDS. Project captures LFG and generates electricity by gas engine using the methane in the LFG. AMS-III.G used to calculate baseline methane emissions.

crediting period using the applicable approaches in the relevant methodologies (e.g. measuring the amount of methane captured from the SWDS); Application B: The CDM project activity avoids or involves the disposal of waste at a SWDS. An example of this application of the tool is ACM0022, in which municipal solid waste (MSW) is treated with an alternative option, such as composting or anaerobic digestion, and is then prevented from being disposed of in a SWDS. The methane is generated from waste disposed or avoided from disposal during the crediting period. In these cases, the tool can be applied for both ex ante and ex post estimation of emissions. These project activities may apply the simplified approach detailed in 0 when calculating baseline emissions.	Application A is applicable to the project.

Applicability of TOOL07:"Tool to calculate the emission factor for an electricity system" Version 07.0	
Applicability Condition	**Explanation**
This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g., demand-side energy efficiency projects).	This condition of applicable, OM, BM and CM are estimated using this tool for calculating of the baseline emission.
Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants	Since the project activity is grid connected, the condition is applicable and

only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the Project developers, i.e., option IIa and option IIb. If option IIa is chosen, the conditions specified in "Appendix 1: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	emission factor has been calculated accordingly.
In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project activity is located in Türkiye which is not an Annex I country. Therefore, this condition is applicable to the project activity.
Under this tool, the value applied to the CO_2 emission factor of biofuels is zero.	The project activity is a waste to energy project and hence the condition of biofuel emission factor is not applicable.

Applicability of TOOL05:"Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" Version 03.0	
Applicability Criteria	**Explanation**
If emissions are calculated for electricity consumption, the tool is only applicable if one out of the following three scenarios applies to the sources of electricity consumption: (a) Scenario A: Electricity consumption from the grid. The electricity is purchased from the grid only, and either no captive power plant(s) is/are installed at the site of electricity consumption or, if any captive power plant exists on site, it is either not operating or it is not physically able to provide electricity to the electricity consumer; (b) Scenario B: Electricity consumption from (an) off-grid fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants are installed at the site of the electricity consumer and supply the consumer with electricity. The captive power plant(s) is/are not connected to the electricity grid; or (c) Scenario C: Electricity consumption from the grid and (a) fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants operate at thesite of the electricity consumer. The captive power plant(s) can provide electricity to the electricity consumer. The captive power plant(s) is/are also connected to the electricity grid. Hence, the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.	In the intended project activity, electricity is exclusively procured from the grid, and there is no installation of a fossil fuel power plant at the location of electricity consumption.Therefore, scenario c is applicable.
This tool can be referred to in methodologies to provide procedures to monitor amount of electricity generated in the project scenario, only if one out of the following three project scenarios applies to the recipient of the electricity generated: (a)Scenario I: Electricity is supplied to the grid;	The projects entail compliance with Scenario I: Electricity is supplied to the grid

(b) Scenario II: Electricity is supplied to consumers/electricity consuming facilities; or (c) Scenario III: Electricity is supplied to the grid and consumers/electricity consuming facilities	
This tool is not applicable in cases where captive renewable power generation technologies are installed to provide electricityin the project activity, in the baseline scenario or to sources of leakage. The tool only accounts for CO_2 emissions.	No captive renewable power generation technologies are installed to provide electricity in the project activity, in the baseline scenario or to sources of leakage.

Applicability of 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)	
a) This tool provides a stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism. 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.	a) Detailed assessment of the validity of the original baseline as per the Tool was carried out in Section B.4 of this PDD. Please see Section B.4.

B.3. Project boundary

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Emissions from decomposition of waste at the SWDS site	CO_2	No	Minor emission source. Excluded for simplification
		CH_4	Yes	The major source of emissions in the baseline
		N_2O	No	Minor Emission source. Excluded for simplification
	Emissions from electricity generation	CO_2	Yes	Major emission source
		CH_4	No	Minor emission source. Excluded for simplification.
		N_2O	No	Minor emission source. Excluded for simplification.
Project	Emissions from electricity consumption due to the project activity	CO_2	Yes	May be an important emission source
		CH_4	No	Minor emission source. Excluded for simplification.
		N_2O	No	Minor emission source. Excluded for simplification.

As presented by the below figure, the physical boundary of the proposed project are the components of the proposed project activity in which the gas will be captured and utilized/destroyed (including gas collection system, electric generators and flaring system) and their connection to the Turkish National Grid.

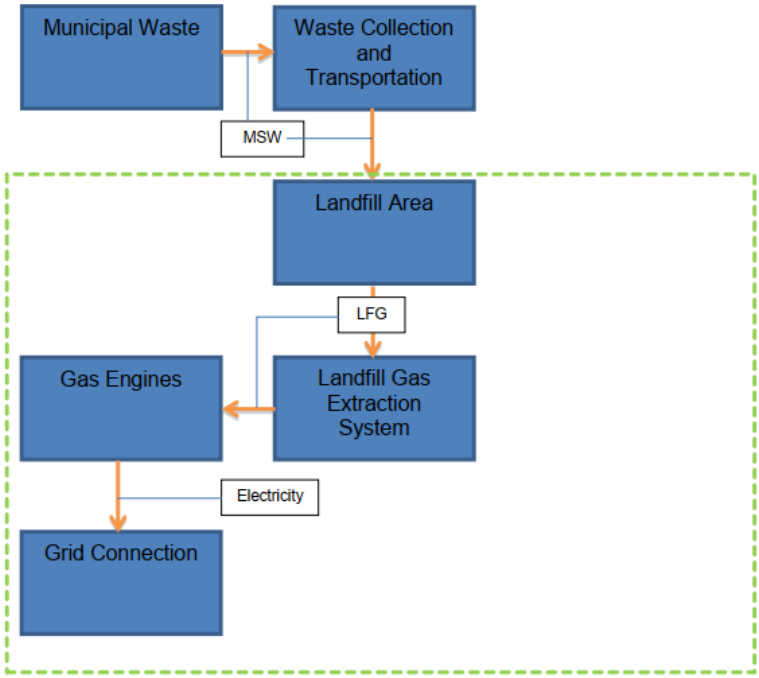


Figure 2-Project Boundary

B.4. Establishment and description of baseline scenario

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

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

An assessment on whether the current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation and if they are applicable at the time of requesting renewal of the crediting period must be provided.

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

- Electricity Market Law[24] [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 Energy[25] [Law Number: 5346 Ratification Date: 10/05/2005 Enactment Date: 18/05/2005]
- Environmental Law[26] [Law Number: 2872 Ratification Date: 09/08/1983 Enactment Date: 11/08/1983]
    - Regulation on Solid Waste Control[27] [Last updated on 02/04/2015]
    - Regulation on Managed Waste Land Filling[28] [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 YEKDEM[29] (Türkiye's Renewable Energy Support Mechanism) As one of the important aspects of the project activity is electricity generation from renewable

[24] Reference: https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6446&MevzuatTur=1&MevzuatTertip=5
[25] Reference: https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5346.pdf
[26] Reference: https://www.mevzuat.gov.tr/mevzuatmetin/1.5.2872.pdf
[27] Reference: https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[28] Reference: 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.
[29] YEKDEM for the project is expired on 2021.

energy sources the "Renewable Energy Law" is one of the regulating legislations regarding the project activity[30].

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 (referred to as 'venting,' as indicated in B.5 step 4), 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,

[30] On 29/12/2010, the Renewable Energy Law has been amended in order to provide technology-based incentives, increasing the price to U$cents 13.3 per kWh.

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.

Step 1.2: Assess the impact of circumstances

Factors other than the grid emission factor used for estimation of baseline emissions are valid at the point of renewal of crediting period. The grid emission factor is revised at the point renewal.

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

This sub-step is not applicable since the baseline scenario identified at the validation of the project activity was not the continuation of use of the current equipment(s) without any investment. The baseline scenario is identified as "Disposal of the waste at a landfill without the capture of landfill gas and the electricity generated by existing grid connected power plants" at the time of validation. The baseline scenario is the same.

Step 1.4: Assessment of the validity of the data and parameters

Sections B6 and B7 have been updated.

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

Step 2.1: Update the current baseline

The current baseline scenario is reassessed and baseline emissions for the subsequent crediting period have been updated.

Step 2.2: Update the data and parameters

Sections B6 and B7 have been updated.

Baseline Emission Factor

The establishment of the baseline and the computation of emission reductions for the proposed project activity follow the guidelines outlined in "Tool to calculate the emission factor of an electricity system" version 07.0. The baseline is determined through the

Landfill Methane Recovery identified in the baseline selection procedure.

The emission factor has been calculated conservatively in accordance with the proposed

methodology. Key assumptions include:

• The emission factor will remain constant throughout the crediting period.

• When there is no information available, the emission factor for fuel sources is

assumed to be "0" or the lowest value as per the references.

As per "Tool to Calculate the Emission Factor for an Electricity System" Version 07.0, Option 1 has been chosen.

Option 1: A delineation of the project electricity system and connected electricitysystems 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 developers applying the tool in these countries;

The Ministry of Energy and Natural Sources has publisher the Operating, Build and Combined Margin Emission Factors for Turkish National Grid. The Ministry has calculated the emission factor by using the "Tool to calculate the emission factor for an electricity system" methodology. Since it was updated in 26/11/2024 by the Ministry[31], these factors have been used for emission reduction calculation.

According to this publication, margins are demonstrated below:

Table 3-Build and Operating Margin from Ministry of Energy Publication

Margin	Value (tCO_2/MWh)
Build Margin	0.3721
Operating Margin	0.7108

According to the para 72 of TOOL07,for the third crediting period, the build margin emission factor calculated for the second crediting period should be used. Therefore, second crediting period build margin emission factor is taken into account to calculate combined margin emission factor. The build margin emission factor is 0.4350 (tCO_2/MWh).

Table 4-Emission Factor

Margin	Value (tCO_2/MWh)
Build Margin	0.4350
Operating Margin	0.7108
Combined Margin Emission Factor	0.5040

[31] 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_2022.pdf

Existing Landfill Sites

As per the latest data available[32] for Türkiye, total waste emissions for the year 2022 are 16.3 Mt CO_2 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 CH_4 emissions, which represent 86.8% of total emissions from this sector in 2022, followed by N_2O emissions with 13.2% and a very small percent of CO_2 as 0.03%.

Table 5- CO2 equivalent emissions for the waste sector, 2022 (kt CO_2e)[33]

GHG source and sink categories	**CO_2**	**CH_4**	**N_2O**	**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

Waste emissions are 57.7% (5.9 Mt CO_2 eq.) higher in 2022 than they were in 1990 and 5.5% (0.8 Mt CO_2 eq.) higher than in 2021.

[32] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf
[33] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf Table 7.1

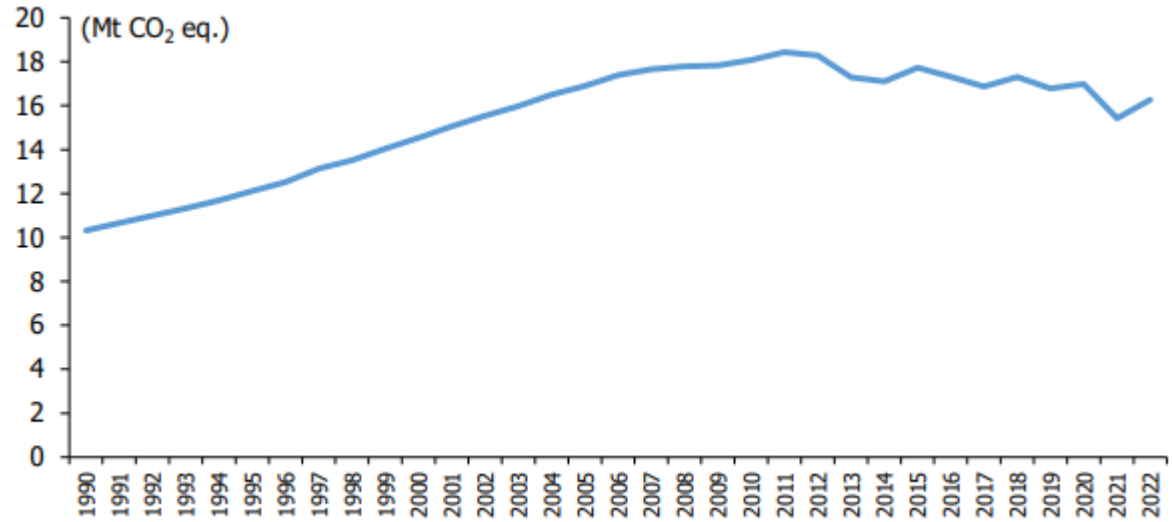


Figure 3-Total GHG emissions of waste sector, 1990-2021[34]

The total amount of CH_4 generated, CH_4 recovered and net CH_4 emissions from solid waste disposal sites are estimated as given below:

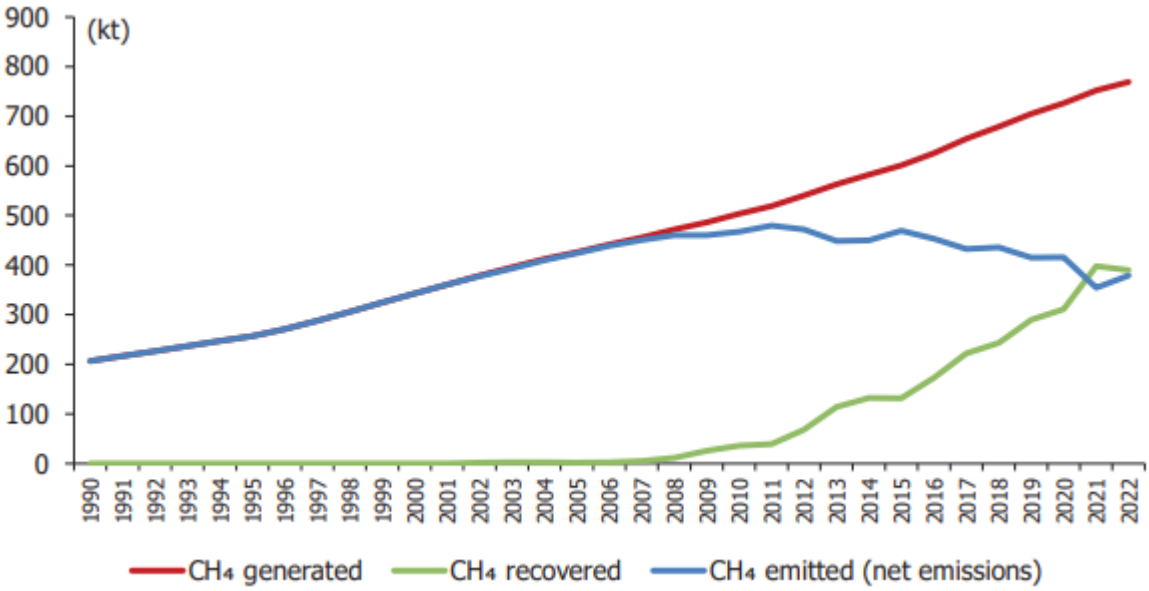


Figure 4-CH_4 emissions from solid waste disposal, 1990-2022[35]

[34] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf Figure 7.1
[35] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf Figure 7.2

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:

Table 6-Number of managed SWDS, 1992–2022[36]

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

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 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,1990-2022[37]

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

[36] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf Table 7.4
[37] https://unfccc.int/sites/default/files/resource/TUR_NID_2024.pdf Table 7.18

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.

B.5. Demonstration of additionality

There was no design change in the project activity since the first crediting period of the project. Therefore, Project developer did not reassess the additionality of the project activity as per para 281 of CDM standard for project activites version 03.0[38],for renewal of crediting period of a registered project activity, the Project developers are not required to reassess the additionality of the project activity nor update the section of the PDD relating to additionality. [39]

B.5.1 Prior Consideration

Not applicable

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 waste input, uncertainties in electricity generation, 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, 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.

Moreover, the sharp decline in voluntary carbon credit prices in recent years[40] 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 4.5 USD per GSVER. The Project is anticipated to generate around 15,259 GSVERs annually, resulting in estimated carbon credit revenues of approximately 68,665 USD per year. The Project's operational expenditures (OPEX) are around 574,400 USD annually. Therefore, the carbon credit revenue corresponds to about 11.95% of the total OPEX. This clearly illustrates that the Project remains in need of carbon finance support to maintain the project

[38] https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210921115752577/reg_stan04_v03.0.pdf
[39] https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210921115752577/reg_stan04_v03.0.pdf
[40] https://www.msci.com/research-and-insights/blog-post/frozen-carbon-credit-market-may-thaw-as-2030-gets-closer

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)**
13 Climate Action	13.2 Integrate climate change measures into national policies, strategies and planning	13.2.2 Total greenhouse gas emissions per year
7 Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Total electricity produced:Renewable
8 Decent Work and Economic Growth	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	8.5.1 Total Number of Jobs and Trainings Provided

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

The emission reductions resulting from the proposed project activity are calculated according to the methodologies AMS-III.G and AMS-I.D. According to the preferred methodology, the emission reductions are calculated with the following equation:

$ER_{y,estimated} = BE_y - PE_y - LE_y$ (equation 3 in AMS-III.G v10.0)

Where:

ER_y= Emission reductions in year y (tCO_2e/year)

BE_y= Baseline emissions in year y (tCO_2e/year)

PE_y= Project emissions in year y (tCO_2e/year)

LE_y=Leakage emissions in year y (tCO_2e/year)

Baseline Scenario Estimation

Methane Recovery

The baseline scenario is the situation where, in the absence of the project activity, biomass and other organic matter are left to decay within the project boundary, and methane is emitted to the atmosphere, possibly with capture of LFG and destruction through flaring to comply with regulations or contractual requirements. Baseline emissions shall exclude methane emissions that would have to be removed to comply with national or local safety requirements or legal regulations. In addition, the effect of methane oxidation that is present in the baseline and absent in the project shall be taken into account:

$BE_y = \eta_{PJ} \times BE_{CH4SWDS,y}\text{-}(1 - OX) \times F_{CH4,BL,y} \times GWP_{CH4}$ (equation 1 in AMS-III.G)

Where:

$BE_{CH4SWDS,y}$= Methane emission potential of a solid waste disposal site (in t CO_2e), calculated using the methodological tool "Emissions from solid waste disposal sites". This tool may be used:

• With the factor "f=0.0" because the amount of LFG that would have been captured and destroyed is already accounted for in this equation; • With the definition of year x as 'the year since the landfill started receiving wastes, x runs from the first year of landfill operation (x=1) to the year for which emissions are calculated (x=y)'. The amount of waste type j deposited each year x (Wj,x) shall be determined by sampling (as specified in the above-mentioned tool), in the case that waste is generated during the crediting period. Alternatively, for existing SWDS, if the pre-existing amount and composition of the wastes in the landfill are unknown, they can be estimated by using parameters related to the serviced population or industrial activity, or by comparison with other landfills with similar conditions at regional or national level

OX=	Oxidation factor (reflecting the amount of methane from SWDS that is oxidised in the soil or other material covering the waste) (dimensionless). A default value of 0.1 may be used
η_{PJ}=	Efficiency of the LFG capture system that will be installed in the project activity. It is used for ex ante estimation only. A default value of 50 per cent may be used
$F_{CH4,BL,y}$=	Methane emissions that would be captured and destroyed to comply with national or local safety requirement or legal regulations in the year y (t CH_4). The relevant procedures in "ACM0001: Flaring or use of landfill gas"

may be followed, as well as taking into account the compliance with the relevant local laws and regulation if such laws and regulations exist

GWP_{CH4} = Global Warming Potential for methane

As there is no regulation in Turkey to require the capture of methane emissions $F_{CH4,BL,y}$ is taken as zero.

As per the TOOL04, $BE_{CH4SWDS,y}$ is calculated as follows:

$$BE_{CH4,SWDS} = \varphi_y \times (1 - f_y) \times GWP_{CH4} \times (1 - OX) \times \frac{16}{12} \times F \times DOCf,y \times MCFy \times \sum_{x=1}^{y} \sum_{j} (Wj,x \times DOCj \times e^{-kj \times (y-x)} \times (1 - e^{-kj}))$$

Equation 1 in TOOL04 V8

Where:

$BE_{CH4,SWDS,y}$ =Methane emissions avoided during the year y from preventing waste disposal at the solid waste disposal site (SWDS) during the period from the start of the project activity to the end of the year y (tCO_2e)

φ_y =Model correction factor to account for model uncertainties

f_y =Fraction of methane captured at the SWDS and flared, combusted or used in another manner

GWP_{CH4} =Global Warming Potential of methane valid for the commitment period (tCO_2e/tCH_4)

OX =Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)

F= Fraction of methane in the SWDS gas (volume fraction)

DOC_f =Fraction of degradable organic carbon (DOC) that can decompose

MCF =Methane correction factor

$W_{j,x}$ =Amount of organic waste type j prevented from disposal in the SWDS in the year x (tons)

DOC_j =Fraction of degradable organic carbon (by weight) in the waste type j

k_i =Decay rate for the waste type j

j =Waste type category (index)

x =Year during the crediting period: x runs from the first year of the first

crediting period (x=1) to the year y for which avoided emissions are

calculated (x=y)

y=Year for which methane emissions are calculated

Electricity Generation

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

$BE_y = EG_{PJ,y} \times EF_{grid,y}$ (Equation 1 in AMS-I.D)

Where:

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

To find $EF_{grid,y}$, "Tool to calculate the emission factor for an electricity system" (V07.0) is applied to calculate combined margin. The following six steps below, provided in the Methodological Tool, are used to calculate the combined margin (CM) emission factor:

For the emission factors for electricity generation, the publication of the Turkish Ministry of Energy and Natural Resources, which indicates Turkey's National Electric Grid Emission Factor for 2022[41], was used. The publication includes calculated Emission Factor values that are Operating Margin (OM), Growth Based Margin (Build Margin-BM) and Combined Margin (CM) Emission Factors, for the relevant year with the usage of

[41] 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_2022.pdf

the IPCC's Clean Development Methodology Tool 07-V07.0. For this calculation, information regarding the data set employed is given below in detail;

- TEİAŞ Turkey's electricity generation-consumption and loss statistics,
- Commonly 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
- Checking off Volunteers from the websites of Gold Standard (GS) and Verified Carbon Standard (VCS) for the ownership status of the carbon reduction certificate and,
- From Clean Development Mechanism (CDM) Tool 09- V3.0, Power plant efficiency figures are used

According to the datasheet published, operating margin is provided below:

- Operating Margin: 0.7108 tCO_2/MWh

According to the para 72 of TOOL07,for the third crediting period, the build margin emission factor calculated for the second crediting period should be used. Thus, build margin emission factor is given below:

- Build Margin:0.4350 tCO_2/MWh

Combined Margin Emission Factor is calculated below:

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

$EF_{grid,BM,y}$ = 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)
w_{OM} = Weighting of operating margin emissions factor (%)
w_{BM} = Weighting of build margin emissions factor (%)

The following default values should be used for wOM and wBM:

(a) Wind and solar power generation project activities: wOM = 0.75 and wBM = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods;

(b) All other projects: wOM = 0.5 and wBM = 0.5 for the first crediting period, and wOM = 0.25 and wBM = 0.75 for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool.

Therefore:

wOM=0.25

wBM=0.75

$$EF_{grid,CM,y} = 0.7108\ \mathrm{t}CO_2/\mathrm{MWh} * 0.25 + 0.4350\ tCO_2/\mathrm{MWh} * 0.75$$

$$EF_{grid,CM,y} = 0.504 tCO_2/\mathrm{MWh}$$

Project Emissions

Project emission is calculated as follows;

$PE_y = PE_{\mathrm{Power},y} + PE_{\mathrm{Flare},y} + PE_{\mathrm{Process},y}$ (equation 2 in AMS-III.G)

Where:

PE_y= Project emissions in year y (t CO_2e)

$PE_{\mathrm{Power},y}$ = Emissions from the use of fossil fuel or electricity for the operation of the installed facilities in the year y (t CO_2e)

$PE_{\mathrm{Flare},y}$ = Emissions from flaring or combustion of the landfill gas stream in the year y (t CO_2e)

$PE_{\mathrm{Process},y}$ = Emissions from the landfill gas upgrading process in the year y (t CO_2e), determined by following the relevant procedures described in annex 1 of AMS-III.H.

There is no landfill gas upgrading process, so it is taken as zero. There is no flaring of the LFG in the project activity thus, project emissions from flaring is taken as 0.However, $PE_{power,y}$ calculated as explained in the below paragraphs.

The project emissions from electricity consumption by the project activity PEpower,y (also referred to as $PE_{EC,y}$) shall be calculated using the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption". When applying the tool, electricity sources j in the tool corresponds to the sources of electricity consumed due to the project activity.

As per para 16 of TOOL05 v3.0 ,$PE_{EC,y}$ is calculated as follows:

$PE_{EC,\ y} = \sum EC_{PJ,y} * EF_{EL,j,y} * (1+ TDL_{j,y})$ (equation 1 in TOOL05 v3.0)

Where:

$PE_{EC,\ y}$=	Project emissions from electricity consumption in year y (tCO_2e/year)
$EC_{PJ,y}$ =	Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/year)
$EF_{EL,j,y}$=	Emission factor for electricity generation for source j in year y (tCO_2e/MWh)
$TDL_{j,}y$=	Average technical transmission and distribution losses for providing electricity to source j in year y

Leakage

There is no leakage of biomass and no transfer of methane recovery technology equipment in the Project activity. Thus, leakage is zero as per para 42 of AMS-I.D v18.0 and para 18 of AMS-III.G v10.0 .

Therefore, ex-ante ER is calculated according to the equation below:

$$ER_y = BE_y - PE_y$$

Ex-Post Determination of Emission Reduction

According to the AMS-III.G, emission reductions are calculated using the equation below:

$ER_{y,calculated} = (1\text{-}OX) \times F_{CH4,PJ,y} - F_{CH4,BL,y} \times GWP_{CH4} - PE_y - LE_y$ (equation 4 in AMS-III.G)

Where:

$F_{CH4,PJ,y}$ = Methane captured and destroyed/gainfully used by the project activity in the year y (tCH_4)

Since there are no legal requirements in Turkey to destroy methane and the LFG was not captured prior to the proposed project activity. Therefore:

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

According to the applied methodology,for project activities that utilize the recovered methane for power generation, $F_{CH4,PJ,y}$ may be calculated as follows, based on the amount of monitored electricity generation, without monitoring methane flow and concentration(equation 6 of AMS-III.G):

$$F_{CH4,pj,Y} = \frac{EG_y \times 3600}{NCV_{CH4} \times EE_Y} \times D_{CH4} \times GWP_{CH4}$$

Where:

EG_y	Electricity generation in year y (MWh)
3600	Conversion factor (1MWh=3600MJ)
$D_{CH4,y}$	Density of methane at the temperature and pressure of the landfill gas in year y (tonnes/m^3). If $LFG_{i,y}$ is reported at normal conditions of temperature and pressure, the density of methane is also determined at normal conditions.
NCV_{CH4}	NCV of methane (MJ/Nm3). A default value : 35.9 MJ/Nm3 is used.
EE_y	Energy Conversion Efficiency of the project equipment determined as 40% default.

Calculation of $EG_{PJ,y}$

As per para 26 of AMS-I.D version 18.0, electiricty generation for greenfield power plants demonstated as follows:

$EG_{PJ,y} = EG_{PJ,facility,y}$

Where:

$EG_{PJ,facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

B.6.2 Data and parameters fixed ex ante

SDG 13(Indicator 13.2.2)

Data/parameter	OX
Unit	Dimensionless
Description	Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline
Source of data	AMS-III.G
Value(s) applied	0.1
Choice of data or Measurement methods and procedures	As referred under AMS-III.G
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	GWP_{CH4}
Unit	tCO_2e/tCH_4
Description	Global Warming Potential of CH_4
Source of data	IPCC

Value(s) applied	28 according to the IPCC Fifth Assessment Report, 2014 (AR5)
Choice of data or Measurement methods and procedures	As referred under AMS-III.G
Purpose of data	Calculation of baseline emission
Additional comment	-

Data/parameter	n_{PJ}
Unit	%
Description	Efficiency of the LFG capture system that will be installed in the project activity
Source of data	Default value under AMS-III.G
Value(s) applied	50%
Choice of data or Measurement methods and procedures	The value is taken from the feasibility study of the project.
Purpose of data	Calculation of baseline emissions
Additional comment	Only applicable to ex-ante estimations of the baseline emissions. The efficiency factor is based on the observations on actual performance of the power plant.

Data/parameter	D_{CH4}
Unit	kg/m^3
Description	Density of methane under normal conditions
Source of data	IPCC Volume 2 Energy 2019 Refinement page 4.19

Value(s) applied	0.67 kg/m^3 [42]
Choice of data or Measurement methods and procedures	As referred under AMS-III.G
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	$\varphi_{default}$
Unit	-
Description	Default value for the model correction factor to account for model uncertainties
Source of data	Emissions from solid disposal sites
Value(s) applied	0.75
Choice of data or Measurement methods and procedures	As referred under "Emissions from solid disposal sites"
Purpose of data	Calculation of baseline emissions
Additional comment	The proposed project activity falls under Application A

Data/parameter	F
Unit	-
Description	Fraction of methane in the SWDS gas (volume fraction)

[42] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/2_Volume2/19R_V2_4_Ch04_Fugitive_Emissions.pdf

Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories [43]
Value(s) applied	0.5
Choice of data or Measurement methods and procedures	Emissions from solid disposal sites
Purpose of data	Calculation of baseline emissions
Additional comment	Upon biodegradation, organic material is converted to a mixture of methane and carbon dioxide

Data/parameter	$DOC_{f,default}$
Unit	Weight fraction
Description	Default value for the fraction of degradable organic carbon (DOC) in MSW that can decompose in the SWDS
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories [44]
Value(s) applied	0.5
Choice of data or Measurement methods and procedures	Emissions from solid disposal sites
Purpose of data	Calculation of baseline emissions
Additional comment	The proposed project activity falls under Application A

[43] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_3_Ch03_SWDS.pdf
[44] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_3_Ch03_SWDS.pdf

Data/parameter	MCF
Unit	-
Description	Methane correction factor
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories[45]
Value(s) applied	0.8
Choice of data or Measurement methods and procedures	According to "TOOL04: Emissions from solid waste disposal sites" Version 08.1, MCF should be taken as 0.8 for unmanaged solid waste disposal sites-deep.
Purpose of data	Estimation of baseline emission
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)[46]
Value(s) applied	The following values for the different waste types have been applied:[47]

Waste type j	DOC_j (% wet waste)

[45] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_3_Ch03_SWDS.pdf
[46] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_2_Ch02_Waste_Data.pdf Since there is no refinement to this parameter , values in previous version IPCC 2006 Guidelines for National Greenhouse Gas Inventories is used.
[47] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v8.1.pdf

	Wood and wood products	43
	Pulp, paper and cardboard	40
	Food, food waste, beverages and tobacco	15
	Textiles	24
	Garden, yard and park waste	20
	Glass, plastic, metal, other inert	0
Choice of data or Measurement methods and procedures	In accordance to the "Emissions from solid waste disposal sites" Version 08.1	
Purpose of data	Estimation of baseline emission	
Additional comment	This value is estimated ex-ante	

Data/parameter	k_j
Unit	1/yr.
Description	Decay rate for the waste type j
Source of data	IPCC 2019 Guidelines for National Greenhouse Gas Inventories (Volume 5, Table 3.3) [48]
Value(s) applied	The following values for the different waste types have been applied:

Waste type j		Boreal and Temperate (MAT < 20°C)
		WET (MAP/PET >1)
Slowly	Paper/textiles waste	0.06

[48] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_3_Ch03_SWDS.pdf

		Wood, straw waste	0.03
	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.10
	Rapidly degrading	Food, food waste, sewage sludge, beverages, and tobacco	0.185

MAT (Mean Annual Temperature)[49]: 10.9 °C

MAP (Mean Annual Precipitation)[50]: 573.6 mm

PET (Potential Evapotranspiration)[51]: 560 mm

MAP/PET=1,02>1

Choice of data or Measurement methods and procedures	Emissions from solid disposal sites
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	$F_{CH4,BL,y}$
Unit	tCH_4

[49] https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=H&m=BOLU
[50] https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=H&m=BOLU
[51] http://tucaum.ankara.edu.tr/wp-content/uploads/sites/280/2015/08/tucaum4_4.pdf

Description	Methane emissions that would be captured and destroyed to comply with national or local safety requirements or legal regulations in the year y
Source of data	National laws and regulations (http://mevzuat.basbakanlik.gov.tr) https://www.mevzuat.gov.tr/MevzuatMetin/yonetmelik/9.5.24128.pdf
Value(s) applied	0
Choice of data or Measurement methods and procedures	Fixed value has been applied
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	EE_y
Unit	%
Description	Energy Conversion Efficiency of the project equipment
Source of data	Applicable methodology
Value(s) applied	40%
Choice of data or Measurement methods and procedures	Determined as 40% default
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	$EF_{grid,OM,y}$
Unit	tCO_2e/MWh
Description	Operating Margin CO_2 emission factor for the project electricity system in year y
Source of data	Türkiye National Grid Emission Factor Data Sheet [52]
Value(s) applied	0.7108
Choice of data or Measurement methods and procedures	The Ministry of Energy and Natural Sources has publisher the Operating, Build and Combined Margin Emission Factors for Turkish National Grid . The Ministry has calculated the emission factor by using the "Tool to calculate the emission factor for an electricity system"
Purpose of data	Estimation of combined margin emission factor
Additional comment	This parameter is fixed ex-ante for the entire crediting period

Data/parameter	$EF_{grid,BM,y}$
Unit	tCO_2e/MWh
Description	Build Margin CO_2 emission factor for the project electricity system in year y
Source of data	Second Crediting Period PDD
Value(s) applied	0.4350
Choice of data or Measurement methods and procedures	Tool to calculate the emission factor for an electricity system As per the para 72 of the TOOL07 version 7.0:

52 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_2022.pdf

	Option 2 - For the first crediting period, the build margin emission factor shall be updated annually, ex post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emissions factor shall be calculated ex ante, as described in Option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. Since this is the 3rd CP of the project, build margin emission factor calculated for the 2nd CP is used.
Purpose of data	Estimation of combined margin emission factor
Additional comment	This parameter is fixed ex-ante for the entire crediting period

Data/parameter	$EF_{grid,CM,y}$
Unit	tCO_2e/MWh
Description	Combined Margin CO_2 emission factor for the project electricity system in year y
Source of data	Türkiye National Grid Emission Factor Data Sheet and Second Crediting Period PDD
Value(s) applied	0.504
Choice of data or Measurement methods and procedures	The Ministry of Energy and Natural Sources has publisher the Operating, Build and Combined Margin Emission Factors for Turkish National Grid . The Ministry has calculated the emission factor by using the "Tool to calculate the emission factor for an electricity system"
Purpose of data	Estimation of combined margin emission factor
Additional comment	This parameter is fixed ex-ante for the entire crediting period

B.6.3 Ex ante estimation of SDG Impact

SDG 7: Affordable and Clean Energy

The clean energy generated by the project is determined based on the amount of electricity generated by the project per annum. The project activity is expected to generate Affordable and Clean Energy of 8,483 MWh per year.[53] This estimation is done considering the total capacity and load of the project. Total capacity is 1.131 MWe and load is 7500hours/year.[54] Therefore estimated annual electricity generation is 8,483 MWh/year.

SDG 8: Decent Work and Economic Growth

The project is expected to provide employment opportunities for 9 individuals annually which means 9 employees are expected to work in the project per year. Additionally, the project enhances the quality of employment by providing training to its workforce. Consequently, the project conducts one training session annually, and this aspect will be monitored through employment records.

SDG 13: Climate Action

The project is expected to result in emission reduction in 15,259 tCO_2e/per annum.The baseline emissions include the baseline emissions from fresh waste, baseline emissions from existing waste and baseline emissions from electricity.

For a given year, the emission reductions contributed by the project activity (ER_y) is calculated as follows:

The ex-ante emission reductions are calculated using the formulas as described under section B.6.1

Waste Type	Fraction (%)
Pulp, paper, cardboard (other than sludge)	0
Wood, wood products and straw	23%
Textiles	1%
Other (non-food) organic putrescible garden and park waste	0%
Food, food waste, sewage sludge, beverages and tobacco	44%

[53] Please refer to the ER calculation sheet.
[54] The Project Developer added another generation unit with a capacity of 1.413 MWe.However, this unit is only added to the project as a backup unit to deal with potential operational pauses resulting from the existing engine in the future and does not contribute to the electricity generation activity. Therefore, the plant's total capacity is the same as the registered capacity.Please refer to the clarification request indicates the same obtained by GS(CL_183)

Glass, plastic, metal, other inert	32%

Wood / Wood waste		Pulp, paper, cardboard		Food waste, sewage organics		non food organics		Textile	
DOC	k	DOC	k	DOC	k	DOC	k	DOC	k
43%	0.02	40%	0.04	15%	0.06	24%	0.050	20%	0.05

Baseline Emissions

Baseline Emission from Methane Avoidance from Landfill Gas (tCO_2e /year)

Table 8- Baseline Emission from Methane Avoidance from Landfill Gas (tCO_2e /year)

Crediting Period	Baseline Emission (Methane Avoidance LFG) (tCO_2e /year) [55]
12/08/2025-31/12/2025	4,191
01/01/2026-31/12/2026	11,402
01/01/2027-31/12/2027	12,003
01/01/2028-31/12/2028	11,509
01/01/2029-31/12/2029	11,040
01/01/2030-31/12/2030	10,594
01/01/2031-31/12/2031	10,170
01/01/2032-11/08/2032	5,994

Baseline Emission from Electricity Generation from Landfill Gas (tCO_2e /year)

Table 9-Baseline Emission from Electricity Generation from Landfill Gas (tCO2e /year)

Crediting Period	Baseline Emission from Power Generation (tCO_2e /year) [56]
12/08/2025-31/12/2025	1,663
01/01/2026-31/12/2026	4,275
01/01/2027-31/12/2027	4,275
01/01/2028-31/12/2028	4,275
01/01/2029-31/12/2029	4,275

[55] Please refer to the ER Calculation sheet for detailed calculation.
[56] Please refer to the ER Calculation sheet for detailed calculation.

01/01/2030-31/12/2030	4,275
01/01/2031-31/12/2031	4,275
01/01/2032-11/08/2032	2,623

Crediting Period	Installed Capacity (MW)	Annual Generation (MWh/year)	Emission Factor (tCO_2/year)	Baseline Emission (tCO_2e/year)
12/08/2025-31/12/2025	1.131	3,300	0.5040	1,663
01/01/2026-31/12/2026	1.131	8,483	0.5040	4,275
01/01/2027-31/12/2027	1.131	8,483	0.5040	4,275
01/01/2028-31/12/2028	1.131	8,483	0.5040	4,275
01/01/2029-31/12/2029	1.131	8,483	0.5040	4,275
01/01/2030-31/12/2030	1.131	8,483	0.5040	4,275
01/01/2031-31/12/2031	1.131	8,483	0.5040	4,275
01/01/2032-11/08/2032	1.131	5,206	0.5040	2,623

Baseline Emissions

Crediting Period	Baseline Emission (Methane Avoidance LFG) (tCO_2e /year) [57]	Baseline Emission from Power Generation (tCO_2e /year) [58]	Baseline Emission (tCO_2e /year)
12/08/2025-31/12/2025	4,191	1,663	5,854
01/01/2026-31/12/2026	11,402	4,275	15,677
01/01/2027-31/12/2027	12,003	4,275	16,278
01/01/2028-31/12/2028	11,509	4,275	15,784
01/01/2029-31/12/2029	11,040	4,275	15,315
01/01/2030-31/12/2030	10,594	4,275	14,869
01/01/2031-31/12/2031	10,170	4,275	14,445
01/01/2032-11/08/2032	5,994	2,623	8,617

[57] Please refer to the ER Calculation sheet for detailed calculation.
[58] Please refer to the ER Calculation sheet for detailed calculation.

Project Emissions

Crediting Period	Electricity Consumption (MWh/year)	Emission Factor (tCO_2/year)	TDL[59]	$PE_{LFG,y}$ (tCO_2e /year) [60]
12/08/2025-31/12/2025	5.43	0.5040	11.00%	3.04
01/01/2026-31/12/2026	5.43	0.5040	11.00%	3.04
01/01/2027-31/12/2027	5.43	0.5040	11.00%	3.04
01/01/2028-31/12/2028	5.43	0.5040	11.00%	3.04
01/01/2029-31/12/2029	5.43	0.5040	11.00%	3.04
01/01/2030-31/12/2030	5.43	0.5040	11.00%	3.04
01/01/2031-31/12/2031	5.43	0.5040	11.00%	3.04
01/01/2032-11/08/2032	5.43	0.5040	11.00%	3.04

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

SDG 13

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
12/08/2025-31/12/2025	5,854	3	5,851
01/01/2026-31/12/2026	15,677	3	15,674
01/01/2027-31/12/2027	16,278	3	16,275
01/01/2028-31/12/2028	15,784	3	15,781
01/01/2029-31/12/2029	15,315	3	15,312
01/01/2030-31/12/2030	14,869	3	14,866
01/01/2031-31/12/2031	14,445	3	14,442
01/01/2032-11/08/2032	8,617	3	8,614
Total	106,839	24	106,814
Total number of crediting years		7	
Annual average over the crediting period	15,263	3	15,259

[59] Please refer to the TEDAŞ Report page 20.
[60] Please refer to the ER Calculation sheet for detailed calculation.

SDG 7

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
12/08/2025-31/12/2025	0	3,300 MWh/year	3,300 MWh/year
01/01/2026-31/12/2026	0	8,483 MWh/year	8,483 MWh/year
01/01/2027-31/12/2027	0	8,483 MWh/year	8,483 MWh/year
01/01/2028-31/12/2028	0	8,483 MWh/year	8,483 MWh/year
01/01/2029-31/12/2029	0	8,483 MWh/year	8,483 MWh/year
01/01/2030-31/12/2030	0	8,483 MWh/year	8,483 MWh/year
01/01/2031-31/12/2031	0	8,483 MWh/year	8,483 MWh/year
01/01/2032-11/08/2032	0	5,206 MWh/year	5,206 MWh/year
Total	0	59,404 MWh/year	59,404 MWh/year
Total number of crediting years		7	
Annual average over the crediting period	0	8,483 MWh/year	8,483 MWh/year

SDG 8

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
12/08/2025-31/12/2025	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2026-31/12/2026	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2027-31/12/2027	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2028-31/12/2028	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year

01/01/2029-31/12/2029	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2030-31/12/2030	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2031-31/12/2031	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
01/01/2032-11/08/2032	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
Total	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year
Total number of crediting years		7	
Annual average over the crediting period	0	9 employee 1 training/employee/ year	9 employee 1 training/employee/year

B.7. Monitoring plan

B.7.1 Data and parameters to be monitored

SDG 7 (Indicator 7.2.1)

<table>
<tr><td>Data / Parameter</td><td>$EC_{PJ,y}$</td></tr>
<tr><td>Unit</td><td>MWh</td></tr>
<tr><td>Description</td><td>Quantity of electricity consumed by the project activity.</td></tr>
<tr><td>Source of data</td><td>Electricity Meters</td></tr>
<tr><td>Value(s) applied</td><td>5.43 MWh/year[61]</td></tr>
<tr><td>Measurement methods and procedures</td><td>The quantity of electricity consumed by the project plant will be monitored based on the main meter (also referred as TEİAŞ meters) readings and/or through protocols where and when appropriate.
<table>
<tr><th>Meter</th><th>Brand/Model</th><th>Serial Number</th><th>Accuracy Class</th><th>Calibration Date</th></tr>
<tr><td>Main Meter</td><td>Baylan/BTK.40</td><td>BYL067000832</td><td>0.5S</td><td>10/06/2021</td></tr>
<tr><td>Spare Meter</td><td>Baylan/BTK.40</td><td>BYL067000833</td><td>0.5S</td><td>10/06/2021</td></tr>
</table></td></tr>
<tr><td>Monitoring frequency</td><td>Continuous and monthly recording</td></tr>
<tr><td>QA/QC procedures</td><td>The electricity meters are used to measure the net electricity exported to the grid and used for billing purposes. Therefore the meters are sealed by TEİAŞ (Turkish Electricity Transmission CO). The grid company is responsible for maintenance and calibration of the device. In accordance with the “Regulation on “Measurement and Measuring Tools”, electricity meters have to be calibrated within a frequency of once per 10 years[62]. The accuracy class of the device is 0.5s.

Electricity generation volume will be checked by EPİAŞ monthly readings whereas TEİAŞ monthly reading reports will be employed for cross-checking purpose.</td></tr>
</table>

[61] This value is estimated by taking the average consumption value from the EPİAŞ records which is the main source for monitoring the electricity import and export.
[62] Please refer to the Regulation on Measurement Devices of Turkiye.

Purpose of data	Calculation of project emissions
Additional comment	The quantity of electricity consumed is monitored□by the same equipment, which monitors the net□amount of electricity generated by the project□activity.

SDG 13 (Indicator 13.2.2)

Data / Parameter	BE_y
Unit	tCO_2e
Description	Emission reductions achieved per year
Source of data	Calculated from the power generated and□methane destroyed per year
Value(s) applied	
Measurement methods and procedures	Continuous monitoring and monthly recording.
Monitoring frequency	N.A.
QA/QC procedures	Calculation of baseline emissions
Purpose of data	-
Additional comment	

Crediting Period	Baseline Emissions
12/08/2025-31/12/2025	5,854
01/01/2026-31/12/2026	15,677
01/01/2027-31/12/2027	16,278
01/01/2028-31/12/2028	15,784
01/01/2029-31/12/2029	15,315
01/01/2030-31/12/2030	14,869
01/01/2031-31/12/2031	14,445
01/01/2032-11/08/2032	8,617

SDG 7 (Indicator 7.2.1)

Data / Parameter	$EG_{PJ,facility,y}$
Unit	MWh
Description	Electricity Generation in year y
Source of data	Electricity meters

<table>
<tr><td>Value(s) applied</td><td>8,483</td></tr>
<tr><td>Measurement methods and procedures</td><td>The quantity of net electricity generation supplied to the grid by the project plant is being monitored based on the main meter (also referred as TEİAŞ meters) readings.

<table><tr><th>Meter</th><th>Brand/Model</th><th>Serial Number</th><th>Accuracy Class</th><th>Calibration Date</th></tr><tr><td>Main Meter</td><td>Baylan/BTK.40</td><td>BYL067000832</td><td>0.5S</td><td>10/06/2021</td></tr><tr><td>Spare Meter</td><td>Baylan/BTK.40</td><td>BYL067000833</td><td>0.5S</td><td>10/06/2021</td></tr></table></td></tr>
<tr><td>Monitoring frequency</td><td>Continuous monitoring and monthly recording</td></tr>
<tr><td>QA/QC procedures</td><td>The electricity meters are used to measure the net electricity exported to the grid and used for billing purposes. Therefore, the meters are sealed by SEDAŞ (transmission company authorized by TEDAŞ) and/or through protocols where and when appropriate. The grid company is responsible for maintenance and calibration of the device. In accordance with the “Regulation on “Measurement and Measuring Tools”, electricity meters must be calibrated within a frequency of once per 10 years. The accuracy class of the device is 0.5s.
In the calculations, monthly screenshots from EPİAŞ are utilized to determine the net electricity generation figure for the MP, whereas OSF records are provided for the purpose of cross-checking.</td></tr>
<tr><td>Purpose of data</td><td>Calculation of the baseline emissions</td></tr>
<tr><td>Additional comment</td><td>The measurements are carried out by electricity meters of the grid company. At the project site a device of the manufacturer Baylan, Serial number BYL067000832 for main meter and BYL067000833 for spare meter.
The accuracy class of the device is 0.5s
The monitoring system works with continuous measurement devices. It is programmed to automatically save hourly values. The data are stored automatically at the server.</td></tr>
</table>

SDG 8 (Indicator 8.5.1)

Data / Parameter	Quality of employment
Unit	-
Description	Safe and healthy working conditions

Source of data	Assessment of working conditions by checking safety material, tasks of the personnel etc.
Value(s) applied	The project activity provides a safe working environment for its employees. The employees are also given trainings and education on occupational health and safety issues.The project is estimated to give one training per employee annually.
Measurement methods and procedures	-
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	To ensure that necessary safety equipment is available on site and properly used and the working environment does not present health risks or hazardous tasks.
Additional comment	-

Data / Parameter	Quantitative employment and income generation
Unit	-
Description	Number of employees of the project
Source of data	The number of employees is tracked according to social security records.
Value(s) applied	9 employees[63]
Measurement methods and procedures	-
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	To exhibit employment performance of the plant
Additional comment	-

[63] Please refer to the Social Security Records of the employees.

SDG 8

<table>
<tr><td>Data / Parameter</td><td>Value of the imported natural gas avoided (conservative)</td></tr>
<tr><td>Unit</td><td>-</td></tr>
<tr><td>Description</td><td>Balance of payments and investment</td></tr>
<tr><td>Source of data</td><td>The avoided natural gas amount is taken from the indicator “Access to affordable and clean energy services”. The energy content of this amount is multiplied by the ex-ante natural gas price.</td></tr>
<tr><td>Value(s) applied</td><td>Actual values will be updated.
<table>
<tr><td>Average Natural Gas Price (USD/MMBtu)</td><td>Average Natural Gas price per Generated Electricity USD/MWh</td><td>Annual Electricity Generation (MWh/year)</td><td>Avoided Natural Gas (USD)</td></tr>
</table>
</td></tr>
</table>

	5.50[64]	18.76678348	8,483	159,198.62
Measurement methods and procedures	-			
Monitoring frequency	Continuously			
QA/QC procedures	-			
Purpose of data	-			
Additional comment	In baseline situation, some portions of liquid and solid fossil fuels are extracted in the host country. However, most of the natural gas consumed in the host country is imported. Average natural gas price at the current situation is 5.50 USD/MMBtu[65]. 1 MMBTU = 0.293071 MWh, therefore 5.50 USD/MMBtu = 18.766 USD/MWh			

SDG 7 (Indicator 7.2.1)

Data / Parameter	TDL_y
Unit	%
Description	Average technical transmission and distribution losses
Source of data	Recent, accurate and reliable data available within the host country. Best available recent reliable and accurate data.(TEDAŞ:Türkiye Electricity Distribution Report for 2023) [66]
Value(s) applied	11%
Measurement methods and procedures	
Monitoring frequency	Annualy
QA/QC procedures	-
Purpose of data	Calculation of project emissions

[64] https://www.botas.gov.tr/Sayfa/2-temmuz-2025-tarihinden-itibaren-gecerli-botas-dogal-gaz-toptan-satis-fiyat-tarifesi/803

[65] https://www.botas.gov.tr/Sayfa/2-temmuz-2025-tarihinden-itibaren-gecerli-botas-dogal-gaz-toptan-satis-fiyat-tarifesi/803

[66] https://www.tedas.gov.tr/FileUpload/MediaFolder/25819eac-d024-4308-891a-d248db8c1e0a.pdf

Additional comment	-

SDG 13 (Indicator 13.2.2)

Data / Parameter	$F_{CH4,PJ,Y}$
Unit	Nm^3
Description	Quantity of methane captured by project activity
Source of data	Calculated using quantity of landfill gas used by generation of electricity
Value(s) applied	Actual values will be updated

Crediting Period	$FCH4,PJ,y$ tCH4
12/08/2025-31/12/2025	166.33
01/01/2026-31/12/2026	452.47
01/01/2027-31/12/2027	476.34
01/01/2028-31/12/2028	456.74
01/01/2029-31/12/2029	438.12
01/01/2030-31/12/2030	420.43
01/01/2031-31/12/2031	403.60
01/01/2032-11/08/2032	237.87

Measurement methods and procedures	-
Monitoring frequency	-
QA/QC procedures	-
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data / Parameter	wCH_4
Unit	m^3CH_4/m^3LFG
Description	Average methane fraction in the landfill gas
Source of data	The methane fraction in the LFG is measured continuously by a gas analyzer.

<table>
<tr><td>Value(s) applied</td><td>0.54[67]

Actual values will be updated and be monitored</td></tr>
<tr><td>Measurement methods and procedures</td><td>As per the AMS-III.G version 10.0 methodology,the fraction of methane in the gas should be measured with a continuous analyser (values are recorded with the same frequency as the flow) or, alternatively, with periodical measurements at a 90/10 confidence/precision level. It shall be measured using equipment that can directly measure methane content in the landfill gas - the estimation of methane content of landfill gas based on measurement of other constituents of landfill gas such as CO_2 is not permitted. The methane content measurement shall be carried out close to the location in the system where the landfill gas flow, temperature and pressure measurements are carried out, and at the same humidity content (dry or at known or measured/corrected for humidity content).The installed gas analzyer measure the fraction of methane continuously. The accuracy class is 1%.The methane content measurement is close to the location in the system where the landfill gas flow,temperature and pressure measurement are carried out.

For the measurement an Emerson X-stream, Serial number XMC02102854726 is used.

<table>
<tr><td>Equipment</td><td>Brand/Model</td><td>Serial Number</td><td>Accuracy Class</td><td>Calibration Date</td></tr>
<tr><td>Gas Analyzer</td><td>EMERSON / X-Stream /XMC02102854726</td><td>XMC02102854726</td><td>1%</td><td>02/01/2025</td></tr>
</table>
</td></tr>
<tr><td>Monitoring frequency</td><td>The monitoring system works with continuous measurement devices. It is programmed to automatically save hourly values. The data are stored automatically at the server.</td></tr>
<tr><td>QA/QC procedures</td><td>The accuracies of the measurement are 1%. (Linearity)</td></tr>
<tr><td>Purpose of data</td><td>Continuous monitoring and monthly recording.</td></tr>
<tr><td>Additional comment</td><td>N/A</td></tr>
</table>

[67] This value is considered by taking the average value of last two years.

Data / Parameter	Operation of the engine
Unit	Hours
Description	Operation of the engine
Source of data	Project Developer
Value(s) applied	To be monitored
Measurement methods and procedures	The counting device of the engine is counting the operational hours continuously as the operational hours are also used for maintenance reasons.
Monitoring frequency	Continuous monitoring and monthly recording.
QA/QC procedures	-
Purpose of data	Baseline emission calculation
Additional comment	-

Data / Parameter	AF
Unit	-
Description	Regulatory requirements relating landfill gas projects
Source of data	National laws and regulations.
Value(s) applied	0
Measurement methods and procedures	-
Monitoring frequency	Yearly
QA/QC procedures	In case of a change of Article 27 of the relevant regulation "Control of Solid Waste Regulation", this change will be included to the monitoring plan.
Purpose of data	Baseline emission calculation
Additional comment	Since there is no change in the legislative structure that forces old landfill sites to utilize landfill gas and no change to article 27 of the relevant regulation "Control of Solid Waste Regulation", AF and hence MDBL has been considered 0.

Data / Parameter	NO_x Emission
Unit	Tons
Description	The air quality is related to pollutants such as NOx which are being emitted in the baseline scenario. As a representative indicator of air pollution, nitrogen oxide is selected because mono-nitrogen oxides eventually form nitric acid when dissolved in atmospheric moisture, forming a component of acid rain.

Source of data	Turkey. 2024 Common Reporting Format (CRF) Table[68]
Value(s) applied	Total NOx emission related to electricity generation is about 368.67 kt in 2022 according to Table 1 Sectoral Report for Energy. NO_x emission per MWh is calculated as 1.12 kg. Actual values will be updated.
Measurement methods and procedures	https://www.teias.gov.tr/turkiye-elektrik-uretim-iletim-istatistikleri
Monitoring frequency	Continuously
QA/QC procedures	Total NOx emission related to electricity generation is about 368.67 kt in 2022 (the latest available data) according to Table 1 Sectoral Report for Energy. According to TEİAŞ data, the total generation value of Turkey's electrical energy in 2022 is 328,379.3GWh. NOx emission per MWh is calculated as 1.12 kg.
Purpose of data	-
Additional comment	-
Data / Parameter	SO_2 Emission
Unit	Tons
Description	The air quality is related to pollutants such as SOx which are being emitted in the baseline scenario. As a representative indicator of air pollution, SO2 is selected as further oxidation of sulfur dioxide may lead to acid rains and as it is a precursor to particulates in the atmosphere, both of which are environmental concerns.

[68] https://unfccc.int/documents/644389

Source of data	Turkey. 2024 Common Reporting Format (CRF) Table[69]
Value(s) applied	Total SO_2 emission related to electricity generation is about 1,909 kt in 2022 according to Table 1 Sectoral Report for Energy. SO_2 emission per MWh is calculated as 5.81 kg. Actual values will be updated.
Measurement methods and procedures	https://www.teias.gov.tr/turkiye-elektrik-uretim-iletim-istatistikleri
Monitoring frequency	Continuously
QA/QC procedures	Total SO_2 emission related to electricity generation is about 1,909 kt in 2022 (the latest available data) according to Table 1 Sectoral Report for Energy. According to TEİAŞ data, the total generation value of Turkey's electrical energy in 2022 is 328,379.3GWh. SO_2emission per MWh is calculated as 5.81 kg.
Purpose of data	-
Additional comment	-

Data / Parameter	Reduction of discharged cooling water in baseline
Unit	m^3
Description	-
Source of data	Project developer
Value(s) applied	In 2022, 16.4 billion m^3[70] cooling water was discharged by thermal power plants in Turkey . Net electricity generation in thermal power plants in 2022 was 328.379 GWh[71] , corresponding to 26.17 m^3/MWh discharged cooling water intensity. Average amount of wastewater discharged per each GWh electiricity generation in 2022 is found to be 0.03 x10^3 m^3/GWh.

[69] https://unfccc.int/documents/644389
[70] https://data.tuik.gov.tr/Bulten/Index?p=Su-ve-Atiksu-Istatistikleri-2022-49607
[71] https://webim.teias.gov.tr/file/acd3bb64-67f2-4822-9deb-101a0fd0d72b?download

	The net electricity generation of the project was recorded and multiplied with the ex-ante cooling water discharge intensity.
Monitoring frequency	Continuously
QA/QC procedures	
Purpose of data	-
Additional comment	This is a conservative approach because most of the cooling water discharge stems from thermal and nuclear (not existing) power plants.

Data / Parameter	H_2S Emission
Unit	ppm
Description	H_2S is emitted from the landfill site freely to the atmosphere, creating odor problem and worsens the living conditions of the nearby communities. Although there are several odorous gases in LFG, as a representative indicator of air pollution, hydrogen sulfide is selected because it is a very poisonous, flammable gas with the characteristic foul odor of rotten eggs.
Source of data	By measuring LFG destruction and multiplying with the exante baseline H_2S intensity of the LFG.
Value(s) applied	The gas measurements on the Project site show that the H_2S concentration in the LFG is 1385 ppm on average[72]. Actual values will be updated.
Measurement methods and procedures	By measuring LFG destruction and multiplying with the exante baseline H_2S intensity of the LFG.
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	-
Additional comment	-

[72] Please refer to the page 24 of the Feasibility Study of the Project.

Data / Parameter	Reduction of Volatile Organic Compounds
Unit	m^3
Description	-
Source of data	By measuring the amount of methane destroyed through combustion or flaring.
Value(s) applied	Actual values will be updated. The non-methane VOCs are typically roughly 2% of methane emissions.[73]
Measurement methods and procedures	By measuring the amount of methane destroyed through combustion or flaring.
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	-
Additional comment	-

Data / Parameter	Leachate management
Unit	-
Description	-
Source of data	Project developer
Value(s) applied	The leachate is properly collected, stored, and transported safely to the municipal treatment facility.
Measurement methods and procedures	The leachate is sent to sewage treatment facility of Bolu Municipality where the leachate water is disposed. There is declaration of Bolu Municipality[74] indicates that they are responsible of collecting the leakage from the project site.
Monitoring frequency	Annually

[73] https://www3.epa.gov/ttncatc1/dir1/fflare.pdf
[74] Please refer to the declaration provided by Municipality named BOLU BELEDİYESİ SIZINTI SUYU BERTARAF.

QA/QC procedures	-
Purpose of data	-
Additional comment	

Data / Parameter	Hazardous waste processing
Unit	-
Description	-
Source of data	Assessment of waste management practice
Value(s) applied	The landfill is only accepting municipal waste and not accepting hazardous waste. In accordance with the Turkish law and regulations (Environmental Law[75] and Regulation on Waste Management[76]), hazardous waste is only managed by specialized team which is in place.
Measurement methods and procedures	-
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	To ensure that the project is not functioning as a hazardous waste disposal or processing facility (i.e., as a hazardous waste gasification – or incineration facility).
Additional comment	-

Data / Parameter	Waste Terraces
Unit	-
Description	-
Source of data	Project developer

[75] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=2872&MevzuatTur=1&MevzuatTertip=5

[76] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5

Value(s) applied	The waste will be landfilled effectively throughout the crediting period.
Measurement methods and procedures	Assessment of effective covering of the waste
Monitoring frequency	Continuously
QA/QC procedures	-
Purpose of data	-
Additional comment	In baseline situation, the solid waste is being dumped to the landfill site without a soil capping layer and cover material is applied after a longer period.

B.7.2 Sampling plan

Not Applicable

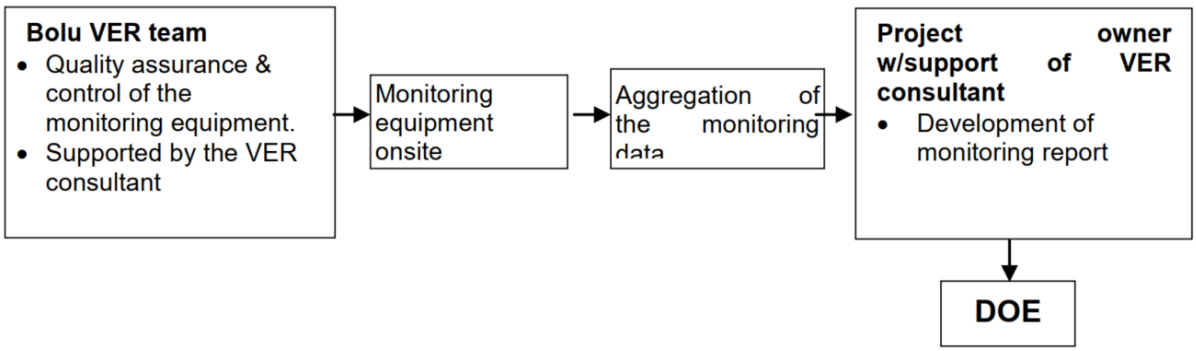
B.7.3 Other elements of monitoring plan

Monitoring will be carried out following the procedures set by applicable methodology and all applicable tools of the above explained parameters. The monitoring consists of:

Responsibilities for monitoring

The Project developer is responsible for the operation and maintenance of the landfill and the installed equipment. The Project developer is also responsible for the administration of the data, setting up a VER team who will be responsible for monitoring all data required to estimate emission reductions.

In the diagram below the organization of monitoring management and data application is presented.



Registration of the monitored data

The Bolu VER-Team will be responsible for quality assurance and quality control of the monitoring equipment. The data measured by the monitoring equipment will be stored and will be processed into a monitoring report, which will be submitted by the Project developer. All the monitored data will be stored during the crediting period and for at least two years after the end of the crediting period, whichever occurs later.

Corrective actions and emergency preparedness

The VER-Team will regularly check the monitoring system on errors. In the case of errors, corrective actions will be undertaken by the VER-Team, or if required, by the supplier of the monitoring equipment.

QA/QC procedure

Strong quality assurance and quality control procedure will be taken to monitor the equipment and data
collection. Equipment and facilities will be subject to a regular maintenance and testing regime to ensure accuracy following supplier's manual. In case of data deficiency or in correct data reading, the data will be crosschecked with other parameters and data leading to the most conservative emission reductions will be considered for the calculation of the emission reductions.

Measuring of exported and imported electricity

The main meter for the monitoring of the electricity import and export is at grid connection. Monthly protocols based on the readings, that are confirmed by both TEIAŞ and the Project developer are prepared by the end of each month and stored.The electricity meters are bi directional and will measure both the imported and exported electricity from and to the grid. The electricity generated will be monitored through the EPİAŞ website via EPİAŞ screenshots. In the EPİAŞ records, export and import values are readily available. TEİAŞ OSF excels are used to cross check the electricity generation data.

Electricity meter that monitors both electricity imports and exports is sealed by TEİAŞ (Turkish Electricity Transmission Company) and the Project developer cannot interfere with the device. The calibration of the meters are done by the authorized company

which is TEİAŞ. In accordance with the regulation on metering equipment's, the calibration frequency is set for a 10 years period.[77]

Meter	Brand/Model	Serial Number	Accuracy Class	Calibration Date	Calibration Frequency
Main Meter	Baylan/BTK.40	BYL067000832	0.5S	10/06/2021	10 years
Spare Meter	Baylan/BTK.40	BYL067000833	0.5S	10/06/2021	10 years

Equipment	Brand/Model	Serial Number	Accuracy Class	Calibration Date	Calibration Frequency
Gas Analyzer	EMERSON / X-Stream /XMC02102854726	XMC02102854726	1%	02/01/2025	10 years
Flowmeter	EPI / 540-INT-SSS-D51-DC24-MW075-0406NA-1RC-BIOGAS-NA-MB	22041803	1% of Reading + (0.5% + 0.02%/°C of Full Scale)	05/10/2022	10 years

[77] The calibration frequency is 10 years according to the Regulation on Measurement Devices of Turkey.

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. The loan agreement is signed on 03/06/2010. The mobilization has started on 11/11/2010. The main equipment order (generator set) is signed on 25/11/2010. The electricity generation has started on 26/08/2011. Therefore, the starting date of the project activity shall be considered as 03/06/2010.

C.1.2 Expected operational lifetime of project

As per the license of the project, project is allowed to operate until 02/09/2038.[78]

C.2. Crediting period of project

C.2.1 Start date of crediting period

12/08/2025 is the start date of 3rd CP.

1st crediting period: 12/08/2011-11/08/2018

2nd crediting period: 12/08/2018-11/08/2025

3rd crediting period: 12/08/2025-11/08/2032

C.2.2 Total length of crediting period

7 years[79]

[78] Please refer to the generation license of the Project.
[79] The project is registered at 12/08/2011. At that time GS4GG version was not available.The crediting period was determined to be 7 years. Thus, the Project undergoes design certification renewal every 7 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, ongoing monitoring is summarised below.

As per the safeguarding Principal Assessment presented in the Transition Annex of the project, there are no safeguarding principles which are to be included in the monitoring plan or hold any relevance to the project activity. Also, there are not any impact (positive/negative/slightly) for any mitigation measures, being applicable to any of the safeguarding principles. Hence, this section is not relevant.

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?	In accordance with Gold Standard Gender Policy, paragraph 4.2, which emphasizes a foundational gender-sensitive requirement, the project aligns with Gold Standard's 'do no harm' approach. This entails implementing safeguards to prevent or mitigate adverse impacts on both women and men, as well as girls and boys. Compliance with gender 'do no harm' safeguards, gender gap analysis, and gender-sensitive stakeholder consultations is mandatory for all projects seeking Gold Standard certification. The landfill waste management project, integrated with power generation, is not considered a gender-sensitive project as it does not negatively affect either women or men. The Project Proponent has operational policies and guidelines that treat women and men equally. Additionally, the Project Proponent organized a stakeholder meeting open to

	both men and women, affirming the absence of gender discrimination by the project proponent.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project neither engages in nor supports any form of discrimination based on gender, race, religion, sexual orientation, or any other criteria. Türkiye has been a signatory to the Convention on Discrimination since 1972, aiming to prevent all forms of discriminatory practices.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	No. 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.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	An expert was not deemed necessary to address gender issues during the stakeholder consultation. According to paragraph 4.4 of the Gender Policy, the Project Proponent (PP) organized a stakeholder consultation meeting, inviting local residents regardless of gender. The invitation to the stakeholder meeting was disseminated through public notices accessible to both genders. To ensure continuous feedback from local stakeholders, the PP installed a grievance register at the site, open to all, regardless of gender, for recording any grievances or feedback about the project. The comments registered in the grievance register were scheduled to be promptly addressed by the PP team. Consequently, based on the provided justifications, it can be concluded that expert opinion is unnecessary to validate gender requirements for the project activity.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1 Summary of stakeholder mitigation measures

Stakeholder consultation for the project has been carried out at validation stage. Since the project was registered under previous version of GS hence, no specific mechanism defined for on-going stakeholder consultations post implementation.

Prior to validation, the Project was acquired by the Project developer with a tender, which was organized by the Bolu Municipality. The Project and its conditions are clearly set in an agreement and the Municipality is satisfied with the Project.[80] Following the tender, there have been several newspaper announcements about the Project that positively commented on the Project. A meeting organized by the Project developer on 11/11/2009 hosted several stakeholders and the opinions declared during that meeting were very positive and encouraging.

Moreover, stakeholder engagement procedure was being conducted in the Mukhtar' house with the local stakeholders and heads of the Yukarısoku Villages.The contact information of Company Executive of the company has already been given to Mukhtars (heads of the village) of Yukarısoku Villages so that the local stakeholders can reach company executive whenever they have any complaints, suggestions, or ideas about the project. Since mukhtar is the head of the village, he is the main contact person between the Project developer and the local stakeholders. Mukhtar ensures that there is continuous communication between the two parties. Moreover, logbook was delivered to the head of Yukarısoku village in order to account continuous ongoing grievance mechanism. There have been no negative comments from any stakeholder about the Project.

[80] Please refer to the Municipality Contract.

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)	Continous Input Expression Process Book is provided to the Mukhtar of the Yukarısoku Village in order to account continuous ongoing grievance mechanism. The contact information of Company Executive of the company has already been given to Mukhtars (heads of the village) of Yukarısoku Villages so that the local stakeholders can reach company executive whenever they have any complaints, suggestions, or ideas about the project.
GS Contact (mandatory)	help@goldstandard.org
Other	

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form.

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.		
N/A		
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.
For example, by describing how the project design:

- is informed by human rights analysis, including from UN human rights mechanisms (human rights treaty bodies, universal periodic review, special procedures)
- includes measures to assist the government to realise (respect, protect and fulfil) human rights under international law and to implement human rights-related standards in national law (whichever is higher)
- enhances the availability, accessibility and quality of benefits and services for potentially marginalised individuals and groups, and to increase their inclusion in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle)
- provides reasonable accommodations to strengthen inclusivity and accessibility of project benefits and services to persons with disabilities.

N/A

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.

N/A

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.

N/A

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.

N/A

Would the project potentially involve or lead to:

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.

N/A

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

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

N/A

Would the project potentially involve or lead to:

P.4.1.1 |	activities adjacent to or within a cultural heritage site?	☐ YES ☐ POTENTIALLY ☒ NO
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.

N/A

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

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

N/A

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
If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
N/A		
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? Examples include, but are not limited to water access rights, community-based property rights and customary rights.	☐ YES ☐ POTENTIALLY ☒ 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.		
The project does not involve any change in land tenure arrangements. Thus, this project does not cause the physical or economic relocation of peoples. There are no any uncertainties with regards land tenure, access rights, usage rights or land ownership. Thus, land tenure and other rights are with Project proponent. The project developer established a grievance mechanism to address the stakeholder’s comments and requests. Grievance Input Notebook is provided to the Mukhtar for the collection of the grievances of locals.		

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
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 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?	☐ YES ☐ NO ☒ NA

	- 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?	
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

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.

N/A

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 | P.6.1.5 |	Does the project allow child labor?	☐ YES ☒ 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.

N/A

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 *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.*	☐ YES ☐ POTENTIALLY ☒ NO

P.6.1.1 |	use of migrant workers? *if engaged, the developer shall ensure that they are engaged substantially equivalent terms and conditions to non-migrant workers carrying out similar work.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	having no arrangements for basic services[81] for workers? *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*	☐ 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

[81] 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.

P.6.1.7 |	No provision to record and document accidents, diseases, incidents, and any resulting injuries, illnesses, or deaths?	☐ YES ☒ 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.

N/A

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.

N/A

Would the project involve or lead to:

P.6.2.2 |	economic impacts (negative/detrimental) to the local economy?	☐ YES ☐ POTENTIALLY ☒ NO
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

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

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.7.1.1 |	increase greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ POTENTIALLY ☒ NO

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.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

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.7.2.1 |	negative impact on the availability and reliability of energy supply to other users?	☐ YES ☐ POTENTIALLY ☒ NO

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.

N/A

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.

N/A

Would the project involve or lead to:

P.8.2.2 | - P.8.2.5 |	negatively impact on the catchment area? *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.*	☐ 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? *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.*	☐ YES ☒ NO

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.9.1.4	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

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.9.2.2	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	☐ YES ☐ NO

	emergency preparedness and response to affected communities?	☒ 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

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? *Note - Forestry projects (for example Afforestation/ Reforestation) involving GMO planting are not eligible for Certification under Gold Standard for the Global Goals.*	☐ 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

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.9.4.1 |	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.

N/A

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.

N/A

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 appropriate control of emissions and residues resulting from the handling and processing of waste material?	☐ YES ☐ NO ☒ 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.

N/A

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 has appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals?	☐ 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.9.7 |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.

N/A

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

If the answer to the 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.9.8.1 |	modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	☐ YES ☐ POTENTIALLY ☒ NO

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? 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.	☐ YES ☒ NO
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.

N/A

Would the project involve or lead to:

P.9.9.1 |	animal husbandry or harvesting of fish populations or other aquatic species?[82]	☐ YES ☐ NO ☒ NA

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

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 more relevant and credible standards and utilise available technologies.	☐ 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.9.10 |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.

N/A

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 degradation of the habitat and to enhance the habitat as part of its development?	☐ YES ☐ 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

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.9.11.2 |	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

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	CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti.
Registration number with relevant authority	
Street/P.O. Box	
Building	
City	
State/Region	
Postcode	
Country	Türkiye
Telephone	
E-mail	burak.senturk@cev-tr.com
Website	
Contact person	Ahmet Burak Şentürk
Title	Project Development Division/Manager
Salutation	Mr.
Last name	Şentürk
Middle name	Burak
First name	Ahmet
Department	Project Development
Mobile	
Direct tel.	
Personal e-mail	burak.senturk@cev-tr.com

APPENDIX 3 - LUF ADDITIONAL INFORMATION

Not applicable

APPENDIX 4 - DESIGN CHANGES

Not applicable

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