

SOLAR ENERGY: SOLUTION TO FUEL DILEMMA

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ABSTRACT

Fuel economy has become a major concern due to the increase of oil price. Moreover, the availability of fuels is limited and depleting as the consumption is increasing. Renewable energy became a solution to this entire dilemma. Solar energy represents one of the best alternative energy available to mitigate these challenges. This paper studies the potential of using solar Photovoltaic system onboard of an ongoing ship as an auxiliary power. Photovoltaic panels are supposed to be installed on the deck of the ship. The Average Annual Cost (AAC) due to installing the solar panels are calculated and compared with the fuel cost. Simple curves are introduced to be used to estimate the PV area, number of batteries required and the AAC for solar system. The study showed that using solar energy, as an auxiliary power, will reduce the annual cost of the ship and above all it is an environmental friendly solution which reduces the carbon emissions of the ship.

KEYWORDS: Solar Energy, Photovoltaic on Shipboard, Carbon Emissions