Energy capture and storage integration

This study investigates the cooling, heating and power (CHP) systems integration with the carbon capture and storage (CCS) for different LNG carriers. Different integration levels of ...

In this work, we address the challenges associated with decarbonizing electricity grids through a decentralized integration scheme of individual fossil power plants with energy storage and ...

His group"s work spans from wind (including floating, airborne variants), tidal and wave energy, through to energy storage technologies and electrified transportation to enable renewables integration on- ...

Direct air capture (DAC) is a technology designed to capture CO 2 directly from ambient air for carbon removal, while compressed air energy storage (CAES) involves compressing and ...

Energy, exergy and economic (3E) analysis of a novel integration process based on coal-fired power plant with CO2 capture & storage, CO2 refrigeration, and waste heat recovery

Carbon Capture, Utilization, and Storage (CCUS) has emerged as a critical technology for achieving global climate goals by enabling substantial reductions in carbon dioxide (CO 2) ...

Abstract Decarbonizing the energy and industrial sectors is critical for climate change mitigation. Solar-driven calcium looping (CaL) has emerged as a promising thermochemical energy ...

Renewables can be used to supply the energy required for flexible CO 2 capture from fossil-fueled power plants, which in turn can act as an indirect energy storage to counter the ...

This paper investigates the most important energy and process integration issues for hydrogen and electricity co-production scheme based on coal gasification process with carbon ...

Capture and sequestration of CO2released by conventional fossil fuel combustion is an urgent need to mitigate global warming. In this work, main CO2capture and sequestration (CCS) ...

Abstract Geothermal energy production and CO2 capture and storage are two promising technological solutions for mitigating climate change and addressing the need for a sustainable global ...

Renewable energy sources, CO2 capture and storage (CCS) and negative emission technologies (NETs) are important elements to incorporate during energy planning to achieve climate ...

As the shipping industry accelerates its decarbonization efforts, onboard carbon capture and storage (OCCS)

has emerged as a critical transitional strategy. Existing studies on OCCS have mainly ...

The aim of the study is to provide a dispassionate review and overview of scenarios where geothermal energy and CO2 utilisation and storage technologies can be combined for mutual ...

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