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

GB/T 47538.1-2026

**Technical requirements for the assessment of emission
reduction effects - Part 1: Travel**

减排效果评估技术要求 第1部分：出行

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 1 of GB/T 47538 "Technical Requirements for Emission Reduction Effect Evaluation". GB/T 47538 has the following parts published.

1. Travel. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the National Technical Committee on Standardization of Environmental Management (SAC/TC207). It is jointly managed by the Technical Committee (SAC/TC207) and the National Technical Committee on Standardization of Carbon Emission Management (SAC/TC548). This document was drafted by: China National Institute of Standardization, Beijing Municipal Center for Climate Change Management, and Jiangxi Provincial Government Affairs Administration Bureau. Beijing Jiaotong University, Beijing Didi Infinite Technology Development Co., Ltd., Beijing AutoNavi Cloud Technology Co., Ltd., Xinjiang Uygur Autonomous Region Quality... Basic Development Research Institute, Beijing Energy Group Co., Ltd. The main drafters of this document are: Zhang Lan, Hu Yongfeng, Bai Yan, Yu Fengju, Wang Chengyu, Sun Fen, Wang Li, Shen Xinyi, Feng Hua, Ding Junqiang, and Li Zhanyu. Halidan Abibula, Yang Ming, Zhao Yi, Wei Jiewen, Bu Qunjie, He Furong, Huo Shaowei, Li Xuebing.

To implement the national "dual-carbon" strategy and standardize the quantitative assessment of greenhouse gas emission reductions from voluntary social emission reduction projects, this document clarifies the reduction... The procedures and boundaries for emission quantification were established, and a scientific and feasible method for setting baselines and calculating emission reductions was developed. The techniques for

quantitative assessment were also refined. Based on the technical procedures and data monitoring requirements, a unified and standardized quantitative assessment system for greenhouse gas emission reduction in social voluntary emission reduction projects was established. Standardized quantitative assessment techniques are used to verify the emission reduction effectiveness of voluntary emission reduction projects, optimize project planning, and facilitate carbon credit transactions. This provides quantitative evidence for easy mechanism alignment and policy incentive implementation, promotes standardized management of voluntary social emission reduction projects, and contributes to greenhouse gas reduction. Effective implementation of emission reduction targets will promote the formation of a green and low-carbon lifestyle throughout society. To facilitate domestic and international communication, the units of measurement in this document are "International Units of Measurement for Substances (Elements)" or "International Units of Measurement for Substances (Elements)". The values are expressed in the form of "units", such as tC for tons of carbon, tCO₂ for tons of carbon dioxide, and Nm³ for cubic meters under standard conditions. GB/T 47538, "Technical Requirements for Emission Reduction Effectiveness Evaluation," will clarify the quantitative evaluation basis for emission reduction based on the characteristics of different voluntary emission reduction projects. This framework includes principles, procedures, quantitative scope, greenhouse gas identification, baseline scenarios, emission reduction assessment, project monitoring, data quality management, and emission reduction. The quantitative assessment report, according to GB/T 47538, is proposed to consist of the following parts.

3. Procurement. Technical Requirements for Emission Reduction Effectiveness Evaluation Part

1 Scope

GB/T 47538.1-2026 is the Chinese national standard covering how the emission reduction from a change in how people travel is assessed - the baseline journey that would otherwise have been made, the mode shifted to, the data collected from the platform or the app, and the conservative assumptions that keep the claim honest. This is the machinery behind the personal carbon accounts several Chinese cities have launched. Part 1, first edition, in force since 1 August 2026. It was issued on 30 April 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. 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.

1. Scope This document specifies the basic principles, procedures, scope of quantification, greenhouse gas identification, and baseline conditions for the quantitative assessment of emission reductions in low-carbon travel projects. The process includes. assessment of

emission reductions, project monitoring, data quality management, and preparation of emission reduction quantification assessment reports. This document applies to personal use of public buses (electric buses), urban rail transit, new energy passenger cars, and carpooling new energy passenger cars within urban areas. A quantitative assessment of emission reductions for low-carbon travel behaviors such as using fuel-powered passenger cars, cycling, and walking to move from the origin to the destination. This document does not cover the quantitative assessment of lifecycle emission reductions of the products used for low-carbon travel.

4 Basic Principles

4.1 Correlation Select appropriate greenhouse gas sources, data, and methods.

4.2 Integrity This includes all relevant greenhouse gas emissions that meet the needs of individuals within the target town.

4.3 Consistency It enables meaningful comparisons of information related to greenhouse gases.

Note. When the same criteria and procedures are used, and emissions reductions are assessed twice periodically (e.g., at one-year intervals), and the results of the two assessments are comparable, it is called [a specific assessment]. Meaningful comparison.

4.4 Accuracy Minimize bias and uncertainty as much as possible.

4.5 Transparency Subject to compliance with national policies and trade secret requirements, publish fully applicable greenhouse gas information so that individuals in the target towns can access it. Make reasonable decisions.

Note. To meet the principle of transparency, the following are generally required, but not limited to.

- a) Explain and clarify the principles and related content on which the baseline scenario and low-carbon travel scenario are selected, and document them;
- b) Explain and document the selection of assessment procedures, assessment methods, emission factors, activity data, etc.

4.6 Conservatism Ensure that the assumptions, figures, and assessment methods used do not overestimate greenhouse gas emission reductions.

5.Procedure The procedure for assessing emission reductions from low-carbon travel is shown in Figure 1.

6.Quantification range Figure 2 shows a schematic diagram of the boundary and scope of the quantitative assessment of emission reduction for low-carbon travel.

7.Identification of Greenhouse Gas Types Table 1 shows the identification of greenhouse

gas types for low-carbon travel projects within the target towns.

8. Baseline Scenario The baseline scenario in this document is the most recent year for which data was available before project implementation, and the average annual overall travel status of all residents in the target town. See section

9 Assess emission reductions

9.1 General Rules Project owners or their clients collect data on low-carbon travel-related activities of individuals within the target town over a specific period. Emission reductions will be assessed in accordance with the procedures outlined in this document. The formulas for calculating the project's emission reductions are shown in

9.2 Emission Reduction The formula for calculating emission reduction is shown in equation (1).

9.3 Calculation of baseline scenario emissions The formulas for calculating baseline scenario emissions over a certain period are shown in equations (2) and (3).

9.4 Calculation of Emissions from Low-Carbon Travel Projects

9.4.1 General Provisions The formula for calculating individual low-carbon travel emissions within a certain period is shown in equation (4).

9.4.2 Carbon Emission Factors of Low-Carbon Travel

9.4.2.1 Carbon emission factors from taking public buses (trolleybuses) and urban rail transit Based on the availability and detail of travel data in each region, carbon emission factors are calculated, and regions can be categorized into those with detailed travel data. Districts and areas with basic transportation data. For areas with detailed traffic data, the carbon emission factor calculation formula for taking public buses (trolleybuses) is shown in equation (5).

9.4.2.3 Carbon emission factors of carpooling new energy passenger vehicles The formula for calculating the carbon emission factor of carpooling new energy passenger vehicles is shown in equation (8).

9.4.2.4 Carbon emission factors of carpooling gasoline-powered passenger vehicles The formula for calculating the carbon emission factor of a shared fuel-powered passenger car is shown in equation (9). In areas with basic traffic data, the carbon emission factor for driving gasoline-powered passenger cars can be calculated using the default value method, see Appendix B.

9.4.2.5 Carbon Emission Factors of Cycling The default carbon emission factor EF₆ for non-electric riding is 0. Based on the principle of conservatism, sampling surveys can be conducted to investigate the proportion of electric and non-electric riding, electricity