Environmental analysis of household photovoltaic solar energy

Do household photovoltaic systems affect green consumption?

Based on the "learning by doing" theory,a survey was conducted with 1249 participants,and the generalized structural equation model was employed as our analytical approach. The findings of this research indicate that the adoption and utilization of household photovoltaic (PV) systems have a positive impacton green consumption.

Do environmental factors influence solar PV behavioral outcomes?

This is because,prior to that,there was little to no empirical researchon the specific influence of environmental factors on solar PV behavioral outcomes,despite the availability of literature on policy interventions,government initiatives,and public perception of renewable energy technologies (RETs).

Do environmental factors predict household solar PV adoption?

As a result,environmental factors have been included as predictorsin the determinants of household solar PV adoption across socio-economic and socio-geographic contexts,using behavioral theories to predict adoption in rural and urban households.

Are household photovoltaics a green practice?

The installation and utilization of household photovoltaics within the residential environment involve interactive processes. The daily management and maintenance of these devices can be considered as a green practice.

Are environmental knowledge and pebi variables associated with solar PV technologies?

A sub-group analysis was conducted to determine the combined correlationeffect size between Environmental Knowledge (EK) and PEBI variables concerning the solar PV technologies studied in the sampled literature. The two sub-categories included in this analysis are solar PV systems (SPV) and other solar PV-based products (SEP).

Do solar PV systems impact the environment?

The previous literature review reveals a well-established environmental impacts assessment of the solar PV systems is crucial. Currently,there is a gap in the literatureregarding the impact of different PV system components on the environment.

World"s increasing energy demand is encouraging government authorities to take a step further towards renewable technologies like solar, wind, biomass and geothermal [1].At present, conventional energy source, mainly fossil fuels are the main reason for global warming and are causing severe environmental impacts [2].KIB-TEK electricity authority of Northern ...

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To make the best use of renewable energy, the first step is to measure the potential of the studied areas using the analytic hierarchy process method.

PV systems cannot be regarded as completely eco-friendly systems with zero-emissions. The adverse environmental impacts of PV systems include land, water, pollution, Hazardous materials, noise, and visual. Future design trends of PV systems focus on improved design, sustainability, and recycling.

Abstract This research examines the factors that affect Photo Voltaic (PV) ...

Therefore, this paper aims to investigate the potential impact of pro-environmental behavior resulting from household PV installation on users" green purchasing behavior. Based on the "learning by doing" theory, a survey was conducted with 1249 participants, and the generalized structural equation model was employed as our analytical approach.

Major findings underscore the promising trajectory of solar energy, positioning it as a dynamic force in the global pursuit of sustainability. The study concludes by emphasizing the need for...

Therefore, this paper aims to investigate the potential impact of pro ...

The surge in solar PV-based technology adoption worldwide is driven by concerns about climate change and energy insecurity. Consequently, studies have examined the determinants of solar PV adoption and identified environmental factors such as environmental concern and environmental knowledge as significant predictors of pro-environmental ...

Among a variety of sources, (i.e. wind, biomass, geothermal, solar) energy conversion is one of ...

This meta-analysis examines the influence of environmental factors, namely environmental concern (ENC) and environmental knowledge (EK), on the pro-environmental behavioral intention (PEBI) variables associated with household solar PV adoption. The ...

Most of the current research on PV-RBESS focuses on technical and economic analysis. And the core driving force for a user with the rooftop photovoltaic facility to install an energy storage system is to reduce the electricity purchased from the grid [9], which is affected by system-control strategies and the correlation between the electrical load and solar radiation ...

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Abstract. Smart charging and battery storage can improve the integration of electric vehicles (EV"s) and photovoltaic ...

This meta-analysis examines the influence of environmental factors, namely environmental concern (ENC) and environmental knowledge (EK), on the pro-environmental behavioral intention (PEBI) variables associated with household solar PV adoption. The analysis reveals significant and positive effects of ENC and EK on PEBI variables, filling a gap ...

Results show that the top four provinces contribute 74% to current installed capacity of HSPV, which represents only 2% of the technical potential. However, with the rapid cost reduction and market...

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