District Heating and Cooling
CELSIUS wiki
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Position papers
Workshops and events

CELSIUS Workshop cohosted with Métropole de Lyon – DHC Days 2017: Local to Global Approaches for Innovative District Energy Solutions

Collaborators of the event: SweHeat and Cooling (who expanded the CELSIUS network by inviting the sponsors), DHC News, UN Environment District Energy in Cities Initiative, and Amorce.

Sponsors of the event: Alfa Laval, Mittel, HWQ Group, If...Insurance, Regin, PassivSystems, Siemens, SavoSolar, Energy Opticon and SWEP.

Documentation from the workshop

The presentations from the workshop are now avaiable on the CELSIUS wiki. CELSIUS Member Cities and CELSIUS City Supporters have access to the CELSIUS network, including the CELSIUS wiki. Contact us if you would like to join the network or learn more about CELSIUS.

Read the CELSIUS newsletter reporting from the workshop.

Agenda

Day 1: Tuesday, February 21, 2017

Venue: Métropole de Lyon Headquarters, 20 Rue du Lac, Lyon, France
Moderator: *Emilia Pisani Castañeda*, Project Officer, CELSIUS, Göteborg Energi AB

8.30 **Registration and welcome coffee**

9.00 **Welcome address**
Katrina Folland,CELSIUS Project Coordinator, City of Gothenburg
Celia Martinez, Technical Expert, District Energy in Cities Initiative, United Nations Environmental Program
Samia Belaziz, VP for District Heating and Cooling, Lyon Métropole

District energy in France
National challenges for DHC: what is at stake?, *Nicolas Garnier*, Director, Amorce
Promoting district energy development, *David Canal*, Head of District Heating, ADEME

10.00 **Urban Waste Heat Recovery: residual heat at your doorstep**
Moderator: *Nicolas Garnier*, Director of AMORCE

Funded by the Horizon 2020 programme
of the European Union

HOTMAPS

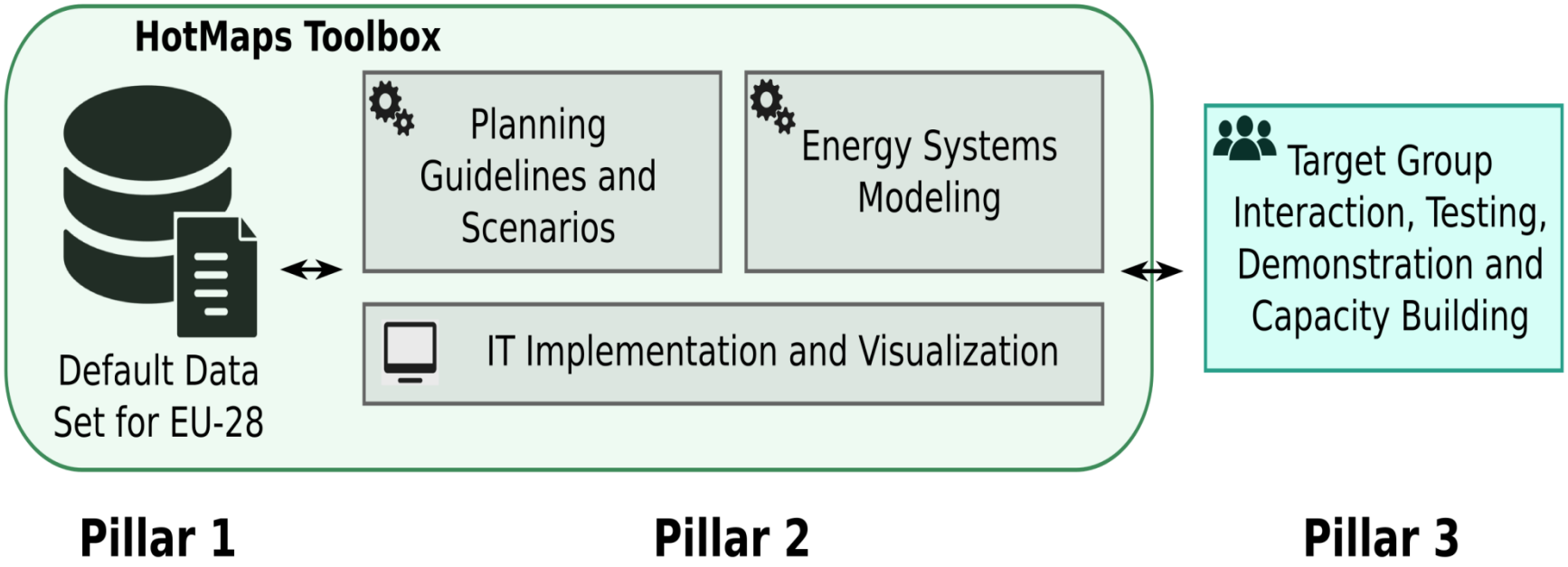
www.hotmaps-project.eu

Tools and recommendations for heating and cooling planning

Sara Fritz
DHC Days 2017 / 22.02.2017 / Lyon

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

HotMaps Objectives

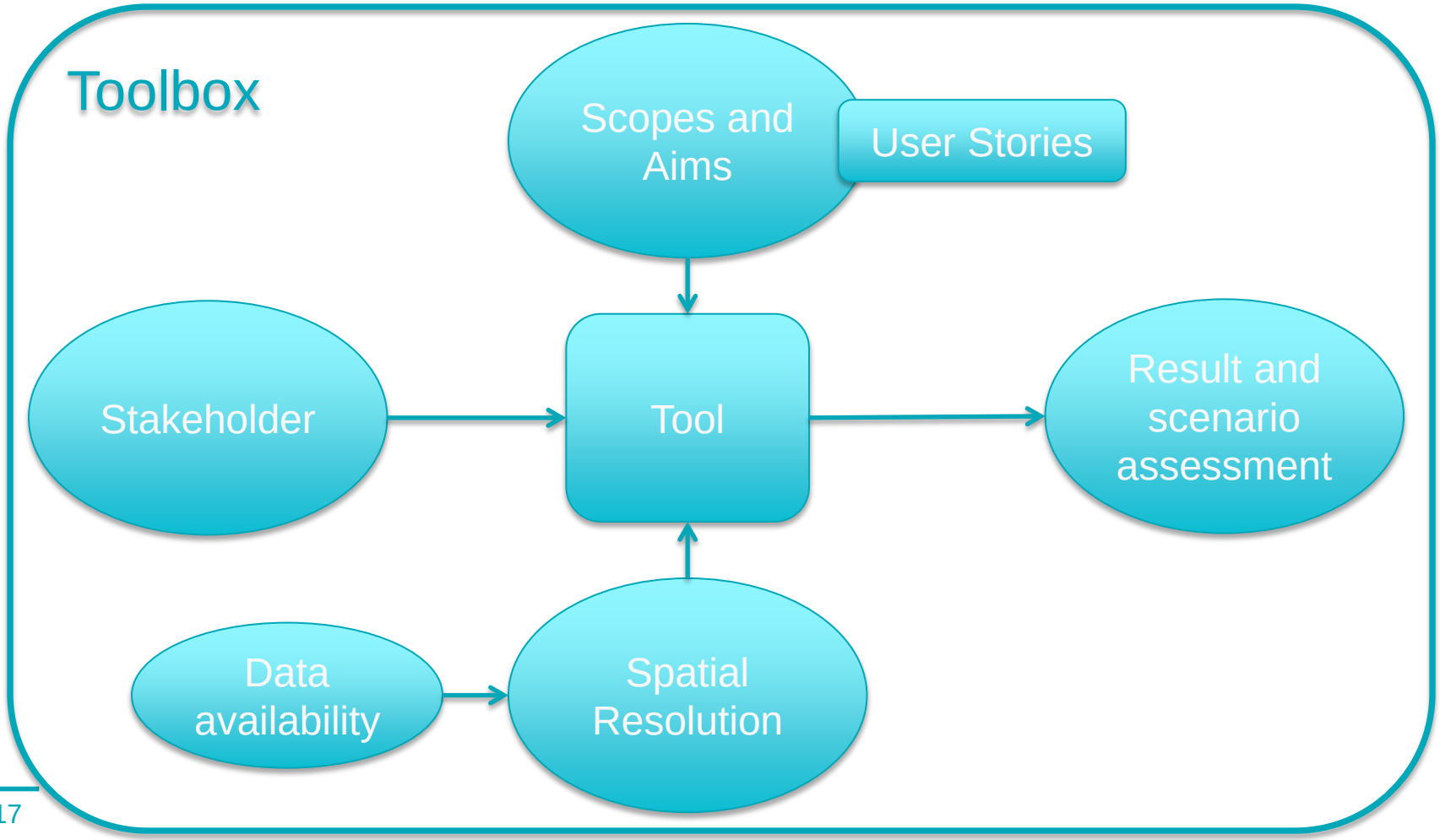


Overview

- Challenges in heating and cooling planning
- Selected Tools
- Recommendations

CHALLENGES IN ENERGY PLANNING AND HEAT ENERGY SYSTEM ANALYSIS

Dimension of energy planning

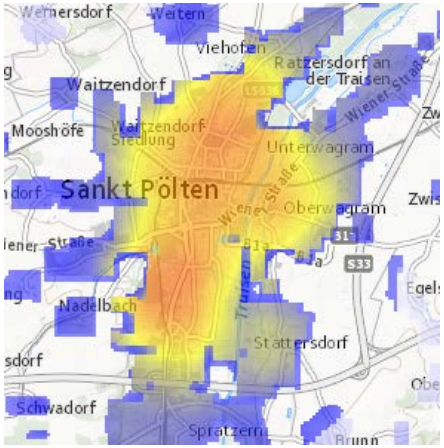


SELECTED TOOLS

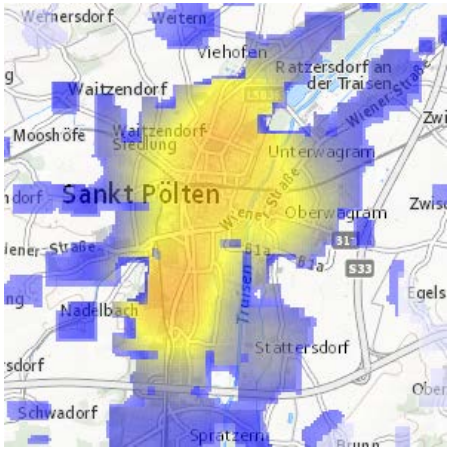
Heat density maps

- Spatial highly disaggregated heat densities considering the development of buildings heat demand due to efficiency measures in the building stock
- Basis for the analysis regarding the future heat energy system

2012



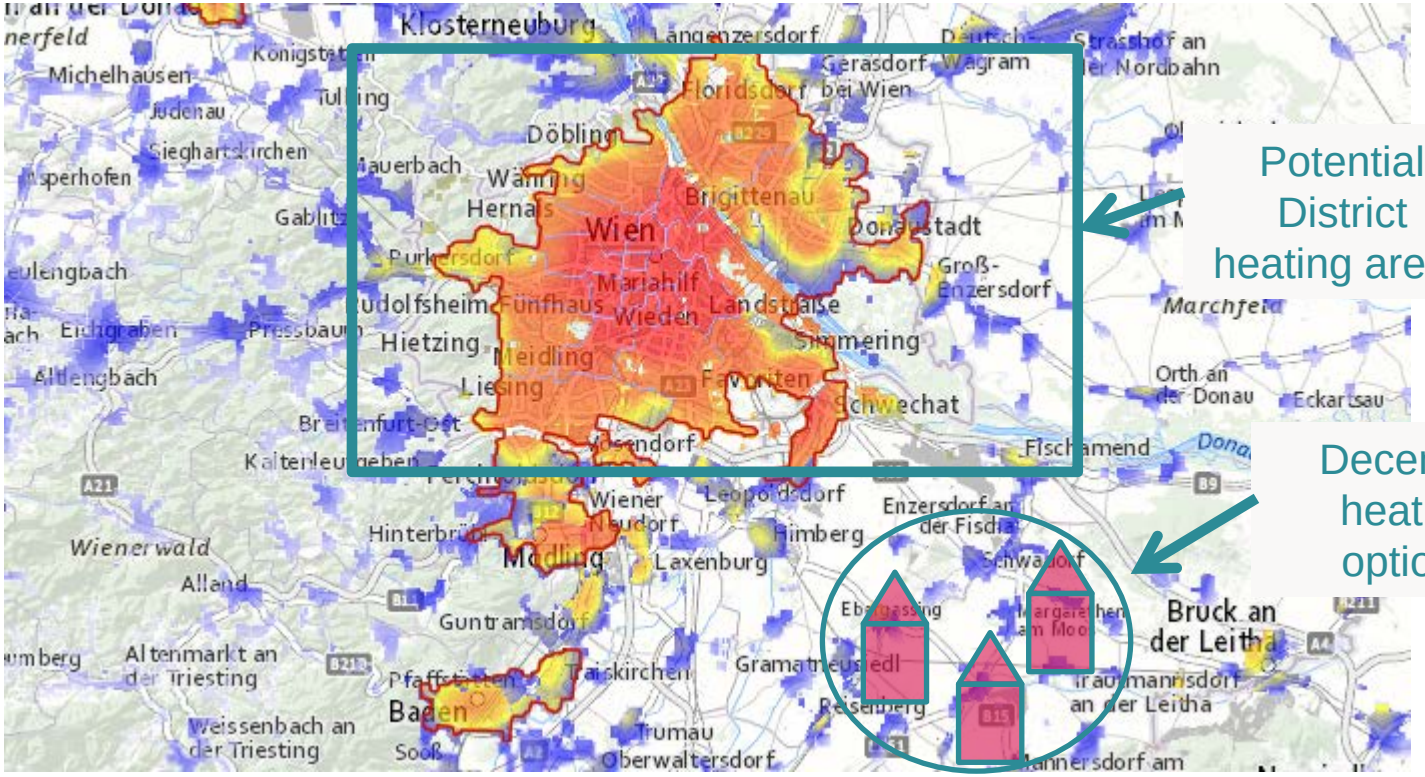
2025



Source:

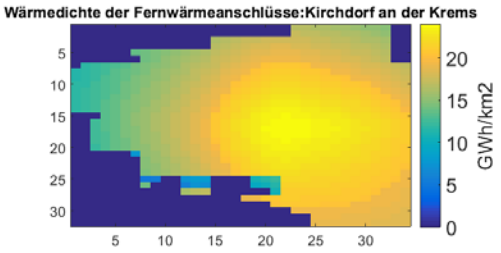
- Austrian HeatMap: http://www.austrian-heatmap.gv.at/karte/

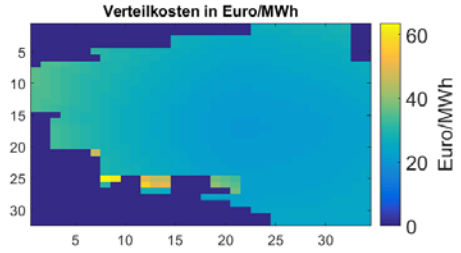
Central vs. Decentral heat supply



District heating expansion planning

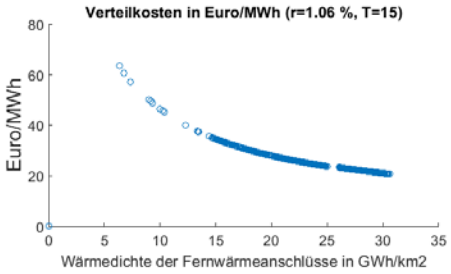
District heating potential





Distribution costs – spatial resolved

Distribution costs



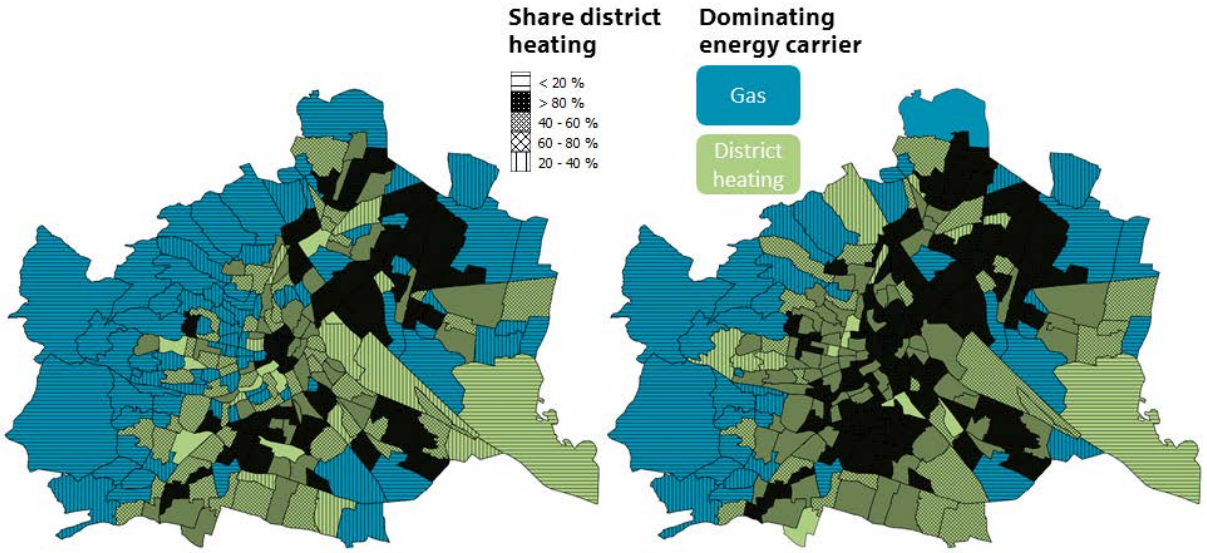
Temporal development district heating demand

- Optimized district heating potential (building block level, 100 m x100 m, regional, national)
- Analyse the interdependencies of long-term development of buildings‘ heat demand and district heating expansion

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

Customer perspective

Network operators‘ perspective



Source other projects:

- URBEM^{DK}: Fritz, Sara. “Economic Assessment of the Long-Term Development of Buildings’ Heat Demand and Grid-Bound Supply.” Technische Universität Wien, 2017.

RECOMMENDATIONS

Energy planning:
Lessons learned in previous projects*

Strategic local and regional heat/cool planning

- Better geographic data availability (buildings, waste heat potentials, cooling demands and local RES resources)
- Long term environmental political targets (both at local and national level)
- Availability, time and competences to use DH/C planning tools at local level

*Source: H2020 Project progRESsHEAT

Heat energy system analysis: Lessons learned in previous projects*

Regulation

– Reduction / avoidance of double infrastructure (respecticveley DH and natural gas)
  - **Mandatory connection in DH priority areas useful?**

Economy

– Increased heat savings in DH areas must be matched by increased DH connection rate (or DH prices will increase)

– Aligned taxes, tariffs and subsidies (CO_2, fuels, electricity for HP and use of waste heat)

Source other projects:
- H2020 Project progRESsHEAT: http://www.progressheat.eu/Project.html
- URBEM^{DK}: http://urbem.tuwien.ac.at/home/EN/

Funded by the Horizon 2020 programme
of the European Union

Thank you for your attention!

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