

عنوان مقاله:

(Reducing Carbon Emission of Greenhouses Using Hybrid Renewable Energy Systems (A case study in Iran

محل انتشار:

کنفرانس بین المللی مطالعات بین رشته ای در مدیریت و مهندسی (سال: 1398)

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خلاصه مقاله:

Iran is one of the main consumers of fossil fuels and most Iranian power plants uses fossil fuels to produce electricity. Large industrial greenhouses as one of the main consumers of electricity and also as the main producers of food for the society, produce large amount of carbon emissions each year. In order to reduce the use of fossil fuels and reducing carbon emission in these large industrial greenhouses, a hybrid renewable energy system is designed for an industrial greenhouse and all technical, economic and environmental parameters of it are considered and discussed over. All sensitivity analysis of the project effective parameters such as fluctuations of inflation rate, discount rate and diesel price are considered along with the changes of the system and the case study in Alborz province during the project life time, such as PV degradation and increasing of the electrical load of the greenhouse. The study indicates that the optimum on-grid PV/WT/Bio-Gen/Diesel-gen system with the Net Present Cost of 1.73 M\$ and Cost of Energy of 0.0918 \$ can save 338,396 kg carbon in the 1st year of the project and this amount increases to 439,293 kg in the last .year of the project

کلمات کلیدی:

Carbon footprint, Greenhouse, Hybrid energy system, Renewable energy, Environmental analysis

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