



Carbon Dioxide Emission Management in Power Generation

Lars O. Nord, Prof. Olav Bolland

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DESCRIPTION

Provides an engaging and clearly structured source of information on the capture and storage of CO₂

Designed to bridge the gap between the many disciplines involved in carbon dioxide emission management, this book provides a comprehensive yet easy-to-understand introduction to the subject of CO₂ capture. Fit for graduate students, practicing process engineers, and others interested in the subject, it offers a clear understanding and overview of thermal power plants in particular and of carbon dioxide capture and storage (CCS) in general.

Carbon Dioxide Emission Management in Power Generation starts with a discussion of the greenhouse effect, climate change, and CO₂ emissions as the rationale for the concept of CCS. It then looks at the long-term storage of CO₂. A chapter covering different fossil fuels, their usage, and properties comes next, followed by sections on: CO₂ generation, usage and properties; power plant technologies; theory of gas separation; power plant efficiency calculations; and classification of CO₂ capture methods. Other chapters examine: CO₂ capture by gas absorption and other gas separation methods; removing carbon from the fuel; pre- and post-combustion CO₂ capture in power cycles; and oxy-combustion CO₂ capture in power cycles.

- Discusses both CO₂ capture technologies as well as power generation technologies
- Bridges the gap between many different disciplines?from scientists, geologists and engineers, to economists
- One of the few books that covers all the different sciences involved in the capture and storage of CO₂

-Introduces the topic and provides useful information to the academic as well as professional reader

Carbon Dioxide Emission Management in Power Generation is an excellent book for students who are interested in CO₂ capture and storage, as well as for chemists in industry, environmental chemists, chemical engineers, geochemists, and geologists.

ABOUT THE AUTHOR

Lars Nord works at NTNU - The Norwegian University of Science and Technology in the Department of Energy and Process Engineering. He worked in the power generation industry for seven years before returning to academia in 2006 to pursue a PhD within CCS under Olav Bolland's supervision. Since 2014 he is Associate Professor at NTNU mainly focusing on power generation and CCS.

Olav Bolland works at NTNU - The Norwegian University of Science and Technology in the Faculty of Engineering. He has been active in the CCS field since the late 1980s, and has led and participated in many national and European projects within CCS. He is Professor at NTNU and Dean of the Faculty of Engineering.

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