



Vortrag im Rahmen des Seminars

Forschungskolloquium | Research Seminar

Autor:

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Titel:

"Here Comes the Sun: Investigating the Solar Rebound Effect and Consumption Behavior in Photovoltaic Households"

Abstract:

"In our study, we examine how the increasing prevalence of photovoltaics in private households affects their electricity consumption and energy efficiency, focusing on the solar rebound effect (SRE), i.e., the behavior-related increase in total electricity consumption after the installation of a PV system. We combine panel data from the German Socio-Economic Panel (SOEP) with a specially conducted online survey of PV households and a matching control group without PV systems. Methodologically, the article follows a causal-analytical approach that combines several steps. First, data on PV generation in the panel data were corrected for completely reported years of observation. Machine learning was then used to estimate missing values for total electricity consumption based on the survey results. In a further step, the SRE is examined using panel econometrics. The study goes beyond a pure quantification of the SRE and focuses on the role of energy efficiency and behavioral factors. To this end, indicators for the pre-adoption efficiency and pre-PV electricity consumption levels of the households are integrated into the models."