Popular scientific summary

National determinants of energy transformation in the Multi-Level Perspective:
European experiences and imaginaries

The energy transformation, i.e., a comprehensive shift away from fossil fuels towards more sustainable and renewable energy sources, is one of the most critical global challenges of the late 20th and early 21st centuries. These challenges concern environmental protection, which translates into the health and quality of life of entire societies, and economic competitiveness, which shapes the material well-being of individual countries. European countries, specifically the European Union, have developed an ambitious plan to reduce greenhouse gas emissions by at least 55% by 2030 (compared to 1990) and to reduce them to zero by 2050. Within the framework of such goals, one of the key challenges for the social sciences, particularly sociology, is to analyse the national perceptions and structural determinants of this energy transition that may contribute to its timely implementation or possible delays.

This research project addresses these issues and seeks to answer the question *How windows of opportunity for energy transformations arise through the characteristics of socio-technical regimes interacting with EU regulations, academic discourse and public opinion?* Addressing this question will contribute to the comprehension of the driving forces and impediments in the transition of the energy sector towards zero carbon emissions, a pivotal objective in mitigating adverse climate changes. This necessitates a comprehensive examination of European and national political documents, an assessment of international opinion trends, and an extensive analysis of the content within academic publications. The undertaken approach aims to bridge existing gaps in knowledge concerning the potential implementation of diverse paths in energy transformation, while considering the variances in regimes within the European Union.

To answer these questions, we will use advanced research methods and procedures based, among other things, on (i) algorithmic text mining of more than 40.000 papers of scientific publications, (ii) multilevel analysis of cumulative datasets from cross-country comparative surveys (Eurobarometer, European Social Survey), (iii) content analysis of European Commission and National-level documents on energy transition, as well as on (iv) analysis of contextual data describing the energy mix, access to energy sources and the socio-economic situation of individual European countries.

Such a comprehensive research project will identify the critical national and regional (cross-national) determinants of support or opposition to the energy transformation within the contextual framework of socio-economic and technological conditions, scientific discourse, public opinion, and mutual influences.