المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL

Project Submission Form

V4.0- 2022

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COVER PAGE- Project Submission Form (PSF)	
Complete this form in accordance with the instructions attached at the end of this form.	
BASIC INFORMATION	
Title of the Project Activity as per LON/LOA	**Junan Municipal Solid Waste Incineration For Power Generation Project**
PSF version number	2.0
Date of completion / Updating of this form	03/11/2022
Project Owner(s) as per LON/LOA (Shall be consistent with De-registered CDM Type B Projects)	Beijing Tianying Zero Carbon Technology Research Institute Co, Ltd.
Country where the Project Activity is located	P.R. China
GPS coordinates of the project site(s)	118° 52 '24″ E 35° 9′ 58″ N （118.8733° E, 35.1661° N）
Eligible GCC Project Type as per the Project Standard (Tick applicable project type)	☐ **Type A:** ☐ Type A1 ☒ Type A2 ☒ Sub-Type 1 ☐ Sub-Type 2 ☐ Sub-Type 3 ☐ Sub-Type 4 ☐ Type A3 ☐ **Type B – De-registered CDM Projects:**[1]

[1] Owners of Type B projects shall fill in the form provided in Appendix 7.

	☐ Type B1 ☐ Type B2
Minimum compliance requirements	☒ Real and Measurable GHG Reductions ☒ National Sustainable Development Criteria (if any) ☒ Apply credible baseline and monitoring methodologies ☒ Additionality ☒ Local Stakeholder Consultation Process ☒ Global Stakeholder Consultation Process ☒ No GHG Double Counting ☒ Contributes to United Nations Sustainable Development Goal 13 (Climate Action)
Choose optional and additional requirements (Tick applicable label categories)	☒ Do-no-net-harm Safeguards to address Environmental Impacts ☒ Do-no-net-harm Safeguards to address Social Impacts ☒ Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)
Applied methodologies including version No. (Shall be approved by the GCC or the CDM)	ACM0022:Large-scale Consolidated Methodology Alternative waste treatment processes(Version 03.0)
GHG Sectoral scope(s) linked to the applied methodology(ies)	GHG-SS#13 Waste handling and disposal

Applicable Rules and Requirements for Project Owners

(Tick applicable Rules and Requirements)

Rules and Requirements		Version
☒ ISO 14064-2		
☒ Applicable host country legal requirements /rules		
☒ GCC Rules and Requirements[2]	☒ Project Standard	V3.1
	☐ Approved GCC Methodology (XXXXX)	
	☒ Program Definitions	V3.1
	☒ Environment and Social Safeguards Standard	V3.0
	☒ Project Sustainability Standard	V3.0
	☒ Instructions in Project Submission Form (PSF)-template	V4.0
	☒ Clarification No. 01	V1.3
	☒ Clarification No. 02	V1.0
	☒ Clarification No. 03	V1.0
	☒ Clarification No. 04	V1.0
	☒ Clarification No. 05	V1.0
	☒ Standard on avoidance of double counting	V1.0
	☐ Add rows if required	
☒ CDM Rules[3]	☒ Approved CDM Methodology (ACM0022)	V 03.0
	☒ TOOL 1- Tool for the demonstration and assessment of additionality	V07.0
	☒ TOOL 02- Combined tool to identify the baseline scenario and demonstrate additionality	V07.0
	☒ TOOL 03- calculate project or leakage CO2 emissions from fossil fuel combustion	V03.0

[2] GCC Program rules and requirements: http://www.globalcarboncouncil.com/resource-centre/
[3] CDM Program rules: https://cdm.unfccc.int/Reference/index.html

		☒ TOOL 04-Emissions from solid waste disposal sites	V08.0
		☒ TOOL 05- Baseline,project and/or leakage emissions from electricity consumption and monitoring of electricity generation	V03.0
		☒ TOOL 07- Tool to calculate the emission factor for an electricity system	V07.0
		☐ TOOL 19- Demonstration of additionality of microscale project activities	
		☐ TOOL 21- Demonstration of additionality of small-scale project activities	
		☐ TOOL 23- Additionality of first-of-its-kind project activities	
		☒ TOOL 24- Common practice	V03.1
		☒ TOOL 27- Investment analysis	V11.0
		☐ TOOL 32- Positive lists of technologies	
		☐ Guidelines for objective demonstration and assessment of barriers	
		☐ Add rows if required	
Choose Third Party Project Verification by approved GCC Verifiers[4] (Tick applicable verification categories)	☒ GHG emission reductions (i.e., Approved Carbon Credits **(ACCs)**) ☒ Environmental No-net-harm Label (**E+**) ☒ Social No-net-harm Label (**S+**) ☒ United Nations Sustainable Development Goals (**SDG+**) ☐ Bronze SDG Label ☐ Silver SDG Label		

[4] **Note:** GCC Verifiers under the Individual Track are not eligible to conduct verifications for GCC Project Activities whose owners intend to supply carbon credits (ACCs) for use within CORSIA.

	☐ Gold SDG Label ☐ Platinum SDG Label ☒ Diamond SDG Label ☐ CORSIA requirements (**C^{+}**) ☐ Host Country Attestation on Double counting

Declaration by the 'Authorized Project Owner[5] and focal point' (Tick all applicable statements[6])	The Project Owner(s) declares that: **Generic Requirements applicable to all Project Types:** ☒ We confirm that the Project Activity complies with the eligibility of the applicable project type (A1, A2, A3, B1 or B2) as stipulated by the Project Standard and relevant clarifications. ☒ We confirm that the Project Activity shall start or have started operations, and shall start or have started generating emission reductions, on or after 1 January 2016. ☒ We confirm that the Project Activity is eligible to be registered under the GCC program. We shall ensure the following for the Project Activity (tick at least one of the two options): ☒ No outcomes (e.g., emission reductions, environmental attributes) generated by the Project Activity under GCC will be claimed as carbon credits or environmental attributes under any other GHG/non-GHG[7] program, either for compliance or voluntary purposes, during the entire GCC crediting period; or ☒ If the project activity has been issued with carbon credits or environmental attributes of compensating nature[8] by any other GHG/ non-GHG program, either for compliance or voluntary purposes, the ACCs will be claimed only for the remaining crediting period (subject to a maximum of 10 years of crediting period including the periods under other programs and GCC program) for which carbon credits/ environmental attributes of compensating nature have not been issued by any other GHG/ non-GHG program. **Specific requirements applicable to respective Project Types:** ***For Project Type A1:*** ☐ For Project Type A1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 1):*** ☒ For Project Type A2 Sub-Type 1, we confirm that the Project

[5] The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

[6] **Consequences in case of Non-compliance with declaration statements:**
If at any point in time non-compliance with the declared statements is established as a result of negligence, fraud or wilful misconduct of the GCC Project Owner/s the GCC project activity will be disqualified, and the registration of the proposed Project Activity will be rejected.

[7] Non-GHG programs could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

8 The environmental attributes of compensating nature are those which are used by captive users (e.g., corporates/industries) for offsetting their GHG emissions

	Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 2 or Sub-Type 3):*** For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options): ☐ Submit a proof for deregistration from CDM; or ☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program. ☐ For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that the Project Activity is NOT included as a component Project Activity (CPA) in any registered GHG Programme of Activities (PoA) or any other functionally equivalent grouped/aggregated activities under any GHG program (such as the CDM or any other voluntary program). ***For Project Type A2 (Sub-Type 4):*** For Project Type A2 Sub-Type 4, we confirm that the Project Activity has been included in a registered CDM-POA and we shall (tick at least one of the two options): ☐ Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or ☐ Submit the proof of exclusion of CPA(s) from the registered CDM-PoA after the request for registration has been submitted to GCC Program but before the final decision is made by the GCC Steering Committee. ***For Project Type A3:*** ☐ For Project Type A3, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type B1 or B2:*** For Project Type B1 or Project Type B2, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options): ☐ Submit a proof for deregistration from CDM; or ☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.

Requirements to avoid double counting:

We intend to submit or have submitted a written attestation[9] (Host Country Letter of Authorization - HCLOA) from the host country's national focal point or focal point designee for CORSIA eligible units generated beyond 31 December 2020 at the following stages[10] (tick at least one of the three options):

☐ The initial submission for GSC; or

☐ Along with the submission for a request for registration (after Project Verification is completed); or

☒ Along with the submission for a request for the first or subsequent issuance of ACCs.

Project specific requirements:

CORSIA specific requirements:

☒ We confirm that bundled projects or grouped projects shall have registered crediting period starting on or after 1 Jan 2016 for the grouped/aggregated project as a whole.

☒ We confirm that the Project Activity meets all the requirement of the CORSIA Eligible Emissions Units[11] required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes.

☒ We confirm that the Project Activity aims to achieve at least Silver or higher SDG+ label (i.e., positively impact at least 3 or more United Nations Sustainability Development Goals).

☒ We confirm that the Project Activity will be implemented in a country which is UN member state[12].

Provide details (if any) below for the boxes ticked above:

9 In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

10 If the host country attestation is not submitted at the initial submission of GSC, the project can be tagged with an indicative CORSIA flag if it's confirmed to be submitted later. If the host country attestation is not submitted at the request for registration, the project can be tagged with an indicative CORSIA flag if at least the PSF and Verification Report confirms to submit this letter, at first issuance. If the host country attestation is not submitted at request for first issuance, the ACCs will not be tagged as CORSIA (C+) compliant if this letter is not submitted.

11 CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

12 The list of UN member states countries can be found at https://www.un.org/en/about-us/member-states

	The Project Owner(s) declares that: ☒ All the information provided in this document, including any supporting documents submitted to the GCC or its registry operator IHS Markit at any time, is true and correct. ☒ They understand that a failure by them to provide accurate information or data, or concealing facts and information, can be considered as negligence, fraud or willful misconduct. Therefore, they are aware that they are fully responsible for any liability that arises as a result of such actions. Provide details below for the boxes ticked above
Appendixes 1-9	Details about the Project Activity are provided in Appendixes 1 through 9 to this document.
Name, designation, date and signature of the Focal point (as per LON/LOA)	**On behalf of Beijing Tianying Zero Carbon Technology Research Institute Co, Ltd.** **Mr.Bo Liu** **Signature:** **03/11/2022**

1. PROJECT SUBMISSION FORM

Section A. Description of the Project Activity

A.1. Purpose and general description of the Project Activity

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Junan Municipal Solid Waste Incineration For Power Generation Project in Shandong Province (hereinafter referred to as the Project), which is located in Southeast of Wangzhuangzi Village, Shizi Road Town, Ju 'nan County, Linyi City, Shandong Province, P.R. China, is developed by Junan Tianying environmental protection energy co., ltd. The purpose of the Project is to dispose the MSW in the area of Ju 'nan County by incineration, and simultaneously recovering the energy for power generation. The Project will dispose around 219000 tonnes of municipal solid waste (MSW) per year through grate furnace incineration technology. The installed capacity of the Project is 12MW (1×12MW) and the estimated electricity supplied by the Project is 62049.3MWh.

Prior to the Project, the MSW of Ju 'nan County is treated at the landfill site, where the landfill gas (LFG) will be released directly to the atmosphere without collection or utilization. Equivalent amount of annual power output will be generated and supplied by North China Power Grid (hereinafter referred to as NCPG) which the Project is connected to. This is the same as the baseline scenario of the Project.

The Project will reduce the GHG emission reductions in two ways:

a) Avoiding MSW landfill: In the absence of the project activity, the MSW would be disposed in landfills, left to decay in anaerobic conditions lack of control and management and release of methane, a potent GHG.

b) Low-carbon energy production, reducing consumption of fossil fuels: The electricity generated by the Project was imported from the NCPG. It leads to emission reductions of CO_2 through the displacement of the electricity from fossil fuel fired plants connected to NCPG. About 68264 tCO_2e (average) emission reductions are expected to be achieved by the Project per year. The total emission reductions during the fixed 10-year crediting period will be 682640 tCO_{2e}.

The project is expected to contribute to 4 SDGs which are SDG 7, 8, 9 ,11,12,13.

SDG 7 Energy: The project contributes SDG Target 7.1 “By 2030, Ensure that everyone has access to affordable and reliable modern energy service.

SDG 8 Economic Growth: The project creates direct and indirect employment opportunities during construction and operation phases, so it contributes to SDG Target 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”.

SDG 9 Infrastructure, Industrialization: SDG Target 9.4 requires “By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities”. The project helps the Target 9.4 by implementing a clean, reliable and environmental-friendly infrastructure for clean energy production.

SDG 11 Sustainable urban areas:SDG Target 11.6 requires “By 2030, reduce the per capita negative environmental impact of the city, including special attention air quality, and urban waste management, etc.

SDG 12 Sustainable consumption and production patterns:SDG Target 12.5 requires “By 2030, through prevention, emission reduction, recovery and reuse, waste is greatly reduced, the production of things.

SDG 13 Climate Change: The project produces clean renewable energy by diminishing CO_2 emissions. Therefore, it contributes SDG Target 13.3 “Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning”.

A.2. Location of the Project Activity

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Address and geodetic coordinates of the physical site of the Project Activity		
Physical address	**Latitude***	**Longitude***
Southeast of Wangzhuangzi Village, Shizi Road Town, Ju 'nan County, Linyi City, Shandong Province, P.R. China	35°9′ 58″N 35.1661° N	118°52 '24″E 118.8733° E

The geographical location of the project is shown in Figure-1

Figure-1 Location of the project

A.3. Technologies/measures

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Prior to the Project, the MSW of Ju 'nan County is treated at the landfill site, where the landfill gas (LFG) will be released directly to the atmosphere without collection or utilization. Equivalent amount of annual power output will be generated and supplied by NCPG which the Project is connected to. This is the same as the baseline scenario of the Project.

The Project employs two grate furnace incinerator units, with MSW incineration capacity of 300 t/d per unit. Combustion temperature for MSW disposal in the incinerator will be maintained at least 850℃. A little light diesel is fed into the

incinerator boiler to ignite in the start running or in case of low temperature (below 850℃). The steam generated by the boiler will then be sent to a 12MW extraction condensing turbine generator set. Annual electricity supply to NCPG by the Project is expected to be 62049.3MWh. To avoid the generation of dioxin, active carbon and filter bag will be used to remove harmful components in the flue gas. The fly ash and combusted slag will be treated before disposed of at landfill site.The wastewater will be sent to the leachate wastewater treatment station in the plant area for treatment, and will be discharged after reaching the standard in Table 2 of Pollution Control Standard for Domestic Waste Landfill (GB 16889-2008) through the process of "aeration pretreatment +UASB+MBR+NF+RO". Most of the equipments except the MSW incineration system are produced by domestic suppliers and the plant has been designed to have an operational lifetime of 30 years.

The parameters of the main equipments are as follows:

Table-1. The parameters of the major facilities

Grate furnace incinerator			
Item	Unit	Value	Source
MSW incineration capacity	t/d	300	FSR
Number	set	2	
Technical lifetime	years	30	

Boiler			
Item	Unit	Value	Source
Rated evaporating capacity	t/h	23.6	FSR
Number	set	2	
Steam pressure at outlet	MPa	4.0	
Steam temperature at outlet	℃	400	
Technical lifetime	years	30	

A.4. Project Owner(s)

Location/ Country	Project Owner(s)	Where applicable[13], indicate if the host country has provided approval (Yes/No)
P.R.China	Beijing Tianying Zero Carbon Technology Research Institute Co, Ltd.	No

[13] For example, *Project Coordination Form* is to be filled-in by Project Owners for projects located in Qatar. A written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA (Refer section A.5 of the PSF guidelines).

A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity

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The Project Activity is expected to generate ACCs for a full 10-year crediting period and supply the credits to offset the following GHG emissions:

Period		Name of the Entities	Purpose and Quantity of ACCs to be supplied
From	To		
10/08/2017	09/08/2027	To be confirmed during issuance time	To be confirmed during issuance time

ACCs from the project activity will be used to create additional revenue stream for the investment and for reducing the project financial risks and thus enabling the sustainability of the project. No double counting will occur in the scope of this project since GCC is the only program applied.

A.6. Additional requirements for CORSIA

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Please see Section E and F.

Section B. Application of selected methodology(ies)

B.1. Reference to methodology(ies) and tools applied in the project

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ACM0022 (version 03.0) – "Large-scale Consolidated Methodology Alternative waste treatment processes"

CDM: Alternative waste treatment processes --- Version 3.0 (unfccc.int)

Based on the above methodology, steps such as additional demonstration and emission factor calculation will also refer to the relevant tools issued by the UN CDM Executive Council:

TOOL01: Tool for the demonstration and assessment of additionality(Version 07.0)

TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality (version 07.0)

TOOL03: Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion(version 03.0)

TOOL04: Emissions from solid waste disposal sites(version 08.0)

TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation(version 03.0)

TOOL07: Tool to calculate the emission factor for an electricity system(Version 07.0)

TOOL24: Common practice.(version03.1)

TOOL27: Investment analysis (version 11.0)

For the details of the tools involved in this project, please refer to the UNFCCC website:http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html

B.2. Applicability of methodology(ies) and tools applied in the project

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The Project meets all the applicability requirements of MSW incineration as set out in ACM0022, details as follows:

Table-2 The applicability conditions of methodology ACM0022 (version 03.0)

No.	According to methodology ACM0022, it is applicable under the following relevant conditions:	The relevant situation of the proposed project activity, which describe whether the item is applicable.

1	The methodology applies to project activities that install and operate new plants for the treatment of fresh waste through any combination of the following processes: (a) Composting process under aerobic conditions; (b) Anaerobic digestion with biogas recovery and flaring and/or its use; (c) Co-composting of wastewater in combination with solid waste; (d) Anaerobic co-treatment of wastewater in combination with solid waste; (e) Mechanical/thermal treatment process to produce refuse-derived fuel (RDF) or stabilized biomass (SB) that is produced within the project boundary and its use[14] ; (f) Gasification process to produce syngas and its use; (g) Incineration of fresh waste for the generation of thermal/electric energy.	Option g is applicable. This project deals with fresh municipal solid waste. The waste treatment process is incineration.
2	The following conditions apply to all project activities using this methodology: - The project plant only treats fresh waste/wastewater for which emission reductions are claimed, except for cases involving composting, co-composting and anaerobic digestion; - Neither the fresh waste nor the products from the project plant are stored on-site under anaerobic conditions; - Any wastewater discharge resulting from the project activity is treated in accordance with applicable regulations; - The project activity does not reduce the amount of waste that would be recycled in the absence of the project activity. This shall be justified and documented in the clean development mechanism project design document (CDM-PDD); - When applicable regulations mandate any waste treatment process implemented	Satisfied. -This project deals with fresh waste; -The fresh waste of this project will be stored in the waste storage pit for less than 10 days. The grab crane carries and dumps the waste in the storage pit, so the waste will not produce anaerobic decomposition. In addition, the air in the waste storage pit is extracted as primary combustion air in the furnace. Therefore, methane will not be produced in the waste storage pit, and it will not leak into the atmosphere; -Any effluent discharged from the project will be treated through the sewage treatment system -When there is no project activity, the domestic waste will be collected and transported to

[14] The methodology is not applicable to project activities using RDF produced outside of the project boundary.

	under the project activity, the rate of compliance with such regulations for the treatment process is below 50 per cent[15], - Hazardous wastes/wastewater are not eligible under this methodology.	the landfill by the transfer station. Landfill is the final treatment method of domestic waste. Under the project activities, the waste will be transported to the site of the project activities through the transfer station for treatment. The waste that may be recycled is usually recovered during the collection process, so this project activity has not reduced the waste that may be recycled without the project activity. -Satisfied. In China, the laws and regulations related to this project include: Domestic Waste Landfill Pollution Control Standard (GB16889-2008) and Technical Specification for Sanitary Landfill Treatment of Domestic Waste (GB50869-2013), which do not require incineration of domestic waste. -This project does not involve the treatment of hazardous wastes.
3	The methodology is only applicable if the baseline scenario is: (a) The disposal of the fresh waste in a SWDS with or without a partial LFG capture system (M2 or M3)[16]; (b) In the case of co-composting or co-treatment of wastewater in an anaerobic digester, the treatment of organic wastewater in either an existing or new anaerobic lagoon or sludge pit without methane recovery (W1 or W4); (c) In the case of electricity generation, the electricity is generated in an existing/new captive fossil fuel fired power-only plant, captive cogeneration plant and/or the grid (P2, P4 or P6);	Satisfied. The baseline scenarios of this project are (a) and (c): -M2: SWDS including LFG collection system treats fresh waste; -P6: Existing and/or new grid-connected power plants generate electricity. That is, this project only applies for emission reduction under baseline scenarios M2 and P6.

[15] Supporting evidence may include official studies, reports and certification from municipal authorities.

[16] Project participants shall demonstrate that sufficient landfill capacity would be available to dispose waste at a SWDS with a comparable annual waste acceptance rate and with the same operating lifetime as the project activity.

	(d) In the case of heat generation, the heat is generated in an existing/new fossil fuel fired cogeneration plant, boiler or air heater (H2 or H4)[17].	
4	If the incineration process is adopted, the following conditions shall be met: - Applicable types of disposable waste are: fresh waste ; - Applicable products and uses: electricity and/or heat - Incineration by product (e.g. inert materials); - Wastewater discharge; - Non-biodegradable materials that may have market value (i.e. glass, metals and plastics) -Special applicable conditions of treatment scheme: - Incineration technology is rotary kiln, rotating fluidized bed, circulating fluidized bed, hearth or grate type; - The fraction of energy generated by auxiliary fossil fuels is not more than 50% of the total energy generated in the incinerator	Satisfied. -This project deals with fresh waste; -Waste incineration is adopted in this project to generate electricity, and the generated electricity is input into NCPG power grid except for self-use; -This project will produce by-products such as waste incineration residue and fly ash. After pretreatment, fly ash is sent to landfill for treatment; The wastewater generated by this project will be treated in the factory and reused; There is no waste sorting treatment facility in this project plant; -Mechanical grate incinerator system used in the project; -When the incinerator is started or the temperature in the incinerator is too low, add a small amount of diesel oil for combustion. The heat generated by diesel consumption is far less than 50% of the total heat.

To sum up, the activities of this project meet all applicable conditions of waste incineration in ACM0022

B.3. Project boundary, sources and greenhouse gases (GHGs)

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The spatial extent of the Project boundary is the site of the project activity where the waste is treated (including the facilities for processing the waste, on-site electricity

[17] When heat is generated with a product or by-product from the project activity and used in the cement industry, project participants should refer to specific methodologies applicable to the cement sector.

generation and/or consumption, onsite fuel use, the landfill site and wastewater treatment) and those plants connected to the North China Power Grid (NCPG) to which the plant is connected (Beijing, Tianjin, Hebei, Shanxi, Shandong and Inner Mongolia Autonomous region.). Figure-2 illustrates the project activity boundary.

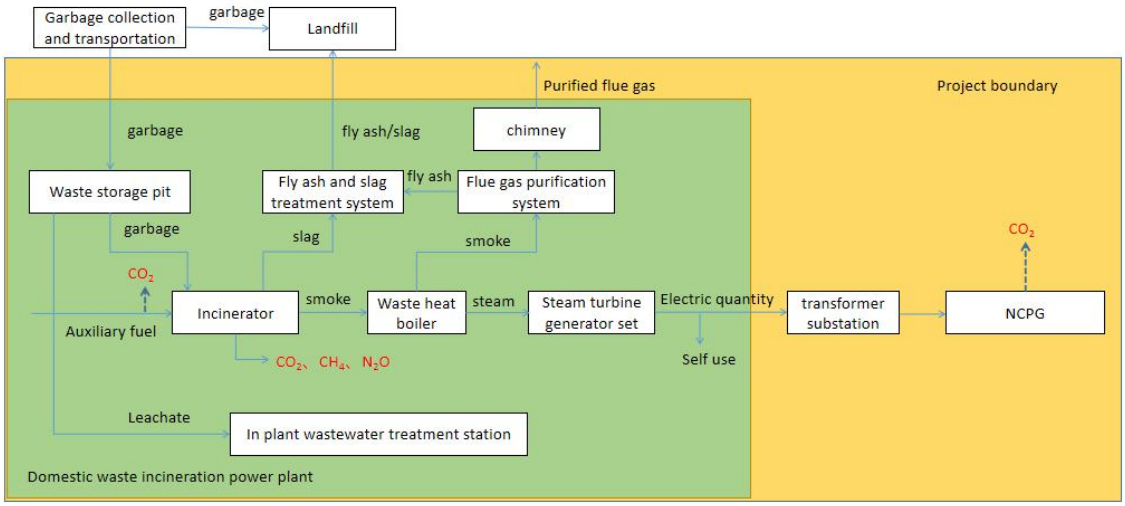

Figure-2 The project boundary

The table below provides an overview of the emissions sources included or excluded from the project boundary for determination of baseline and project emissions.

Table-3 Overview on emissions sources included in or excluded from the project boundary

Source		GHG	Included ?	Justification/Explanation
Baseline	Emissions from heat generation	CO_2	No	This project does not involve
		CH_4	No	This project does not involve
		N_2O	No	This project does not involve
	Emissions at the SWDS	CO_2	No	CO_2 emissions from the decomposition of fresh waste are not accounted for
		CH_4	Yes	The major source of emissions in the baseline
		N_2O	No	N_2O emissions are small compared to CH_4emissions

				from landfills. Exclusion of this gas is conservative
	Emissions from anaerobic lagoons or sludge pits	CO_2	No	This project does not involve
		CH_4	No	This project does not involve
		N_2O	No	This project does not involve
	Emissions from electricity generation	CO_2	Yes	Major source if electricity generation is included in the project activity and is sent to the grid or displaces fossil fuel fired electricity generation in the Baseline.
		CH_4	No	Excluded for simplification. This is conservative
		N_2O	No	Excluded for simplification. This is conservative
	Emissions from use of natural gas	CO_2	No	This project does not involve
		CH_4	No	This project does not involve
		N_2O	No	This project does not involve
Project activity	Emissions from on-site fossil fuel consumption due to the project activity other than for electricity generation	CO_2	Yes	May be an important emission source. Includes heat generation for mechanical/thermal treatment process, start-up of the gasifier, auxiliary fossil fuels needed to be added into incinerator, etc. It does not include transport.
		CH_4	No	Excluded for simplification. This emission source is assumed to be very small
		N_2O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from on-site electricity use	CO_2	Yes	May be an important emission source
		CH_4	No	Excluded for simplification. This emission source is

				assumed to be very small
		N_2O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from the wast treatment processes	CO_2	Yes	CO_2 emissions from incineration, gasification or combustion of fossil-based waste shall be included. CO_2 emissions from the decomposition or combustion of fresh waste are not accounted
		CH_4	Yes	CH_4 leakage from the anaerobic digester and incomplete combustion in the flaring process are potential sources of project emissions. CH_4 may be emitted from incineration, gasification, composting and RDF/SB combustion
		N_2O	Yes	N_2O may be emitted from composting, incineration, syngas produced and RDF/SB combustion
	Emissions from wastewater treatment	CO_2	No	CO_2 emissions from the decomposition of fresh waste are not accounted
		CH_4	N0	CH_4 emissions from anaerobic treatment of wastewater are accounted for. Aerobic treatment of wastewater shall not result in CH_4 emissions
		N_2O	No	Excluded for simplification. This emission source is assumed to be very small

B.4. Establishment and description of the baseline scenario

>>

The baseline scenario of the Project is identified according to approved methodology ACM0022 (version 03.0).

Step 1: Identification of alternative scenarios

Identify the baseline scenario and demonstrate additionality using “TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality”.

Sub-step 1a. Define alternatives to the project activity:

As this project only involves incineration and power generation of domestic waste, the baseline scenario will determine and identify these two parts.
Alternatives or combinations of alternatives for domestic waste treatment include:

M1: The project activity without being registered as a CDM project activity (i.e. any (combination) of the waste treatment processes listed in Table 2);

M2: Disposal of the fresh waste in a SWDS with a partial capture of the LFG and flaring of the captured LFG;

M3: Disposal of the fresh waste in a SWDS without a LFG capture system;

M4: Part of the fresh fraction of the solid waste is recycled and not disposed in the SWDS;

M5: Part of the fresh fraction of the solid waste is treated aerobically and not disposed in the SWDS;

M6: Part of the organic fraction of the solid waste is incinerated and not disposed in the SWDS;

M7: Part of the organic fraction of the solid waste is gasified and not disposed in the SWDS;

M8: Part of the organic fraction of the solid waste is treated in an anaerobic digester and not disposed in the SWDS;

M9: Part of the organic fraction of the solid waste is mechanically or thermally treated to produce RDF/SB and not disposed in the SWDS.

For Alternative M1:

No mandatory laws or regulations prohibit disposing the waste through incineration. So, this alternative is a realistic and credible baseline alternative.

For Alternative M2:

Technical Specification for Sanitary Landfill Treatment of Domestic Waste (GB50869-2013) Landfill must be equipped with effective landfill gas guiding and

discharging facilities to prevent fire and explosion caused by natural accumulation and migration of landfill gas, but there is no mandatory provision for landfill gas recycling. M2 is therefore an alternative baseline scenario.

For Alternative M3:

Technical Specification for Sanitary Landfill Treatment of Domestic Waste (GB50869-2013) The landfill must be equipped with effective landfill gas guiding and discharging facilities, so this scenario is not the most common waste treatment situation at present.

For Alternative M4-9:

As mentioned in M2, sanitary landfill of domestic waste is still the most common waste disposal method at present, so scenarios M4-M9 are all infeasible schemes.

To sum up, the feasible baseline scenarios of this project are M1 and M2.

The project activity also includes producing the electricity using combustion heat from incinerator, and exporting the electricity to the NCPG. In this case, the realistic and credible alternatives of power generation in the absence of the project activity may include, inter alia:

P1: Electricity generated as an output of one of the waste treatment processes listed in Table 2, not undertaken as a CDM project activity;

P2: Use of an existing or construction of a new on-site or off-site fossil fuel fired cogeneration plant;

P3: Existing or new construction of an on-site or off-site renewable based cogeneration plant;

P4: Existing or new construction of an on-site or off-site fossil fuel fired electricity plant;

P5: Existing or new construction of an on-site or off-site renewable based electricity plant;

P6: Electricity generation in existing and/or new grid-connected electricity plants.

For Alternative P1:

It’s a part of the Project not undertaken as a CDM project activity. No mandatory laws or regulations prohibit utilizing the thermal power from waste incineration for cogeneration. So, this alternative is a realistic and credible baseline alternative.

For Alternative P2 and P3:

Since the Project only recovers combustion heat for electricity generation, without providing heat for on site use or nearby facilities, Alternative P2 and Alternative P3, cogeneration plant, are not the baseline scenarios to the Project.

For Alternative P4:

According to Chinese power regulations, building new thermal power plants of less than 135MW[18] are prohibited in the areas covered by regional grids. Therefore, the alternative of building a new coal-fired power plant with an installed capacity of 18MW conflicts with China's current regulations. And there is also no existing fossil fuel fired captive plant where the Project is located. So, this alternative can not be a realistic and credible baseline alternative for power generation.

For Alternative P5:

Because solar energy, geothermal energy, etc. are limited by technology, cost and resources, they cannot provide the same power generation as this project. In addition, there are no available water or wind energy resources in the project location, which can produce the same amount of electricity. Therefore, P5 is not a practical alternative.

For Alternative P6:

Currently the power demand is met by the electricity delivered from the NCPG. Thus P6 is a realistic and credible baseline alternative for power generation in absence of the Project.

No heat generation and wastewater is involved in the Project.

In sum, only Alternatives M1 and M2, P1 and P6 are alternatives for the Project and will be analyzed further.

Sub-step 1b: Consistency with mandatory laws and regulations:

According to the analysis in sub-step 1a, the possible combinations of the above baseline alternatives are shown in Table 4:

Table-4. The likely baseline scenarios of the Project

Baseline alternatives for fresh waste disposal.	The project activity without being registered as a CDM project activity
	Disposal of the fresh waste in a SWDS with a partial capture of the LFG and flaring of the captured LFG
Alternative of baseline for power generation	The project activity, not undertaken as a CDM project activity
	Electricity generation in existing and/or new grid-connected electricity plants.

[18] Notice on strictly prohibiting the installation of fuel-fired generators with the capacity of 135MW or below, issued by State Council, 2002 http://www.gov.cn/gongbao/content/2002/content_61480.htm

Step 2: Identify the fuel for the baseline choice of energy source taking into account the national and/or sectoral policies as applicable.

For alternative P1, the quantity of MSW to be incinerated is gradually increasing and also guaranteed by the local government. Thus, the MSW in Ju 'nan County City is abundant for the Project as fuel for incineration, there is no supply constraint.
For alternative P6, it is to provide the same amount of electricity by the NCPG which is dominated by fossil fuel-fired power plants. The fuels consumed by the NCPG are conventional types and are available in abundance in the host country and there is no supply constraint.

In a word, there is no supply constraint for both alternative P1 and P6.

Step 3: Step2 of the latest approved version of the Tool for the demonstration and assessment of additionality shall be used to assess which of these alternatives should be excluded from further consideration.

According to the analysis demonstrated in Step 1 and Step 2 above, Alternatives M1 and M2, P1 and P6, remain, and they are all consistent with mandatory laws and regulations.

The combination of alternatives M1 and P1 is the project activity, not undertaken as a CDM project.

If without considering ACCs revenues, as described further detail in section B.5 below, the Project has an IRR of 6.73% (lower than the benchmark of 8%), which suggests this project is financially unattractive. Therefore, the combination of alternatives M1 and P1 is not feasible, and can not be considered as the baseline scenario.

Step 4: Where more than one credible and plausible alternative scenario remain, the alternative with the lowest baseline emissions shall be considered as the most likely baseline scenario.

Not applicable.

Conclusion:

The baseline scenario of the Project is the combined scenario of M2, P6, see Table-5:

Project type	Baseline scenario	
Disposal of the fresh waste in a SWDS with a partial capture of the LFG and flaring of the captured LFG The electricity is obtained from the NCPG;	Waste Disposal	Power generation
	M2	P6

B.5. Demonstration of additionality

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The additionality of the Project is demonstrated by using the Tool for the Combined tool to identify the baseline scenario and demonstrate additionality (version 07.0) approved by CDM EB as follows:

STEP 1 – Identification of alternatives to the project activity consistent with current laws and regulations

STEP 2 – Investment analysis

STEP 3 – Barrier analysis

STEP 4 – Common practice analysis

Step 1. Identification of alternatives to the project activity consistent with current laws and regulations

As described in Section B.4., following realistic and credible alternatives available to the project activity are identified for each component of the project activity.

Sub-step 1a. Define alternatives to the project activity:

Disposal/ Treatment of the fresh waste

M1. The project activity (i.e. incineration of MSW) not implemented as a CDM project;

M2. Disposal of the fresh waste in a SWDS with a partial capture of the LFG and flaring of the captured LFG.

Electricity generation

P1. Power generated from by-product of one of the options of waste treatment as listed in M1 above, not undertaken as a CDM project activity;

P6. Existing and/ or new grid –connected power plants.

Sub-step 1b. Consistency with mandatory laws and regulations:

The alternatives identified above are in compliance with all mandatory applicable legal and regulatory requirements. As analyzed above, the likely baseline scenarios of waste disposal and power supply for the Project are summarized in Table-6:

Table-6. The likely baseline scenarios of the Project

Scenario	Baseline		Description of situation
	Waste	Electricity	

I	M1	P1	The project activity not undertaken as a CDM project activity.
II	M2	P6	Disposal of the fresh waste in a SWDS with a partial capture of the LFG and flaring of the captured LFG The electricity is obtained from the NCPG

Step 2. Investment Analysis

Sub-step 2a. Determine appropriate analysis method

The Tool for the Demonstration and Assessment of Additionality (version 7.0.0) suggests three analysis methods which are simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III). Since the Project will earn revenues not only from the CER sales but also from electricity sales, the simple cost analysis method is not appropriate. Investment comparison analysis method is only applicable to projects whose alternatives are similar investment projects. The baseline scenario of the Project is the disposal of the MSW in the landfill site with landfill gas (LFG) capture and providing the same amount of electricity by the NCPG rather than new investment projects. Therefore Option II is not appropriate. The Project will use benchmark analysis method (Option III) as the baseline of the Project involves the supply of electricity from a grid.

Sub-step 2b. Benchmark Analysis Method (Option III)

According to Interim Rules on Economic Assessment of Electric Power Engineering Retrofit Projects, the benchmark project IRR (after tax) for power industry adopted by the Project is 8%. The Project is considered financially feasible only if the indicator is over the sector benchmark value.

Sub-step 2c. Calculation and comparison of financial indicators

Basic parameters for calculation of financial indicators of the Project are as follows:

Table-7 Key parameters and assumptions of investment analysis for the Project

Parameters	Unit		Source
Construction investment	30124.68	10^4RMA	FSR
Deductible VAT	1849.03	10^4RMA	FSR
Long-term loan	20000	10^4RMA	FSR
Interest of long-term loan	6.765	%	FSR
O & M cost	2273.88	10^4RMA	FSR
Electricity delivered to the grid	62049.3	MWh	FSR
Power Tariff (including VAT, Year 1-15)	0.5556	RMB/kWh	FSR
Power Tariff (including VAT, Year 16-27)	0.5556	RMB/kWh	FSR

Waste consumption	219000	t/year	FSR
Waste disposal charge	47.0085	RMB/ton	FSR
Power output tax rate	17	%	FSR
Income tax	17	%	FSR
City maintenance & construction tax rate	7	%	FSR
Educational surcharges rate	3	%	FSR
Depreciable Period	20	years	FSR
Depreciable Rate	4.75	%	FSR
Project life time	30	years	FSR
Expected ACCs values	60	RMB/tCO_2	FSR

The result of the IRR calculation is presented in Table-8.

Table-8. Results of investment analysis

Project IRR without ACCs revenues	**6.73**	**%**
Project IRR with ACCs revenues	**7.54**	**%**

Based on the benchmark analysis (Option III), the Project will be financially unattractive if the financial indicators of the Project are lower than the benchmark. According to calculation, the IRR of the Project is 6.73% without ACCs revenues, which is lower than the benchmark rate 8%. So the Project faces obvious financial barriers without ACCs revenue.

Sub-step 2d. Sensitivity analysis

The sensitivity analysis is conducted to check whether, under reasonable variations in the critical assumptions, the results of the analysis remain unaltered. Variables that constitute more than 20% of either total project costs or total project revenues have been included in the sensitivity analysis.

Therefore the parameters including:

1) Construction investment

2) O & M cost

3) Power tariff

4) Electricity delivered to the grid

5) Waste disposal charge

Assuming the above factors fluctuate within the range from -10%-+10%, the IRR of the Project (without ACCs revenues) varies to a different extent, as shown in Table-9 and Figure-3.

Table-9. Sensitivity analysis of the Project

Parameters	-10 %	0 %	10%

Construction investment	7.53%	6.73%	6.11%
O&M Cost	7.41%	6.73%	6.13%
Power tariff	5.61%	6.73%	7.87%
Electricity delivered to the grid	5.61%	6.73%	7.87%
Waste disposal charge	6.43%	6.73%	7.11%

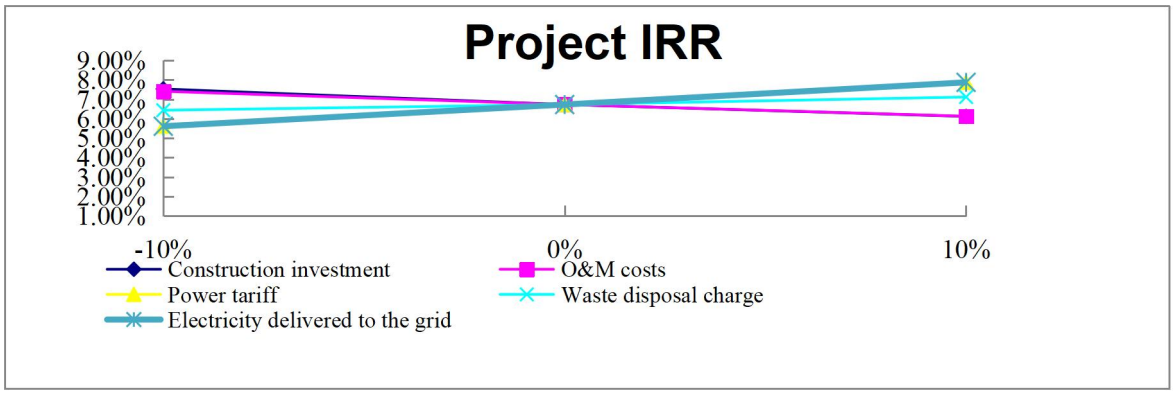

Figure-3. Sensitivity Analysis

Based on the above analysis, if the ACCs income is not taken into account, if the above five main parameters change within a reasonable range, the project is still financially unattractive and difficult to implement. The above sensitivity analysis results show that this project is financially unattractive without ACCs income.

Step 3. Barrier analysis

Not applied.

Step 4. Common practice analysis

Common practice analysis is carried out as per CDM tool am-tool-24-v1 Common practice.

Substep 4a. Calculate the 50% activity design capacity or output ± of the proposed project as the applicable capacity or output range.

The waste disposal capacity of this project is 600 t/d, so the project with waste disposal scale within 50% of ± of this project is selected for analysis, that is, the waste incineration power generation project with waste disposal capacity of 300-900 tons / day.

Sub-step 4b. Define projects similar to the proposed project (including carbon and non-carbon reductions)

(a) The project is located in the applicable geographical area;

(b) Projects that adopt the same measures as the proposed project;

(c) For projects with technology conversion measures, the project adopts the same energy / fuel and raw materials as the proposed project;

(d) The products produced or services provided by the project are comparable to the proposed project in terms of quality, performance and scope of application;

(e) The project scale is within the scope calculated in the first step;

(f) The time of commercial operation of the project before the commencement date of the proposed project, whichever is earlier.

Based on the above conditions, the projects comparable to the Project shall meet the following conditions:

For (a): considering the vast China, the differences between provinces and geography (such as geography, climate, natural resources, etc.) and social and economic differences (such as regulatory structure, infrastructure, economic development level, economic structure, science and technology, financing ability, waste subsidies, etc.), therefore, this project choose Shandong province as the appropriate geographical scope.

For (b): Related measures include fuel and raw material conversion, technical conversion, methane destruction, and avoidance of methane generation. This project is a waste incineration power generation project using grate furnace technology, therefore, a waste incineration power generation project using grate furnace technology will be considered.

For (c): this project belongs to the new waste incineration power generation technology, which does not involve technical conversion measures, so this condition is excluded.

For (d): This project is a waste incineration power generation project, which provides waste disposal services and accompanies power production, so that only waste incineration power generation projects will be considered;

For (e): According to the analysis of the first step, the scale of the project is a waste incineration treatment capacity of 300-900 t/d.

For (f): The start date of the proposed project is 10/08/2017 which is earlier than the PSF published, so the applicable commercial operation starting date is 10/08/2017.

According to the China Power Statistical Yearbook, the website of the United Nations Clean Development Mechanism, the National Development and Reform Commission, the domestic voluntary emission reduction trading information platform, and the website of Shandong Development and Reform Commission, there are 0 domestic waste incineration projects with a processing capacity of 300-900 t/d in Shandong Province.

Substep 4c: According to the projects identified by sub-step 4b, exclude

registered carbon emission reduction projects, or projects applying for carbon emission reduction registration, and projects in the carbon emission reduction approval stage, and the remaining projects are classified as Nall.

Nall=0 according to sub-step 4b.

Substep 4d: Select technically similar items identified by substep 4c as Ndiff

From the above analysis, Ndiff=0.

Substep 4e: Computing factor F=1-Ndiff / Nall indicates measures / technologies used similar to the proposed project activity and providing a share of measures / technologies) with the same output or capacity as the proposed project activity.If the coefficient F is greater than 0.2 and the difference between Nall and Ndiff is greater than 3, the proposed project activity is a "common practice" within an industry in that applicable area.

Since Nall=0, Ndiff=0, therefore F=0 <0.2, and Nall-Ndiff=0 <3.

This proves that the proposed project and its similar projects are not universal in Shandong Province.

Therefore, this project is additional.

B.6. Estimation of emission reductions

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B.6.1. Explanation of methodological choices

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1. Baseline discharge (BEy)

Project baseline discharge is determined by formula (1) and consists of the following sources:

A. Methane emissions from SWDS in the absence of the project activity;

B. Treatment of methane emissions from organic wastewater in the absence of project activities;

C. Electricity consumed by energy production or power grid in the absence of project activities;

D. Use of natural gas from the natural gas network without the project activities.

If the waste disposal scheme t implemented in the project activity is one or a combination of legal or regulatory requirements, the compliance rates ($RATE_{compliance,\ t,}$

$_y$) in the host country should be monitored so that the baseline emissions will then be adjusted by formula (1).

>>$\mathrm{BE_y} = \sum_t （\mathrm{BE_{CH4,t,y}} + \mathrm{BE_{WW,t,y}} + \mathrm{BE_{EN,t,y}} + \mathrm{BE_{NG,t,y}}) \times (1 - RATE_{compliance,t,y})$ (1)

Where:
BE_y= Baseline emissions in year y (t CO_{2e})
$BE_{CH4,\ t,\ y}$= Baseline emissions of methane from the SWDS in year *y* (t CO_{2e})
$BE_{ww,\ y}$= Baseline methane emissions from anaerobic treatment of the wastewater in open anaerobic lagoons or of sludge in sludge pits in the absence of the project activity in year *y* (t CO_{2e})
$BE_{EN,\ t,\ y}$= Baseline emissions associated with energy generation in year *y* (t CO_2)
$BE_{NG,\ t,\ y}$= Baseline emissions associated with natural gas use in year *y* (t CO_2)
$RATE_{compliance,\ t,\ y}$= Discount factor to account for the rate of compliance of a regulatory requirement that mandates the use of alternative waste treatment process *t*[19]
t= Type of alternative waste treatment process

This project is a municipal waste incineration power generation project, which only considers methane baseline emissions from SWDS and power generation-related baseline emissions, so $BE_{ww,\ y}$=0, $BE_{NG,\ t,\ y}$=0.

Moreover, China has no legal or regulatory mandatory requirements for urban solid waste treatment, as discussed in part B.5, and therefore, $RATE_{compliance,\ t,\ y}$=0.

So,$\mathrm{BE_y} = \sum_t （\mathrm{BE_{CH4,t,y}} + \mathrm{BE_{EN,t,y}})$

Procedure (A): Baseline emission of methane produced in SWDS ($BE_{CH4,\ y}$)
Methane baseline emissions generated in the SWDS can be determined using the latest version of the CDM Executive Council, the Emission Computing Tool for Solid Waste Treatment Stations.The calculation formula is follows:

$$BE_{CH4,SWDS,y} = \varphi_y \times (1-f_y) \times GWP_{CH4} \times (1-OX) \times \frac{16}{12} \times F \times DOC_{f,y} \times MCF_y \times \sum_{x=1}^{y} \sum_j (W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times (1-e^{-k_j})) \quad (2)$$

Where:
$BE_{CH4,SWDS,y}$=Baseline, project or leakage methane emissions occurring in year *y* generated from waste disposal at a SWDS during a time period ending in year *y* (t CO_2e/yr)
X=Years in the time period in which waste is disposed at the SWDS, extending from the first year in the time period (*x* = 1) to year *y* (*x* = *y)*

[19]Determined once for each crediting period, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation.

Y=Year of the crediting period for which methane emissions are calculated (*y* is a consecutive period of 12 months)
$DOC_{f,y}$=Fraction of degradable organic carbon (DOC) that decomposes under the specific conditions occurring in the SWDS for year *y* (weight fraction)
$W_{j,x}$=Amount of solid waste type *j* disposed or prevented from disposal in the SWDS in the year *x* (t)
Φ_y=Model correction factor to account for model uncertainties for year *y*
f_y=Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the emissions of methane to the atmosphere in year *y*
GWP_{CH4}=Global Warming Potential of methane
OX=Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)
F=Fraction of methane in the SWDS gas (volume fraction)
MCF_y=Methane correction factor for year *y*
DOC_j=Fraction of degradable organic carbon in the waste type *j* (weight fraction)
K_j=Decay rate for the waste type *j* (1 / yr)
j=Type of residual waste or types of waste in the MSW

The Technical Specification for Sanitary Domestic Waste Landfill (GB50869-2013) and the Standard for Domestic Waste Landfill Pollution Control (GB16889-2008) operate after 2008, but do not explicitly specify the amount or proportion of LFG to be destroyed, therefore, methodology fy=0.2.

Procedure (B): baseline discharge from organic wastewater treatment works ($BE_{ww,y}$)

This project does not involve the discharge of organic wastewater, so this step is omitted.

Procedure (C): baseline emissions from energy production

This procedure divides the baseline into cogeneration and cogeneration.This project is a power generation project, so only the baseline emissions for program (C.1.1) are considered.

Procedure (C.1): Thermal power production

$$BE_{EN,y}=BE_{EC,y}+BE_{HG,y} \quad (3)$$

Where:
$BE_{EN,y}$=Baseline emissions associated with energy generation in year *y* (t CO_2)
$BE_{EC,y}$=Baseline emissions associated with electricity generation in year *y* (t CO_2)
$BE_{HG,y}$=Baseline emissions associated with heat generation in year *y* (t CO_2)

This project does not involve heat production, therefore $BE_{HG,y}=0$，$BE_{EN,y}=BE_{EC,y}$

Procedure (C.1.1): baseline emission for separate power generation ($BE_{EC,y}$)

The y-generation-related baseline emission ($BE_{EN,y}$) is calculated using the latest CDM Executive Council baseline, Project, and / or Leak Emission Calculation Tool

due to Power Consumption.When applying the tools:

The power supply k in the tool corresponds to the power source identified during the most reliable baseline scenario selection; and the $EC_{BL,\,k,\,y}$ in the tool is equivalent to the net on-grid power generated in the y year using the alternative waste disposal mode t ($EG_{t,\,y}$).

$$BE_{EC,y}=\Sigma EC_{BL,k,y}\times EF_{EL,k,y}\times(1+TDL_{k,y}) \quad (4)$$

Where:

$BE_{EC,y}$=Baseline emissions from electricity consumption in year *y* (t CO_2 / yr)

$EC_{BL,k,y}$=Quantity of electricity that would be consumed by the baseline electricity consumer *k* in year *y* (MWh/yr)

$EF_{EL,k,y}$=Emission factor for electricity generation for source *k* in year *y* (t CO_2/MWh)

$TDL_{k,y}$=Average technical transmission and distribution losses for providing electricity to source *k* in year *y*.

k = Sources of electricity consumption in the baseline

The baseline scenario of this project is the landfill treatment of domestic waste, but no landfill gas is collected, and the North China regional power grid provides an equal amount of power.Therefore, the power supply k is the central China regional power grid.

Identify the emission factor for power generation（$EF_{EL,k,y}$）

According to the "base line, project and / or leakage emission calculation tool due to power consumption", the power source in the base line scenario is the grid and belongs to scenario A, so $EF_{EL,\,k\,.y}$will be determined by two ways .

Option A1: Calculate the design document of China Voluntary Greenhouse Gas emission Reduction Project according to the "Power System Emission Factor Calculation Tool".

Option A2: Determine $EF_{EL,\,k,\,y}$, or $EF_{EL,\,k,\,y}=EF_{grid,\,CM,\,y}$, using option A1.$EF_{grid,\,CM,\,y}$ were calculated according to the "Power System Emission Factor Calculation Tool". According to the latest data released in the China Electric Power Yearbook and the China Energy Statistical Yearbook, the emission coefficient of the central China regional power grid can be calculated.In addition, China's National Development and Reform Commission published on its website a reference method to calculate emission factors in central China's regional power grid.

The emission factors $EF_{Grid,\,CM,\,y}$ are calculated according to the Power System Emission Factor calculation Tool. The calculation formula is as follows:

$$EF_{grid,CM,y}=EF_{grid,OM,y}\times W_{OM}+EF_{grid,BM,y}\times W_{BM} \quad (5)$$

Where:

$EF_{grid,OM,y}$=Operating margin CO_2 emission factor in year y (t CO_2/MWh) ;

$EF_{grid,BM,y}$=Build margin CO_2 emission factor in year y (t CO_2/MWh);

W_{OM}=Weighting of operating margin emissions factor (per cent)

W_{BM}=Weighting of build margin emissions factor (per cent)

For waste incineration power generation projects, the first inclusion period is W_{OM} = 0.5 and W_{BM} = 0.5 for the first crediting period, and W_{OM} = 0.25 and W_{BM} = 0.75 for the second and third crediting period,

According to the 2019 China Regional Power Grid Bencheline Emission Factor released by the National Development and Reform Commission, $EF_{grid, OM, y}$ of central China regional power grid are 0.9419tCO_2 / MWh, $EF_{grid, BM}$ and y are 0.4819tCO_2 / MWh. Therefore, $EF_{grid, CM}$ and y of central China regional power grid are calculated as follows: $EF_{grid,CM,y}$=0.9419×0.5+0.4819×0.5=0.7119tCO_2/MWh.

2. Project Emissions (PE_y)

The project emissions for each alternative waste option implemented in the y project activity are calculated as follows:

$$PE_y=PE_{COMP,y}+PE_{AD,y}+PE_{GAS,y}+PE_{RDF\_SB,y}+PE_{INC,y} \quad (6)$$

Where:

PE_y=Project emissions in year *y* (t CO_{2e})

$PE_{COMP,y}$=Project emissions from composting or co-composting in year *y* (t CO_{2e})

$PE_{AD,y}$=Project emissions from anaerobic digestion and biogas combustion in year *y* (t CO_{2e})

$PE_{GAS,y}$=Project emissions from gasification in year *y* (t CO_{2e})

$PE_{RDF\_SB,y}$=Project emissions associated with RDF/SB in year *y* (t CO_{2e})

$PE_{INC,y}$=Project emissions from incineration in year *y* (t CO_{2e})

This project is a waste incineration power generation project, which does not involve compost, anaerobic digestion, biogas combustion, gasification agent, RDF / SB, etc. Therefore, we only consider the project emissions from incineration, namely, $PE_y=PE_{INC, y}$.

2.1 Project Emissions from incineration ($PE_{INC, y}$)

Project emissions from incineration include emissions from combustion within the project boundary ($PE_{COM,INC,y}$). If associated with the incineration process, then project emissions shall also account for electricity consumption, fossil fuel consumption and wastewater treatment (if associated with the incineration process). Project emissions are therefore determined as follows:

$$PE_{INC,y}=PE_{COM,INC,y}+PE_{EC,INC,y}+PE_{FC,INC,y}+PE_{WW,INC,y} \quad (7)$$

Where:

$PE_{INC,y}$=Project emissions from incineration in year *y* (t CO_{2e})

$PE_{COM,INC,y}$=Project emissions from combustion within the project boundary of fossil waste associated with incineration in year *y* (t CO_2)

$PE_{EC,INC,y}$=Project emissions from electricity consumption associated with incineration year *y* (t CO_{2e})

$PE_{FC,INC,y}$=Project emissions from fossil fuel consumption associated with incineration in year *y* (t CO_{2e})

$PE_{ww,INC,y}$=Project emissions from the wastewater treatment associated with incineration in year *y* (t CH_4)

$PE_{EC,INC,y}$ is determined according to the procedure “Project emissions from electricity use”, where $PE_{EC,INC,y}=PE_{EC,t,y}$ and the alternative waste treatment process *t* is incineration. The electricity generated by onsite incineration may be excluded.

$PE_{COM,INC,y}$ is determined according to the procedure “Project emissions from combustion within the project boundary”, where $PE_{INC,COM,y}=PE_{COM,t,y}$ and the combustor c is the incinerator.

$PE_{FC,INC,y}$ is determined according to the procedure “Project emissions from fossil fuel use”, where $PE_{FC,INC,y}=PE_{FC,t,y}$ and the alternative waste treatment process *t* is incineration.

$PE_{ww,INC,y}$ is determined according to the procedure “Project emissions from wastewater treatment”, where $PE_{ww,INC,y}=PE_{ww,t,y}$ and the alternative waste treatment process *t* is incineration.

2.2 Project Emissions from power consumption ($PE_{EC,\,t,\,y}$)

The project emissions from electricity consumption due to waste treatment process *t* implemented under the project activity ($PE_{EC,t,y}$) shall be calculated using “TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation”. When applying the tool:

(1) Project emissions shall be calculated for the sources of electricity consumed due to the alternative waste treatment process *t*, excluding consumption of electricity that was generated by the project activity ($EC_{t,y}$);

(2) If the project activity consists of more than one alternative waste treatment process, then project participants may choose to monitor electricity consumption for the entire site and then allocate this consumption to one of the different alternative waste treatment processes (e.g. apportionment based on sub-metering data is not required)

According to the latest version of the Baseline, Project, and / or Leak Emission Computing Tool for Power Consumption, the Project emissions can be calculated by the following formula:

$$PE_{EC,INC,y}=EC_{PJ,j,y}\times EF_{EF,j,y}\times(1+TDL_{j,y}) \qquad (8)$$

Where:

$PE_{EC,INC,y}$=Project emissions related to power consumption (tCO_2)

$EC_{PJ,j,y}$=Quantity of electricity consumed by the project electricity consumption source *j* in year *y* (MWh/yr)

$EF_{EF,j,y}$=Emission factor for electricity generation for source *j* in year *y* ($t\ CO_2/MWh$)

$TDL_{j,y}$=Average technical transmission and distribution losses for providing electricity to source *j* in year *y*

J=Sources of electricity consumption in the project

$EF_{EL,\ j,\ y}=EF_{grid,\ CM,\ y}$, as per "Baseline, project, and / or leakage emission

calculation tool for power consumption".In addition, the electricity consumption of this project mainly comes from its power generation. In the preparation stage of the feasibility study report, the electricity input from the power grid is not discussed. In order to simplify the calculation, $PE_{EC,\ INC,\ y}$=0. The $EC_{PJ,\ j,\ y}$ should be monitored afterwards.

2.3 Project emissions ($PE_{FC,\ t,\ y}$)

The project emissions from fossil fuel combustion associated with waste treatment process t implemented under the project activity ($PE_{FC,t,y}$) shall be calculated using “TOOL03: Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion”. When applying the tool:

(1) Processes j in the tool correspond to the sources of fossil fuel consumption due to the alternative waste treatment process, other than for electricity generation.Consumption sources shall include, as relevant, fossil fuels used for starting the gasifier, auxiliary fossil fuels for operating the incinerator, heat generation for mechanical/thermal treatment process and on-site fossil fuel combustion during co-firing with waste. Fossil fuels used as part of the on-site processing or management of feedstocks and by-products shall also be included;

(2) If the project activity consists of more than one alternative waste treatment process, then project participants may choose to monitor fossil fuel consumption for the entire site and then allocate consumption to one of the different alternative waste treatment processes.

The fossil fuel consumption source involved in this project is a small amount of light diesel fuel used to start the incinerator, so according to the "project caused by fossil fuel combustion or leakage carbon dioxide emission calculation tool", the project emissions generated by fossil fuel consumption are calculated as follows:

$$PE_{FC,t,y}=FC_{diesel,y}\times COEF_{diesel,y} \quad (9)$$

Where:

$PE_{FC,t,y}$=Emissions from auxiliary fuel consumption (tCO_2)

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

$COEF_{diesel,y}$=Is the CO_2 emission coefficient of fuel type *i* in year *y* (tCO_2/mass or volume unit)

Calculate $COEF_{diesel,\ y}$ using the choice B provided by the tool, with the following formula:

$$COEF_{diesel,y}=NCV_{diesel,y}\times EF_{CO2,diesel,y} \quad (10)$$

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

$EF_{CO2,diesel,y}$=Is the weighted average CO_2 emission factor of fuel type *i* in year *y* (tCO_2/GJ)

2.4 Project Emissions from combustion within the project boundary ($PE_{COM,\ C,\ y}$)

This procedure is used to estimate emissions from the gasifier, incinerator, RDF / SB burner, and syngas burner ($PE_{COM,\ c,\ y}$).This procedure is not related to the flare or the biogas combustion chamber.The emission consists of carbon dioxide and a small amount of methane and nitrous oxide, as follows:

$$PE_{COM,c,y}=PE_{COM\_CO2,c,y}+PE_{COM\_CH4,N2O,c,y} \quad (11)$$

Where:

$PE_{COM,c,y}$=Project emissions from combustion within the project boundary associated with combustor c in year y (tCO_{2e})

$PE_{COM\_CO2c,y}$=Project emissions of CO2 from combustion within the project boundary associated with combustor c in year y (t CO_2)

$PE_{COM\_CH4,N2O,c,y}$=Project emissions of CH_4 and N_2O from combustion within the project boundary associated with combustor c in year y (t CO_2)

c=Combustor used in the project activity: gasifier or syngas burner, incinerator or RDF/SB combustor

2.4.1 Combustion within the project boundary generates project emissions of CO2($PE_{COM\_CO2,c,y}$)

Carbon dioxide project emissions associated with on-site combustion ($PE_{COM\_CO2,c,y}$) are calculated based either on the fossil carbon content of the fresh waste or RDF/SB combusted, or on the fossil carbon content of the stack gas. The biogenic carbon content is not considered[20].

The specific methods are as follows:

Option 1: **Waste sorted into waste type fractions**

$$PE_{COM\_CO2,c,y}=EFF_{COM,c,y}\times\frac{44}{12}\times\sum_{j}Q_{j,c,y}\times FCC_{j,y}\times FFC_{j,y} \quad (12)$$

Where:

$PE_{COM\_CO2,c,y}$=Project emissions of CO_2 from combustion within the project boundary associated with combustor *c* in year *y* (t CO_2)

$Q_{j,c,y}$=Quantity of fresh waste type *j* fed into combustor *c* the in year *y* (t)

$FCC_{j,y}$=Fraction of total carbon content in waste type *j* in year *y* (t C/t)

$FFC_{j,y}$=Fraction of fossil carbon in total carbon content of waste type *j* in year *y* (weight fraction)

$EFF_{COM,c,y}$=Combustion efficiency of combustor *c* in year *y* (fraction)

$\frac{44}{12}$ = conversion factor (tCO_2/t C)

[20] CO_2 emissions from the combustion or decomposition of biomass (see definition by the Board in annex 8 of the Board's 20th meeting report) are not accounted as GHG emissions. Where the combustion or decomposition of biomass under a CDM project activity results in a decrease of carbon pools, such stock changes should be considered in the calculation of emission reductions. This is not the case for waste treatment projects.

c=Combustor used in the project activity: gasifier, incinerator or RDF/SB combustor
j=Waste type

Project participants may select to either directly monitor the amount of waste type *j* fed into the combustor *c* in year *y* ($Q_{j,c,y}$) or calculate this parameter based on monitoring the total waste fed to the combustor and sampling the waste to determine the fraction of waste type *j* as per the following equation:

$$Q_{j,c,y} = Q_{waste,c,y} \times \frac{\sum_{n=1}^{z} P_{n,j,y}}{z} \quad (13)$$

Where:
$Q_{j,c,y}$=Quantity of waste type *j* fed into combustor *c* in year *y* (t)
$Q_{waste,c,y}$=Quantity of fresh waste or RDF/SB fed into combustor *c* in year *y* (t)
$p_{n,j,y}$=Fraction of waste type *j* in the sample *n* collected during the year *y* (weight fraction)
z=Number of samples collected during the year *y*
n=Samples collected in year *y*
j=Waste type

2.4.2 N_2O and CH_4 project emissions from combustion within the project boundary($PE_{COM\_CH4,N2O,c,y}$)

Option 2, the default emission factor for burning the amount of N_2O and CH_4 of each ton of fresh waste.

Option 2: Using default emission factors

$$PE_{COM\_CH4,N2O,c,y} = Q_{waste,c,y} \times (EF_{N2O,t} \times GWP_{N2O} + EF_{CH4,t} \times GWP_{CH4}) \quad (14)$$

Where:
$PE_{COM\_CH4,N2O,c,y}$=Project emissions of CH_4 and N_2O from combustion within the project boundary associated with combustor *c* in year *y* (t CO_2)
$Q_{waste,c,y}$=Quantity of fresh waste or RDF/SB fed into combustor *c* in year *y* (t)
$EF_{NO2,t}$=Emission factor for N_2O associated with waste treatment process *t* (t N_2O/t waste)
$EF_{CH4,t}$=Emission factor for CH_4 associated with treatment process *t* (t CH_4/t waste)
GWP_{N2O}=Global Warming Potential of nitrous oxide (t CO_{2e}/t N_2O)
GWP_{CH4}=Global Warming Potential of methane valid for the commitment period (t CO_{2e}/t CH_4)
c=Combustor used in the project activity: gasifier, incinerator
t=Type of alternative waste treatment processes: gasification, incineration

2.5 Discharge of wastewater management($PE_{ww,INC,y}$)

This project does not involve the discharge of sewage, so this part is divided into 0.

3. Leakage emissions （LE_y）

The leakage emissions are related to the stacking fertilizer / combined compost process, anaerobic treatment process and the use of RDF / SB processes exported outside the project boundary.This project only involves the incineration of fresh waste and does not involve the stacking fertilizer / combined compost process, so leakage is not considered in this project.

4. Emission reduction（ER_y）

The calculation of the project activity annual emission reduction ERy is to use the base line emission minus the project emission and then minus the project leakage amount.Since the project does not consider leakage, the final greenhouse gas emission reduction formula is:

$$ER_y=BE_y-PE_y-LE_y \quad (15)$$

Where:
ER_y=Emissions reductions in year *y* (t CO_{2e})
BE_y=Baseline emissions in year *y* (t CO_{2e})
PE_y=Project emissions in the year *y* (t CO_{2e})
LE_y= Leakage emissions in year *y* (t CO_{2e})
If the sum of PE_y and LE_y is smaller than 1 per cent of BE_y in the first full operation year of a crediting period, the project participants may choose to assume a fixed percentage of 1 per cent for the sum of PE_y and LE_y for the remaining years of the crediting period.

B.6.2. Data and parameters fixed *ex ante*

>>

Data / Parameter Table 1.

Data / Parameter:	φ_y
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Model uncertainty correction coefficient
Measured/calculated/default	Default
Data source	Default values in the Discharge Computing Tool for Solid Waste Treatment Stations (version 08.0)
Value(s) of monitored parameter	Select 0.8 for this project

Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	Option 1 in the Dismission Calculation Tool for Solid Waste Treatment Station is selected and the default value is used. clouding / dry apply A: 0.75 / 0.75 apply B: 0.85 / 0.80 Since this project belongs to the application case of B in the tool, that is, the implementation of this project avoids waste disposal in SWDS, and the waste is in humid climate conditions, so 0.8 is taken.
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**OX**
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Oxidation factor (indicating the amount of methane oxidized in soil or other materials used to cover landfill)
Measured/calculated/default	Default
Data source	IPCC2006 National Greenhouse Gas Emissions Inventory Guide 2019 Edition, Volume 5 p.3.14
Value(s) of monitored parameter	0.1
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	The IPCC2006 National Greenhouse Gas Emissions Inventory Guide 2019 improvement edition is a reliable data source.The landfill is compacted with soil daily, so OX=0.1, consistent with the conservative principle.
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**F**
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Methane content in the landfill gas
Measured/calculat	Default

ed/default	
Data source	IPCC2006 National Greenhouse Gas Emissions Inventory Guide 2019 Edition, Volume 5 p.3.14
Value(s) of monitored parameter	0.5
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	The IPCC2006 National Greenhouse Gas Emission Inventory Guide is a reliable source
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**DOCj**
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Degradable organic carbon ratio of waste type j (mass ratio)
Measured/calculated/default	Default
Data source	《The IPCC2006 National Greenhouse Gas Guide》volume 5, p.2.14
Value(s) of monitored parameter	For the MSW projects, the values of the different waste types j are shown in the table below.Table 1.DOCj defaults
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	**waste typej** / **DOCj（% wet basis ）** **timber** / **43** **Paper / thick cardboard** / **40** **Food waste** / **15** **Textiles** / **24** **Garden and park trash** / **20** **Glass, plastics, metal, and other inert substances** / **0** 《The IPCC2006 National Greenhouse Gas Guide》It's a reliable source
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional	-

comments	

Data / Parameter:	**kj**
Methodology reference	ACM0022 (version 03.0)
Data unit	1/yr
Description	The degradation rate of the waste type, j
Measured/calculated/default	Default
Data source	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》volume 5, p.3.16
Value(s) of monitored parameter	Apply the default value for the different waste types j in the following table

J Component waste		Northeast temperate zone(MAT≤20℃)		Torrid areas (MAT>20℃)	
		dry MAP/PET < 1	wet MAP/PET> 1	dry MAP <1000mm	wet MAP≥ 1000mm
Slow degradation	Paper / textile	0.04	0.06	0.045	0.07
	Wood / straw	0.02	0.03	0.025	0.035
Medium speed degradation	Other (non-food) organic-perishable / garden and park waste	0.05	0.1	0.065	0.17
repid degradation	Food waste / sewage sludge	0.06	0.185	0.085	0.4

remarks:MAT-annual mean temperature, MAP-mean annual precipitation, PET-potential evaporation.
The order belongs to a Semi-humid continental climate in warm temperate monsoon region. Annual average air temperature (MAT) is 13.5℃, annual average precipitation (MAP) is 856.7mm, and annual average evaporation (PET)1549.6mm[21]).Due to the MAT 20℃,MAP/PET<1， Waste degradation rate kj Select the default value under the "North temperate region, dry" option.

Measurement/ Monitoring equipment (if applicable)	-

[21] https://wenku.baidu.com/view/4c24c926b34e852458fb770bf78a6529657d35b8.html

Calculation method (if applicable)	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**FFCj**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Fraction of fossil carbon in total carbon content of waste type j
Measured/calculated/default	Default
Data source	Table 2.4, chapter 2, volume 5 of IPCC 2006 guidelines
Value(s) of monitored parameter	For MSW, the possible values of different waste types j may be as follows:

waste type j	By default: The default value this method is the default val included in Table 2.4, Chapte Volume 5, Part 5 of the 2006 Guide
Paper / thick cardboard	5
Textiles	50
Food waste	-
wood	-
Garden and park trash	0
toilet paper	10
Rubber and leather	20
plastics	100
metal	N/A
glass	N/A
Other, inert waste	100

*Metals and glass include sources from some fossil carbon.Large amounts of metal or glass used for combustion is uncommon.
If a certain type of waste is not comparable to the type listed in the above table, or cannot be counted as a combination of certain types of waste in the above table, or if the project participant wishes to measure the FFCj, then the project participant must adopt the following standards or similar national or international standard measurements

Measurement/ Monitoring equipment (if applicable)	-

Calculation method (if applicable)	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data
QA/QC procedures	-
Purpose of data	Calculate item emissions
Additional comments	-

Data / Parameter:	**FCCj**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Fraction of total carbon content in waste type j
Measured/calculated/default	Default
Data source	Table 2.4, chapter 2, volume 5 of IPCC 2006 guidelines
Value(s) of monitored parameter	For MSW, different types of waste may use values as follows:

waste type j	By default: The default value this method is the default val included in Table 2.4, Chapte Volume 5, Part 5 of the 2006 Guide
Paper / thick cardboard	50
Textiles	50
Food waste	50
wood	54
Garden and park trash	55
Nappies	90
Rubber and leather	67
plastics	85
metal	N/A
glass	N/A
Other, inert waste	5

*Metals and glass include sources from some fossil carbon.Large amounts of metal or glass used for combustion is uncommon.

Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data.
QA/QC procedures	-
Purpose of data	Calculate the item emissions
Additional comments	-

Data / Parameter:	**GWP_{CH4}**
Methodology	ACM0022 (version 03.0)

reference	
Data unit	t CO_{2e}/t CH_4
Description	Global Warming Potential of methane valid for the commitment period (t CO_{2e}/t CH_4)
Measured/calculated/default	Default
Data source	《The IPCC2006 National Greenhouse Gas Emissions Inventory Guide》
Value(s) of monitored parameter	Default value of 25 from IPCC Fourth Assessment Report (AR4). Shall be updated according to any future COP/MOP decisions.
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data
QA/QC procedures	-
Purpose of data	Calculate the item emissions
Additional comments	-

Data / Parameter:	**GWP_{N2O}**
Methodology reference	ACM0022 (version 03.0)
Data unit	t CO_{2e}/t N_2O
Description	Global Warming Potential of N_2O
Measured/calculated/default	Default
Data source	《The IPCC2006 National Greenhouse Gas Emissions Inventory Guide》
Value(s) of monitored parameter	Default value of 298 from IPCC Fourth Assessment Report (AR4). Shall be updated according to any future COP/MOP decisions
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data
QA/QC procedures	-
Purpose of data	Calculate the item emissions
Additional comments	-

<table>
<tr><td>Data / Parameter:</td><td>EF_{CH4}</td></tr>
<tr><td>Methodology reference</td><td>ACM0022 (version 03.0)</td></tr>
<tr><td>Data unit</td><td>tCH_4/t waste (wet base)</td></tr>
<tr><td>Description</td><td>Emission factor for CH4 associated with waste treatment process t</td></tr>
<tr><td>Measured/calculated/default</td><td>Default</td></tr>
<tr><td>Data source</td><td>《The IPCC2006 National Greenhouse Gas Emissions Inventory Guide2019Improved version》Volume 5, Chapter 5, Table 5.3</td></tr>
<tr><td>Value(s) of monitored parameter</td><td>If country-specific data is available, then this shall be applied and the method used to derive the value as well as the data sources need to be documented in the CDM-PDD. If country-specific data are not available, then apply the default values listed in Table 6. For continuous incineration of industrial waste, apply the CH4 emission factors provided in Volume 2, Chapter 2, Stationary Combustion of IPCC 2006 Guidelines.
<table>
<tr><td>waste type</td><td colspan="2">Type of incineration / technology</td><td>The CH4 emissior factor (waste rap tCH4 /</td></tr>
<tr><td rowspan="6">MSW</td><td rowspan="2">Continuous incineration</td><td>stoker</td><td>$1.21\times0.2\times10^{-6}$</td></tr>
<tr><td>fluid-bed</td><td>～0</td></tr>
<tr><td rowspan="2">Semi-continuous incineration</td><td>stoker</td><td>$1.21\times6\times10^{-6}$</td></tr>
<tr><td>fluid-bed</td><td>$1.21\times188\times10^{-6}$</td></tr>
<tr><td rowspan="2">Batch type incineration</td><td>stoker</td><td>$1.21\times60\times10^{-6}$</td></tr>
<tr><td>fluid-bed</td><td>$1.21\times237\times10^{-6}$</td></tr>
<tr><td colspan="3">Industrial sludge (semi-continuous or intermittent incineration)</td><td>$1.21\times9700\times10^{-6}$</td></tr>
<tr><td colspan="3">Waste oil (semi-continuous or intermittent incineration)</td><td>$1.21\times560\times10^{-6}$</td></tr>
</table>
A conservativeness factor of 1.21 has been applied to account for the uncertainty of the IPCC default values</td></tr>
<tr><td>Measurement/ Monitoring equipment (if applicable)</td><td>-</td></tr>
<tr><td>Calculation method (if applicable)</td><td>《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data</td></tr>
<tr><td>QA/QC procedures</td><td>-</td></tr>
<tr><td>Purpose of data</td><td>Calculate the item emissions</td></tr>
<tr><td>Additional comments</td><td>-</td></tr>
</table>

<table>
<tr><td>Data / Parameter:</td><td>EF_{N2O}</td></tr>
<tr><td>Methodology reference</td><td>ACM0022 (version 03.0)</td></tr>
<tr><td>Data unit</td><td>tN_2O/t waste (wet base)</td></tr>
<tr><td>Description</td><td>Emission factor for N_2O associated with treatment process t</td></tr>
<tr><td>Measured/calculated/default</td><td>Default</td></tr>
<tr><td>Data source</td><td>《The IPCC2006 National Greenhouse Gas Emissions Inventory Guide》Volume 5, Chapter 5, Table 5.6</td></tr>
<tr><td>Value(s) of monitored parameter</td><td>If country-specific data is available, such data must be used and the method used is recorded in the PDD of voluntary emission reduction projects.If country-specific data is not available, use the defaults listed in Table 6.
<table>
<tr><td>waste type</td><td>Technology / Management Practice</td><td>Emission factor(waste (wet base</td></tr>
<tr><td>Urban solid waste</td><td>Continuous and semi-continuous incinerators</td><td>$1.21\times50\times10^{-6}$</td></tr>
<tr><td>Urban solid waste</td><td>Intermittent incinerator</td><td>$1.21\times60\times10^{-6}$</td></tr>
<tr><td>Industrial waste</td><td>All types of incineration</td><td>$1.21\times100\times10^{-6}$</td></tr>
<tr><td>Sludge (except for sewage sludge)</td><td>All types of incineration</td><td>$1.21\times450\times10^{-6}$</td></tr>
<tr><td>sewage sludge</td><td>burn</td><td>$1.21\times900\times10^{-6}$</td></tr>
</table>
This project selects a numerical value$1.21\times50\times10^{-6}$</td></tr>
<tr><td>Measurement/ Monitoring equipment (if applicable)</td><td>-</td></tr>
<tr><td>Calculation method (if applicable)</td><td>《IPCC2006 National Greenhouse Gas Guide 2019 Improved Edition》Is a reliable source of data</td></tr>
<tr><td>QA/QC procedures</td><td>-</td></tr>
<tr><td>Purpose of data</td><td>Calculate the item emissions</td></tr>
<tr><td>Additional comments</td><td>-</td></tr>
</table>

<table>
<tr><td>Data / Parameter:</td><td>$EF_{grid,OM,y}$</td></tr>
<tr><td>Methodology reference</td><td>ACM0022 (version 03.0)</td></tr>
<tr><td>Data unit</td><td>tCO_2/MWh</td></tr>
<tr><td>Description</td><td>Year y, electricity marginal CO2 emission factor</td></tr>
<tr><td>Measured/calculated/default</td><td>Default</td></tr>
<tr><td>Data source</td><td>《China's regional power grid baseline emission factor in 2019》</td></tr>
<tr><td>Value(s) of</td><td>0.9419</td></tr>
</table>

monitored parameter	
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**$EF_{grid,BM,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	tCO_2/MWh
Description	Year y, capacity marginal CO2 emission factor
Measured/calculated/default	Default
Data source	《China's regional power grid baseline emission factor in 2019》
Value(s) of monitored parameter	0.4819
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**w_{OM}，w_{BM}**
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Weights of power marginal emission factor and weight of capacity marginal emission factor
Measured/calculated/default	Default
Data source	《Power system emission factor calculation tool》
Value(s) of monitored parameter	All are 0.5

Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**$TDL_{k,y}$， $TDL_{j,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Average transmission / distribution loss rate of power supply j / k
Measured/calculated/default	Default
Data source	"Baseline, Project, and / or Lecharge culation Tool for Power Consumption" (Version 02.0)
Value(s) of monitored parameter	Three percent and 20 percent were taken, respectively
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate baseline emissions (TDLk, y) and project emissions (TDLj, y)
Additional comments	-

Data / Parameter:	**$NCV_{diesel,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	GJ/t
Description	Average net calorific value of diesel fuel consumed in year y
Measured/calculated/default	Default
Data source	《China Energy Statistical Yearbook》 Windows default
Value(s) of monitored parameter	42.652

Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	《China Energy Statistical Yearbook》 is a reliable source
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions and the project emissions
Additional comments	-

Data / Parameter:	**$EF_{CO2,diesel,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	tCO_2/GJ
Description	Weighted average CO2 emission factor for diesel oil in year y
Measured/calculated/default	Default
Data source	《China Energy Statistical Yearbook》 Windows default
Value(s) of monitored parameter	0.0741
Measurement/ Monitoring equipment (if applicable)	-
Calculation method (if applicable)	《China Energy Statistical Yearbook》 is a reliable source of data
QA/QC procedures	-
Purpose of data	Calculate item emissions
Additional comments	-

B.6.3. Ex-ante calculation of emission reductions

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1 Baseline discharge (BE_y)

According to part B 6.1, the project does not involve methane baseline discharge from the mud anaerobic treatment of sewage or sludge ponds in open anaerobic ponds and from natural gas use, so $BE_{WW,\ y}=0$, $BE_{NG,\ t,\ y}=0$. In addition, China has no legal or regulatory mandatory requirements for urban solid waste treatment, and landfill treatment is still a common treatment method, so $RATE_{compliance,t,y}=0$。
The emission of this project is: $BE_y=BE_{CH4,\ y} + BE_{EN,\ y}$

1.1 Baseline emissions of methane generated in SWDS

$$BE_{CH\,4,SWDS,y} = \varphi_y \times (1 - f_y) \times GWP_{CH\,4} \times (1 - OX) \times \frac{16}{12} \times F \times DOC_{f,y} \times MCF_y \times \sum_{x=1}^{y} \sum_{j} (W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times (1 - e^{-k_j}))$$

According to the above formula and data, BE_{CH4}, y are calculated in the following table.

Table B.6.3-1SWDS Meane baseline emissions

a particular year y	$BE_{CH4,y}(tCO_2)$
10/08/2017-09/08/2018	8717
10/08/2018-09/08/2019	16999
10/08/2019-09/08/2020	24870
10/08/2020-09/08/2021	32350
10/08/2021-09/08/2022	39459
10/08/2022-09/08/2023	46217
10/08/2023-09/08/2024	52642
10/08/2024-09/08/2025	58750
10/08/2025-09/08/2026	64559
10/08/2026-09/08/2027	70083

1.2 Baseline Emission from Energy Production ($BE_{EN,y}$)

According to the 2019 China Regional Power Grid baseline Emission Factor released by the National Development and Reform Commission, $EF_{grid,OM,y}$ of central China regional power grid is 0.9419CO_2 / MWh, $EF_{grid,BM}$ and y is 0.4819tCO_2 / MWh. Therefore, $EF_{grid,CM}$ and y of central China regional power grid are calculated as follows:

$EF_{grid,CM,y}$=0.9419×0.5+0.4819×0.5=0.7119tCO_2/MWh

According to formulas (3) and (4), calculate that:

$BE_{EN,y}=BE_{EC,y}=\sum EC_{BL,k,y}\times EF_{EL,k,y}\times(1+TDL_{k,y})$

=62049.3MWh×0.7119tCO_2/MWh×(1+3%)=45498tCO_2

2 Project emissions（PE_y）

This project is a waste incineration power generation project, which does not involve composting, anaerobic digestion, biogas combustion, gasification agent, RDF / SB, etc. Therefore, only the project emissions generated by incineration are considered，$PE_y=PE_{INC,y}$

$PE_{INC,y}=PE_{COM,INC,y}+PE_{EC,INC,y}+PE_{FC,INC,y}$

2.1 Project emissions from power consumption ($PE_{EC,INC,y}$)

The electricity consumption of this project mainly comes from the spontaneous power generation. In the early stage of the project, the offline power grid input from the power grid is not discussed. For simplified calculation, $PE_{EC,\ INC,\ y}=0$. After the operation of the project, electricity is input from the grid only during the emergency and maintenance stages, so $EC_{INC,\ y}$ shall be monitored after the calculation formula in (8).

2.2 Project emissions from fossil fuel consumption($PE_{FC,INC,y}$)

The fossil fuel consumption source involved in this project is a small amount of light diesel used to start the incinerator of 6 tons, according to formula (9) - (10), the calculation:$PE_{FC,INC,y}=FC_{diesel,y}\times NCV_{diesel,y}\times EF_{CO2,diesel,y}$

$=6t\times42.652GJ/t\times0.0741tCO_2/GJ=19tCO_{2e}$

2.3 Project emissions from combustion within the project boundary($PE_{COM,c,y}$)

$PE_{COM,c,y}=PE_{COM\_CO2,c,y}+PE_{COM\_CH4,N2O,c,y}$

2.3.1 Combustion within the project boundary generates project emissions of CO2($PE_{COM\_CO2,c,y}$)

According to formula (12)-(13), $PE_{COM\_CO2,\ c,\ y}=14730tCO_{2e}$ is calculated.

2.3.2 N2O and CH4 emissions ($PE_{COM\_CH4,\ N2O,\ c,\ y}$)

according to the formula (14)，Calculate $PE_{COM\_CH4,N2O,c,y}=3950tCO_{2e}$。

Therefore, the total annual project emissions at full load operation:

$PE_{INC,y}=PE_{EC,INC,y}+PE_{FC,INC,y}+PE_{COM,INC,y}=0+19+14730+3950=18699tCO_{2e}$

3 **Emission reduction (ER_y）**

$ER_y=BE_y-PE_y$

B.6.4. Summary of ex ante estimates of emission reductions

>>

Year	Baseline emissions (t CO_2e)	Project emissions (t CO_2e)	Leakage (t CO_2e)	Emission reductions (t CO_2e)
10/08/201709/08/2018	54215	18699	0	35516
10/08/2018-09/08/2019	62497	18699	0	43708
10/08/2019-09/08/2020	70368	18699	0	51669
10/08/2020-09/08/2021	77848	18699	0	59149
10/08/2021-09/08/2022	84957	18699	0	66258
10/08/2022-09/08/2023	91715	18699	0	73016
10/08/2023-09/08/2024	98140	18699	0	70441
10/08/2024-09/08/2025	104248	18699	0	85549
10/08/2025-09/08/2026	110057	18699	0	91358
10/08/2026-09/08/2027	115581	18699	0	96882
Total	869626	186990	0	682640
Total number of crediting years	10 Years (including the first and last two days)			
Annual average over the crediting period	86963	18699	0	68264

B.7. Monitoring plan

>>

B.7.1. Data and parameters to be monitored *ex-post*

>>

Data / Parameter Table 2.

Data / Parameter:	**$RATE_{compliance,t,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	The proportion of alternative waste disposal methods t implemented in project activities
Measured/calculat	Default

ed/default	
Data source	Research or in the official documents
Value(s) of monitored parameter applied with basis	0
Measurement/ Monitoring equipment	This proportion is equal to the actual quantity / (actual)
Frequency of Measuring/reading	Update each year
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	National data summarizes all landfills in China, and if that is more than 50%, there will be no emissions
Purpose of data	Baseline line emission calculation
Additional comments	-
Data / Parameter:	**$EFF_{COM,c,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Combustion efficiency of the combustion chamber c in year y
Measured/calculated/default	Default
Data source	Data sources are arranged in the following priority order: 1. Project-specific data 2. Country-specific data 3.IPCC defaults
Value(s) of monitored parameter applied with basis	100
Measurement/ Monitoring equipment	According to the industry standards, by a qualified third party measurement
Frequency of Measuring/reading	Update each year
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	National data summarizes all landfills in China, and if that is more than 50%, there will be no emissions
Purpose of data	Baseline line emission calculation
Additional comments	-

Data / Parameter:	$EFF_{COM,c,y}$
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Combustion efficiency of the combustion chamber c in year y
Measured/calculated/default	Default
Data source	Data sources are arranged in the following priority order: 1. Project-specific data 2. Country-specific data 3.IPCC defaults
Value(s) of monitored parameter applied with basis	100
Measurement/ Monitoring equipment	According to the industry standards, by a qualified third party measurement
Frequency of Measuring/reading	p.a.
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate item emissions
Additional comments	According to the EB's guidelines, IPCC defaults are used only if country or project-specific data is not available or difficult to obtain.

Data / Parameter:	$EFF_{COM,c,y}$
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Combustion efficiency of the combustion chamber c in year y
Measured/calculated/default	Default
Data source	Data sources are arranged in the following priority order: 1. Project-specific data 2. Country-specific data 3.IPCC defaults
Value(s) of monitored parameter applied with basis	100

Measurement/ Monitoring equipment	According to the industry standards, by a qualified third party measurement
Frequency of Measuring/reading	p.a.
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate item emissions
Additional comments	According to the EB's guidelines, IPCC defaults are used only if country or project-specific data is not available or difficult to obtain.

Data / Parameter:	**$Q_{waste,c,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	t
Description	Fresh waste sent to the incinerator in the y th year
Measured/calculated/default	Measured
Data source	Project participants
Value(s) of monitored parameter applied with basis	219000
Measurement/ Monitoring equipment	Measurements were performed by lamellae
Frequency of Measuring/reading	Continuous monitoring, at least an annual total
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	Ladadometer accuracy is checked annually.
Purpose of data	It is the parameter required by the project emission calculation program for combustion within the project boundary
Additional comments	-

Data / Parameter:	**$P_{n,j,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	%
Description	Proportion of waste j in the sample n collected in year y

Measured/calculated/default	Measured
Data source	Project participants sample measurement
Value(s) of monitored parameter applied with basis	-
Measurement/ Monitoring equipment	Sample mixed waste and then determine the weight of waste composition j (wet base)
Frequency of Measuring/reading	Minleast three samples were monitored every three months and their mean served as the valid value of year y.
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	z_y
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	Number of samples collected in year y
Measured/calculated/default	calculated
Data source	Project participants
Value(s) of monitored parameter applied with basis	-
Measurement/ Monitoring equipment	Continuous monitoring, and in total annually
Frequency of Measuring/reading	-
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	-
Additional comments	-

Data / Parameter:	$EC_{INC,y}$
Methodology reference	ACM0022 (version 03.0)
Data unit	MWh
Description	On-site fossil fuel power plants or electricity input from the grid
Measured/calculated/default	Measured
Data source	Electricity meter
Value(s) of monitored parameter applied with basis	0（Pre-estimate）
Measurement/ Monitoring equipment	Power consumption shall include: the operation of waste disposal mode (incineration), feed or products related to the treatment process and site combustion activities. The site processing or management of the.Power consumption for all activities related to handling within the project boundary must be monitored. In this project, the power generated by the project meets the remaining power is input to the grid.When the whole plant is stopped for maintenance, the power may be input from the power grid.Therefore, this project does not consume or rarely consume the power grid.Electricity input from the project is monitored through the meters installed at the metering point confirmed by the plant boundary and the power company.
Frequency of Measuring/reading	continuous monitoring
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	The meter is periodically maintained and tested to ensure its accuracy, at least once a year.When the settlement note is available, the reading will be cross-checked with the settlement note.
Purpose of data	This parameter is required to calculate the project emissions from power consumption caused by incineration using the "baseline, project and / or leakage discharge calculation tool resulting from power consumption". ECINC, y does not include any power consumption of the project activity itself.If there is power consumption in the incineration of the project itself, then the emissions associated with the combustion of fossil carbon content in the waste can be considered in the program "project emissions of combustion", but not in the program "project emissions of power consumption".
Additional comments	-

Data / Parameter:	$EG_{t,y}$
Methodology reference	ACM0022 (version 03.0)

Data unit	MWh
Description	The y-year electricity generated by waste incineration and input into the power grid
Measured/calculated/default	Measured
Data source	Electricity meter
Value(s) of monitored parameter applied with basis	62049.3（Pre-estimate）
Measurement/ Monitoring equipment	Electricity is measured by the meter installed at the metering point confirmed with the power company
Frequency of Measuring/reading	continuous monitoring
Recording frequency	-
Calculation method (if applicable)	-
QA/QC procedures	The meter is periodically maintained and tested to ensure its accuracy, at least once a year.When the clearing note is available, the reading is cross-checked with the clearing note.
Purpose of data	Calculate the baseline emissions
Additional comments	-

Data / Parameter:	**$EG_{INC,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	GJ
Description	Heat converted from the electricity generation burned in year y
Measured/calculated/default	Calculated
Data source	Measured by the electric meter installed at the generator outlet
Value(s) of monitored parameter applied with basis	281111.4(=78086.5×3.6)
Measurement/ Monitoring equipment	Electric energy needs to be converted into thermal energy units（1MWh=3.6GJ）
Frequency of Measuring/reading	Continuous monitoring, and in total annually
Recording frequency	-
Calculation method (if applicable)	-
QA/QC	The meter is periodically maintained and inspected to ensure its

procedures	accuracy, at least once a year
Purpose of data	This parameter is used to evaluate that the energy generated by auxiliary fossil fuels does not exceed 50% of the total energy produced by the incinerator.
Additional comments	-

Data / Parameter:	**$EG_{INC,FF,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	GJ
Description	Heat generated in the incinerator from auxiliary fossil added fuels
Measured/calculated/default	Calculated
Data source	Project site
Value(s) of monitored parameter applied with basis	255.912GJ=6t×42.652GJ/t
Measurement/ Monitoring equipment	-
Frequency of Measuring/reading	It is estimated by multiplying the amount of auxiliary fossil fuel added to the incinerator by its net calorific value.
Recording frequency	p.a.
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	The energy used to evaluate the auxiliary fossil fuels is no more than 50% of the total energy produced by the incinerator.EGINC,FF,y＜0.50×（EGINC,y+HGINC,y）
Additional comments	-
Data / Parameter:	**$FC_{diesel,y}$**
Methodology reference	ACM0022 (version 03.0)
Data unit	t
Description	Amount of diesel fuel consumed during the incineration process
Measured/calculated/default	Measured
Data source	Site measurement of the project
Value(s) of monitored parameter applied with basis	6
Measurement/ Monitoring equipment	Use a mass or volume measuring tool
Frequency of	Project participants

Measuring/reading	
Recording frequency	p.a.
Calculation method (if applicable)	-
QA/QC procedures	Fuel consumption can be checked by financial recorded purchase invoices.
Purpose of data	Calculate item emissions
Additional comments	-

Data / Parameter:	**fy**
Methodology reference	ACM0022 (version 03.0)
Data unit	-
Description	In SWDS and the torch, the proportion of methane avoided burning or otherwise captured into the atmosphere
Measured/calculated/default	Default
Data source	According to the methodology CM-072-V01 "Multiple Selection Waste Disposal Method" (first edition): The tool indicates that fy should be determined based on historical data or contracts or specify mandatory regulations on the amount of methane that must be destroyed / used.The following additional conditions shall be used: (i) If the percentage of the LFG required to be burned is specifically specified in the mandatory regulation, this value shall be equal to fy; (ii) If the amount or percentage of LFG to be destroyed is not specified in the mandatory regulation, but requires installing a capture system without burning the captured LFG, then fy=0; and (iii) If the amount or percentage of LFG to be destroyed is not specified in the mandatory regulation, but requires a system to capture and burn LFG, then assume fy=0.2. China's current laws and regulations, Domestic Waste Landfill Pollution Control Standards (GB16889-2008) and Technical Specifications for Sanitary Landfill Treatment (GB50869-2013), require the installation of capture and incineration of LFG systems, but do not specify the amount or percentage of LFG to be destroyed, therefore, applicable to additional conditions (iii).
Value(s) of monitored parameter applied with basis	0.2
Measurement/ Monitoring equipment	-
Frequency of Measuring/reading	Annual monitoring
Recording	-

frequency	
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data	-
Additional comments	-

For Parameters to be monitored for E+/S+ assessments and SDG labels (positive impacts)

Data / Parameter:	**CO_2 emissions**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	CO_2 emissions reductions per year
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	
Remarks	

Parameter to be monitored	GHG emission reductions (tCO_2/year)
Frequency of monitoring	Continuously measured and monthly recorded
Legal /regulatory / corporate limits (if any)	/
QA/QC	Monitored data will be stored and archived till the end of the crediting period
Additional comments	If the data is missing, then use reports from third parties about the project

Data / Parameter:	**SOx 、 nitrogen oxide emissions**
Purpose:	To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.
Describe the related environment /social/ SDG risk or SDG	Under the project activities, SOx nitrogen oxide emissions will be generated, but without the project activities, no emissions will be generated.

impact as a function of likelihood of occurrence and severity of impact.		
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG		
	Parameter to be monitored	SOx 、 nitrogen oxide
	Frequency of monitoring	Online monitoring
	Legal /regulatory / corporate limits (if any)	Ambient Air Quality Standard (GB3095-1996) secondary standard
	QA/QC	In accordance with the relevant national regulations
	Additional comments	If the data is missing, then use reports from thi parties about the project
Remarks		

Data / Parameter:	**Fly ash emissions**	
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*	
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Project activities will generate fly ash.	
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG		
	Parameter to be monitored	Fly ash
	Frequency of monitoring	Monitor once a month
	Legal /regulatory / corporate limits (if any)	GB16889-2008 Pollution Control Standard for Domestic Waste Landfill Site
	QA/QC	In accordance with the relevant national regulations
	Additional comments	If the data is missing, then use reports from thi parties about the project
Remarks		

Data / Parameter:	**Noise Pollution**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause*

	any net harm to environment / society or have an impact on SDG as per selected indicators.
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	The equipment may case noise pollution during operation. The low noise equipment have been chosen for the project activity
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	

Parameter to be monitored	Noise Pollution
Frequency of monitoring	Monitor it quarterly
Legal /regulatory / corporate limits (if any)	Sound Environment Quality Standard (GB3096 2008)
QA/QC	In accordance with the relevant national regulations
Additional comments	If the data is missing, then use reports from thi parties about the project

Remarks	

Data / Parameter:	**wastewater**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Landfill leachate, discharge flushing water and domestic water produced by the project.
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	

Parameter to be monitored	wastewater
Frequency of monitoring	once a day
Legal /regulatory / corporate limits (if any)	Table 2 of the Pollution Control Standard for Domestic Waste Landfill Site (GB 16889-2008)
QA/QC	In accordance with the relevant national regulations
Additional comments	If the data is missing, then use reports from thi parties about the project

Remarks	

Data / Parameter:	**Replacing fossil fuels with renewable sources of energy**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Replaces the equivalent electricity generation generated by fossil fuels.
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Electricity generation by the project activity (MWh)</td></tr><tr><td>Frequency of monitoring</td><td>Monthly</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Energy meters will be calibrated as per schedule. Records will be maintained and archived till the end of the crediting period.</td></tr><tr><td>Additional comments</td><td>If the data is missing, then use reports from third parties about the project</td></tr></table>
Remarks	

Data / Parameter:	**Social impact indicators**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	The project creates long term job opportunities during operation.
Describe the parameters to be monitored to demonstrate compliance with requirements to	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Long-term jobs (> 1 year) created/ lost</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr></table>

demonstrate "harmless" condition or demonstrate Impact on SDG	Legal /regulatory / corporate limits (if any)	The Employment Promotion Law of the People Republic of China, etc
	QA/QC	Social impacts are expected to increase employment, which can be confirmed by the project owner's wage record or social insuranc payment record
	Additional comments	If the data is missing, then use reports fror third parties about the project
Remarks	If the data is missing, then use reports from third parties about the project	

B.7.2. Data and parameters to be monitored for E+/S+ assessments (negative impacts)

>>

There is no parameter evaluated as "Harmful" in Section E.

B.7.3. Sampling plan

>>

N/A

B.7.4. Other elements of the monitoring plan

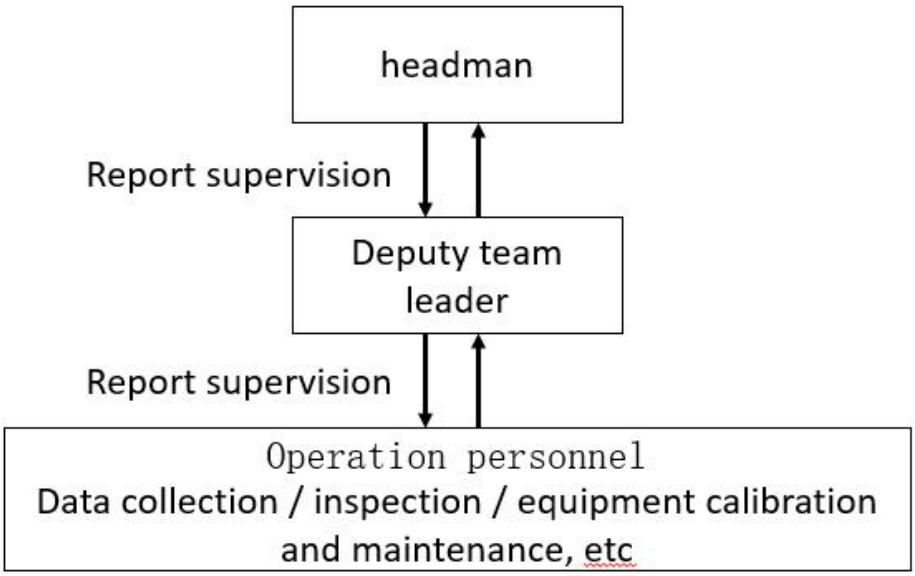
>>

This monitoring plan is developed to ensure complete, continuous, clear and accurate project monitoring and accurate calculation of project emission reduction in the inclusion period.The implementation of the monitoring plan is mainly handled by the Project Owner.

1.institutional framework

The project participants shall set up a special emission reduction monitoring and measurement working group to implement the monitoring plan.The working group consists of a group leader, a deputy group leader, and several members (see Figure B.7.3-1).The group leader is responsible for reviewing the monitoring data, training and managing the team members, and coordinating various departments, as well as communicating with the local and National Development and Reform Commission and third-party certification agencies as the main contacts, to ensure the smooth development of project monitoring and verification.The Deputy team leader assists the team leader in managing the implementation of the project monitoring plan.The

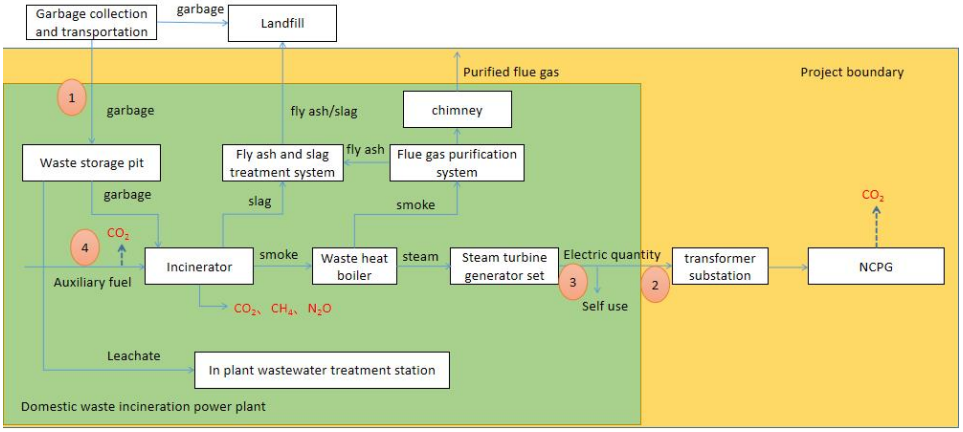
operator will be responsible for checking and maintaining the equipment, measuring and recording the relevant data, collecting the inspection and managing the data, etc.The organizational chart of the monitoring plan is shown below.



B.7.3-1 Monitoring of the organization organization

2. Monitoring parameters and monitoring equipment

The monitoring points of this project are shown in the figure below.



B.7.3. -2 Schematic diagram of the monitoring points

The main monitoring parameters and monitoring equipment in the monitoring plan of this Project include:

（1）Ladometer monitoring records the weight of waste trucks in and out of the incinerator.Ladders are installed at the logistics entrance of the incinerator.The accuracy, installation, and calibration of the ground pounds must comply with national or departmental regulations and standards.The pounds will weigh and record the

weight of each waste truck in and out of the incinerator, with the difference being the carrying capacity.The project participants will record the waste disposal volume data according to the pound, and settle the waste disposal costs with the government departments.Settlement invoices should be properly kept for internal review and periodic verification.The Project participants are responsible for the operation and maintenance of the ground weight according to the corresponding standards.

（2）The electricity meter monitors the on-grid power and off-grid power of the incinerator.The electricity quantity of this project is measured by the electricity meter, and the configuration accuracy at the outlet line of the incineration plant is not less than 0.5s, so the online and offline power can be recorded simultaneously.Memeters are installed and calibrated in accordance with the national standard "Technical Management Regulations for Power metering Devices (DL / T448-2000)" and manufacturer's specifications.Electricity purchase and sale records and invoices as well as electricity meter installation and calibration records shall be properly kept for internal review and periodic verification.The operation and maintenance of the metering meters will be conducted in accordance with the relevant national standards.

(3) The power generation of the electricity meter monitoring project, and the accuracy is not less than 0.5s.A electric meter metering device is installed at the outlet end of the generator.The project owner shall install and maintain the meter in accordance with relevant national or industrial standards and manufacturer's specifications.

(4) Monitor the consumption of diesel oil injected into the incinerator.Maintain and calibrate the monitoring equipment and instrument requirements, relevant national standards and methodology requirements, and properly keep relevant data records.

3. Data collection and management

The Project participants shall regularly monitor and record the project operation data according to the methodological requirements.In principle, the electricity settlement between the project participant and the power company and the waste disposal settlement with the competent government authorities shall be conducted once a month.

The Project participants shall regularly maintain, verify and calibrate the monitoring equipment and instruments in accordance with the relevant national standards or methodological requirements.

4. Exception data handling

Monitoring equipment is verified and maintained in accordance with the QA / QC procedure described in section B7.1 to ensure the reliability and accuracy of the data.In case of abnormal situation, report to the monitoring person in charge in time and take timely and effective measures.If equipment failure, a conservative approach should be taken when calculating emission reduction.

All data collected as a monitoring plan shall be archived electronically until at least two years after the period.

Section C. Start date, crediting period type and duration

C.1. Start date of the Project Activity

>>

10/08/2017（Grid connection time of 2 incinerators）

C.2. Expected operational lifetime of the Project Activity

>>

30 years

C.3. Crediting period of the Project Activity

>>

C.3.1. Start and end date of the crediting period

>>

10/08/2017~09/08/2027

C.3.2. Duration of crediting period

>>
10 years 0 months

Section D. Environmental impacts

D.1. Analysis of environmental impacts

>>

The potential environmental impacts by the project during construction and operation are analyzed below:

Construction Stage

Air pollution

The main air pollutant is dust which is released from construction activities and transportation and the emission from vehicles. In order to reduce pollution, necessary preventive and control measures should be taken, such as reducing strong wind construction as much as possible, sprinkling water in time to reduce dust when excavating the surface, and sprinkling appropriate amount of water to prevent wind and dust.

Water pollution

Water pollution sources during the construction period include domestic sewage of the construction team, waste water of cleaning materials in the construction area, water retention by equipment, washing and cleaning waste water, etc. Most of the waste water produced during the construction process is reused in the field construction process, and the rest is mainly evaporation loss, which is not discharged and has no impact on the surrounding surface hydrosphere environment.

Noise Pollution

Noise is mainly from vehicle transportation and construction machine. According to the Emission Standard of Environmental Noise at the Boundary of Construction Site (GB12523-2011), the standard limit of all kinds of construction machinery on the boundary of construction site is 70 dB(A) during the day and 55 dB(A) at night.

Solid waste Pollution

The main solid waste from this Project includes: refuse generated on construction site and waste generated by construction workers. These solid wastes will be separated, collected and properly handled in approved landfills and recycling facilities.

Operational Stage

Air pollution

In the operational period, acidic pollutant gases, dust, etc. are the main air pollutants released from MSW incineration process. In the Project, semidry flue gas cleaning system and bag-type dust remover are installed and combined to remove these pollutants. In addition, active carbon injection equipment and high chimney will also be installed to ensure the concentration of these pollutants can meet the *Municipal Waste Incineration Pollutants Control Standard GB18485-2014*.

Another air pollutant is the odour from the MSW storage pool. The air in the pool will be

pumped into the grate furnace as the combustion-supporting air to avoid the negative impact of the odour. And seal measures will be adopted to reduce the emission of the odour during the transportation of the MSW. Therefore, the operation of the Project will not impact the quality of the air under normal discharging standard.

Water pollution

The waste water comes from landfill leachate, washing water of unloading platform, washing water of vehicles and other production waste water, which passes through the leachate sewage treatment station, reaches the standard in Table 2 of the Pollution Control Standard of Domestic Landfill Site (GB 16889-2008), and then is discharged into Junan Jiacheng Water Purification Co., Ltd. (Longwanghe Wastewater Treatment Plant) for further treatment and then discharged into Longwanghe.

Solid waste

Three kinds of solid waste are generated in the project activity, slag and fly ash from grate furnace and the residual of the ash treatment system.The slag is sent out to make bricks, the fly ash is solidified, and after passing the leaching toxicity test, it is sent to Junan County Waste Treatment Project for landfill and final safe disposal.

Noise Pollution

The main noise are from operation of the facilities including grate furnace and steam turbine generators, various auxiliary equipment such as pumps and blowers, pipeline medium and drainage. The mitigation measures are: installation in-site noise barriers; considering noise-reducing measures in plant construction, to ensure that the noise at the plant boundary meets the second level of *Emission standard of environmental noise at boundary of industrial enterprises.*

D.2. Environmental impact assessment and management action plans

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Environmental impact assessment (EIA) was conducted by Junan Tian ying environmental protection energy co., ltd in 2015. The EIA report dated October 2015 has been evaluated and approved by Environment Protection Bureau of Linyi city. The EIA approval (Linhuanfa [2015] No.164) was issued on 10/08/2015.

The EIA report has identified all possible environmental impacts by the project and recommended proper measures to minimize adverse environmental impacts, which have been fully described in section D.1 above. The EIA approval from the government official states that all the environmental protection measures recommended in the EIA reports shall be adopted by the project to ensure that all environmental impacts and pollutants emissions comply with national standards and regulations.

Section E. Environmental and social safeguards

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E.1. Environmental safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards								Project Owner's Conclusion		GCC Project Verifier's Conclusion (To be included in Project Verification Report only)
		Description of Impact *(positive or negative)*	**Legal/ voluntary corporate requirement / regulatory / voluntary corporate threshold Limits**	**Do-No-Harm Risk Assessment (choose which ever is applicable)**			**Risk Mitigation Action Plans for aspects marked as Harmful**		**Performance indicator for monitoring of impact**	***Ex-ante* scoring of environmental impact**	***Explanation of the Conclusion***	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational Controls**	**Program of Risk Management Actions**	**Monitoring parameter and frequency of monitoring**	**Ex- Ante scoring of the environmental impact (as per scoring matrix Appendix-02)**	**Ex- Ante description and justification/explanation of the scoring of the environmental impact**	**Verification Process**
Environmental Aspects on the identified categories[22]indicated below.	*Indicators for environmental impacts*	*Describe and identify anticipated and actual significant environmental impacts, both positive and negative from all sources (stationary and mobile) during normal and abnormal/emergency conditions, that may result from the construction and operations of the Project Activity, within and outside the project boundary, over which the Project Owner(s) has/have control.*	*Describe the applicable national regulatory requirements /legal limits / voluntary corporate limits related to the identified risks of environmental impacts.*	*If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as **Not Applicable***	*If environmental impacts exist but are expected to be in compliance with applicable national regulatory /stricter voluntary corporate requirements and will be within legal/ voluntary corporate limits by way of plant design and operating principles,*	*If negative environmental impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits,*	*Describe the operational controls and best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as '**Harmful** at least to a level that is in compliance with applicable legal/regulat*	*Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., installation of pollution control equipment) that will be adopted to reduce or eliminate the risk of impacts that have been identified as **Harmful**.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well including the data source.*	*-1* *0* *+1*	*Confirm the score of environmental impact of the project with respect to the aspect and its monitored value in relation to legal /regulatory limits (if any) including basis of conclusion.*	*Describe how the GCC Verifier has assessed that the impact of the Project Activity against the particular aspect and in case of "harmful impacts" how has the project adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm as well as the net positive impacts of the project with respect to the most likely baseline alternative.* .

[22] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

					then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as ***Harmless*** */If the project has a positive impact on the environment mark it as "harmless" as well.*	*then the Project Activity is likely to cause harm (may be un-safe) and shall be indicated as* ***Harmful***	*ory requirements or industry best practice or stricter voluntary corporate requirements*					
Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 13 (e) (ii)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 22*		*Paragraph 24 and Paragraph 26 (a) (i)*
Environment - *Air*	*SO_x emissions (EA01)*	Under the project activities, SO_x emissions will be generated, but without the project activities, no emissions will be generated.	The emission of SO_x meets the Pollution Control Standard of Domestic Waste Incineration (GB18485-2014)	-	The SO_x emission generated by this project is expected to be lower than the legal limit, so this project is considered harmless.	-	-	N/A	N/A	+1	For waste gas, such as sulfide, the flue gas purification process of SNCR+semi-dry method (lime slurry)+dry method (slaked lime)+activated carbon injection+bag filter Ⅱ will be adopted, with the denitrification, desulfurization and dust removal efficiencies of 50%, 85% and 99.8% respectively, and the concentration of pollutants after purification can meet the Pollution Control Standard for Domestic Waste Incineration (GB18485-2014)	

	NO_x emissions (EA02)	Under the project activities, NO_x emissions will be generated, but without the project activities, no emissions will be generated.	The emission of NOx meets the Pollution Control Standard of Domestic Waste Incineration (GB18485-2014)	-	The NO_x emission generated by this project is expected to be lower than the legal limit, so this project is considered harmless.	-	-	N/A	N/A	+1	For waste gas, such as sulfide, the flue gas purification process of SNCR+semi-dry method (lime slurry)+dry method (slaked lime)+activated carbon injection+bag filter Ⅱ will be adopted, with the denitrification, desulfurization and dust removal efficiencies of 50%, 85% and 99.8% respectively, and the concentration of pollutants after purification can meet the Pollution Control Standard for Domestic Waste Incineration (GB184852014)	
	CO_2 emissions (EA03)	The project reduces CO_2 emissions since it reduces the amount of fossil fuel used. In case of "no project", stated amount of electricity would be generated from fossil fuel and cause air pollution.	N/A	The project reduces CO_2 emissions in the baseline; hence the project will not cause any harm	-	-	N/A	N/A	The electricity generated will be monitored and CO_2 emission reductions will be Calculated accordingly.	+1	The project is expected to result in lower CO_2 emission than the baseline throughout the crediting period.	
	CO emissions (EA04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Suspended particulate matter (SPM) emissions (EA05)	N/A	PM10 emission limit of 150 μg/Nm3 and PM2.5 emission limit of 75μg/Nm3 in	N/A	-	-	N/A	N/A	N/A	N/A	N/A	

			24h as specified in mandatory regulation GB3095-2012									
	Fly ash generation (EA06)	Project activities will generate fly ash.	N/A	-	After treatment, the fly ash will be sent to the landfill for treatment, which will not cause harm.	-	N/A	N/A	N/A	+1	The fly ash cement+chelating agent solidification and stabilization process is adopted, and then sent to the municipal solid waste treatment project of Ju 'nan County for landfill treatment.	
	Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Odor (EA08)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Noise Pollution (EA09)	The equipment may case noise pollution during operation. The low noise equipment have been chosen for the project activity	Emission standard for industrial enterprises noise at boundary> (GB3096-2008) Class II requires noise under 60 dB during daytime and 50dB during night.	N/A	The noise by the project will Be controlled lower than the legal limits, hence the project is deemed Harmless	-	N/A	N/A	The noise within and outside the project boundary will be monitored at periodic interval.	+1	Choose low-noise equipment, and take noise reduction measures such as foundation vibration reduction, fan installation silencer, etc.	

	Others (EA10)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Add more rows if required and correspondi ng notation with EA as prefix)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
Enviro nment - *Land*	*Solid waste Pollution from Plastics (EL-01)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Solid waste Pollution from Hazardous wastes (EL02)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Solid waste Pollution from Bio-medical wastes (EL03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Solid waste Pollution from E-wastes (EL04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Solid waste Pollution from Batteries (EL05)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Solid waste Pollution from end-	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	

	of-life products/ equipment (EL06)											
	Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury) (EL07)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	land use change (change from cropland /forest land to project land) (EL08)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Others (EL09)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Add more rows if required	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
Environment - *Water*	*Reliability/ accessibility of water supply (EW01)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Water Consumption from ground and other sources (EW02)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Generation of	Landfill leachate, discharge flushing water	The treatment	N/A	After treatment,	-	N/A	N/A	N/A	+1	After treatment, the wastewater is	

	wastewater (EW03)	and domestic water produced by the project.	reaches the standard in Table 2 of the Pollution Control Standard for Domestic Waste Landfill Site (GB16889-2008)		the wastewater is discharged up to standard and is considered harmless to the environment.						discharged into the municipal pipe network and treated by Junan Jiacheng Water Purification Co., Ltd.,	
	Wastewater discharge without/with insufficient treatment (EW04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Pollution of Surface, Ground and/or Bodies of water (EW05)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Others (EW07)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Add more rows if required	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
Environment – *Natural Resources*	*Conserving mineral resources (ENR01)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Protecting/ enhancing	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	

	plant life (ENR02)											
	Protecting/ enhancing species diversity (ENR03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Protecting/ enhancing forests (ENR04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Protecting/ enhancing other depletable natural resources (ENR05)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Conserving energy (ENR06)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Replacing fossil fuels with renewable sources of energy (ENR07)	*The project uses waste incineration to generate electricity instead of fossil fuel to generate electricity.*	There is no such legal limit	-	The project uses waste to generate electricity instead of some fossil fuels, which is harmless.	-	N/A	N/A	The electricity generated by this project will be monitored throughout the crediting period	+1	The project is expected to supply an average of 62049.3MWh electricity to NCPG annually, hence this parameter will be scored.	
	Replacing ODS with non-ODS refrigerants (ENR08)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Others (ENR09)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	
	Add more rows if required											

Net Score:	**+7**	
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to Environment.
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to the environment...

E.2. Social Safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC project Verifier's Conclusion (To be included in Project Verification Report only)
		Description of Impact (*positive or negative*)	**Legal requirement /Limit, Corporate policies / Industry best practice**	**Do-No-Harm Risk Assessment** **(Choose which ever is applicable)**			**Risk Mitigation Action Plans (for aspects marked as Harmful)**	**Performance indicator for monitoring of impact.**	**Ex-ante scoring of environ mental impact**	**Explanation of the Conclusion**	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational / Management Controls**	**Monitoring parameter and frequency of monitoring (as per scoring matrix Appendix-02)**	**Ex- Ante scoring of social impact of the project**	**Ex- Ante description and justification/ explanation of the scoring of social impact of the project**	**Verification Process** **Will the Project Activity cause any harm?**
Social Aspects on the identified categories[23] indicated below.	*Indicators for social impacts*	*Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all sources during normal and abnormal/emergency conditions that may result from constructing and operating of the Project Activity within or outside the project boundary, over which the project Owner(s) has/have control*	*Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts*	*If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable***	*If social impacts exist but are expected to be in compliance with applicable national regulatory requirements/ stricter voluntary corporate limits by way of plant design and operating principles then the Project Activity is unlikely to cause any harm (is safe) and shall*	*If negative social impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm*	*Describe the operational or management controls that can be implemented as well as best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as* ***Harmful****.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well. Monitoring parameters can be quantitative or qualitative in nature along with the data source*	*-1* *0* *+1*	*Confirm the score of the social impacts of the project with respect to the aspect and its monitored value in relation to legal/regulator y limits (if any) including basis of conclusion*	*Describe how the GCC Verifier has assessed that the impact of Project Activity on social aspects (based on monitored parameters, quantitative or qualitative) and in case of "harmful aspects how has the project owner adopted Risk Mitigation Action / management actions plans and policies to mitigate the risks of*

[23] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

					*be indicated as **Harmless**), project having positive impact on society. To the BAU / baseline scenario must also mark their aspect as **"harmless"***	*and shall be indicated as **Harmful***					*negative social impacts to levels that are unlikely to cause any harm.* *Also describe the positive impacts of the project on the society as compared to the baseline alternative or BAU scenario.*
Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 23*		*Paragraph 24 and Paragraph 26 (a) (ii)*
Social - *Jobs*	*Long-term jobs (> 10 year) created/ lost (SJ01)*	*Long-term jobs (> 1 year) created/ lost*	The project creates long term job opportunities during operation.	All employments are done according to the national employment regulations	-	The social impact is expected to increase employment ; hence the project is harmless	-	Project activity creates direct employment for around 70people per year during the operation and maintenance of the project activity. Which provides the positive impact on society which would have not been available in the absence of the project activity. It will be monitored Through Employment records	+1	The social impact is expected to increase employment , which can be confirmed by payroll records or the social insurance payment records of the project owner, therefore This parameter will be scored	
	New short-term jobs (< 1 year) created/ lost (SJ02)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Sources of income generati	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A

	on increased / reduced (SJ03)										
	Avoiding discrimination when hiring people from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04) *(Human rights)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
Social - *Health & Safety*	*Disease prevention (SHS01)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Occupational health hazards (SHS02)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Reducing / increasing accidents/Incidents/fatality (SHS03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Reducing / increasin	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A

	g crime (SHS04)										
	Reducing / increasing food wastage (SHS05)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Reducing / increasing indoor air pollution (SHS06)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Efficiency of health services (SHS07)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Sanitation and waste management (SHS08)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Other health and safety issues (SHS09)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Add more rows if required	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
Social - *Education*	*specialized training / education to local personnel (SE01)*	The project owner provides job related training for the special positions.	There is no legal requirement from local authority to provide training to local people	-	The project provides job related training for all employees; hence it is harmless	-	N/A	The project provided the job-related training, it can be verified from the training records and attendance sheet.	+1	Project owner confirms that by training the people on New technology it will upgrade their skills and creates Positive impact.	

										Hence it will be scored	
	Educational services improved or not (SE02)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Project-related knowledge dissemination effective or not (SE03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Other educational issues (SE03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Add more rows if required (SE04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
Social - *Welfare*	*Improving/ deteriorating working conditions (SW01)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Community and rural welfare (indigenous people and communities)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A

	(SW02)										
	Poverty alleviation (more people above poverty level) (SW03)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Improving / deteriorating wealth distribution/ generation of income and assets (SW04)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Increased or / deteriorating municipal revenues (SW05)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Women's empowerment (SW06) *(Human rights)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Reduced / increased traffic congestion (SW07)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A

	Exploitation of Child labour *(Human rights)* *(SW08)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Minimum wage protection *(Human rights) (SW09)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Abuse at workplace. (With specific reference to women and people with special disabilities / challenges) *(Human rights) (SW10)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Other social welfare issues (SW11)	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Avoidance of human trafficking and forced labour	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A

	(Human rights) *(SW12)*										
	Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs *(Human rights)* *(CW13)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Provisions of resettlement and human settlement displacement *(Human rights)* *(CW14)*	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
	Add more rows if required	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A
Net Score:		+2									
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to society.									

GCC Project Verifier's Opinion:	The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to society.

Section F. United Nations Sustainable Development Goals (SDG)

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UN-level SDGs	UN-level Target	Declared Country-level SDG	Defining Project-level SDGs					GCC Project Verifier's Conclusion (To be included in Project Verification Report only)	
			Project-level SDGs	**Project-level Targets/Actions**		**Contribution of Project-level Actions to SDG Targets**	**Monitoring**	**Verification Process**	**Are Goal/ Targets Likely to be Achieved?**
Describe UN SDG targets and indicators *See: https://unstats.un.org/sdgs/indicators/indicators-list/*	*Describe the UN-level target(s) and corresponding indicator no(s)*	*Has the host country declared the SDG to be a national priority? Indicate Yes or No*	*Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope or creating a new indicator(s). Refer to previous column for guidance.*	*Define project-level targets/actions in line with nee project level indicators chosen. Define the target date by which the project Activity is expected to achieve the project-level SDG target(s).*		*Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets*	*Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG indicator and its corresponding target, frequency of monitoring and data source*	*Describe how the GCC Verifier has verified the claims that the project is likely to achieve the identified Project level SDGs target(s).*	*Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or no)*
Goal 1: End poverty in all its forms everywhere	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Goal 3. Ensure healthy lives and promote well-being for all at all ages	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 5. Achieve gender equality and empower all women and girls	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 6. Ensure availability and sustainable management of water and sanitation for all	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all	SDG Target 7.1	Yes	The project uses waste incineration to generate electricity, which will help everyone get affordable and reliable modern energy services by 2030. The project uses waste incineration to generate electricity, which avoids the same amount of fossil fuel consumption for power generation without project activities.	The goal of the project is to connect 62049.3 megawatts/year of wind power generated in the whole life of the project activities to China's state grid. The project has contributed to Sustainable Development Goal 7 since August 10, 2017.	Increase the proportion of people who have access to electricity. During the whole life cycle of the project, 62049.3 MWh/year wind power will be generated and connected to China's state grid.	Increase the proportion of people who have access to electricity. During the whole life cycle of the project, 62049.3 MWh/year wind power will be generated and connected to China's state grid.	The project operation and maintenance team at the project site continuously monitors the net power generation provided by the project.		
Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all	SDG Target 8.5	Yes	Project activity supports creation of short term and long -term job opportunities during the construction and operation of the project activity. Supports economic productivity through technology upgradation and innovation through training of labour in intensive sector. Project protects labour rights and promotes safe and secure	The project is expected to create 70 long-term job opportunities Through Project activity economic development has been achieved in the	70 people were recruited including all levels	The project created job opportunity for both construction and operation period. It created long term employment for 70 people	Quantity of employment will be monitored through employment records		

			working environments. Supports a transition to a low carbon society through employment training for former fossil fuel industry employees	project location by creating opportunities to the other allied services and indirect employment.		who are directly working at the site.			
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	SDG Target 9.4	Yes	Activities include upgrading to advanced waste incineration power generation technology, which is a clean and flexible infrastructure based on traditional fossil fuel power plant technology. Support advanced industrialization by providing electricity with zero greenhouse gas emissions. Support industrialization through local recruitment, procurement, training and skill development.	Activities include the installation of 12MW waste incineration power generation project in China.	9.4.1 CO_2 emission per unit of value added. Project activity reduces 68264 tCO_{2e} per annum and 682640 tCO_{2e} during the crediting period.	Project O&M team continuously work to reduce the plant outages and trying to achieve the maximum grid availability to generate and feed the maximum energy to the grid.	O&M team monitors the real time generation from the plant and calculated equivalent CO_2 reductions		
Goal 10. Reduce inequality within and among countries	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable	SDG Target 11.6	Yes	The project is waste incineration to generate electricity, which reduces the per capital negative environmental impact of the city.	Activities include the installation of 12MW waste incineration power generation project in China.	11.6.1 The proportion of municipal solid waste collected and managed by the control department to the total output of municipal waste, by city. Activities have been reduced in proportion.	The operation and maintenance team of the project constantly strives to reduce the interruption of the factory and maximize the availability of the power grid, so as to generate and provide the maximum energy for the power grid and reduce the waste ratio.	The operation and maintenance team monitors the real-time waste volume of the factory.		
Goal 12. Ensure sustainable consumption and production patterns	SDG Target 12.5	Yes	The project generates electricity from waste incineration and reduces carbon dioxide emissions from fossil fuel power plants, and recycling and reusing waste.	Activities include the installation of 15MW waste incineration power generation project in China.	The generation of the project uses the amount of garbage generated each year to generate electricity, thus realizing the reuse of waste.	Ensure optimum generation from the plant to the grid	O&M team monitors the real time generation from the plant and calculated equivalent CO_2 reductions.		

					Project activity reduces 68264 tCO_{2e} per annum and 682640 tCO_{2e} during the crediting period.				
Goal 13. Take urgent action to combat climate change and its impacts	SDG Target 13.3 .	Yes	The project generates electricity from waste incineration and reduces carbon dioxide emissions from fossil fuel power plants.	Activities include the installation of 12MW waste incineration power generation project in China.	Project activity reduces 68264 tCO_{2e} per annum and 682640 tCO_{2e} during the crediting period.	Ensure optimum generation from the plant to the grid	O&M team monitors the real time generation from the plant and calculated equivalent CO_2 reductions.		
Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

inclusive institutions at all levels									
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

SUMMARY	**Targeted**	**Likely to be Achieved**
Total Number of SDGs	**6**	**6**
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF	**Diamond**	**Diamond**

Section G. Local stakeholder consultation

G.1. MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION

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From December 5, 2014 to May 26, 2015, a Local Stakeholder Consultation (LSC) was conducted on the project to introduce the project to local stakeholders.The following people are considered as the stakeholders of this project:

- Residents of the nearby village;
- Relevant Department of the local government.

During the consultation with local stakeholders, on December 5, 2014, the construction unit organized the relevant stakeholders in the location to visit the waste incineration unit, and on March 23, 2015 and May 26, 2015, the first announcement and the first announcement were made on the Junan County People's Government website, and LSC conducted a questionnaire survey of the above stakeholders. Learn more about what local stakeholders think about project construction by means of information announcements and questionnaires.

The questions in the Public Participation Questionnaires were as following:

1. Do you know about the domestic waste incineration power generation project in Junan county?
2. What do you think of the ambient air quality around the proposed project?
3. What do you think of the surface water quality around the proposed project?
4. What do you think of the groundwater quality around the proposed project?
5. What do you think of the sound environment quality around your residence?
6. What do you think of the solid waste pollution around the proposed project?
7. What do you think of the quality of the ecological environment around the proposed project?
8. Do you agree with the risk prevention and control measures of the proposed project?
9. Do you think the environmental impact of ambient air and noise during the construction period of the proposed project is acceptable?
10. What environmental problems do you care most about the proposed project?
11. Are you satisfied with the environmental protection measures to be taken for the construction of the proposed project?
12. Do you think the proposed project will promote the local economic development and the quality of life of nearby residents?
13. Considering the advantages and disadvantages, do you agree with the site selection and construction commencement of the proposed project?

G.2. SUMMARY OF COMMENTS RECEIVED

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36 questionnaires have been handed in total and all of them have been received successfully from the stakeholder representatives, respectively from the local government, and surrounding villages. The representatives covered different ages, different occupations and different education levels.

Survey questions	content	Number of persons	Proportion (%)	Advantage options
1. Do you know about the domestic waste incineration power generation project in Junan county?	know	36	100	√
	I don't know	0	0	
2. What do you think of the ambient air quality around the proposed project?	approval	24	65	√
	Basic recognition	12	35	
	Not recognized	0	0	
3. What do you think of the surface water quality around the proposed project?	approval	23	65	√
	Basic recognition	13	35	
	Not recognized	0	0	
4. What do you think of the groundwater quality around the proposed project?	approval	28	78	√
	Basic recognition	8	22	
	Not recognized	0	0	
5. What do you think of the sound environment quality around your residence?	approval	30	82	√
	Basic recognition	6	18	
	Not recognized	0	0	

6. What do you think of the solid waste pollution around the proposed project?	approval	28	79	√
	Basic recognition	8	21	
	Not recognized	0	0	
7. What do you think of the quality of the ecological environment around the proposed project?	approval	25	70	√
	Basic recognition	11	30	
	Not recognized	0	0	
8. Do you agree with the risk prevention and control measures of the proposed project?	feasible	26	72	√
	Basically feasible	10	28	
	infeasible	0	0	
9. Do you think the environmental impact of ambient air and noise during the construction period of the proposed project is acceptable?	approval	24	69	√
	Basic recognition	12	31	
	Not recognized	0	0	
10. What environmental problems do you care most about the proposed project?	Ambient air pollution	27	75	√
	Surface water pollution	3	8	
	groundwater pollution	5	16	

	Noise	1	1	
	other	0	0	
11. Are you satisfied with the environmental protection measures to be taken for the construction of the proposed project?	satisfied	32	88	√
	commonly	4	12	
	dissatisfied	0	0	
12. Do you think the proposed project will promote the local economic development and the quality of life of nearby residents?	can	35	98	√
	can't	0	0	
	be unable to explain clearly	1	2	
13. Considering the advantages and disadvantages, do you agree with the site selection and construction commencement of the proposed project?	favor	36	100	√
	disapproval	0	0	

G.3. CONSIDERATION OF COMMENTS RECEIVED

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The respondents generally believe that the environmental impact of the project after taking corresponding environmental protection measures to control pollution is acceptable, and 100% of the respondents agree with the project construction.According to the survey results, the public has a high enthusiasm for participating in public utilities, can objectively understand the impact of the project construction on the economic and environmental benefits of the region, and have a high awareness of environmental protection.

According to the survey results, as long as environmental protection measures are taken during the construction period and operation period, the local people are interested in this project.Most of the construction expressed support.

Section H. Approval and authorization

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As and when required, the project owner will submit host country attestation for meeting the requirements of CORSIA.

APPENDIX 1. CONTACT INFORMATION OF PROJECT OWNERS

Project Owner name (as per LON/LOA)	Beijing Tianying Zero Carbon Technology Research Institute Co, Ltd.
Country	P.R.China
Address	Room 408, Unit 2, Building 15, NO.16, 3rd Street Yingcai North, Future Science City, Changping District, Beijing, P.R. China
Telephone	+8615910601836
Fax	-
E-mail	liub05@ctyi.com.cn
Website	/
Contact person	Bo Liu

APPENDIX 2. AFFIRMATION REGARDING PUBLIC FUNDING

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No public funding from Annex I parties are involved in this project activity.

APPENDIX 3. APPLICABILITY OF METHODOLOGY(IES)

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Refer Section B.2

APPENDIX 4. FURTHER BACKGROUND INFORMATION ON EX ANTE CALCULATION OF EMISSION REDUCTIONS

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N/A

APPENDIX 5. FURTHER BACKGROUND INFORMATION ON MONITORING PLAN

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N/A

APPENDIX 6. SUMMARY REPORT OF COMMENTS RECEIVED FROM LOCAL STAKEHOLDERS

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N/A

APPENDIX 7. SUMMARY OF DE-REGISTERED CDM PROJECT OR PROJECTS FROM OTHER GHG / NON-GHG PROGRAMS (TYPE B)

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N/A

Appendix 8. FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY.

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N/A

Appendix 9. PUBLIC DECLARATION FOR A2 (Sub Type 2 and 3), B1 & B2 PROJECTS ON NON CONTINUATION FROM CDM/GHG/NON-GHG PROGRAMS.

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N/A

DOCUMENT HISTORY

Version	Date	Comment
V 4.0	27/09/2022	▪ Revised version released on approval by Steering Committee as per GCC Program Process. ▪ Revised version contains following changes: ○ Introduced A3 type projects A2 project sub-types. ○ Included revised Declaration by the 'Authorized Project Owner and focal point' on GCC requirements. ○ Included modified format for E+/S+/ SDG assessment. ○ Revised instructions for filling in the PSF. ○ Editorial changes to the document.
V 3.2	31/12/2020	▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.
V 3.1	17/08/2020	▪ Editorial revisions made ○ Revised Table in section B.7.2 on Monitoring-program of risk management actions ○ Revised Table in section E.1 on Environmental Safeguards ○ Revised Table in section E.1 on Social Safeguards ○ Revised Table in section F on United Nations Sustainable Development Goals (SDG)
V 3.0	05/07/2020	▪ Revised version released on approval by Steering Committee as per GCC Program Process. ▪ Revised version contains following changes: ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC). ○ Considered and addressed comments raised by Steering Committee: ➢ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➢ electronic consultations EC01-Round 01 (15.09.2019 – 25.09.2019), EC01-Round 02 (27.03.2020 – 27.06.2020). ○ Feedback from Technical Advisory Board (TAB) of ICAO on GCC submission for approval under CORSIA[24];

[24]See ICAO recommendation for conditional approval of GCC at https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Jan_2020_final.pdf

V 2.0	25/06/2019	▪ Revised version released for approval by the GCC Steering Committee. ▪ Revised version includes additional details and instructions on the information to be provided, consequent to the latest developments world-wide (e.g., CORSIA EUC).
V 1.0	01/11/2016	Initial version released under the GCC Program Version 1

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