

Public Perception of CO₂ Transport-Options in Switzerland: A Survey-Based Experimental Design

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Extended Abstract

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Abstract Summary

Switzerland's 2023 Climate and Innovation Act commits the country to net-zero greenhouse gas emissions by 2050. Achieving this target will require not only deep emission reductions but also large-scale carbon capture and storage (CCS), which in turn depends on CO₂ pipeline infrastructure to connect emission sources with distant underground storage sites. Given Switzerland's direct democracy, broad public acceptance of such infrastructure is essential - yet little was known about how the Swiss population perceives different CO₂ transport options.

To address this gap, the authors conducted a representative survey in German-speaking Switzerland in November 2025, collecting responses from over 3,000 participants. Using an experimental design, respondents were randomly assigned to scenarios describing different CO₂ transport modes - train, electric truck, or pipeline - and varying levels of information about safety standards and existing CO₂ transport practices. Participants then rated each scenario on support, safety perception, emotional reactions, fairness, and usefulness.

The results are broadly encouraging for CCS deployment: approximately 90% of respondents are neutral, supportive, or strongly supportive of CO₂ transportation, with only around 10% opposed. Pipeline transport receives the highest support, followed by rail and then electric truck. Repurposing existing pipeline infrastructure is significantly more accepted than building new pipelines, and providing additional contextual information on CO₂ transport meaningfully increases overall support.

The minority who reject CO₂ transport tend to be older, have lower climate concern, overestimate their own knowledge, and place less trust in government and climate science. Sociodemographic factors such as gender, income, and canton show no significant

predictive power. A recurring qualitative theme is deep uncertainty about long-term underground storage safety, with many drawing parallels to nuclear waste.

These findings offer guidance for policymakers and communicators designing publicly acceptable CCS infrastructure strategies.

Presenting Author Biography

Regina Betz is a Professor of Energy and Environmental Economics and Head of the Centre for Energy and the Environment (CEE) at the School of Management and Law at ZHAW. From 2018 to 2024, she served as President of the Swiss Association for Energy Economics (SAEE). She is currently Co-President of the Academies' Energy Commission, a member of the board of 'Go for Impact' and a member of the Federal Government's Agenda 2030 advisory group. Her research focuses on the design and evaluation of environmental and energy policies, such as emissions trading schemes and electricity markets to promote renewable integration.