



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

GB/T 46011.1-2025

**Road vehicle - General requirements for greenhouse gas
management - Part 1: Terms and definitions**

道路车辆 温室气体管理通用要求 第1部分:术语和定义

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of China..**

Table of Contents

Foreword	3
Introduction	4
1 Scope	6
2 Normative references	6
3 Basic and general level	6
4 Organizational level	28
5 Product level	34
Bibliography	41

Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents.

This document is Part 1 of GB/T 46011 Road vehicle - General requirements for greenhouse gas management. The following parts have been issued under GB/T 46011:

- Part 1: Terms and definitions;
- Part 2: Carbon footprint labels of road vehicle products.

Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114).

Drafting organizations of this document: China Automotive Technology and Research Center Co., Ltd., Beijing Catarc Automobile Technology Development Co., Ltd., Chongqing Changan Automobile Co., Ltd., Zhejiang Geely Holding (Group) Co., Ltd., Contemporary Amperex Technology Co. Limited, CALB Group Co., Ltd., Heilongjiang Xinda Chemical New Materials Co., Ltd., Volkswagen (China) Investment Co. Ltd., Guangdong Brup Recycling Technology Limited, China Automotive Parts Inspection Center (Ningbo) Co., Ltd., Hefei Guoxuan High-Tech Power Energy Co., Ltd., Hebei University of Technology, CATARC Huacheng Certification (Tianjin) Co., Ltd., Suzhou Inovance Automotive Co., Ltd., BMW China Services Ltd., SAIC-GM-Wuling Automobile, Ningde Bangpu Recycling Technology Co., Ltd., Toyota Motor (China) Investment Co., Ltd., SAIC Volkswagen Automotive Co., Ltd., Pan Asia Technical Automotive Center Co., Ltd., FAW-Volkswagen, Changan Ford Motor Co., Ltd.

Main drafters of this document: Zhang Tongzhu, Liu Shaohui, Wang Xiaoxia, Lai Xinxue, Zheng Tianlei, Zhao Mingnan, Xu Xiaomin, Li Chuanhai, Pan Xuexing, Tian Zhihong, Yang Xin, Cong Longze, Yu Haijun, Cui Chen, Chen Min, Liu Jing, Li Jing, Yang Ruicheng, Wu Jiali, Chu Jiangwei, Wang Liyao, Wang Rui, Guan Yunfei, Liang Xiaolin, Liu Zhipeng, Lai Lihui, Bai Mingrui, Shen Jian, Jiang Hongxia, Gao Yuan, Wang Ruoxin, Sun Yingying, Zhang Chikun, Lu Yuliang, Wang Qin, Lv Meng, Ma Liya.

Introduction

As a major sector of global energy consumption and greenhouse gas emission, the

lowcarbon development of the road vehicle industry is a key link in addressing climate change and achieving sustainable development goals. In recent years, as the international community has attached increasing importance to greenhouse gas emission reduction, countries have successively introduced laws and policies to promote the green and low-carbon transformation of the road vehicle industry. Against this backdrop, standardizing the technical terminology and definitions for greenhouse gas management of road vehicles has become a fundamental task for ensuring the consistency of the standard system, promoting technical exchanges, and regulating industry management.

GB/T46011, Road vehicle - General requirements for greenhouse gas management is proposed to consist of five parts.

-- Part 1: Terms and definitions. The aim is to systematically integrate the professional terminology related to greenhouse gas management in the industry, and to clarify the definition, scope of application and interrelationship of each term.

-- Part 2: Carbon footprint labels of road vehicle products. The aim is to guide low-carbon production and low-carbon consumption in the industrial chain and improve the overall level of greenhouse gas management in China's automotive industry.

-- Part 3: Carbon footprint data format specifications of road vehicle products.

The aim is to build a standardized and structured data representation system to ensure the consistency and comparability of carbon footprint data from different companies, and to improve the universality and credibility of industry carbon footprint data.

-- Part 4: Zero-carbon factory construction standards. The aim is to clarify the technical path and management requirements for the construction of zerocarbon factories for road vehicles, guide enterprises to build a low-carbon and clean production system, and help the industry achieve the goals of green manufacturing and zero-carbon transformation.

aim is to standardize the qualifications of verification agencies, verification procedures and data verification standards, ensure the authenticity and reliability of product carbon footprint information, and provide an effective basis for carbon footprint of a product, market supervision and industry decision-making.

This document provides a unified language foundation for the formulation of technical requirements, management processes, accounting methods, and other content in subsequent series of standards. By standardizing terminology, reduce implementation differences caused by conceptual ambiguity, provide solid standardization support for the control of greenhouse gas emissions from road vehicles, low-carbon product evaluation, policy formulation, and international cooperation, and help the industry achieve its greenhouse gas emission reduction targets and sustainable development.

1 Scope

This document defines the terms and definitions at the basic and general level, organizational level, and product level for greenhouse gas management of road vehicles.

This document applies to enterprises, projects, and products related to road vehicles at all stages of their entire life cycle, including raw material manufacturers, component manufacturers, vehicle manufacturers, vehicle energy companies, service companies, recycling and dismantling companies, remanufacturing companies, echelon utilization companies, recycling companies, waste disposal companies, and their projects and products.

2 Normative references

There are no normative references in this document.

3 Basic and general level

3.1 Terminology related to greenhouse gas 3.1.1

Gaseous components in the atmosphere that exist naturally or are produced by human activities and can absorb and emit radiation with wavelengths in the infrared spectrum from the Earth's surface, atmosphere, and clouds.

methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

The net radiation variation in the vertical direction of the tropopause, which is caused by external forcing, such as changes in the internal climate system, such as changes in carbon dioxide concentration or solar radiation.

The coefficient that correlates the effect of radiative forcing (3.1.2) of a unit mass of a certain greenhouse gas over a given time period with the effect of radiative forcing of an equal amount of carbon dioxide.

The unit comparing the radiative forcing (3.1.2) of a certain greenhouse gas with that of carbon dioxide.

The carbon dioxide equivalent of a given greenhouse gas is equal to the mass of that greenhouse gas multiplied by its global warming potential.

The total amount of greenhouse gases released into the atmosphere during a specific period (in units of mass).

In this document, greenhouse gas emission is equated with carbon emission.

The total amount of greenhouse gases removed from the atmosphere during a specific period (in units of mass).