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

GB/T 44716-2024

Method of low carbon assessment for building materials

建筑材料低碳评估方法

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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 of the People's Republic of China and the China Building Materials Federation. This document was jointly prepared by the China Building Materials Federation (609) and the National Carbon Emission Management Standardization Technical Committee (SAC/TC548). Centralized. This document was drafted by: China Building Materials Federation, Shanghai Bioheng New Materials Co., Ltd., Beijing University of Technology, China Building Materials General Research Institute Co., Ltd., Huaxin Cement Co., Ltd., Beijing Guojian Lianxin Certification Center Co., Ltd., Anhui Conch Group Co., Ltd. Company, Changzhou Architectural Science Research Institute Group Co., Ltd., China National Institute of Standardization, New Pearl Group Co., Ltd., Guangdong Dongpeng Holdings Co., Ltd., China University of Mining and Technology (Beijing), China Construction Third Engineering Bureau First Construction Engineering Co., Ltd., China Railway Construction Group Group Co., Ltd., China Railway 25th Bureau Group Fourth Engineering Co., Ltd., China Railway 23rd Bureau Group Co., Ltd., Guangdong Hailong Construction Technology Co., Ltd. Limited company. The main drafters of this document are. Li Yeqing, Wei Peng, Liu Ning, Cao Yuanhui, Gong Xianzheng, Nie Qing, Chen Yongbo, Fang Qun, Wang Peng, Yang Ming, Su Huazhi, Wang Dongmin, Zheng Yunsheng, Wang Shengjie, Zhu Zhe, Deng Xikun, Liu Yu, Cui Jingxuan, Fan Yajun, Huang Liping, Chen Shiqing, Wang Xinyu, Chen Suqin, Jiang Wu, Han Feng, Liu Changjun, Hou Miaomiao, Wang Xingpeng, Li Xiaolong, Liu Xiaoquan, Ma Jie, Shang Huining, Liu Yanlong,

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1 Scope

GB/T 44716-2024 gives the Chinese method for assessing the carbon performance of building materials. Construction is where the largest share of Chinese industrial emissions ends up, and the embodied carbon of the materials is now being asked for by developers, by green building rating schemes and by export customers; but a figure quoted without a defined boundary and a defined allocation rule is not comparable with anyone else's. The standard sets the assessment boundary, cradle to gate with the stages defined, the functional unit for each material category, the data requirements and their quality, the calculation of the greenhouse gas emissions from the raw materials, the energy, the transport and the process, the treatment of recycled input and of by-products and the allocation rules that go with them, the treatment of carbonation and of biogenic carbon where relevant, the benchmarking and grading of the result, and the report and its verification. It takes effect on 1 April 2025.

This document specifies the assessment requirements, assessment methods and assessment reports for low-carbon assessment of building materials. This document is applicable to enterprises or third parties who assess carbon reduction in the production stage of building materials and the avoidance of carbon dioxide emissions in the use stage.

2 Normative references

The contents of the following documents constitute 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 32150 General principles for accounting and reporting of greenhouse gas emissions from industrial enterprises

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

3 Terms and definitions

The terms and definitions defined in GB/T 32150, GB/T 33760 and the following apply to this document.

3.1 It is used to provide a reference for low-carbon assessment of building materials, and the carbon dioxide emissions or avoided carbon dioxide emissions of building materials

under a given scenario. Carbon emissions.

Note. The given scenario in the production stage is the average level of carbon dioxide emissions in the industry, and the given scenario in the use stage is a uniform setting for the application building or system.

3.2 functional unit Used as a base unit to quantify the performance of a material system.
[Source: GB/T 24040-2008, 3.20, modified]

4.1 Basic requirements

4.1.1 The building materials subject to low-carbon assessment should comply with relevant standards.

4.1.2 The scope of low-carbon assessment of building materials includes the production stage and the use stage, of which the production stage is mandatory and the use stage is optional. Recommendations on the scope of low-carbon assessment for building materials are given in Appendix A.

4.1.3 Low-carbon assessment should clarify the functional units of building materials.

4.1.4 The calculation method, statistical caliber, and assessment scope of low-carbon assessment of the same building material should be consistent, and the results should be comparable.

4.1.5 The data statistical period for the low-carbon assessment of building materials should be clearly stated in the assessment report.

4.2 Selection of baseline carbon dioxide emissions

4.2.1 The baseline carbon dioxide emissions (baseline value) should be selected according to Table

1. The method for selecting the baseline value for the same building material should be