Socially Fair Options for a Climate Neutral Transformation of Housing and Mobility in Austria

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FIRST RESULTS

PROJECT OBJECTIVES

The overarching objectives of the project TransFair-AT are
1. to provide comprehensive and innovative model-based analyses of the economic incidence and social impacts of a complete decarbonisation of the sectors residential buildings¹ and passenger transport in Austria by 2040
2. to develop targeted compensation mechanisms to mitigate the burden of these climate policies for particularly vulnerable groups, while ensuring that these compensation mechanisms are consistent with full decarbonisation.

¹ Heat demand only, but including upstream emissions of district heat and power generation.

MOTIVATION

The Austrian government strives for achieving greenhouse gas neutrality by 2040. The introduction of policy instruments to decarbonise housing and mobility will affect different household groups to a diverse extent depending on several (socio-economic) aspects. The (presumed) regressivity of policy instruments (most notably fiscal measures) in the areas mobility and housing very often impedes an evidence-based discussion on the political level and is used as an argument against the implementation of respective measures, especially in times of low economic development as during the COVID-19 crisis or the current energy crisis.

PROJECT STRUCTURE AND PROGRESS

MOCKLING APPROACH

COMPLEMENTARY ACRP PROJECTS

NetZero2040
SectorCoup
INTEGRATE

CLOSE WORK WITH RELEVANT STAKEHOLDERS

SUB-GOALS

• Iterative linking of the macroeconomic model DYNK with a vehicle choice model, the transport demand model MARSM and the building stock model Invent/EELab to analyse the emission impact as well as the macroeconomic and distributional effects of the decarbonisation policy scenarios on different household types

• Definition of a joint household database for all models to translate the distributional effects amongst the different household groups

• Development of decarbonisation policy scenarios for the housing and mobility sectors to identify socially acceptable mitigation policy pathways

• Identification and development (and model-based analysis) of compensation mechanisms tomitigate burdens of climate policies for particularly vulnerable groups

CURRENT ACTIVITIES

WP1 Foundations
- Complete definition of household types and case studies
- Finalisation of model linkage
- Test, refinement and validation of linkage

WP2 Model Preparations and Linkage

WP3 Model-based Analysis (e-think, WIFO, Ive, EEG)

WP4 Synthesis & Policy Recommendations (WIFO, Ive, gWN, EEG)

WP5 Stakeholder involvement and dissemination (gWN, WIFO, Ive, EEG)

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CASE STUDIES

First results

Policy Measures

Decarbonisation measures

Mobility
- Reduction of vehicle types
- Reduction of average travel speed
- Increase in public transport

Housing
- Increase in floor area
- Adjustment of energy loads

Compensation measures

Increase in investment in public transport
- Reduction of public transport fares

Composite Index

Vulnerable Household Types

Household Types in Modelling

PROJECT OUTPUTS

J. Bock-Schappelwein, C. Kettner, 2023, TransFair-AT Research Brief #1: Households vulnerable to rising energy prices.
J. Bock-Schappelwein, C. Kettner, 2022, Steigende Preise für fossile Brennstoffe: Was zeichnet betroffene Haushalte aus?, 5th ESPANET AUSTRIA Konferenz, Vienna
P. Pfaffenbichler, Social impacts of decarbonising the Austrian passenger transport system, European Transport Conference, Milan, 6-8 Sept. 2023