

## The green transition and economic polarization in Europe: a multi-level assessment with Germany and Poland as case studies

### Popular science summary

In 2016, the European Union ratified the Paris Agreement, thereby committing itself to reducing greenhouse gas emissions by 40% by 2030 compared to 1990 emissions. The 2030 Climate and Energy Framework also provides for an increase in the share of renewable energy to 32% of the total production and increasing energy efficiency by at least 32.5%. The European Commission took this issue even more ambitiously, formulating the “European Green Deal”, which assumes a total reduction of greenhouse gas emissions by the European Union countries by 2050, and thus decoupling their future economic growth from the use of natural resources. This position was maintained at 2021 United Nations Climate Change Conference (COP26) in Glasgow. One of the guiding principles of the Green Deal is “just transition”, that is, changes occurring in such a way that they do not increase inequalities between European citizens. However, the observations of the experiences of the European Union countries’ economies preceding the 2008-2012 financial crisis indicate that the trend of convergence (approaching similar economic level), which was emphasized by macroeconomic indicators, was only superficial. Economic growth before the crisis was driven primarily by rising private debt, especially in the southern euro area countries, coming to a halt as the crisis erupted. In addition, as a result of the structural polarization of European Union countries, inconsistent growth models based on exports and debt emerged. Today, when economies are burdened with the costs of fighting the SARS-CoV-2 virus pandemic, and governments, trying to keep jobs, spend large amounts on supporting enterprises, the ongoing energy transition may accelerate the processes of differentiation of European economies, with an effect similar to the previous crisis, i.e. deepening inequalities.

The main goal of the presented project is to better understand the manner and impact of the implementation of the green transformation policy on the countries and regions of the European Union and to indicate the areas where it carries the risk of causing socio-economic polarization.

To achieve this goal, the project has been divided into three research studies, dealing with separate levels of analysis. The first study - carried out at the national (macro) level - will determine the typology of the country in accordance with the possibilities and potential of the European Union economies in relation to the green transformation, analyzing the factors conditioning international competitiveness in the areas of environmentally sustainable production. The second study - at the regional (meso) level - focuses on the quantitative analysis of European mining regions and on the determinants of the transition to green energy at the regional level. The quantitative work carried out in the two research studies presented here will be complemented by two representative case studies from Poland and Germany at the local (micro) level. Thus, the third study will be devoted to the comparative analysis of two lignite regions - Konin (Poland) and Lusatia (Germany), based on a qualitative analysis of factors influencing the success of the “just transition”. After completing the research, the last, fourth part of the project will be carried out to identify possible consequences of the phenomena studied. Should the socio-economic outcomes of Europe’s green transition prove to be genuinely asymmetric, appropriate countermeasures seem to be required to prevent the rise of polarization in the European Union and the political acceptance of the reforms that Europe will need to achieve its goals in terms of sustainable development.

In conclusion, this project will shed new light on the potentially unequal impact of structural reforms in the European Union on core countries (such as Germany) and catch-up countries (such as Poland) at national, regional and local levels. It will also pave the way for the elaboration of specific recommendations for the “just transition” mentioned by the Commission in the European Green Deal, along with the steps necessary both to prevent asymmetry effects and to enable an inclusive transition towards a more sustainable Europe.