Inhalt:

This study investigates the economic and environmental performance of hard-coal-fuelled electricity generation with carbon capture and storage (CCS) over the entire life cycle and thereby reveals both positive and negative aspects. Starting from the state-of-the-art of three power plant concepts with CCS, a technology roadmap of CCS along future time horizons is investigated. The results presented comprise an assessment of several environmental impacts caused by the release of emissions and by the demand for energy and material resources. Furthermore, the outcome of an economic evaluation is shown by quantification of average lifetime eneration costs, ance costs and external costs. levelised electricity generation costs, CO₂ avoidance costs and

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