FOCAL-points

Household greenhouse gas footprints and Austrian climate policy: identifying leverage points for demand-side mitigation

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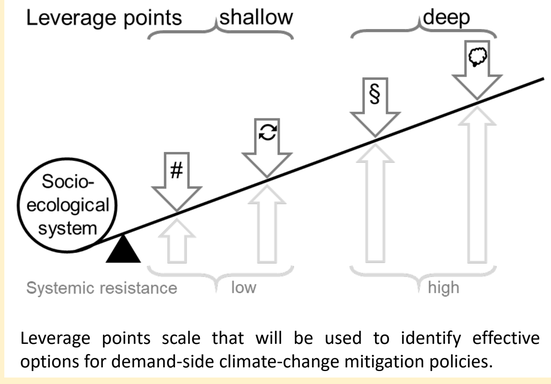
Exploring leverage points for demand-side climate-change mitigation policies in Austria

- Complementing supply-side strategies, demand-side strategies can effectively reduce emissions from final consumption.
- Consumption is often framed as a matter of individual lifestyles, but little is known about how it is shaped by policy.
- Innovative approaches are required for knowledge co-production to ensure acceptability of demand-side strategies.



Leverage points scale that will be used to identify effective options for demand-side climate-change mitigation policies.

Demand-side policies focusing on avoidance are scarce but hold potential if accepted

- Despite many mitigation policies, emissions from household consumption are not on track to meet climate targets.
- Mobility emissions are skewed towards higher incomes and have remained constant despite policies targeting a shift towards e-mobility.
- Housing emissions declined strongly, particularly in higher income groups, following financial incentives to decarbonize energy supply (and warmer winters).

High-resolution database of Austrian household greenhouse gas footprints 1995-2020

- Household GHG footprints were slightly below production-based emissions and decreased by only 7% from 1995 to 2020, peaking in 2005.
- Over 50% of household GHG footprints were caused by domestic emissions.
- Housing emissions declined by 30% between 2000 and 2020, while mobility emissions remained fairly constant.
- Lowest income quintile caused less than half the emissions of highest quintile (44% in 2000, 37% in 2020).

Results from household GHG footprint analysis. Based on an integration of the Extended Multi-Regional-Input-Output tables of Exiobase and the Austrian national greenhouse gas inventory reports, we first quantified Austrian consumption-based emissions and total household GHG footprints annually for 1995-2020 (a, b). Then, by integrating data from household expenditure surveys (2000-2020), we attributed these emissions to product groups and households (c, d).

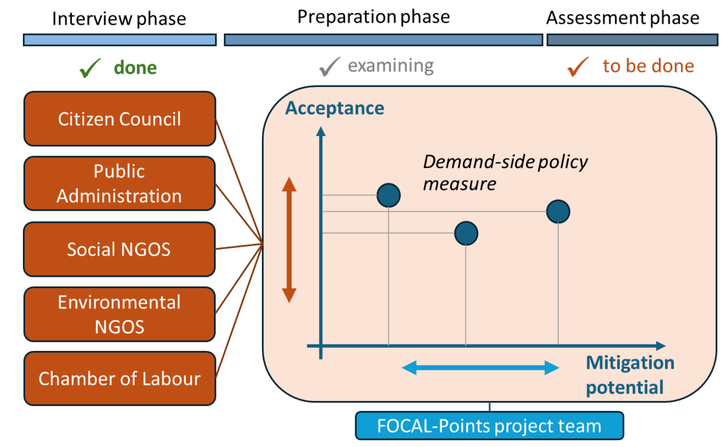
Multi-level policy analysis of 230 demand-side climate policies in transport and housing

- A significant number of policies are intentions, strategies or plans, i.e. not necessarily binding.
- Transport policies are dominated by regulatory interventions to improve infrastructure for electric vehicles.
- Housing policies are dominated by financial incentives, targeting homeowners to shift towards renewable energy supply.

Results from policy analysis of demand-side climate policies in the Austrian transport sector. For each policy, we consistently defined policy targets, policy level, policy type and demand-side mitigation options.

Knowledge co-creation with diverse stakeholders

- We identified and interacted with twelve stakeholders for knowledge co-creation, and with 40 additional actors in a workshop staging a citizen council on sufficiency.
- We developed a framework to map demand-side mitigation options according to mitigation potential and acceptance in the assessment phase of intensive stakeholder interaction.



Framework to map demand-side mitigation options according to their acceptance and mitigation potential.

For updates and further information, see https://boku.ac.at/en/focal-points