

Transitioning buildings to full reliance on renewable energy and assuring inclusive and affordable housing

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

Synopsis

This project focuses on **transitioning buildings** to full reliance on renewable energy, while assuring inclusive and affordable housing.

The **Decarb_Inclusive** project combines

- (1) techno-economic modelling of decarbonisation scenarios with
- (2) an analysis of possible effects on real estate prices and aspects of social inclusion, and
- (3) transdisciplinary research on policy options to implement social innovations.

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.

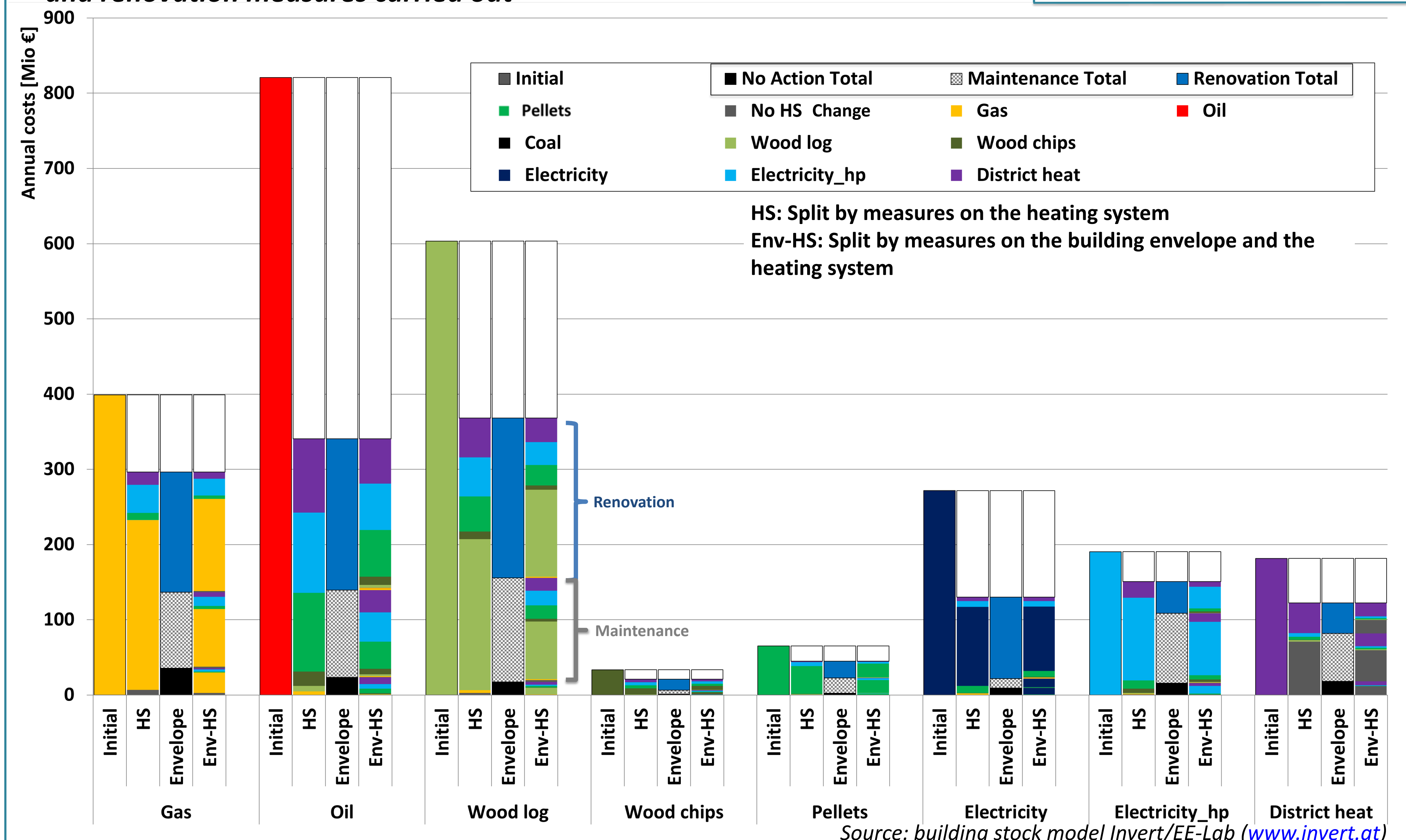
Framework and constraints in housing transition



Techno-economic modelling of decarb. pathways

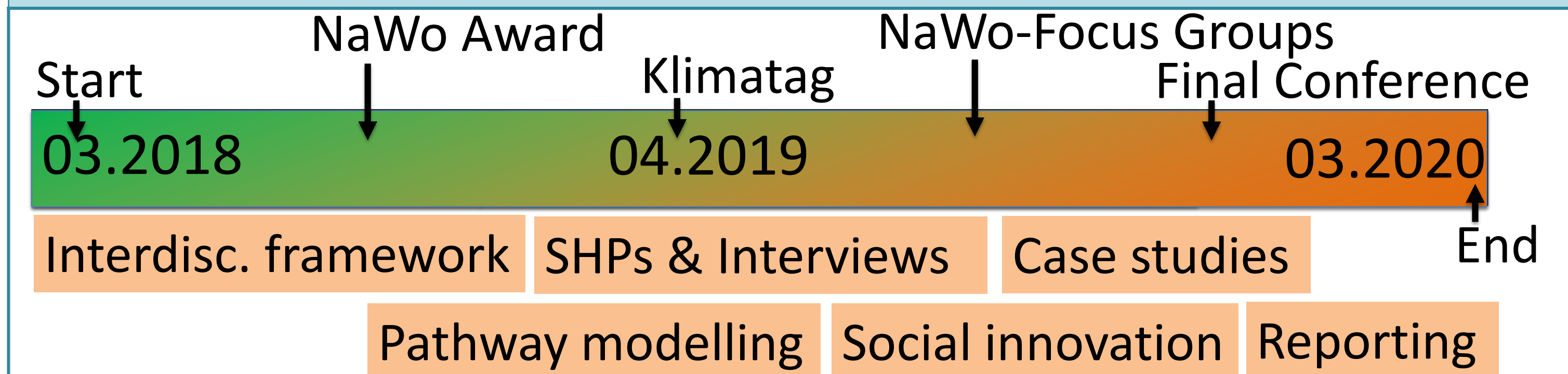
The **decarbonisation pathways** for the Austrian housing sector are developed with a strongly disaggregated bottom-up model of the Austrian building stock (Invert/EE-Lab). In the following results selection we present the initial annual costs **for single family houses** with the annual costs after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

Figure: Annual costs for heating in the decarbonisation scenario compared to the status quo by initial heating systems and renovation measures carried out



Source: building stock model Invert/EE-Lab (www.invert.at)

Project timeline



NaWo Award Winners & best practices case studies



Social innovation

The socio-ecological transformation in housing requires an **innovative mix of effective governance, participation and co-determination by all stakeholders** to ensure social inclusion. Social Innovations are social in their ends and means, e.g. co-working or co-living of people from diverse social backgrounds and age groups.

Structures of housing provision (SHPs)

Achieving fully decarbonized and affordable housing needs to take into account the **historically contingent** and **heterogeneous nature of housing provision**. Drawing on Michael Ball, we employ the concept of **structures of housing provision**. Each structure – while not independent from each other – follows its own internal logic and relates to a **specific set of actors and functions** covering issues of (re-) **production, ownership and consumption of housing**.

For Austria we identify five such main structures:

- (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

Contact and further information

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Contact: Lukas Kranzl (kranzl@eeg.tuwien.ac.at)

More Info:

www.eeg.tuwien.ac.at/decarb_inclusive

<https://www.klimabuendnis.at/na-wo-award>

