Data for municipal heating and cooling planning

TU Wien, e-think

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Agenda

Part I: Policy challenges, policy questions and related data needs

- Input presentation (15 min) – Different cases, practice examples
- Interactive part (35 min)
  - Online questions (5 min) – Which cases are relevant for you?
  - Discussion in break-out rooms (20 min) – Data needs for setting priority zones
  - Summary in the main room (10 min)

Part II: Open data in the Hotmaps platform

- Input presentation (10 min) – Overview of available data
- Interactive part (35 min)
  - Online questions (5 min) – Which data is most interesting for you?
  - Discussion in break-out rooms (20 min) – How to potentially make use of the available data in your case?
  - Summary and finish in the main room (10 min)

PART I – Interactive Session

- Online questions (5 min) – Which cases are relevant for you?
- Discussion in break-out rooms (20 min) – Data needs for setting priority zones
- Summary in the main room (10 min)

4 rooms
~2 regions per room

	Case 1: Strategic decisions	Case 2: Setting priority zones	Case 3: DH technical planning	Case 4: building renovation passports
Data on existing heat / cold demand	• Regional energy balance (aggregated) • Hectare level data for assessing district heating potentials • (Calculated / measured demand data on single building level)	• Calculated demand data on single building level • Calculated demand data validated with measured consumption data		

Costs of heat distribution / DH vs. individual supply	• Estimation on hectare level based in heat demand density, gross floor area
	• Comparison of DH supply costs with individual supply costs
		• Estimation of heat distribution costs:
		  • Estimation based on type of district
		  • Estimation on hectare level based in heat demand density, gross floor area
		  • Estimation based on street level
		  • Account for location of currently existing network
		• Comparison of DH supply costs with individual supply costs
		  • for a single area vs. for entire city
		  • Using estimations of future prices vs. current prices
		  • …		

Data on resource potentials (renewable energy [RE] and heat sources)	• Total RE potential in the region available • Profiles for solar irradiance, temperatures of heat sources, …	• Location of potential resources and estimation based on literature study • Potential estimation based on measurements and (pre-feasibility studies) • Mix of both		
Data on demand reduction potentials	• Costs and potentials for heat demand savings in different building archetypes	• Costs and potentials for heat demand savings in different building archetypes allocated over the city area • …		

PART II – Interactive Session

4 rooms
~2 regions per room

- Online questions (5 min) – Which data are most interesting for you?
- Discussion in break-out rooms (20 min) – How to potentially make use of the available data in your case?
- Summary in the main room (10 min)

	Case1: Strategic Planning	Case 2: Setting Priority Zones	Case 3: DH Technical Planning	Case 4: Building Passports
Data on existing heat cold demand	• Heat demand and gross floor area density maps (default) • database on existing building stock in EU countries (spec. energy demand, construction, …) • hourly heat load profiles for NUTS2 regions (residential, tertiary, industrial)	• database on existing building stock in EU countries (spec. energy demand, construction, …) • (hourly heat load profiles for NUTS2 regions (residential, tertiary, industrial))	• database on existing building stock in EU countries (spec. energy demand, construction, …) • (hourly heat load profiles for NUTS2 regions (residential, tertiary, industrial))	
Costs of heat distribution / DH vs. individual supply	• Heating technology data (costs, efficiencies, lifetime, …) • Hourly electricity prices for 2040, 2050 for full decarbonisation pathways (different scenarios, at NUTS0 level)	• Heating technology data (costs, efficiencies, lifetime, …) • Hourly electricity prices for 2040, 2050 for full decarbonisation pathways (different scenarios, at NUTS0 level)	• Hourly electricity prices for 2040, 2050 for full decarbonisation pathways (different scenarios, at NUTS0 level)	
Data on resource potentials	• wastewater treatment plants • biomass residues • (industrial excess heat locations) • benchmark data industry (demand and excess heat) • shallow geothermal potential • solar thermal and PV on rooftop or standalone	• wastewater treatment plants • biomass residues • benchmark data industry (demand and excess heat) • (shallow geothermal potential) • (solar thermal and PV on rooftop or standalone)		
Data on demand reduction potentials	• scenarios for heat demand reduction at local level based on national level scenarios			

Thank you.

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