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**NATIONAL STANDARD OF THE
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**Evaluation guide for low-carbon enterprises in the building
materials industry**

建材行业低碳企业评价指南

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Table of Contents

4 Evaluation Criteria
5 Evaluation Index System
5.2 Qualitative Evaluation Indicators
5.3 Quantitative Evaluation Indicators
6 Evaluation Methods
6.1 Qualitative Evaluation
6.2 Quantitative Evaluation
7 Judgment
8 Evaluation Procedure
8.1 Evaluation Initiation
8.2 Evaluation Implementation

4 Evaluation Criteria

4.1 No major safety, environmental protection, or quality accidents occurred in the building materials production enterprises during the base period to the evaluation period.

4.2 Building material production enterprises do not use or produce technologies, equipment and products that are subject to elimination as stipulated by national industrial policies.

4.3 The pollutant emission levels of building material production enterprises meet the requirements of national and local pollutant emission standards, and the total pollutant control complies with national and local standards. Local pollutant emission control targets.

4.4 Building material manufacturers shall establish and operate environmental management systems and energy management systems in accordance with the requirements of GB/T 24001 and GB/T 23331. system.

4.5 Building material production enterprises have established systems for equipping themselves with measuring instruments for energy, materials, etc., in accordance with the requirements of GB 17167 and GB/T 24851, and have implemented management systems for these instruments. The system fully meets the relevant requirements for carbon emission management, and the monitoring and measurement equipment related to carbon emissions is regularly maintained and calibrated. (Verification) to ensure the completeness and accuracy of the data obtained.

4.6 When appropriate, building material manufacturers shall cooperate with the competent authorities to complete carbon emission verification; the total carbon emissions and carbon

emission intensity shall meet national and local requirements. Local governments' requirements for enterprises to control carbon emissions.

4.7 Building materials manufacturing enterprises have a responsible leader in charge of low-carbon management and have established corresponding departments responsible for the development of relevant systems. Implement, assess, and reward/penalize carbon emission management, establishing a target responsibility system. Based on actual production conditions, clearly define the boundaries of carbon emission management and identify carbon emission sources. Complete and clear.

4.8 The energy consumption index per unit of product of building material production enterprises meets the access value (Level 2) of the corresponding product energy consumption limit standard during the evaluation period. Require.

5 Evaluation Index System

5.1 Overview The evaluation index system for low-carbon enterprises in the building materials industry consists of qualitative evaluation indicators and quantitative evaluation indicators.

5.2 Qualitative Evaluation Indicators

5.2.1 Qualitative evaluation indicators include two secondary indicators. management indicators and technical indicators.

5.2.2 Management indicators include the following.

- a) Enterprises should establish and improve energy conservation and low-carbon management systems, implement energy conservation and low-carbon management goals and responsibilities, and formulate performance evaluation methods and... Energy saving improvement plan;
- b) Enterprises formulate medium- and long-term plans, annual targets, and action plans for low-carbon development, including project implementation lists, timelines, and funding. Investment measures, etc.;
- c) Enterprises should establish appropriate carbon emission data management systems. Through statistics and monitoring, they can obtain relevant carbon emission data for each production system. data;
- d) Enterprises shall formulate appropriate, effective, and comprehensive carbon emission data quality control plans and regularly analyze carbon emission monitoring results. And evaluation;
- e) Enterprises shall regularly disclose carbon emission-related information in accordance with GB/T 46593;

- f) Enterprises establish carbon emission information management platforms;
- g) The company has an energy management center capable of continuous monitoring, statistics, and analysis of energy consumption;
- h) Carbon emission assessments shall be conducted on all new and expanded fixed asset investment projects of enterprises within the period from the base period to the evaluation period.

5.2.3 Technical specifications include the following.

- a) Enterprises adopt advanced energy-saving technologies and equipment, and waste heat and energy recovery and utilization measures to improve energy use, recovery, transmission and conversion. Process optimization strengthens the synergistic coupling of material and energy flows throughout the entire process, thereby improving overall energy utilization efficiency;
- b) Enterprises should optimize their energy consumption structure and use low-carbon, clean, or renewable energy sources to replace traditional energy sources;
- c) Enterprises can improve product manufacturing processes by adjusting and optimizing raw materials and applying breakthrough production processes that can replace carbonate raw materials. Carbon reduction;

5.3 Quantitative Evaluation Indicators

5.3.1 The quantitative evaluation indicators are the greenhouse gas emission intensity per unit of product output and the reduction rate of total greenhouse gas emissions at the enterprise level.

5.3.2 Greenhouse gas emission intensity per unit product output is calculated according to formula (1).

5.3.3 The reduction rate of total greenhouse gas emissions at the enterprise level is calculated according to formula (2).

6.1 Qualitative Evaluation

6.1.1 The qualitative evaluation section has a total score of 40 points, determined by the sum of the scores of each qualitative evaluation indicator. Secondary indicators can be assigned according to different categories of building materials. Scoring is assigned based on the evaluation requirements set forth below.

6.1.2 When a qualitative evaluation indicator is not applicable, that indicator shall be scored as 0 points and deducted from the total score of the qualitative indicators. The total score of the qualitative index T1 is then corrected by multiplying it by the normalization coefficient η , which is calculated according to formula (3).

6.2 Quantitative Evaluation

6.2.1 General Provisions The quantitative evaluation section has a total score of 60 points, consisting of the greenhouse gas emission intensity index per unit of product output and the greenhouse gas emissions at the enterprise level. The score is determined by summing the scores of the total reduction rate and the energy consumption per unit of product. Among these, the greenhouse gas emission intensity per unit of product output is... The total score is 40 points, with 20 points allocated to the enterprise-level greenhouse gas emission reduction rate indicator. When a quantitative evaluation indicator is not applicable, refer to...

6.1 The total score of the quantitative evaluation index is adjusted by the normalization coefficient.

6.2.2 Calculation of Greenhouse Gas Emission Intensity Index Score per Unit Product Output A score of full marks is given for greenhouse gas emission intensity per unit of product output that is superior to advanced levels during the evaluation period, while a score of 0 marks is given for failing to meet the benchmark. If... The score between the advanced value and the benchmark value is calculated according to formula (4). Greenhouse gas content per unit product of cement, flat glass, building ceramics, and sanitary ceramics. Advanced and benchmark values for emission intensity are shown in Table B.1 of Appendix B. For emissions intensity excluding cement, flat glass, building ceramics, and sanitary ceramics... For production enterprises, the benchmark value is the top 50% level of greenhouse gas emission intensity per unit of product in the corresponding industry, and the advanced value is the greenhouse gas emission intensity per unit of product in the corresponding industry. The top 20% level of indoor gas emission intensity.

6.2.3 Calculation of the score for the enterprise-level greenhouse gas emission reduction rate indicator If the total greenhouse gas emission reduction rate delta at the enterprise level is greater than or equal to 5%, T2-2 is scored as 20 points; if it is less than or equal to 0, T2-2 is scored as 0 points. When the percentage is greater than 0% and less than 5%, T2-2 is calculated according to formula (5).

7 Judgment

The total score T for low-carbon enterprise evaluation is the sum of qualitative and quantitative evaluation scores, calculated according to formula (6). If T is greater than 80 points, the enterprise is judged to be low-carbon. enterprise.

8.1 Evaluation Initiation

8.1.1 Enterprises shall conduct self-assessments or entrust a third party to conduct low-carbon enterprise assessments.

8.1.2 Develop an evaluation work plan, which should include the evaluation purpose,