1. Record Nr. UNINA9911009342403321

Autore	Wang Jinsheng
Titolo	Carbon Dioxide Adsorption in Rock and Geological Storage of Carbon / / by Jinsheng Wang, Hanin Samara, Philip Jaeger
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-90218-1
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (177 pages)
Collana	SpringerBriefs in Applied Sciences and Technology, , 2191-5318
Altri autori (Persone)	SamaraHanin JaegerPhilip
Disciplina	621.312132
Soggetti	Cogeneration of electric power and heat Fossil fuels Petrology Sedimentology Climatology Fossil Fuel Climate Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Adsorption on solids and the potential of CO2 adsorption on reservoir rocks -- Adsorption measurements under high pressure -- Evaluating CO2 storage potential using apparent adsorption and effective density -- Absolute adsorption and fraction of adsorbed CO2 in pore space -- Reduction of overpressure due to adsorption -- CO2 adsorption and rock wettability -- Impact of adsorption on CO2 storage capacity and efficiency -- Adsorbed CO2 in post-injection phase -- Impact of adsorption on the fate of mobile CO2 -- Impact of adsorption on security and safety of CO2 storage -- Conclusions and recommendations.
Sommario/riassunto	This book describes the adsorption of carbon dioxide (CO2) by rocks. Carbon dioxide adsorption may play an important role in the geological storage of CO2, an essential component of carbon capture and storage (CCS) for achieving zero and negative carbon emissions to the atmosphere. Adsorption has wide applications elsewhere in industry. However, it has not received significant attention for its potential for

CO2 storage, likely because the importance of CO2 adsorption on rocks is not widely recognized. This book not only raises awareness of the importance of CO2 adsorption in CO2 storage, but also provides useful tools for research and development for the early deployment of CCS to contribute to the Paris Agreement goal of limiting global temperature rises.