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(57) Abstract :

A hybrid solar-powered car is described herein. The hybrid solar-powered car integrates solar energy with a hybrid powertrain system to provide an environmentally friendly and energy-efficient transportation solution. The vehicle is equipped with photovoltaic solar panels that capture sunlight and convert it into electrical energy, which is stored in a battery pack. This stored energy is used to power an electric motor for vehicle propulsion. An internal combustion engine (ICE) serves as a backup power source for extended driving range or when solar energy is insufficient. The system also includes an energy management controller that optimally manages the flow of energy between the solar panels, battery, electric motor, and ICE, ensuring efficient use of available power. The hybrid solar-powered car offers reduced dependency on fossil fuels, lower carbon emissions, and improved fuel efficiency, making it a sustainable and practical solution for modern transportation.

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