



## A Comprehensive Analysis of Future Residential PV Development in Austria

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Analysis of the future role of prosumers in the Austrian energy system from an integrated perspective

Combination of a choice experiment, a technology diffusion model and a macroeconomic model will deliver insights into drivers of residential PV adoption, possible diffusion pathways as well as macroeconomic and distributive impacts

#### Novel scientific contributions

- For Austria, both the choice experiment on residential PV investment and the PV diffusion model
- The identification of options enabling vulnerable households to participate in energy transition via PV systems





## **Aims of the Project**

#### Main objectives

Simulation of household PV investment scenarios in Austria with the technology diffusion model

Evaluation of macroeconomic & distributive effects of prosumer scenarios on socioeconomically differentiated household groups Development of policy recommendations for vulnerable groups to participate in energy transition



#### **Sub-goals**

Survey

- Identification of motives for household PV adoption in Austria
- Identification of factors determining adoption of household PV systems (with & without battery storage)
- Identification of non-financial barriers for adopting a residential PV system
- Development of technology diffusion model for household PV systems & integration into macroeconomic model DYNK
- Simulation of a set of diffusion scenarios for residential PV systems





### **Current Status of the Project**



#### WP7 Stakeholders and Dissemination

**Remark:** Still awaiting data from OeMAG as input for the diffusion model.





## First Results of the Survey

- 4
- Web-based survey completed in January 2025 (N=1,001; 36% adopters)
- Representative sample of Austrian households by geographical location, age, and gender



#### **Barriers for Non-Adopters**



■ Fully applies ■ Likely applies ■ Likely doesn't apply ■ Doesnt apply at all ■ Don't know





Share of PV Adopters

## First Results / Progress of Diffusion Modelling as of March 2025



## Links and Synergies to Other Projects

| Pre-Projects           |   | Contribution of / Relation to  |   |
|------------------------|---|--|---|
| Acronym                | Focus   | Methodology FutuRes-PV   | FutuRes-PV  |
| START2030<br>(ACRP)    | Economic incidence and<br>social impacts of RES-E<br>transformation                               | Linking DYNK and an electricity system model                                     | Refines distributive impacts on different household groups of electricity transition and prosumerism  |
| TransFair-AT<br>(ACRP) | Policy scenarios achieving full<br>decarbonisation of housing<br>and mobility in Austria by 2040  | Linking DYNK with vehicle choice,<br>transport demand, & building stock<br>model | Contributes in detail to the aspect of (household) electricity supply   |
| CEDC<br>(ACRP)         | Scenarios for a circular<br>economy focusing on<br>buildings, electricity supply,<br>and mobility | Linking a biophysical CE model and<br>DYNK                                       | Can build on derived investment and operation cost structure for PV systems   |
| NetZero2040<br>(ACRP)  | Decarbonisation options for<br>Austria at an aggregate level                                      | Linking the energy system model<br>TIMES and the power market model<br>MEDEA     | Focuses on distributive impacts of the<br>electricity transition and prosumerism on<br>different household groups<br>Provides macroeconomic effects |
| Integrate<br>(ACRP)    | Decarbonisation options for<br>Austria at an aggregate level                                      | Energy system model Euro-Calliope<br>& macroeconomic model WEG-DYN               | Refines distributive impacts of electricity transition and prosumerism on different household groups  |
| Fair-Grid<br>(OeNB)    | Distributional impacts of<br>grid expansion for different<br>household types                      | Linking DYNK with an<br>electricity market model                                 | Information regarding prosumer perspective  |





## **Outlook to the Next Project Phase**









https://futures-pv.wifo.ac.at/contact.htm



# Thank you!

#### **Project Team**

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