

Energy Storage Containers for Oil Platforms





Overview

This paper presents a technology suitability assessment (TSA) of high-power energy storage (ES) systems for application in isolated power systems, which is demonstrated through the case of offshore oil an.

What technologies are suitable for offshore oil and gas platforms?

Offshore oil and gas platform Technology suitability assessment Energy storage Supercapacitors Lithium-ion batteries Flywheels Superconducting magnetic energy storage Abbreviations DFIM Doubly fed induction machine ELDC Electrostatic double layer capacitor ES Energy storage ESR Equivalent series resistance FC Fuel cell GT.

Can an offshore storage system be integrated into an oil and gas platform?

Integration of an offshore storage system into an oil and gas platform. ESS are currently not widely deployed offshore. The state of the art related to offshore assets shows limited results, since the thematic had not captured enough interest until recently.

What are the benefits of offshore energy storage solutions?

The benefits of developing offshore energy storage solutions are not limited to the decarbonisation of the oil and gas industry. The shipping industry presents the opportunity for energy generation and consumption offshore (e.g., in the form of hydrogen or ammonia), locally generated by offshore renewable energy sources (RES).

Can energy storage systems be deployed offshore?

The present work reviews energy storage systems with a potential for offshore environments and discusses the opportunities for their deployment. The capabilities of the storage solutions are examined and mapped based on the available literature. Selected technologies with the largest potential for offshore deployment are thoroughly analysed.



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