Energy Transition Photovoltaic Solar Boat

Can a solar boat be a sustainable transportation mode?
The technical aspects of solar boats include the assembly of PV panels, batteries, and electric motor in the hull. In this study, the technical and financial aspects of applying several PV systems to an existing boat were evaluated to assess the feasibility of transitioning to a sustainable transportation mode.

What are solar boats?
In recent years,advances in technologies such as solar and wind power have made them more effective for energy production (Bulut and Muratoglu,2018). Solar boats refer to electric boats powered by solar energy. The technical aspects of solar boats include the assembly of PV panels,batteries,and electric motor in the hull.

How to design a solar boat?
In the case of the first two boat types, solar energy utilization is a crucial factor. Consequently, when designing these boats, considerations such as the size and shape of the vessel revolve around various factors, including the required surface area of the solar panel for the intended mission.

Does a solar-powered touristic boat use energy?
The energy management of a solar-powered touristic boat,designed in [80,81]and operating in the Galapagos Islands,is investigated in . The authors analyze the boat's energy sources,including its photovoltaic self-production and fossil fuel consumption from the grid.

What are the areas for advancing solar energy-powered boats?
A comprehensive review of the existing literature,including journal articles,proceedings,and patents,is conducted to identify three prominent areas for advancing solar energy-powered boats: maritime drones,sporting boats,and short-range touristic vessels.

What is a solar energy-assisted Electric Boat?
Solar energy-assisted electric boats: This type of boat is characterized by significant battery and motor sizes,rendering the contribution of solar panels negligible. The figure also includes a typical sporting boat,which exhibits minimal autonomy due to its distinct objectives.

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The growing trend of solar-powered electric boats has gained significant attention in recent years. This innovative approach to boating combines solar energy and electric propulsion systems, providing a ...

Renewable energy (RE) in general and solar photovoltaic (PV) in particular can offer societally beneficial solutions. The LUT energy system transition model is used to simulate a cost-optimised transition pathway ...

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