

Authors: Lukas Kranzl, Andreas Müller, Koen Smet, Bernhard Leubolt, Markus Hafner-Auinger, Thomas Kautnek, Daniel Grabner, Fabian Schipfer

The active engagement of stakeholders and municipalities ensures the targeting of policy makers and academia. To maximise the science-society interface of the project an award (**NaWo Award**) was designed and tendered to find and select environmentally and socially sustainable housing innovations.

Severe housing depreciation
Public spending on housing
Wohnungsgemeinnützigkeitsgesetz
Social inclusion and affordability
Austrian climate & energy strategy
Energy prices
EU energy policy provisions
Social welfare
Paris agreement
Housing affordability
Income at market prices
Sustainable development goals
Demographic trends
Regional & local energy targets
Living conditions
Policy provisions
Housing prices
Policy targets
Wohnbauförderung
Socio-economic context
Housing tenures
Accumulation of debt
Mietrechtsgesetz
Dwelling types
Physical constraints
Economic conditions
Biomass
Renewable energy potentials
District heating
Ambient heat
Interest rates
Energy efficiency
Roof-top PV
Green gas
Construction sector
Ownership structure
Roof-top Solar thermal
Building stock & occupancy

The **decarbonisation pathways** for the Austrian housing sector are developed with a strongly disaggregated bottom-up model of the Austrian building stock (Invert/EE-Lab). In the following results selection we present the initial annual costs **for single family houses** with the annual costs after renovation, maintenance and heating system change in 2050.

[illegible]

The timeline shows the progression of the NaWo project. Key milestones include the NaWo Award in early 2018, the Klimatag in April 2019, and the NaWo-Focus Groups and Final Conference in early 2020. The project phases are: Interdisc. framework (March 2018 - April 2019), SHPs & Interviews (April 2019 - July 2019), Case studies (July 2019 - March 2020), Pathway modelling (April 2019 - July 2019), Social innovation (July 2019 - March 2020), and Reporting (April 2019 - March 2020).

Event / Milestone	Date
Start	03.2018
NaWo Award	Early 2018
Klimatag	04.2019
NaWo-Focus Groups	Early 2020
Final Conference	Early 2020
End	03.2020

KliNaWo (Feldkirch, Vorarlberg).
Source: Energieinstitut Vorarlberg

Sonnengarten im Limberg (Zell am See, Salzburg).
Source: Stadtgemeinde Zell am See

Na-Wo AWARD

House of Commons in Innsbruck (Tirol).
Source: Energie Tirol/ Blitzkneisser

Bikes and Rails (Vienna).
Source: Bikes and Rails

- (1) Owner-occupied detached and semi-detached houses
- (2) Owner-occupied flats
- (3) Private rental housing
- (4) Housing provided by limited-profit housing associations
- (5) Municipality or Public housing

- Implementation of structures of housing provisions as agents in the building stock model Invert/EE-Lab
- Analysing the impact of decarbonisation on these agents and different income groups
- Derive recommendations on how to ensure affordability and inclusiveness in the decarbonisation transition pathway of the building stock in Austria