

# Enabling the Renovation Wave

Theme 2: Replicable Models for Large Scale Renovation<sup>23</sup>  
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## Facts and figures

- Building model WBS 70, typical new-build block from the 1970s
- In Thuringia: 6,000 identical buildings
- More than 18,000 identical buildings in eastern Germany
- First wave of renovation in the 1990s
- Costs: approx. € 3 million (€ 20,000 per residential unit)



## Project process

- 2021: Feasibility study in which various measures and their combination were analysed
- Objective: Usability of the feasibility study for interested parties
- 2022 - 2024 Refurbishment of the entire building (144 residential units, 6 floors)
- Goal: refurbishment to a climate-neutral building + warm rent neutral
- Both parts of the project financially supported by “Thuringian heat energy programme” (Pilot and model projects in existing buildings)

## Key measures

- Photovoltaics on the roof and on each balcony
- Glazing of the balconies
- Replacement of the ventilation system with forced ventilation in each flat
- Heat recovery from waste water in the building (recovery of around 80 % of the heat required in the building)



## Heat recovery

- Innovative system developed in Thuringia (former students of the Bauhaus University Weimar)
- Grey and black water from the washing machine, washbasin and toilet are separated and the heat is recovered in parallel
- System was used for the first time and even exceeded the previously calculated values



# Results

Total Costs: 3 Mio. €

Public funding: 100 %

Climate Neutrality: over the course of a year, the building generates as much energy as it consumes.

warm-rental-costs at the same level

(Note: The costs of the pilot project were significantly higher than the future costs of the measures taken. This is due to the fact that the installation of the new heat recovery system required many "trial runs".

# Thank you for your attention!



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