

ICS 13.020.10

CCS Z 04



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32151.49-2026

**Requirements for greenhouse gas emission accounting and
reporting - Part 49: Waste landfill enterprises**

温室气体排放核算与报告要求 第49部分：废弃物填埋处理企业

Issued on: March 31, 2026

Implemented on: October 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1	Scope
4	Accounting Boundaries
4.2	Scope of Accounting and Reporting
5	Metrological and Monitoring Requirements
5.2	Emissions from fossil fuel combustion
5.3	Discharge during landfilling
6	Accounting Steps and Methods
6.2	Accounting Method
6.2.2	Fuel Combustion Emissions
6.2.3	Emissions during landfill disposal
6.2.4	Emissions from purchased and exported electricity
6.2.5	Emissions from purchased and exported heat
7	Data Quality Management
8	Report Content and Format

1 Scope

GB/T 32151.49-2026 is the Chinese national standard covering the emissions of a landfill - the methane generated by the waste in place over decades, the fraction captured by the gas collection system and the fraction oxidised in the cap, each of which has to be modelled rather than measured. The GB/T 32151 series is the basis of China's corporate greenhouse gas reporting and, through it, of the national emissions trading scheme. A landfill emits for thirty years after it stops receiving waste, which makes the model the whole of the accounting. The standard fixes the boundary, the emission sources, the activity data and factors, the calculation and the report. First edition, in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, as a first edition. The document is under the responsibility of the Ministry of Ecology and Environment. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the boundaries, measurement, monitoring and testing requirements, and verification procedures for greenhouse gas emissions accounting and reporting by waste landfill companies. The calculation steps and accounting methods, data quality management, report content and format, etc. This document applies to the

accounting and reporting of greenhouse gas emissions from municipal solid waste landfill treatment companies.

4 Accounting Boundaries

4.1 General Rules The reporting entity should define its boundaries as an independent legal entity or an independently accounting unit deemed as a legal entity, and include all processing facilities and [other facilities] within that boundary. The process of accounting for and reporting greenhouse gas emissions from landfill operations and closure processes must be included, and the scope of facilities must include those directly related to emissions from landfill operations and closure processes. Operating systems; auxiliary production systems include power supply, heating, internal vehicle transportation, etc.; excluding waste transfer stations, collection, transportation, storage, and leachate. Facilities for processing, etc. Greenhouse gas emission sources from waste landfills include. emissions from vehicle transportation within the landfill, emissions from the landfill disposal process, and purchased electricity. The calculation boundary diagram for emissions generated by heat, electricity output, and emissions generated by heat is shown in Appendix A.

4.2 Scope of Accounting and Reporting

4.2.1 Emissions from fossil fuel combustion Carbon dioxide emissions from the combustion of fossil fuels for power or heat supply within the accounting boundary, including emissions from production within the plant. Emissions generated from vehicle transportation.

4.2.2 Emissions during landfill disposal Greenhouse gas emissions from landfill disposal processes include those generated during landfill spreading, compaction, filling, final cover, and landfill gas collection. Leakage emissions, flare gas combustion emissions, methane recovery and utilization for power generation, methane recovery and utilization for heating, and methane used for purification. Methane recovery and utilization rate.

4.2.3 Emissions from purchased electricity and heat Carbon dioxide emissions generated from the production processes corresponding to the electricity and heat purchased by the reporting entity.

4.2.4 Emissions generated from the output of electricity and heat The report specifies the carbon dioxide emissions generated during the production processes corresponding to the electricity and heat output by the main body of the report.

5 Metrological and Monitoring Requirements

5.1 Parameter Recognition Table 1 shows the parameters and methods for measuring, monitoring, and detecting greenhouse gas emissions from different sources at landfill disposal companies.

5.2 Emissions from fossil fuel combustion

5.2.1 Requirements for Metering and Monitoring of Fossil Fuel Consumption The reporting entity shall be equipped with fossil fuel metering instruments in accordance with the provisions of GB 17167. The requirements for the metering and monitoring of fossil fuel consumption are shown in Table 2.

5.2.2 Requirements for Low Heating Value Testing The reporting entity should test the lower heating value of each batch of coal entering the plant in accordance with GB/T 213, and the monthly average lower heating value of the coal should be recorded. The value is calculated by weighting the test data of each batch, with the weight being the amount of coal in each batch, and is consistent with the corresponding consumption status. The lower heating value of fuel oil and natural gas should be tested in accordance with GB/T 384 and GB/T 11062.

5.3 Discharge during landfilling

5.3.1 Emissions during flare combustion The measuring instruments for flare gas flow rate and concentration shall comply with GB/T 32201, and the specific requirements are shown in Table 3.

5.3.2 Metering requirements for landfill gas recovery power generation The metering instruments for landfill gas recovery power generation should comply with GB/T 32201, and the specific requirements are shown in Table 4.

5.3.3 Metering requirements for landfill gas recovery and heating utilization The metering instruments for landfill gas recovery heating utilization shall comply with GB/T 32201, and the specific requirements are shown in Table 5.

5.3.4 Measurement requirements for landfill gas purification and utilization The measuring instruments for landfill gas purification and utilization shall comply with GB/T 32201, and the specific requirements are shown in Table 6.

5.4 Purchase and export of electricity and heat The reporting entity should be equipped with electricity meters and heat metering instruments in accordance with the requirements of GB 17167, and conduct relevant measurement and testing.

5.5 Management Requirements Reporting entities should strengthen the management of greenhouse gas emission measurement, monitoring, and detection, including but not limited to.

- a) Appoint personnel to be responsible for the management of measuring instruments, including their allocation, use, verification (calibration), maintenance, and disposal. Work;
- b) Enterprise greenhouse gas emission measurement management personnel, verification, calibration, maintenance and related management of greenhouse gas emission-related

measuring instruments. Personnel should possess the corresponding abilities;

c) Establish a list of measuring instruments, listing the name, specifications, accuracy class, manufacturer, serial number, and other relevant information of each instrument. Location management number, installation and usage location, status (e.g., qualified, approved for use, out of service);

d) The design and installation of energy-consuming equipment shall comply with the energy monitoring requirements for energy-consuming equipment in GB/T 6422 and GB/T 15316;

e) A record of greenhouse gas emission measuring instruments should be established, including but not limited to. - Instruction manual for measuring instruments - Certificate of Conformity for Measuring Instruments - Valid verification (testing, calibration) certificate for the measuring instrument. - Measuring instrument maintenance records;

f) For measuring instruments that are self-calibrated and have self-defined calibration intervals, there should be currently valid controlled documents as the basis;

g) Measuring instruments shall be verified (calibrated) periodically. Measuring instruments that have failed verification (calibration) or have exceeded their verification period shall not be used. For measuring instruments subject to mandatory verification, their verification cycle shall comply with the relevant metrology laws and regulations;

h) Labels corresponding to the numbers in the list of measuring instruments should be affixed to the measuring instruments in a conspicuous location for inspection and management.

6 Accounting Steps and Methods

6.1 Accounting Steps The complete workflow for reporting entities to account for and report greenhouse gas emissions includes the following steps.

a) Determine the accounting boundaries;

b) Identify emission sources;

c) Collect activity level data;

d) Selecting and acquiring emission factor data;

e) Calculate the emissions from fuel combustion, the total greenhouse gas emissions directly from landfill disposal, and the purchased and exported electricity and heat, respectively. The corresponding emissions;

f) Summarize and calculate the company's greenhouse gas emissions;

g) Prepare emission reports and ensure data quality management and document archiving.