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# H<sup>o</sup>TMAPS

[www.hotmaps-project.eu](http://www.hotmaps-project.eu)

**SARA FRITZ**  
**URBAN LEARNING FINAL EVENT, 17.10.2017**  
**VIENNA**



# Hotmaps

## Heating and Cooling: Open Source Tool for Mapping and Planning of Energy Systems

Sara Fritz

URBAN LEARNING Final Event, 17.10.2017, Vienna

Project duration: October 2016-September 2020



# Overview

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- ° The Hotmaps-project
- ° Mapping: EU-28 default data base
- ° Planning: Selected tools



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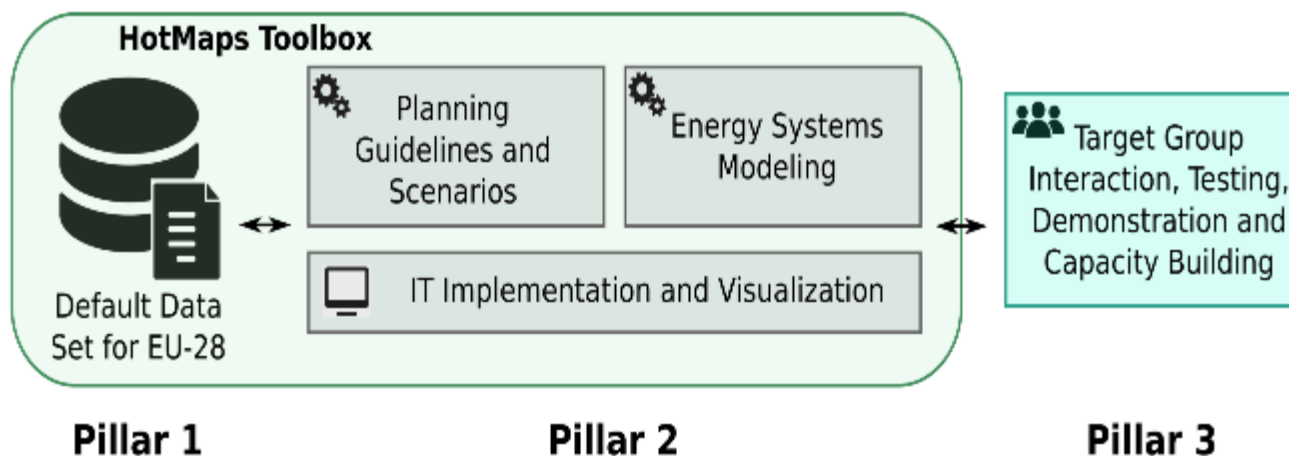
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# THE HOTMAPS-PROJECT



# Hotmaps Overview

Hotmaps will develop, demonstrate and disseminate **a toolbox to support public authorities, energy agencies and planners in strategic heating and cooling planning** at local, regional and national levels, and in line with EU policies.



- ♥ **User-driven:** developed in collaboration with 7 pilot areas
- ♥ **Open source:** will run without requiring any commercial software
- ♥ **EU-28 compatible:** applicable for cities and areas in EU-28



# Partners and pilot areas





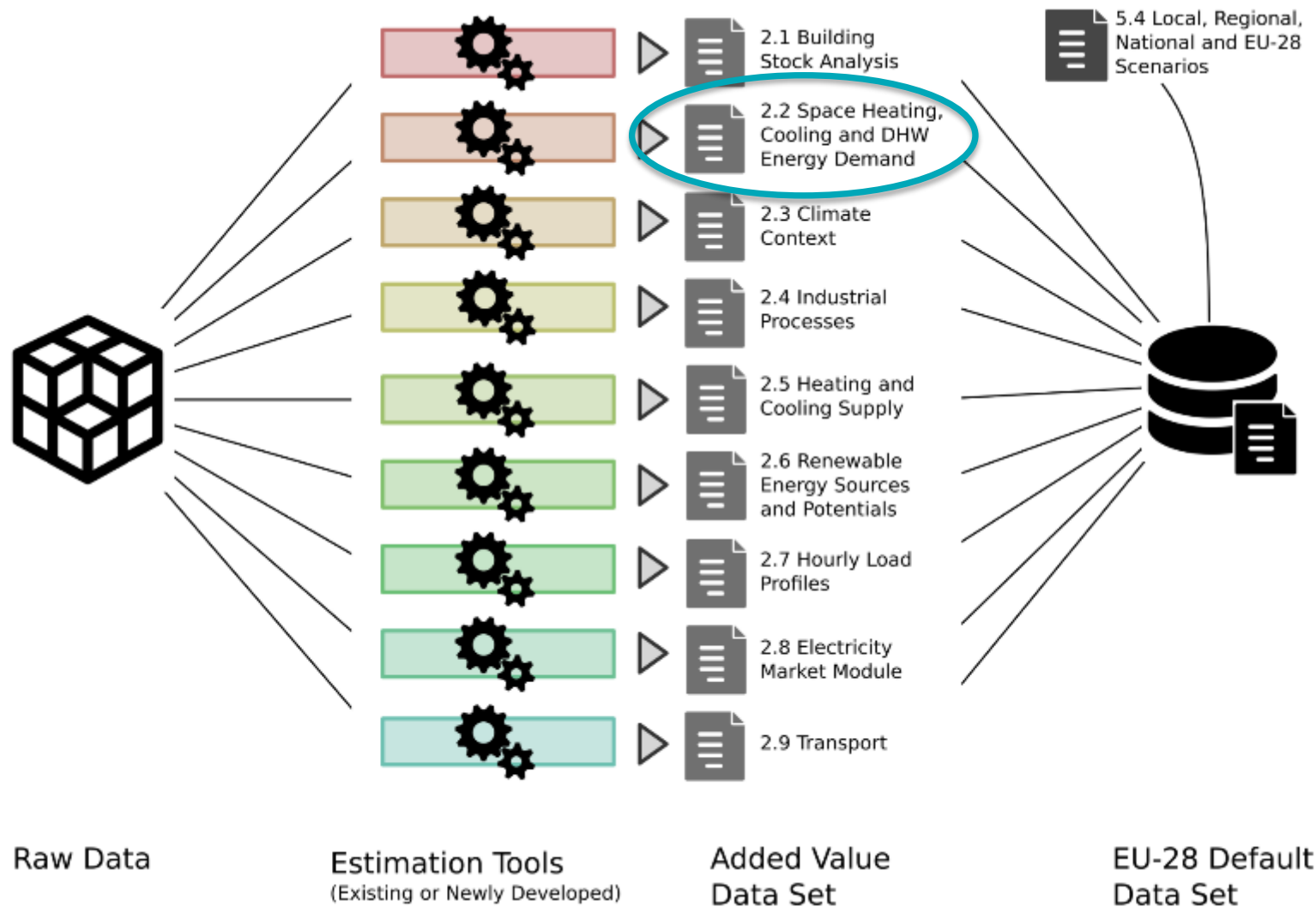
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# MAPPING: EU-28 DEFAULT DATA BASE



# Default data set for EU-28





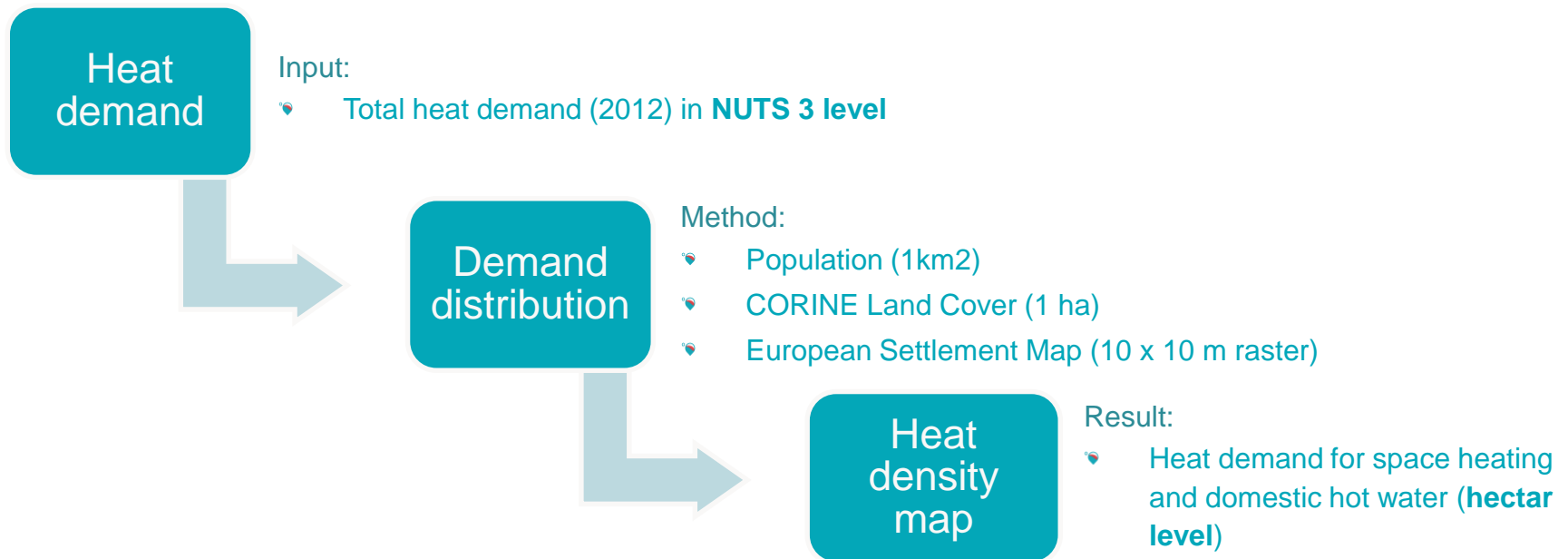
# Heat Density Map in Hotmaps

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- Why is it essential?
  - Location of heat demand
  - Identification of saving potentials
  - Supports integrated energy planning
- Basis for some energy planning tools in Hotmaps toolbox!

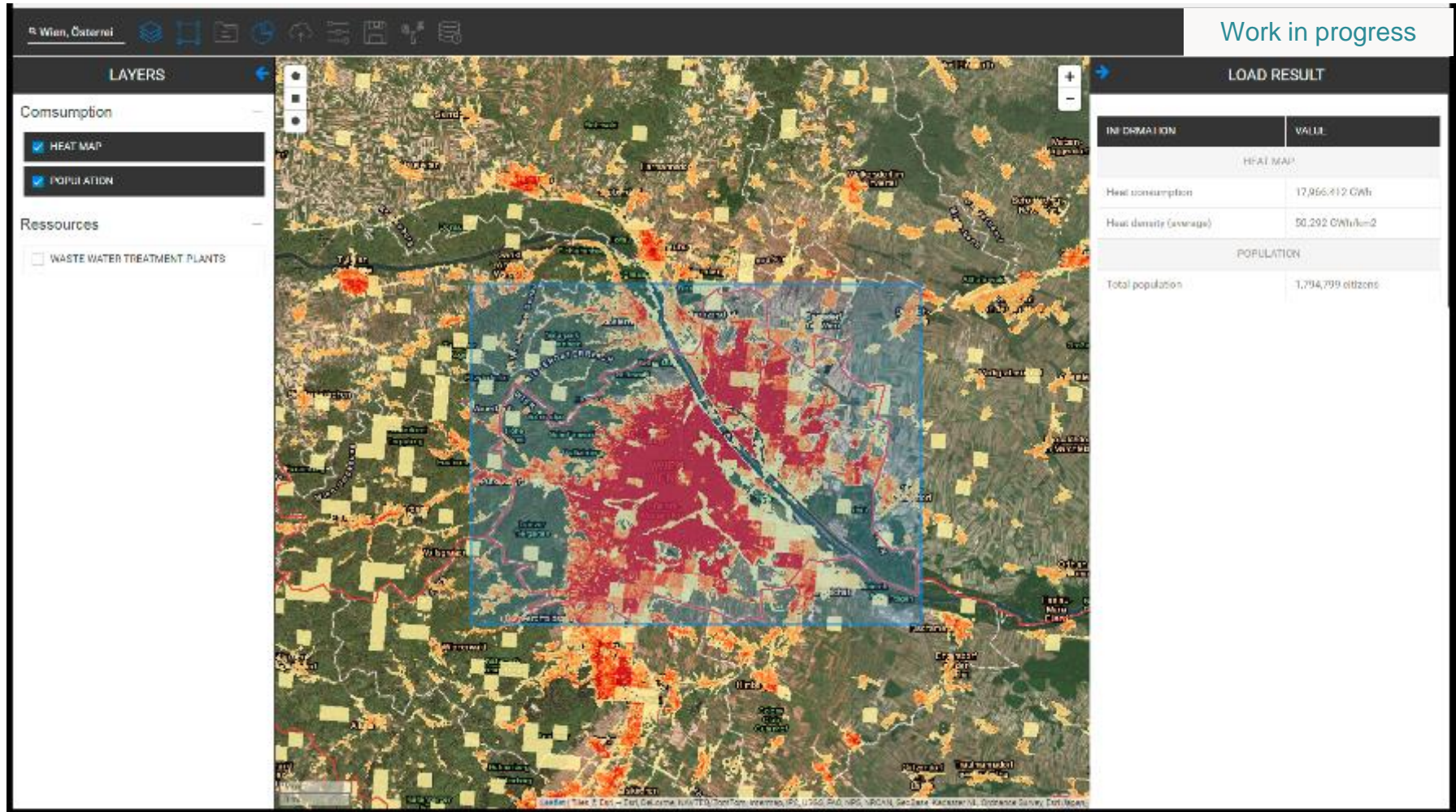


# Heat Density Map in Hotmaps





# Heat Density Map in Hotmaps



Current version of open data set for EU-28 is available on <https://gitlab.com/hotmaps>



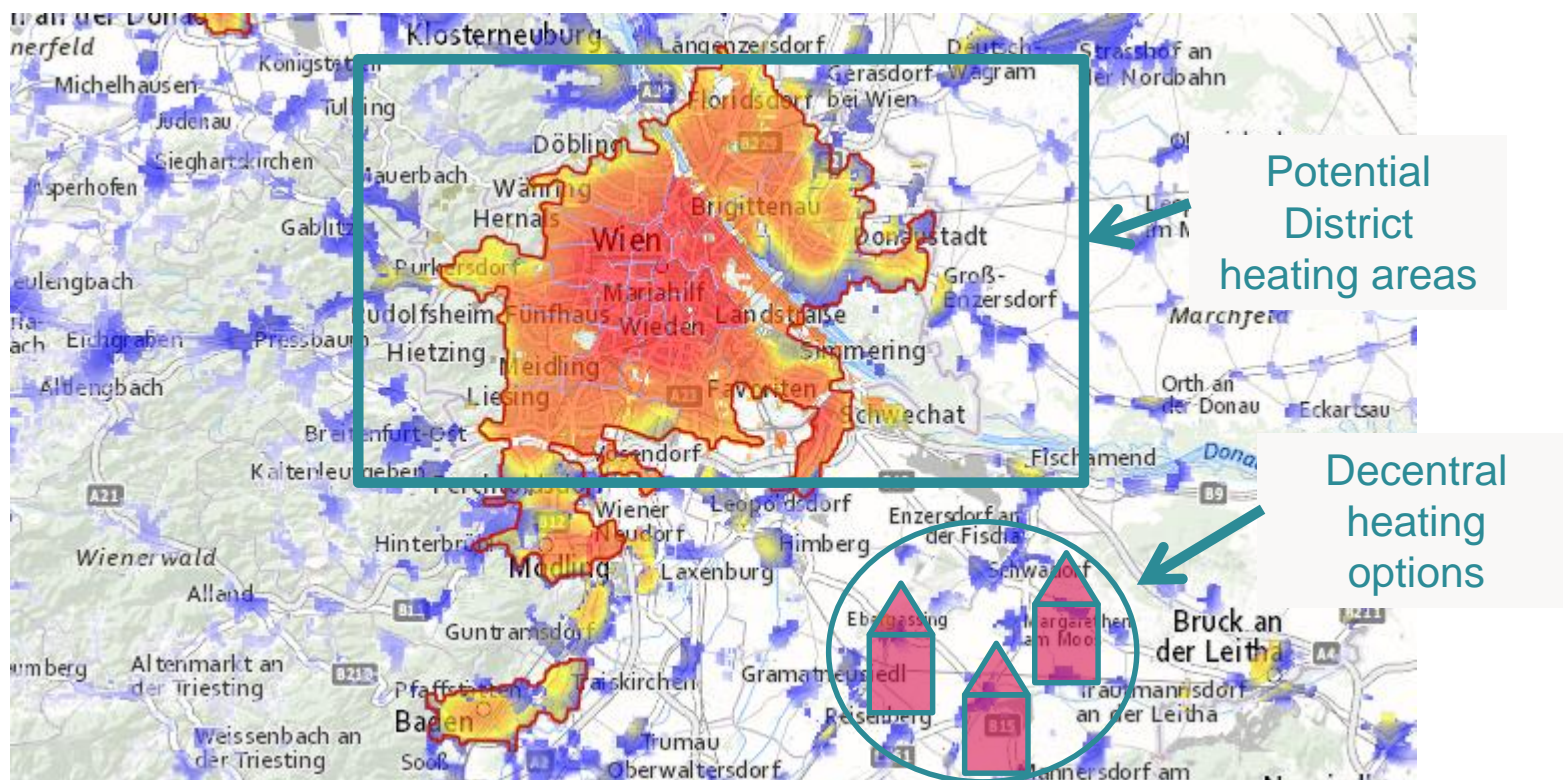
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# PLANNING: SELECTED TOOLS



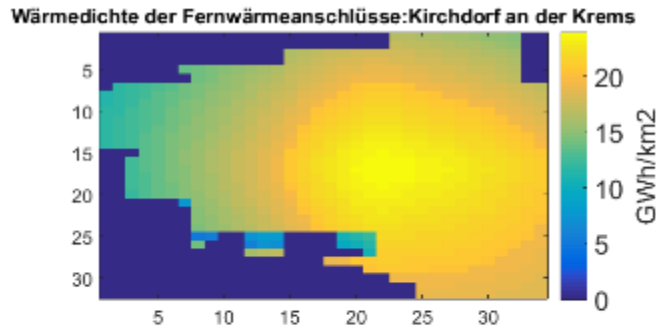
# Central vs. Decentral heat supply



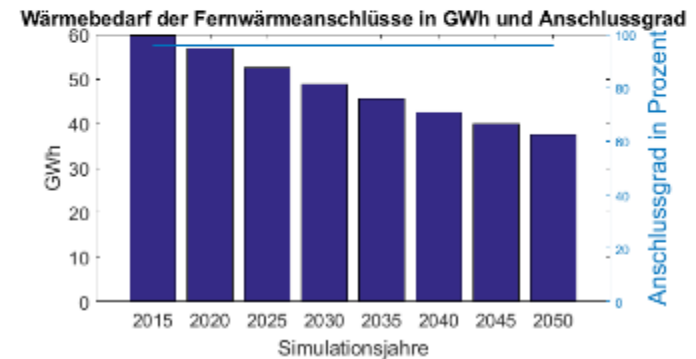
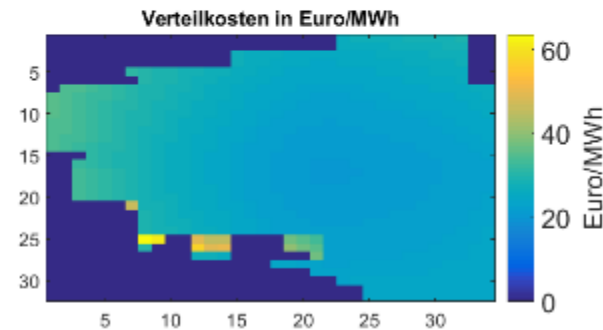
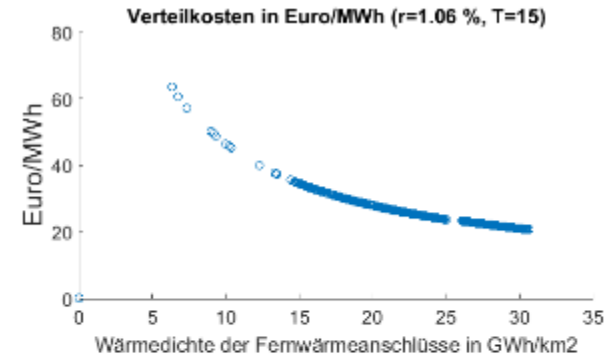


# District heating expansion planning

District heating potential



Distribution costs



Distribution costs – spatial resolved

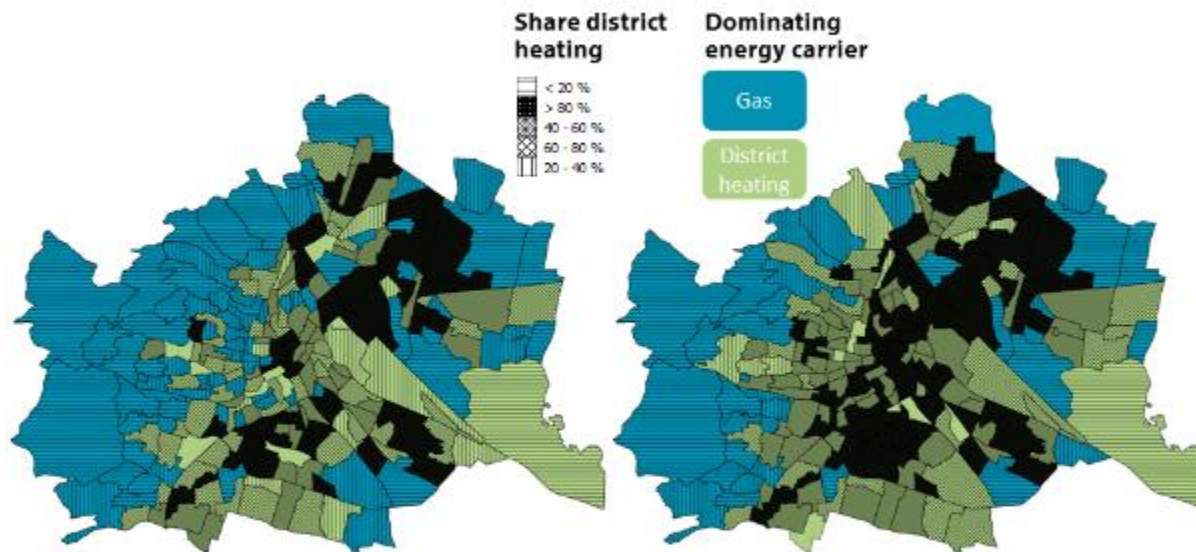
Temporal development district heating demand



# Identification of economic viable district heating regions (by the example of Vienna)

Scenario I

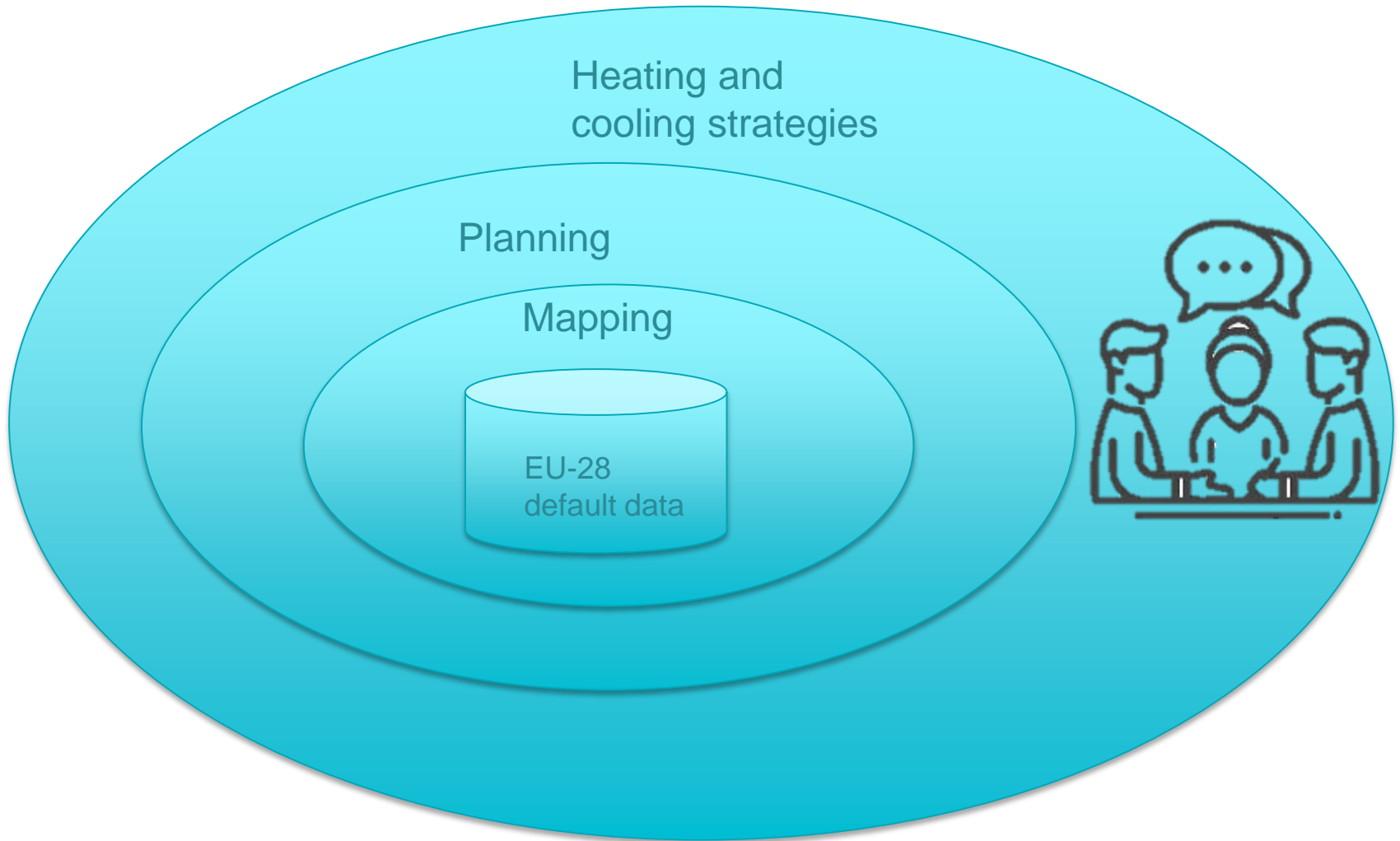
Scenario II



Source:URBEM<sup>DK</sup>: Fritz, Sara. "Economic Assessment of the Long-Term Development of Buildings' Heat Demand and Grid-Bound Supply." Technische Universität Wien, 2017.



# Mapping and planning





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