

# Fast charging of Finnish solar-powered containers at drilling sites

Are offshore floating charging stations a viable option for sustainable marine transportation?

Offshore charging infrastructure for electric vessels is one of the focal areas for sustainable marine transportation. Pervasive deployment of electric vehicles is restrained by travel range and battery energy capacity. This paper brings to bear the exigency of offshore floating charging stations (FCSs) that charge/recharge electric vessels at sea.

Which energy storage technologies are being commissioned in Finland?

Currently, utility-scale energy storage technologies that have been commissioned in Finland are limited to BESS (lithium-ion batteries) and TES, mainly TTES and Cavern Thermal Energy Storages (CTES) connected to DH systems.

What is the future of energy storage in Finland?

Reserve markets are currently driving the demand for energy storage systems. Legislative changes have improved prospects for some energy storages. Mainly battery storage and thermal energy storages have been deployed so far. The share of renewable energy sources is growing rapidly in Finland.

Is energy storage the future of wind power generation in Finland?

Wind power generation is estimated to grow substantially in the future in Finland. Energy storage may provide the flexibility needed in the energy transition. Reserve markets are currently driving the demand for energy storage systems. Legislative changes have improved prospects for some energy storages.

Electric and hybrid marine vessels are marking a new phase of eco-friendly maritime transport, combining electricity and traditional propulsion to boost efficiency and reduce emissions. ...

This work proposes an efficient configuration for a solar-powered on-board charging system utilizing a coupled inductor high-gain converter with Grid-to-Vehicle (G2 V) and Vehicle-to-Grid (V2 G) operations.

Increased renewable energy production and storage is a key pillar of net-zero emission. The expected growth in the exploitation of offshore renewable energy sources, e.g., wind, provides ...

Bidirectional charging of photovoltaic containers at drilling sites How can bidirectional charging/discharging a battery achieve maximum PV power utilization? In addition, with the proposed ...

Offshore charging stations could be a promising solution to enhance green shipping. This research considers their optimal placement and sizing, extending the economic range of renewable ...

Shipping container solar systems are transforming the way remote projects are powered. These innovative setups offer a sustainable, cost-effective solution for locations without access to ...

Abstract--The global transition towards electric mobility necessitates the development of efficient and

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sustainable charging infrastructure for electric vehicles (EVs). This paper explores the integration of ...

A previous study<sup>14</sup> shows that even with rapid decrease of battery cost to US\$50 kwh-1 and increase in car-bon tax to US\$100 per ton, a battery-electric typical small neo-Panamax ...

Global climate changes evoked by carbon emissions have stimulated genuine interest in sustainable technology apropos the marine transportation sector. Offshore charging infrastructure for ...

The increasing amount of VRES in Finland, mainly wind but also solar photovoltaics (PV) [5], creates challenges to the power system, and the mismatch between the timing of power ...

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