

Analysis of heat/cold demands and renewable potentials with the free online tool Hotmaps

Bernhard Mayr (@think energy research)

22th June 2022– Act!onHeatWebinar



This project has received funding from the EU's Horizon 2020 programme under grant agreement no 101033706.



www.actionheat.eu



Content

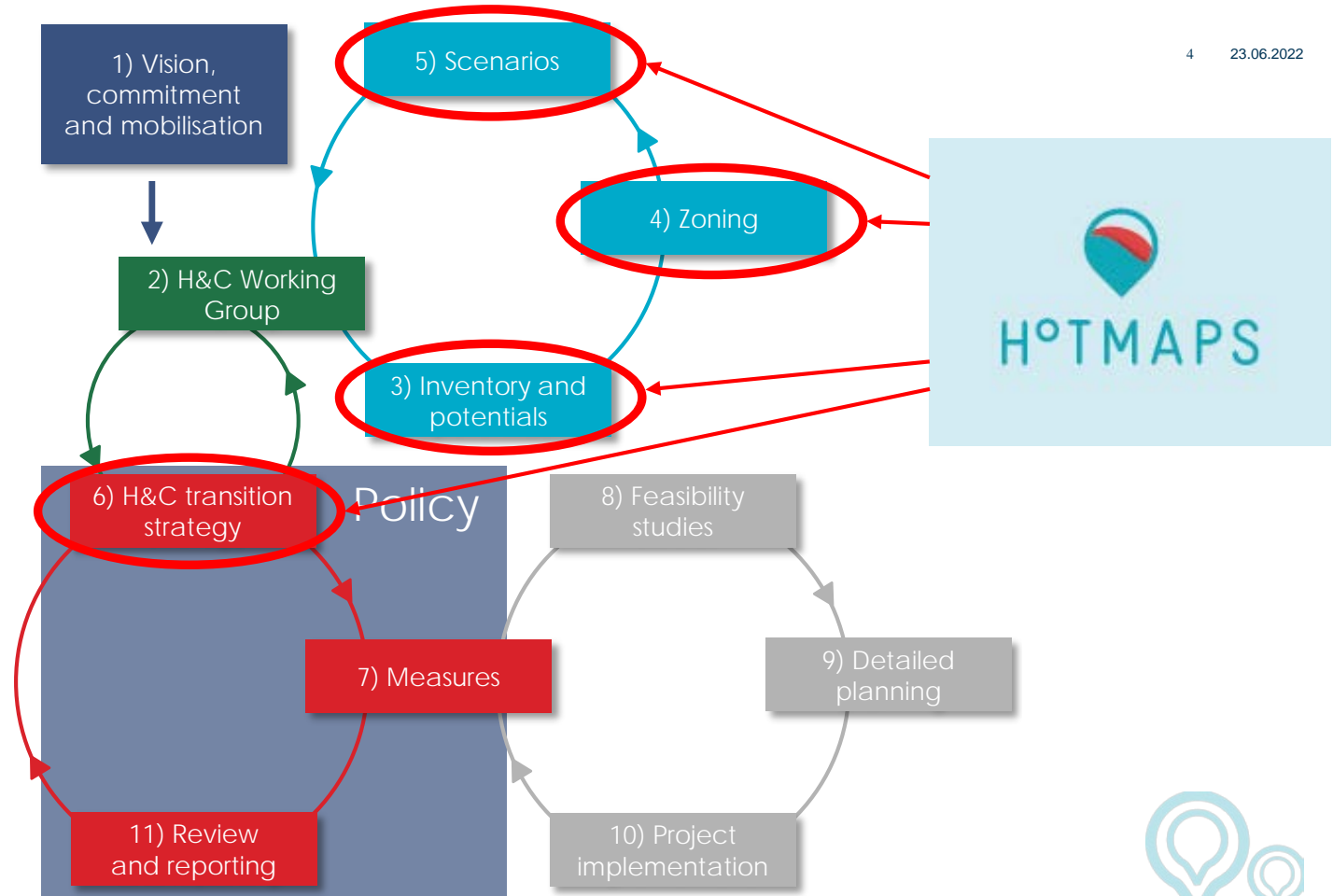
- Strategic heating and cooling planning and Hotmaps
- Hotmaps database and toolbox – an overview
- Hotmaps database and toolbox – live demonstration



Content

- **Strategic heating and cooling planning and Hotmaps**
- Hotmaps database and toolbox – an overview
- Hotmaps database and toolbox – live demonstration
- Introduction to the exercise for the Act!onHeat training session





Content

- Strategic heating and cooling planning and Hotmaps
- **Hotmaps database and toolbox – an overview**
- Hotmaps database and toolbox – live demonstration
- Introduction to the exercise for the Act!onHeat training session



Hotmaps – what is it?

- Hotmaps is ...
 - ... 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
 - ... developed in the Horizon 2020 project Hotmaps (Oct 2019 – Sep 2020)
 - ... fully open source
 - ... developed together with the target group (pilot areas across Europe)
 - ... compatible and adaptable for entire EU27 (default data available and possibly adapted to own data)
 - ... under constant development within followup activities



Hotmaps – what can it be used for?

- **Visualisation and analysis of data**
 - Presentation of geographically explicit data in a map
 - Calculation of indicators for the GIS data for selected / defined regions
 - Comparison of default data with own / local data
- **Analyse single parts of the heating & cooling system**
 - **Different calculation modules** are available to analyse different aspects in the H&C system (development of demand, expansion of district heating, load profile development, heat supply, estimation of potentials, ...)
 - **Very quick first analyses** of single parts of the H&C systems based on default data
 - **More detailed analyses** based on local data and variation of further input data
- **Development of strategies:**
 - Development of scenarios for selected areas via **coupling of different CMs in a toolchain**
 - **Very quick first analyses** of potential CO₂ saving options for H&C based on default data
 - **Comparison of different variants** of demand and supply development options for generating decarbonisation strategies
- **Analysis at different geographical levels:**
 - national, regional und local is possible



Hotmaps – a database, toolbox and a wiki

- Database
 - For many data necessary for heating and cooling analysis default data are in the database; however, not all data is contained, and data is not necessarily correct
 - Follow-up projects for further elaboration H2020 EnerMaps ongoing, 2 projects handed in
- Toolbox
 - Numerous CMs are included; further CMs will be developed and integrated in Net project
 - OpenGIS4ET just started; more projects handed in
 - Numerous automated and manual tests have been performed on stability and usability for all release versions; still, we cannot be sure that no errors occur
- Wiki
 - Contains tutorials and training materials
 - Contains handbooks and strategic energy planning reports
 - Is available in all EU27 languages



Technology Readiness Levels

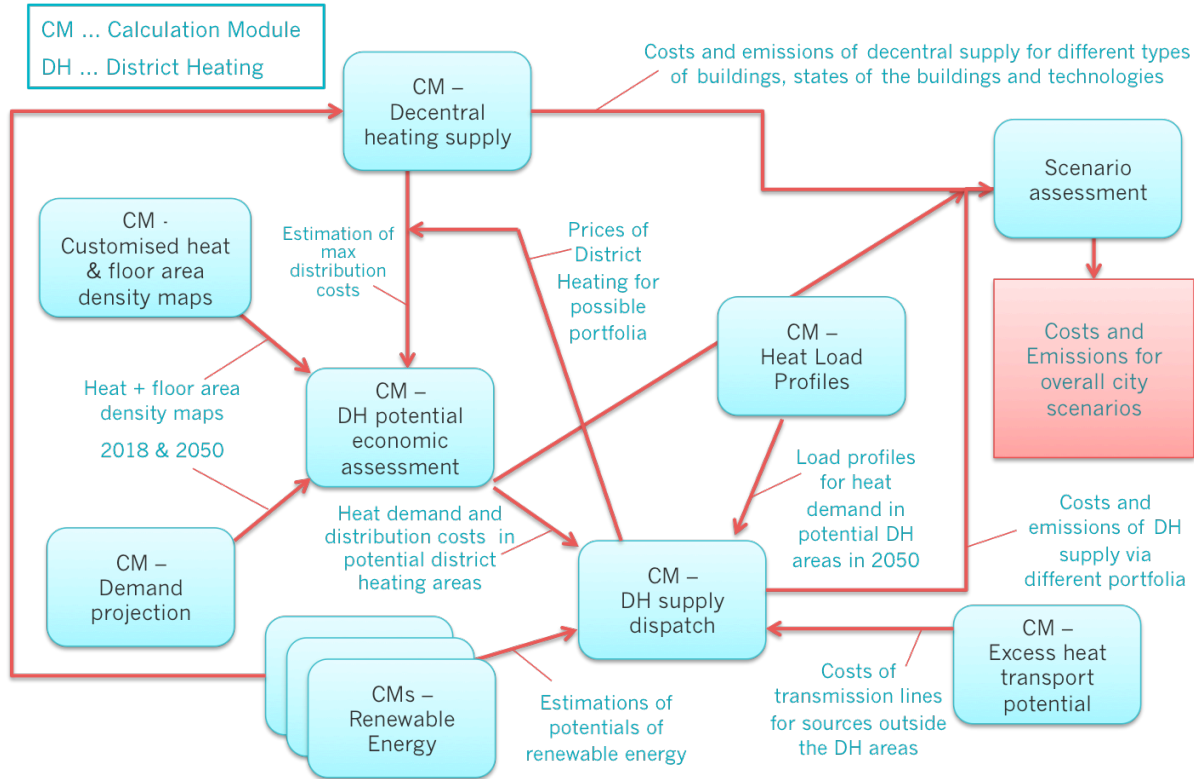
**Achieved during the Hotmaps
project duration**

TRL 7 *System prototype demonstration in operational environment*

ERANet project OpenGIS4ET just started

TRL 8 *System complete and qualified*

TRL 9 Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)



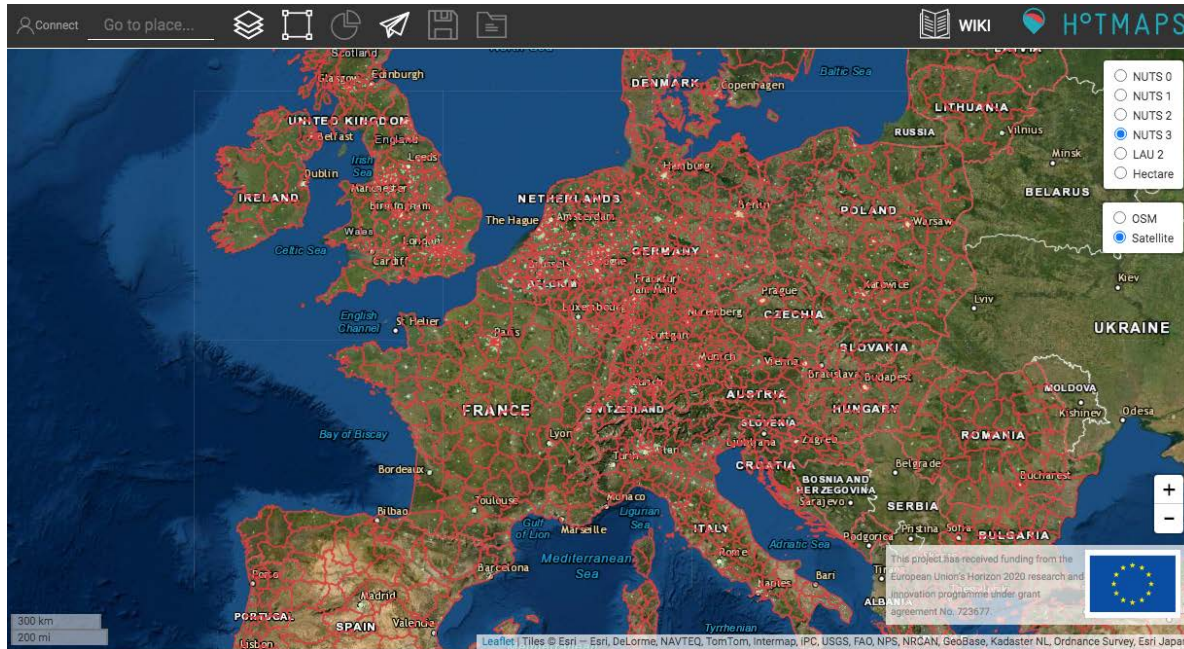
Content

- Strategic heating and cooling planning and Hotmaps
- Hotmaps database and toolbox – an overview
- Hotmaps database and toolbox – live demonstration





www.hotmaps.eu





This project has received funding from the EU's Horizon 2020 programme under grant agreement no 101033706.



www.actionheat.eu

 **Fraunhofer**
ISI



TU TECHNISCHE
WIEN UNIVERSITÄT
WIEN

creara
ENERGY EXPERTS

ICLEI Local Governments
for Sustainability
2002

ethink
Energy Efficiency

 **eclareon**