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

GB/T 46874-2025

Assessment of CO₂ storage capacity in offshore saline aquifers

海上咸水层二氧化碳封存量评价

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Evaluation conditions for the storage capacity of marine saline aquifers	2
5.Evaluation Methods for the Storage Capacity of Marine Saltwater Layers	3
5 Appendix A (Informative) Carbon Dioxide Density under Geological Conditions	7

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: CNOOC Research Institute Co., Ltd., China National Institute of Standardization, and China Agenda

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1 Scope

GB/T 46874-2025 is the Chinese national standard covering how much CO₂ an offshore saline formation can hold - the pore volume and its accessible fraction, the trapping mechanisms from structural to dissolution and mineral, the pressure limit that must not be exceeded and the uncertainty on all of it. First edition, one of four carbon storage standards issued together as China's offshore CCS projects move past demonstration. 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 evaluation criteria, evaluation methods, and site type classification for site-level marine saline water carbon dioxide (CO₂) sequestration. This document applies to the evaluation and classification of carbon dioxide sequestration capacity in marine clastic rock saline aquifers.

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 15218 Classification and Grading of Groundwater Resources Reserves DZ/T 0217 Standard for Estimating Oil and Gas Reserves

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Rock pores or fissures located underground in the sea area, which are occupied by formation water with a mineralization degree $\geq 3\text{g/L}$.

3.2 Sites covering marine saline water layers can prevent fluids from leaking upwards into other saline water layers or into the low-permeability seabed. The permeable rock strata, typically buried at a depth greater than 800m, contain saline reservoirs that meet the supercritical temperature and pressure conditions for carbon dioxide.

3.3 All saline water reservoirs located below the caprock in offshore saline water areas and buried at a depth less than a certain depth (e.g., currently 3500m) can be sealed. The mass of carbon dioxide.

3.4 Located below the caprock in the marine saline layer region, the appropriate amount of carbon dioxide that can be sequestered within the saline layer.

3.5 The mass of carbon dioxide that a preferred saline reservoir can store, located beneath the caprock in a marine saline aquifer region.

3.6 Used to evaluate the capacity of carbon dioxide technical sequestration at offshore saline aquifer storage sites.

3.7 The amount of carbon dioxide technically stored per unit area at offshore saline aquifer storage sites.