

# EconTrans - Embedding climate policies into deep economic transformations

**ACRP 2017 - 10th call** Project duration

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Project team

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## Project motivation & framework

### Fundamental challenges societies face:

- Need for rapid reduction of GHG emissions
- Acknowledge SDG goals
- Disruptive technological change

### Progressing economic modelling along the CimTrans2050 **Research Plan:**

- Functionalities and well-being as measure for economic performance
- Looking at the full (energy) value-chain for providing these functionalities
- Dealing with radical transformations

### Application and storage technologies technologies **End-use** economic activity To energy services **Primary** related energy related energy flows **functionalities functionalities** flows fossils Shelter and nutrition thermal fossils renewables Health, education, mechanical renewables electricity culture specific electric uranium Products and heat services **Energy value chain**

# Project targets

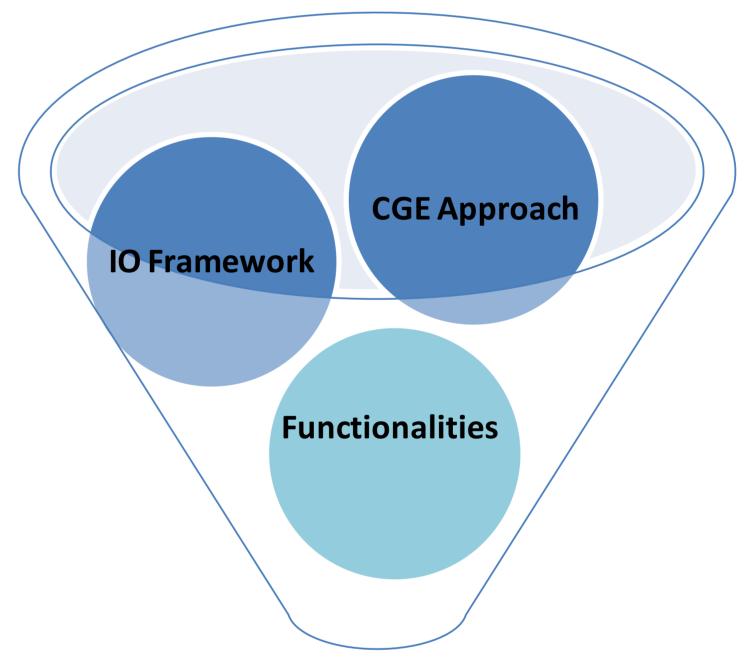
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## Project outline

### Linking functionalities and resource use WP1 **Identifying the** WP3 transfor-**Functionalities** Spectrum of stock/flow bundles mation challenge Well-being and functionalities A comprehensive modeling framework Climate targets and SDGs WP4 Disruptive Basic modeling framework Extensions technologies WP2 **Recognizing the** emissions **Analysis of feasible economic transformations** challenge Evaluating feasible economic structures with respect to Globally compatible WP5 climate targets, SDGs, human resources and distribution. emissions budgets Creating targeted transition paths and policy guidelines for Austria

### A comprehensive operational modelling framework with:

- An extended list of resources and stock-flow bundles
- A deepened understanding of targeted transformations in a globally consistent emissions context



## First results

### • WP1:

 Draft Working paper: "Energy services, breakthrough technologies and human need satisfaction"

### • WP2:

- First results on global pathways basis for breakdown on national level
- Correspondence between UNFCCC emissions and energy balances

## WP3 & WP4:

- First implementation steps for core model
- Data screening and compilaton (e.g. Life cycle data, mobility data)
- Integration of energy balances in EXIOBASE global input-output tables with extended environmental resource list
- Link from I-O structure to emission accounting

# Dissemination activities

- "What Will Make Energy Systems Sustainable?", Sustainability 2018, 10, 2537; doi:10.3390/su10072537 Angela Köppl and Stefan Schleicher
- Stakeholder interaction: ÖBB, WKÖ, WU/TU Vienna
- Ariane Weifner, Presentation at Klimatag 2019

## Next steps & challenges

- Calculation of national emission paths compatible with global emission budgets
- Model specifications
- Data challenges can be overcome by stretching the limits of official data sources
- Stretching the limits of current economic modelling









