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PEOPLE'S REPUBLIC OF CHINA**

GB/T 44818-2024

**Technical specification at the project level for assessment of
greenhouse gas emission reductions - Solar thermal
applications**

基于项目的温室气体减排量评估技术规范 太阳能热利用

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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 Ecology and Environment. This document was jointly issued by the National Solar Energy Standardization Technical Committee (SAC/TC402) and the National Carbon Emission Management Standardization Technical Committee (SAC/TC548) jointly under the jurisdiction of the Commission. This document was drafted by: China Academy of Building Research Co., Ltd., China National Institute of Standardization, Sunrain Group Co., Ltd., China Municipal North China Design and Research Institute of Political Engineering Co., Ltd., Xi'an University of Architecture and Technology, Beijing Gas Group Research Institute, Shandong Linuorui New Energy Co., Ltd., Shandong Sunle Group Co., Ltd., Shandong Sunshine Doctor Solar Energy Engineering Co., Ltd., Shandong Electric Power Engineering Consulting Institute Co., Ltd., Shenzhen Architectural Design and Research Institute Co., Ltd., Shandong Longguang Tianxu Solar Energy Co., Ltd., Shandong Rishengyuan Technology Co., Ltd., China Science and Technology Institute of Engineering Thermophysics of the College, Tianjin Jianke Building Energy Saving and Environmental Testing Co., Ltd., Shanxi Jinhuan Keyuan

Environmental Resources Technology Co., Ltd., Zhongguancun Modern Energy and Environmental Service Industry Alliance, Himin Solar Energy Co., Ltd., and Jianke Environmental Energy Technology Co., Ltd. The main drafters of this document are. Li Bojia, Liu Meng, Zhang Xinyu, He Tao, Jiao Qingtai, Hao Yong, Li Kaichun, Su Shiqiang, Wang Dengjia, Bian Mengmeng, Wu Yuanyuan, Liu Yida, Miao Qingwei, Li Meixia, Sun Liang, Yang Jie, Zhang Shigang, Zhong Yang, Xing Zuoxin, Zhang Lei, Zhao Jifang, Ma Lei, Wu Junsong, Zhang Haonan, Deng Yu, He Yuan, Wang Min, Sang Jing, Zhang Sinan, Zhou Biru, Wang Boyuan, Chen Xudong, and Cai Wenbo. Technical Specifications for Project-Based Greenhouse Gas Emission Reduction Assessment Solar thermal utilization

1 Scope

GB/T 44818-2024 is the Chinese project-level methodology for assessing greenhouse gas emission reductions from solar thermal applications, the collectors that supply domestic hot water, industrial process heat and space heating. China has by far the largest installed solar thermal capacity in the world, and the emission reduction it produces is entirely a displacement calculation: the credit is the fuel or electricity that would otherwise have raised the same heat, which means the baseline scenario and the actual heat delivered, not the collector area, are what have to be established. The standard sets the assessment content and procedure, the greenhouse gases covered, the project boundary and the identification of emission sources, the determination of the baseline scenario, the calculation of the baseline, project and leakage emissions and hence of the reduction, and the monitoring requirements and data quality management, with the assessment report format. It takes effect on 1 May 2025.

This document specifies the content, assessment procedures, scenario determination and greenhouse gas source identification of greenhouse gas emission reductions for solar thermal projects. classification, emission reduction calculation, monitoring and data quality management, and preparation of emission reduction assessment reports. This document is applicable to projects that use solar energy to supply hot water, heating, heat-driven refrigeration, and industrial heat, as well as projects that use two or more solar cells. Assessment of greenhouse gas emission reductions during the project operation phase using a combination of the above forms. This document is also applicable to the assessment of greenhouse gas emission reductions during the operational phase of the solar thermal utilization component of integrated energy utilization projects.

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 33760 General requirements for technical specifications for project-based greenhouse gas emission reduction assessment

GB/T 40703 Design specification for medium-temperature solar industrial heat utilization systems

GB/T 50801 Evaluation standard for renewable energy building application projects

3 Terms and Definitions

The terms and definitions defined in GB/T 33760 and the following apply to this document.

3.1 Absorb solar radiation, convert it into thermal energy and utilize it to meet all or part of the user's heating or cooling needs.

3.2 project boundary projectboundary The solar thermal collection, storage, transmission and distribution, and control systems in the proposed assessment projects include solar thermal energy driven refrigeration projects, which also include thermal energy driven Refrigeration equipment does not include auxiliary energy systems or other equipment in comprehensive energy utilization projects other than solar thermal utilization.

3.3 Baseline scenario baselinescenario A hypothetical scenario that might occur if the project is not implemented, used to provide a reference. [Source: GB/T 33760-2017, 3.4]

3.4 baselineboundary The energy conversion and distribution systems necessary to achieve the same effects as the project in the baseline scenario.

3.5 The calculated reduction in greenhouse gas emissions generated by a project over a certain period of time compared to the emissions in the baseline scenario.