Carbon dioxide capture

Part 1: Performance evaluation methods for post-combustion CO2 capture integrated with a power plant
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Preface

This Standard was prepared by the Standards Australia Committee EE-002, Carbon dioxide capture, transportation, and geological storage.

The objective of this Standard is to specify methods for measuring, evaluating and reporting the performance of post-combustion CO₂ capture (PCC) integrated with a power plant, and which separates CO₂ from the power plant flue gas in preparation for subsequent transportation and geological storage. In particular, it provides a common methodology to calculate specific key performance indicators for the PCC plant, requiring the definition of the boundaries of a typical system and the measurements needed to determine the KPIs.

This document covers thermal power plants burning carbonaceous fuels, such as coal, oil, natural gas and biomass-derived fuels, which are producing CO₂ from boilers or gas turbines, and are integrated with CO₂ capture.

The PCC technologies covered by this document are those based on chemical absorption using reactive liquids, such as aqueous amine solutions, potassium carbonate solutions, and aqueous ammonia. Other PCC concepts based on different principles (e.g. adsorption, membranes, cryogenic) are not covered. The PCC plant can be installed for treatment of the full volume of flue gas from the power plant or a fraction of the total (i.e. a slip stream). Captured CO₂ is processed in a compression or liquefaction step as determined by the conditions for transportation and storage.

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