

# Fast charging of photovoltaic containers on oil platforms

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.

Can offshore charging stations be used for electric vehicles?

Mirroring the idea of charging stations for electric vehicles on land, recent research has explored the feasibility of offshore charging stations (OCSs) for ESs deploying different marine generation technologies such as floating wind, solar and nuclear 23,24.

Could offshore charging stations improve green shipping?

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 ships to 9,000 km without compromising shipping efficiency.

What is an offshore floating charging station (FCS)?

The novel concept of an offshore floating charging station (FCS) was previously reported in 2019 (Sruthy et al., 2019). FCS is an autonomous system focused on reducing carbon emissions in the marine sector, unified with RES and energy storage solutions (ESSs), for sustainable development (Sruthy et al., 2019).

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

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Saudi Arabia Abstract - This paper presents a case study for a recent ...

To address these challenges, photovoltaic-energy storage system-fast charging stations (PV-ESS-FCS) present a promising solution by leveraging local renewable energy sources and ...

Potential needs for future research include to explore technical advancements such as deepwater floating platforms that can increase the feasibility of offshore charging and high-power fast ...

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universal deployment with a light and versatile substructure. The semi-automatic electric drive ...

The project is located at an electric vehicle charging station in Shanghai, China. It employs a purely off-grid photovoltaic-storage-charging system, utilizing Elecod 250kW PCS, 300kW PV, ... GSOL Energy ...

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

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