

ABSTRACT FOR THE GENERAL PUBLIC

The need to stop climate change and increase energy security prompted the European Commission to announce the European Green Deal in December 2019. This strategy aims at achieving EU climate neutrality by 2050 and requires the reduction of emissions in all sectors of the economy, including emissions generated by households. In 2021, the share of household emissions, mainly from heating, accounted for over a dozen percent of total emissions, excluding emissions from transport, also generated by households.

Climate neutrality therefore sets an ambitious goal for households, which must significantly improve the energy efficiency of their dwellings, change their heating methods and even their communication habits. Ultimately, emissions generated in households are to be covered by the emission trading system, meaning fuel combustion will be additionally taxed and therefore more expensive. This may worsen the situation of the poorest part of society. Some EU member states have already introduced programs to support the most vulnerable households in the energy transition process. In Poland, the key program is “Clean Air”, which subsidizes replacing old heating sources with low-carbon ones, and recently the thermal modernization of houses in households with low incomes. Because wealthy households have greater opportunities to use more expensive but more effective energy solutions and can reduce energy expenditure as a consequence. In particular, households that have invested in photovoltaic solar panels may not worry about energy prices thanks to favorable arrangements with energy providers. The examples raise the question of whether the necessary energy transition is being carried out in such a way as to ensure social justice. This research project is devoted to answering this question.

The primary goal of the project is to analyze the impact of the household energy transition on the eradication of social inequalities in the countries of Central and Eastern Europe (CEE). We start the project by analyzing the energy transition in Central and Eastern Europe in link with the distribution of inequality in societies. We will check whether the energy transition leads to an increase in poverty and exclusion. In particular, we will investigate whether the energy transition affects the level and severity of energy poverty, which is quite common in CEE countries. We also plan to identify factors that determine the decision of house residents to install renewable energy sources, especially photovoltaic panels. In these parts of the project, we will rely on data from the official national and European institutions. The next part of the project will be devoted to examining the effects of the Clean Air program, which was launched in 2020. In general, this program is intended for poor households, as the amount of funding depends on household income. We want to assess the effects of this program by comparing the situation of households in municipalities that actively participated in the program and those where the popularity of this program was negligible. In this part, we will examine whether the Clean Air program has reduced energy poverty in particular. In the project, we want to answer three research questions: (i) How does energy transition affect vulnerable households in CEE? (ii) What are the determinants of renewable energy adoption by households in CEE? (iii) What are the social effects of the Clean Air program on households in Poland?

The project is important for many reasons. The project assesses the social justice of energy transition and examines the determinants of the adoption of renewable energy sources. Secondly, the project addresses the discussion on the social impacts of Polish state programs, particularly the Clean Air program, providing valuable information to decision-makers. Finally, our project focuses on Central and Eastern European countries, filling an existing research gap.

Just energy transition of households is a complex challenge that requires accounting for various aspects, such as housing resources, demographic structure, and social and energy policy. Analyzing the effects of this transition is difficult due to the lack of representative micro-level data, the diversity of CEE countries in terms of energy mix, level of development, and degree of urbanization. However, it is worth taking up this challenge due to the importance of the topic.