

How social science can help trace new paths out of the climate crisis

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Credit: Keira Burton from Pexels

Policymakers, industry and civil society leaders count on solid data to inform and guide strategies that will deliver on the objectives of the Paris Agreement. To support these decisions, scientists developed long-

term global scenarios known as integrated assessment models (IAMs) that combine different strands of knowledge—natural science, engineering and economics.

The [ENGAGE](#) (Exploring National and Global Actions to reduce Greenhouse gas Emissions) project is a 4-year program of research and innovation to develop new decarbonisation pathways that supplement the knowledge traditionally represented in IAMs with cutting-edge insights from social science.

Coordinated by the International Institute for Applied Systems Analysis in Austria, the project boasts 24 partner organizations from 15 different countries across Europe, Asia and South America. By drawing from a wide range of expertise, the resulting pathways will be credible, legitimate, and rooted in concrete policy and industry experience. This will help to reflect the multidimensional feasibility of decarbonisation and identify opportunities to strengthen climate policies.

The pathways, designed to minimize overshoot of temperature targets, will avoid reliance on controversial and unrealised negative emissions technologies, and instead integrate game-changing innovations and conceptually novel approaches to architectures of international climate agreements.

The ENGAGE project, due to run until 2023, has already achieved a string of successes. The first generation of pathways has been developed and presented in [five papers](#) which contributed significantly to the IPCC Sixth Assessment Report—Working Group III that will inform the UNFCCC 2023 global stocktake. These contributions will also feed into the design of mid-century strategies for achieving climate neutrality by 2050.

ENGAGE has also developed and is hosting the Sixth Assessment

Report Scenario Explorer, a critical resource for the IPCC authors, enabling them to conduct a comprehensive and effective assessment of different pathways.

In addition, the project has developed a [visualization tool](#) for assessing the multidimensional feasibility of climate mitigation pathways. This framework allows assessing the timing, disruptiveness and scale of feasibility concerns, and identifying trade-offs across different feasibility dimensions.

This framework has already been applied to scenarios in the IPCC SR1.5 database, and formed the backbone of the Second Order Draft of the IPCC AR6 regarding the evaluation of transformation pathways from IAMs.

Provided by CORDIS

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