Guiding the low-carbon transition with evidence-based policy tools

An EU-funded project is aiming to help guide the global transition from the high-carbon economies of today to the low-carbon economies of tomorrow by providing policymakers with the tools and information they need to implement effective, evidence-based climate strategies.

While extensive research has been conducted into the impact of climate change and potential mitigation and adaptation strategies, a large volume of work remains buried in academic papers inaccessible to policymakers, business leaders or the general public.

This information deficit can cause challenges in the implementation of policies and innovative technologies that promise to reduce harmful emissions but which may face significant technical or economic difficulties – and even opposition from citizens and industries.

To address the challenge, the EU-funded TRANSRISK project is bringing together quantitative modelling techniques with qualitative research methods involving diverse stakeholder groups – from economists, engineers and climate change researchers to citizens and public authorities.

Specifically, the initiative uses innovative research approaches to identify and address the risks, uncertainties, potential conflicts and synergies of implementing low-carbon policies and technologies across advanced and developing economies.

“With an issue as extensive and important as climate change, what is needed is effective, evidence-based policymaking that takes into account the collective effects of different emissions-reduction strategies, as well as their technical, economic and social feasibility,” says Jenny Lieu, TRANSRISK’s co-principal investigator of the University of Sussex in the UK.

“But for that to occur, we need to get the evidence into the hands of policymakers so it can be used to inform decisions and improve the ways in which policies are rolled out.”

Local case studies offer global insight

Studies conducted by project partners across 10 EU countries, as well as in Canada, Chile, China, India, Indonesia and Kenya, highlight how a much more detailed picture emerges when quantitative evidence-based research data is combined with qualitative information from local stakeholders. The approach not only allows for better-informed decisions and the implementation of more effective strategies but can prevent potentially costly mistakes.

In Indonesia, for example, preliminary model tests carried out by TRANSRISK partners Cambridge Econometrics and SuReCO discovered that plans to increase the production of biogas as a renewable energy source – once scaled up – could potentially raise carbon emissions.

While the possible increase in emissions was connected with additional demand for liquefied petroleum gas that is need to compensate for fluctuations in biogas supply, the model also suggested the plans would raise GDP and reduce deaths from indoor air pollution caused by burning firewood.

In the UK, project researchers are looking at the broad environmental, social and economic effects of the country's nuclear energy strategy, which includes the construction of more nuclear plants. Another team is studying the reverse approach adopted in Switzerland, where nuclear reactors are being decommissioned in parallel to boosting investments in renewable energy.

In Austria, researchers are evaluating the impact of stricter emission restrictions on the country's iron and steel industry, taking into account the effects of potential shifts in production to rival steel manufacturing centres.

And in the Netherlands, a case study is evaluating mitigation strategies for methane emissions from the country's large cattle industry in coordination with the agricultural community.

Powerful proof

"These and other case studies in TRANSRISK are examples of our approach in action, through which we are building a global assessment framework for low-carbon transition pathways that incorporates risk and uncertainty into analysis of the costs and benefits," Lieu says.

"The framework and decision-support tools are intended to be policy and technology-neutral, not favouring one strategy over another, but rather providing the evidence taking into account different variables so policymakers can make better-informed decisions."

Some of the decision-support tools are currently being tested with TRANSRISK partners in Poland and Greece before being rolled out more widely, with the aim of supporting the implementation of more effective climate policies across the EU and worldwide.

"Through our dissemination efforts we hope to assist the review of the European Commission's 'Roadmap for moving to a low-carbon economy by 2050' and contribute to major international scientific assessments and climate change discussions, including through inclusion in the UN Intergovernmental Panel on Climate Change reports," Lieu says.

Project details

- Project acronym: **TRANSrisk**
- Participants: UK (Coordinator), Netherlands, Spain, Poland, Switzerland, Sweden, Austria, Greece, Chile
- Project N°: 642260
- Total costs: € 7 974 242
- EU contribution: € 7 454 017
- Duration: September 2015 to August 2018

See also

Project website: http://transrisk-project.eu/
Project details:
http://cordis.europa.eu/project/rcn/196826_en.html

View the article online:
http://ec.europa.eu/research/infocentre/article_en.cfm?artid=47256