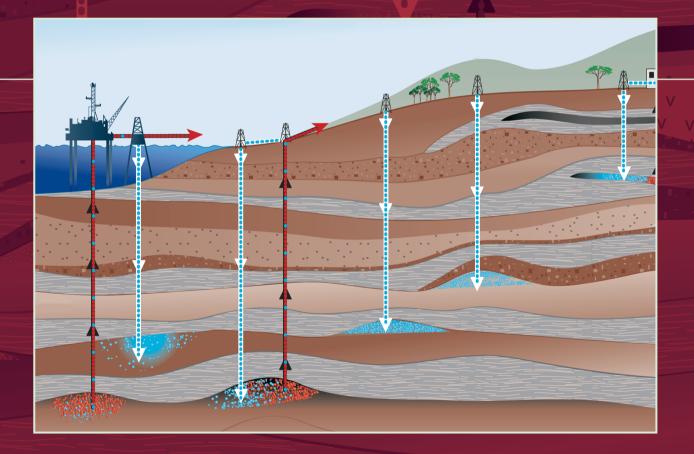
CARBON DIOXIDE CAPTURE AND STORAGE





Intergovernmental Panel on Climate Change



CARBON DIOXIDE CAPTURE AND STORAGE

This Intergovernmental Panel on Climate Change (IPCC) Special Report provides information for policymakers, scientists and engineers in the field of climate change and reduction of CO₂ emissions. It describes sources, capture, transport, and storage of CO₂. It also discusses the costs, economic potential, and societal issues of the technology, including public perception and regulatory aspects. Storage options evaluated include geological storage, ocean storage, and mineral carbonation. Notably, the report places CO₂ capture and storage in the context of other climate change mitigation options, such as fuel switch, energy efficiency, renewables and nuclear energy.

This report shows that the potential of CO_2 capture and storage is considerable, and the costs for mitigating climate change can be decreased compared to strategies where only other climate change mitigation options are considered. The importance of future capture and storage of CO_2 for mitigating climate change will depend on a number of factors, including financial incentives provided for deployment, and whether the risks of storage can be successfully managed. The volume includes a *Summary for Policymakers* approved by governments represented in the IPCC, and a *Technical Summary*.

The IPCC Special Report on *Carbon Dioxide Capture and Storage* provides invaluable information for researchers in environmental science, geology, engineering and the oil and gas sector, policymakers in governments and environmental organizations, and scientists and engineers in industry.

IPCC Special Report on Carbon Dioxide Capture and Storage

Edited by

Bert Metz

Ogunlade Davidson

Heleen de Coninck

Manuela Loos

Leo Meyer

Prepared by Working Group III of the Intergovernmental Panel on Climate Change

Published for the Intergovernmental Panel on Climate Change



CAMBRIDGE UNIVERSITY PRESS Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, Sào Paulo

Cambridge University Press 40 West 20th Street, New York, NY 10011–4211, USA

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org Information on this title:www.cambridge.org/9780521863360

© Intergovernmental Panel on Climate Change 2005

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2005

Printed in Canada

A catalogue record for this publication is available from the British Library

ISBN-13 978-0-521-86643-9 hardback ISBN-10 0-521-86643-X hardback

ISBN-13 978-0-521-68551-1 paperback ISBN-10 0-521-68551-6 paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Please use the following reference to the whole report:IPCC, 2005: IPCC Special Report on Carbon Dioxide Capture and Storage. Prepared by Working Group III of the Intergovernmental Panel on Climate Change [Metz, B., O. Davidson, H. C. de Coninck, M. Loos, and L. A. Meyer (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 442 pp.

Cover image: Schematic of geological storage options (Courtesy CO2CRC).

Contents

Foreword		vii
Preface		ix
Summary fo	r Policymakers	1
Technical Su	ımmary	17
Chapter 1	Introduction Sources of CO ₂ Capture of CO ₂ Transport of CO ₂ Underground geological storage Ocean storage	
Chapter 2	Sources of CO ₂	75
Chapter 3	Capture of CO ₂	105
Chapter 4	Transport of CO ₂	179
Chapter 5	Underground geological storage	195
Chapter 6	Ocean storage	
Chapter 7	Mineral carbonation and industrial uses of carbon dioxide	
Chapter 8	Costs and economic potential	339
Chapter 9	Implications of carbon dioxide capture and storage for greenhouse gas inventories and accounting	

Annexes

Annex I	Properties of CO ₂ and carbon-based fuels	383
	Glossary, acronyms and abbreviations	
	Units	
Annex IV	Authors and reviewers	417
Annex V	List of major IPCC reports	429

预览已结束, 完整报告链接和

https://www.yunbaogao.cn/report/index/report?