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GB/T 45192-2025

Technical specification at the project level for assessment of greenhouse gas emission reductions - Rural biogas plant

基于项目的温室气体减排量评估技术规范 农村沼气工程

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1.Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document was jointly issued by the National Biogas Standardization Technical Committee (SCA/TC515) and the National Carbon Emission Management Standardization Technical Committee (SAC/ TC548) are jointly managed. This document was drafted by: Chengdu Biogas Research Institute of the Ministry of Agriculture and Rural Affairs, Agricultural Ecology and Resources Protection Station of the Ministry of Agriculture and Rural Affairs, Jiangxi Province Agricultural Ecology and Resources Protection Station, Everbright Environmental Technology (China) Co., Ltd., Sichuan Rural Energy Development Center, Sichuan Environmental Policy Research Institute Research and Planning Institute, Qingdao Technological University, Beijing University of Chemical Technology, Jingan Ecological Technology Group Co., Ltd., and China Industrial Development Promotion Association. The main drafters of this document are. Luo Tao, Dong Baocheng, Huang Zhenxia, Li You, Wang Dengshan, Xu Wenyong, Deng Liangwei, Li Bingfeng, Qiu Yonghong, Fu Xindi, Xiang Liu, Meng Xi, Sun Jianhong, Zhang Dayong, Liu Yuxin, Liu Jian, Liu Daili, Zhu Nengmin, Lin Aijun, Liu Meng, Wei Yong, Guan Beibei, Hu Xiaoyan, Zhao Shilei. Technical Specifications for Project-Based Greenhouse Gas Emission Reduction Assessment Rural biogas projects

1 Scope

GB/T 45192-2025 is the Chinese project-level methodology for assessing greenhouse gas emission reductions from rural biogas plants. A farm digester earns credit in two ways at once, and the standard keeps them distinct: it captures methane that manure or crop residue would otherwise have released from open storage, and the biogas it produces displaces coal or LPG for cooking and heating. Both have to be computed against a defined baseline scenario, and the credibility of the whole rests on whether the plant is actually operating, which is why the monitoring clause matters as much as the arithmetic. The standard sets the general principles, the assessment content and workflow, the calculation method for the baseline emissions, the project emissions and the leakage, the monitoring and data quality management requirements, and the preparation of the emission reduction assessment report. It is one of the family of Chinese project-level methodologies that underpin the domestic voluntary carbon market. It takes effect on 1 August 2025.

This document specifies the assessment content and workflow, calculation method, monitoring method and other related work of greenhouse gas emission reduction or emission in rural biogas project operation. The requirements for emission reduction measurement and data quality management, preparation of emission reduction assessment reports, etc. are described, and the corresponding accounting methods are described. This document is applicable to the assessment of greenhouse gas emission reduction of rural biogas projects. Other types of biogas projects shall be implemented accordingly.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2589 General rules for comprehensive energy consumption calculation

GB/T 4352 Fuel consumption of trucks

GB/T 33760-2017 General requirements for project-based greenhouse gas emission reduction assessment technical specifications

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Greenhouse gases The natural and human-caused gases in the atmosphere that

absorb and emit radiation from the Earth's surface, atmosphere, and clouds. The gas component that radiates with wavelengths in the infrared spectrum.

Note. Unless otherwise specified, greenhouse gases in this document include carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). [Source: GB/T 32150-2015, 3.1, modified]

3.2 Rural biogas projectruralbiogasplant Anaerobic digestion technology is used to produce and collect fermentation products (biogas, biogas residue and biogas liquid) using agricultural waste as the main fermentation raw material. of engineering.

Note. It includes biogas stations, transmission and distribution facilities and user projects. Among them, biogas stations refer to the production, storage, purification and transmission and distribution sites of biogas, including fermentation raw materials and biogas residues. Facilities such as on-site temporary storage and treatment of biogas slurry, on-site biogas energy conversion, and production management rooms.

3.3 Greenhouse gas emissions from the oxidative combustion of fuels. [Source: GB/T 32150-2015, 3.7]

3.4 Emission factor Representative greenhouse gas emission rate per unit of production or consumption activity under given operating conditions.