

Are offshore charging stations a viable solution?

Offshore charging stations have emerged as an innovative solution, despite increased investment and extended voyage durations. Here we develop a route-specific model for the optimal placement and sizing of offshore charging stations to assess their economic, environmental and operational impacts.

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.

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.

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).

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Is an offshore FCS a viable option for sustainable marine transportation?

Appraisal of the operational feasibility of an offshore FCS at a North Sea location to minimize carbon and GHG emissions propitious for sustainable marine transportation, considering day-to-day seasonal variations. Proposal of a real-time energy management strategy of FCS for recharge of E-vessels.

The global mobile solar container market is experiencing robust growth, driven by increasing demand for off-grid and temporary power solutions across diverse sectors. The market, ...

solar energy for industrial applications in Egypt. To ensure the sustainability of this application, this feasibility study addresses technical, ...

With the aid of IPT systems, dynamic wireless charging enables electric vehicles to be charged when running

over the IPT power pads. The objective of this study is to minimise the overall ...

The feasibility study determines if the solar project gets the green light by identifying roadblocks in the beginning of the planning phase. There are ...

In light of the above literature review, this study addresses three key gaps in the research landscape concerning renewable energy-powered charging station system design and ...

Therefore, this study conducts a comprehensive exploration and evaluation of smart electric vehicle charging strategies with the scoping review and multi-criteria evaluation methods to ...

The industry's advancements in charging infrastructure and strict regulations help these vessels lead the way toward a sustainable and ...

gasoline-fueled cars further reinforces the need of this study (Bin Ye et al., 2015). Hence, this paper aims to assess the feasibility of solar-powered petrol stations at selected locations in meeting the ...

Goldin et al. [18] argued that solar-powered charging stations may significantly weaken the influence of EV charging on the local grid.

agency in East Java presents a considerable potential for harnessing solar energy as a renewable resource. The feasibility of employing solar energy for the PLTS in this region is substantiated by ...

Renewable resources, including wind and solar energy, are investigated for their potential in powering these charging stations, with a simultaneous exploration of energy storage ...

This paper investigates the feasibility of solar energy for around 320 buildings include residential load with EV charging is considered for the selected location Vistara Residential Enclave ...

This work underscores the feasibility of implementation and energy management of reliable offshore recharging stations with renewable energy ...

This study applies the proposed model to Shenzhen City to verify its technical and economic feasibility. Modeling results showed that the total net ...

2.4 Design of PLTS Component Specification 2.4.1 Economy The economic parameters of the project, including project duration, currency, discount rate, and inflation rate, are crucial for the economic ...

Comprehensive guide to solar feasibility studies. Learn what's included, costs, process steps, and how to choose the right provider for your ...

The transportation system is one of the crucial requirements of day-to-day human life. The car is one of the most attractive modes of transportation s...

This paper proposes the feasibility of implementing grid-like batteries- onboard ocean-going vessels along with an offshore electric charging ...

However, an E-vessel in transit, which needs to be recharged, may outrun its travel range to safely access on-shore charging facilities. Literature review in the public domain reveals that studies ...

They may also help identify new possibilities, opportunities and solutions that might never have otherwise been considered. The key aspects of solar energy feasibility studies are ...

Regulatory frameworks and government policies directly influence the pace and scale of mobile solar container power system adoption by shaping financial incentives, market accessibility, and technical ...

Feasibility Assessment of Solar Energy Projects 8.1 Feasibility Studies feasibility study is a set of investigations that determines whether a certain project satisfies the requirements for implementation ...

Financing and funding electric vehicle (EV) charging infrastructure is often one of the biggest barriers to deployment. This report looks at how cities around the ...

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

Based on analyses of the global fleet in container, tanker, and dry-cargo segments, we derive case studies that enable us to explore the design and arrangement of battery rooms for each case and ...

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