

ICS 27.010
CCS F 29



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

GB/T 46877-2025

**Carbon dioxide capture - General requirements for
post-combustion CO₂ capture systems**

二氧化碳捕集 燃烧后二氧化碳捕集系统通用要求

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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. 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 and is under the jurisdiction of the National Technical Committee on Standardization of Environmental Management (SAC/TC207). This document was drafted by: China Energy Investment Corporation New Energy Technology Research Institute Co., Ltd., and China Energy Investment Corporation Jiangsu Electric Power Co., Ltd. State Energy Group Taizhou Power Generation Co., Ltd., China 21st Century Agenda Management Center, Zhejiang University, Southwest Chemical Research and Design Institute Co., Ltd. Company, China Huaneng Group Clean Energy Technology Research Institute Co., Ltd., China National Institute of Standardization, State Power Investment Corporation Yuanda Green Carbon Technology (Chongqing) Co., Ltd. The company, Tianjin University, Institute of Process Engineering, Chinese Academy of Sciences, China University of Petroleum (Beijing), Sinopec Petroleum Engineering Design Co., Ltd. China University of Mining and Technology (Beijing), Ningbo University, Dongfang Electric Group Dongfang Boiler Co., Ltd., Carbon and Technology (Beijing) Co., Ltd., China Southwest Branch of Petroleum Engineering Construction Co., Ltd., and Shanghai Qiyao Environmental Protection Technology Co., Ltd. The main drafters of this document are. Xu Dong, Yu Xuehai, Feng Lei, Fan Yongsheng, Yang Yanmei, Han Tao, Yang Guangjun, Zhang Xian, Gong Haiting, Fang Mengxiang, and Zheng Heng. Zhu Tingyu, Wang Zhi, Liu Hanming, Wu Qirong, Long Yuqian, Weng Xiaohan, Fan Jingli, Wang Tao, Liu Yi, Feng Wei, Hu Ximing, Liu Shuwei, Yan Fei, Wang Weifan Niu Hongwei, Xu Wenqing, Zhou Luli, Peng Bo, Shang Huining, Zhang Jiahang, Li Qingfang, Yao Min, Fu Hongming, Yang Dongtai, Chen Jianhong, Zhang Tongyun, Li Yuxue Liu Gang and Li Ke. Carbon dioxide capture and post-combustion carbon dioxide capture System General Requirements

1 Scope

GB/T 46877-2025 is the Chinese national standard covering the amine capture plant bolted onto a power station or a cement works - the absorber and stripper, the solvent and its degradation and emissions, the steam it takes from the host plant and the capture rate it must achieve. First edition, and it is the front end of the chain the storage standards of this batch complete. It was issued on 31 December 2025 and has been in force since 1 July 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 2025 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.

This document specifies the classification, composition, and technology of post-combustion carbon dioxide (CO₂) capture systems (hereinafter referred to as "carbon capture systems"). Require. This document applies to the design and construction of post-combustion CO₂ capture systems (excluding experimental setups).

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 150 Pressure Vessels (All Parts) GB/T 151 Heat Exchangers

GB 8978 Integrated Wastewater Discharge Standard

GB/T 12337 Steel Spherical Storage Tanks

GB 14554 Odor Pollutant Emission Standard

GB 18599 Standard for Pollution Control of General Industrial Solid Waste Storage and Disposal Sites

GB/T 20322 Reciprocating compressors for the petroleum and natural gas industry

GB/T 35528 Safety Guidelines for Cryogenic Liquefied Gases

GB/T 45121 Technical Specification for Energy Consumption Measurement of Flue Gas Carbon Dioxide Capture System in Thermal Power Plants

GB 50058 Design Code for Electrical Installations in Explosive Atmospheres

GB/T 50087 Design Code for Noise Control in Industrial Enterprises

GB 50217 Standard for Design of Cables for Power Engineering

GB 50264 Code for Design of Thermal Insulation Engineering for Industrial Equipment and

Piping

GB/T 50493 Design Standard for Detection and Alarm Systems of Combustible and Toxic Gases in the Petrochemical Industry

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Post-combustion CO₂ capture The process of capturing CO₂ from the flue gas produced during fuel combustion.