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When Knowledge Does Not Pay Off: Electricity Tariff Literacy, Energy Vulnerability, and Behavior

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Extended Abstract

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Abstract Summary

This study examines how low-income households cope with rising electricity costs and why refuse to switch to new dynamic electricity tariffs, although they could take advantage of them to manage their expenses more effectively. The focus is on the role that energy literacy, cognitive barriers, engagement, and financial constraints play in tariff switching and energy-saving behavior. This is important because low-income households are particularly affected by energy poverty, yet are simultaneously expected to participate more actively in the market as part of the energy transition.

Building on expert interviews, a comprehensive survey was conducted with more than 1,200 households, with an intended oversampling of low-income households. Using factor analyses and a two-group structural equation model, key influencing factors and their interrelationships were analyzed, and differences between income groups were examined.

The results show that tariff literacy is a key driver of the willingness to switch energy plans, regardless of income. However, low-income households benefit significantly less from it: While knowledge leads to concrete investments and behavioral changes among better-off households, it usually leads merely to an intention among low-income households. The main reasons may include financial constraints, cognitive overload, and structural barriers such as rental agreements. At the same time, engagement is the only factor that consistently has a positive influence on all four outcomes. While financial problems increase the willingness to switch, they do not automatically lead to actual cost-saving measures. Low-income households do not take steps to save energy even when doing so is free of charge. A clear “intention-behavior gap” is evident.

Overall, the study makes it clear that information campaigns alone are not enough. To reduce energy inequality, structural barriers and cognitive burdens must also be

addressed.

Presenting Author Biography

Stefan Poier is a post-doctoral researcher at the Department of Energy Economics at the FernUniversität in Hagen, Germany. He researches consumer behavior in connection with (renewable) energy. Stefan received his doctorate with distinction from the Faculty of Economics at the University of Gdansk, Poland. His dissertation was entitled “Influence of Individual Differences on the Adoption of Electricity Storages in the German Photovoltaic Market”. Prior to this, he studied economics with a focus on marketing and operations research at the FernUniversität in Hagen. Stefan Poier is 54 years old and lives in Bielefeld, Germany.