

ABSTRACT

The world runs through a dramatic shift in climate conditions which could lead to severe issues regarding the habitability of planet earth. Germany is a good example of country in a transition phase towards renewable energies. But due to a changing regulatory framework, investments in solar PV have decreased within the last years. As a consequence the postulated energy transition in Germany slowed down. The aim of the thesis is to gain an understanding of the factors influencing energy transition and to propose changes in prosumers' market design.

As a starting point, Transaction Cost Theory (TCT) is applied. TCT could be adopted as it combines the public sphere and economic activities and is applicable in a micro- and macroeconomic context. As TCT is applied in a variety of cases, many approaches regarding identifying and measuring transaction costs could be found in the literature. These approaches can be divided into a direct and indirect one. The direct approach deals with traditional cost analysis in companies in neoclassical terms. On the other side, the indirect approach, that is relevant within this thesis, searches for transaction costs and its factors that have an impact on these ones, often in a macroeconomic context.

In the regard of this thesis, TCT states an approach to analyze the current market regime in the field of prosumer and helps to identify shortcomings. Moreover, based on TCT, an empirical part researches for macroeconomic factors that have an impact on the investment decision. In this regard, socioeconomic data for all 16 German states from 2009-2019 is compiled as well as the adding capacities for solar PV during this period.

To do so, an explanatory factor analysis (EFA) is conducted in order to identify the latent variables of a set of 20 items. Subsequently, a panel model elaborates the impact of the identified factors regarding the investment decision of prosumer.

In addition, a case study is applied to compare the three energy markets of California, China and Germany and to dig out best practices for the German legislator. Finally, Williamson's framework of the new institutional economics, the "Four Levels of Social Analysis", that includes transaction costs' approach, is adapted to elaborate a holistic approach regarding the adjustment of the framework of prosumer.

Keywords: Renewable energies, energy transition, prosumers, photovoltaic systems (PV), transaction costs, new institutional economics