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## New design and implementation of a solar car of the American university of Ras Al Khaimah: Electrical vision (Article) (Open Access)

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### Abstract

View references (26)

This paper explains a full design and implementation process of a feasible solar car as an effective alternative to the gasoline powered car. A solar car is independent of fossil fuels, and would entirely eliminate emissions. Comparing to the previous manufactured solar cars which were characterized by expensive, one seat driver and unfeasible, the presented solution in this study develops a commercially feasible version of a solar car. The structure's mass and passengers' mass are considered to calculate the required electrical power for the car to be able to reach the target speed at 100 km/h. A three photovoltaic panels of 320 W are parallel connected as a photovoltaic array to charge a lithium ion battery bank of 48 V and 200 Ah during the day hours. The testing of the implemented car guarantees the successful and flexible design and promises an effective commercial prototype of solar car. The presented work is done in the American University of Ras Al Khaimah. 

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#### Substances

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Li

### Author keywords

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