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Energy planning with Hotmaps & Thermos

Hotmaps – final conference

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(1)Complementarity of the tools

(2) Hotmaps – the tool

(3) THERMOS – project and tool

(4) Q & A

Tools complementarity



Hotmaps

- Default data for EU28, also usable outside the tool
- Very quick first analyses
- Calculation Modules covering entire H&C system
- Opportunity to use own data



- Address-level demand mapping
- Thermal network route optimisation
- Detailed financial analysis (CAPEX, OPEX, heat sale revenues)





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Section 1

Hotmaps

Questions where Hotmaps can help

- What is the demand for heating and cooling in my region and where is it located?
- Which options are available for reducing GHG emissions from heating and cooling in my region?
- Which renewable energy and excess heat sources could be economically feasible to use in my region?
- Which shares of district heating make sense in my area?
- Which areas are potentially interesting for district heating?
- Which levels of heat savings could be economically feasible for my region?

Scenario Toolchain – Guidelines





www.hotmaps.eu

Scenario Toolchain – Guidelines



***** KPIs for different scenarios















Scenario Toolchain – Guidelines



CM – DH Economic Assessment

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Min: 0 ; Max: 1 ;			RESULTS	
DH market share at the end of the investment period - (value: 0.6)		NUTS 2 Overall		\$
0.6 Min: 0 ; Max: 1 ;	Elements selected 1	LAU 2 Hectare	INDICATORS GRAPHICS	
Interest rate - (value: 0.05)	Bounding box 396 km ²		VALUE	
		1. 1.	HEAT DENSITY TOTAL	
Min: 0 ; Max: 1 ;	CLEAR 1 20ME	Heat demand total	309.81 GWh/yr	
DH grid cost ceiling - (value: 30EUR/MWh) 30		Counted Cells	2 627 cells	
Min: 0.1EUR/MWh; Max: 200EUR/MWh;		Heat density min	0.78 MWh/(ha*yr)	
Construction cost constant - (value: 212EUR/m)		Heat density max	966.64 MWh/(ha*yr)	
212 Min: 0.1EUR/m; Max: 10000EUR/m;		Average heat dens	117.93 MWh/(ha*yr)	
Construction cost coefficient (value)		CM - DIS	CM - DISTRICT HEATING POTENTIAL: ECONOMIC ASSESSMENT	
4464EUR/m2) 4464		Total demand in se region in the first y	elected 309 814.44 MWh ear of	
Min: 0.1EUR/m2; Max: 100000EUR/m2;		Investment		
Full load hours - (value: 3000h) 3000		Total demand in se region in the last ye investment	elected 278 833 MWh ear of	
Min: 0h; Max: 8760h;				
BASIC INPUTS +		system through the period	a investment	
INPUT TYPE SELECTION Type: heat Description: Select heat demand density		Energetic specific l costs	DH grid 29.7 EUR/MWh	
layer. Heat density total		Energetic specific l distribution grid co	DH 28.51 EUR/MWh sts	
INPUT TYPE SELECTION Type: gross_floor_area Description: Select gross floor area density		Energetic specific l transmission grid c	DH 1.19 EUR/MWh costs	
layer. Gross floor area total +		+ Specific DH distribuction	ution grid 61.89 EUR/m	
RUN CM	The project has meaned loading from the Express host in their and the provided in the Express host in the provided in the provided in the Express host is provided in the p	Specific DH transm costs per meter	ission grid 16.85 EUR/m	
			III	•

CM – DH Economic Assessment



Go into more details of the DH system → THERM S can be used



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