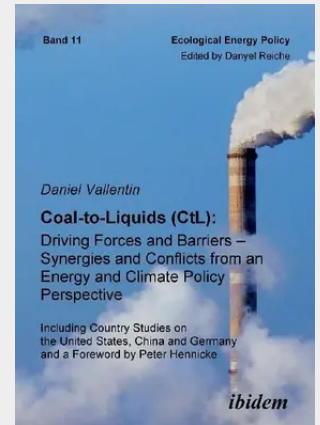


Coal-to-Liquids (CtL)

Driving Forces and Barriers - Synergies and Conflicts from an Energy and Climate Policy Perspective. Including Country Studies on the United States, China and Germany

Several countries with large coal deposits but limited domestic oil reserves show high interest in coal-to-liquid (CtL) technologies, which could reduce crude oil imports by converting coal into liquid hydrocarbon fuels. After decades of successful large-scale operating experiences in South Africa, CtL activities in the United States, China and Germany have been fanned by the high oil price in the last years. However, CtL indicates negative techno-economic and resource-related features, such as high capital costs, high greenhouse gas discharges and high water consumption. Therefore, the technology's diffusion strongly depends on a favourable framework of policies and strong technology advocates. Daniel Vallentin analyses interdependencies between technical and non-technical parameters affecting the diffusion of CtL technologies in the United States, China and Germany. Applying the inter-disciplinary technological system approach, he identifies factors which determine the market prospects of CtL in these countries, including costs, the geographic distribution of coal reserves, actor constellations and technology, energy and climate policies. At the end of his study, he derives general conclusions with regard to driving forces and barriers for CtL diffusion. As the investigated countries are major consumers of energy and belong to the world's largest emitters of greenhouse gases, their strategies in substituting crude oil based fuels are of utmost global relevance. Therefore, Vallentin's study is recommended to experts, planners, decision-makers, and politicians in the field of climate and resource protection.

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59,90 €
59,90 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783898219983
Medium: Buch
ISBN: 978-3-89821-998-3
Verlag: ibidem
Erscheinungstermin: 11.09.2009
Sprache(n): Englisch
Auflage: 1. Auflage 2009
Serie: Ecological Energy Policy (EEP)
Produktform: Kartoniert
Gewicht: 595 g
Seiten: 450
Format (B x H): 148 x 210 mm

