



2050

Heat Roadmap Europe

A low-carbon heating and cooling strategy

Heat Roadmap Europe: From scientific findings to Pan-European Thermal Atlas (Peta4) maps

Rasmus Lund, Aalborg University

Heat Roadmap Poland, January 25, 2018, Warsaw



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 695989.



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Agenda

- Introducing the project
- Development of Peta
- Demonstration of Peta4.2



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Our Purpose

- Creating scientific evidence to support long-term decision making
- To empower the transition to a low-carbon energy system



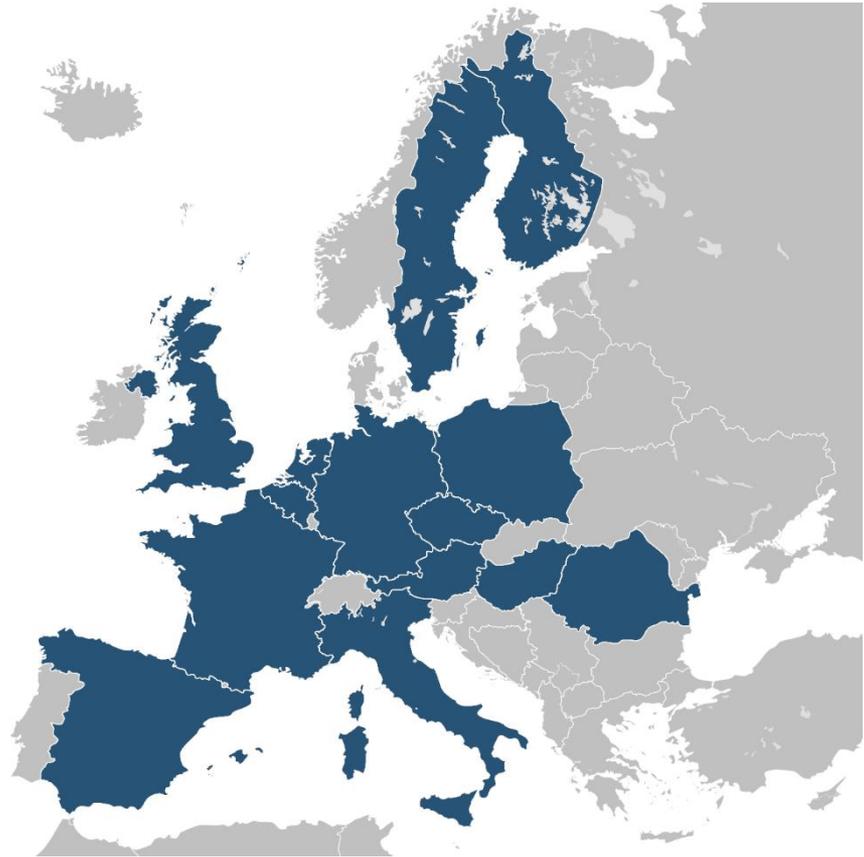
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HRE4 Countries: 14 Largest EU Countries by Heat Demand = 90% of EU Heat

- Belgium (BE)
- Czech Republic (CZ)
- Germany (DE)
- Spain (ES)
- France (FR)
- Italy (IT)
- Hungary (HU)
- Netherlands (NL)
- Austria (AT)
- Poland (PL)
- Romania (RO)
- Finland (FI)
- Sweden (SE)
- United Kingdom (UK)



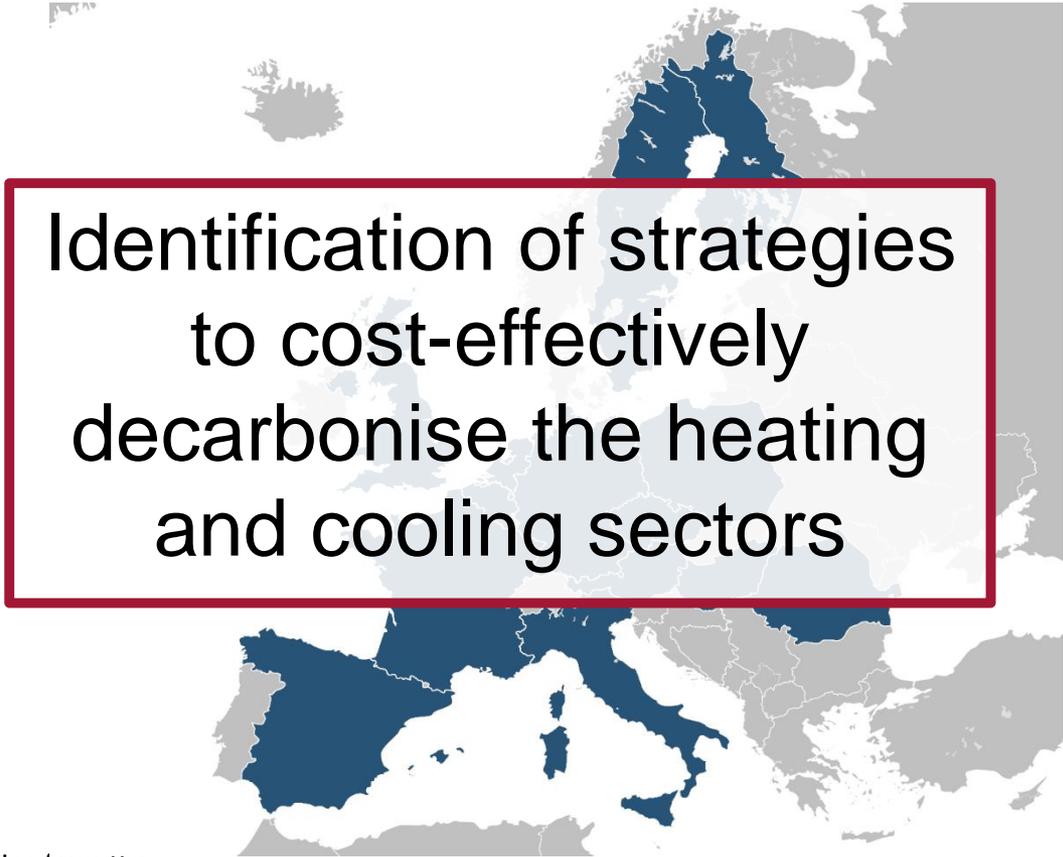
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Identification of strategies
to cost-effectively
decarbonise the heating
and cooling sectors

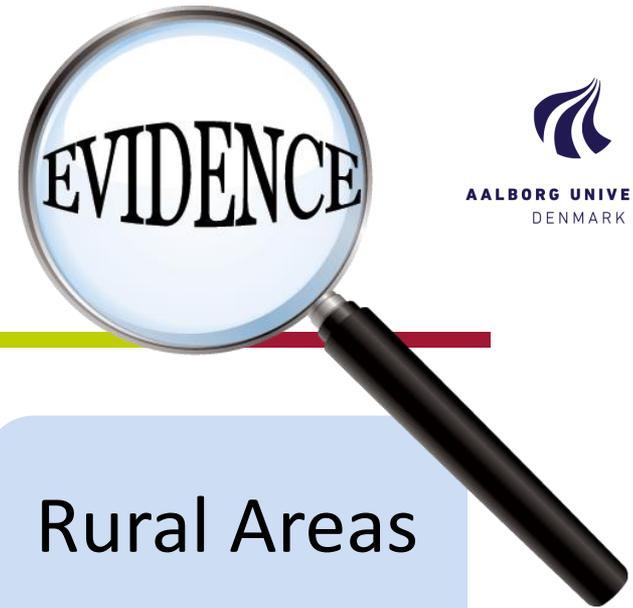


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Key Recommendations for the Heat Sector



Everywhere

Heat Savings

Balance Savings vs.
Supply

30-50% Total Reduction

Urban Areas

District Heating
Networks

High Heat Density
Areas

Supply ~50% of the
Heat Demand

Rural Areas

Primarily Electric Heat
Pumps

Smaller Shares of Solar
Thermal & Biomass
Boilers

Remaining ~50% of the
Heat Demand



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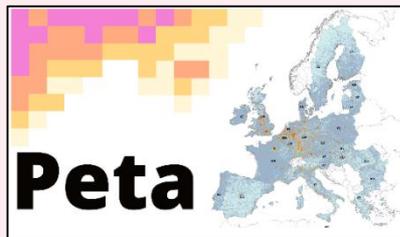
Combining the Strengths of Different Energy Models

Heating & Cooling
(Creating Data)

Energy System
(Creating Scenarios)



Location of Heating & Cooling
(WP2)



Profile of Heating & Cooling
(WP3/4)



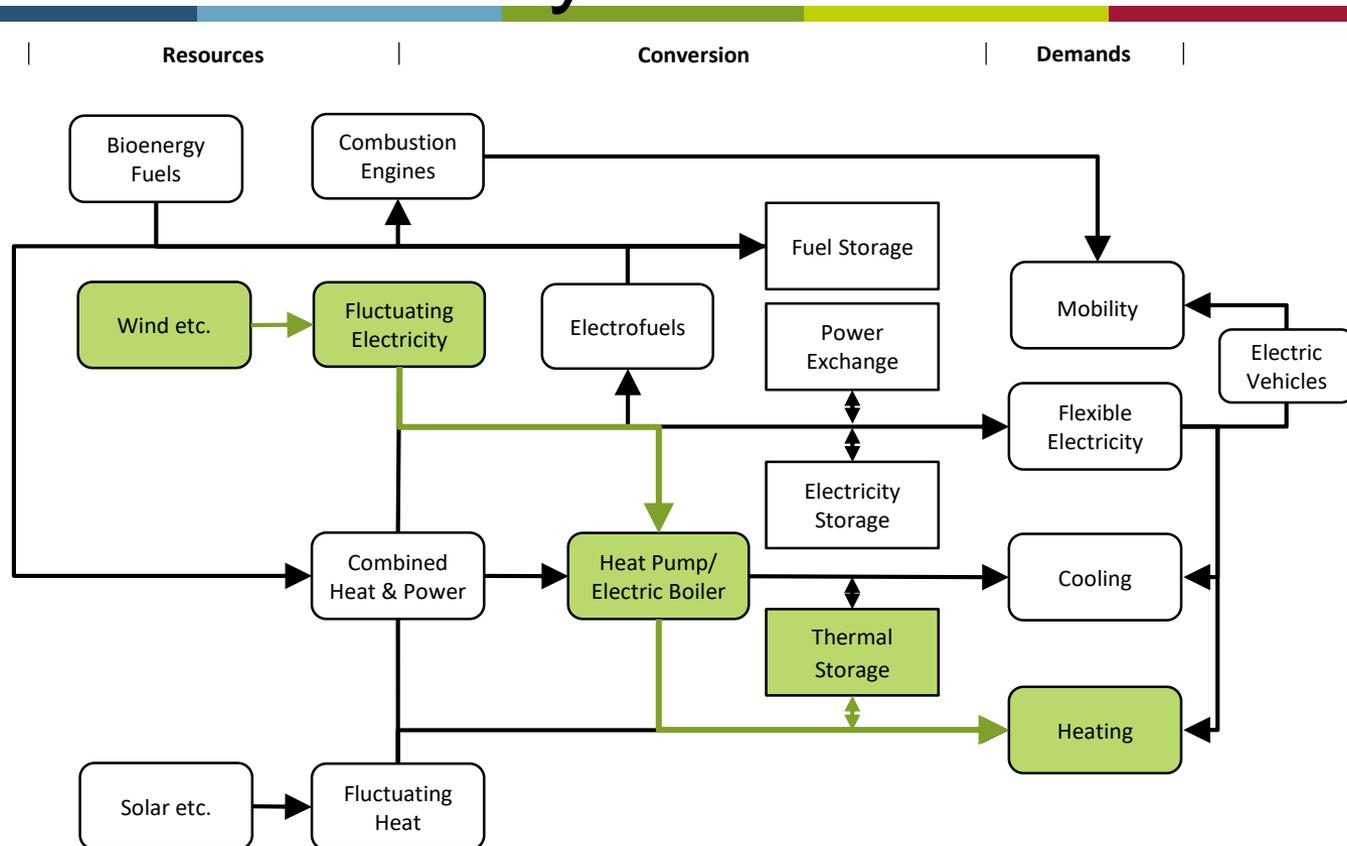
Energy System Transition
(WP5/6)



Energy System Operation
(WP5/6)



Energy systems perspective: Savings in fuel and costs of the total system



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Development of Peta

- Screening tool for planning
- Free and online available
- Where are:
 - Heating and cooling demands?
 - Renewables potentials?
 - Excess heat?

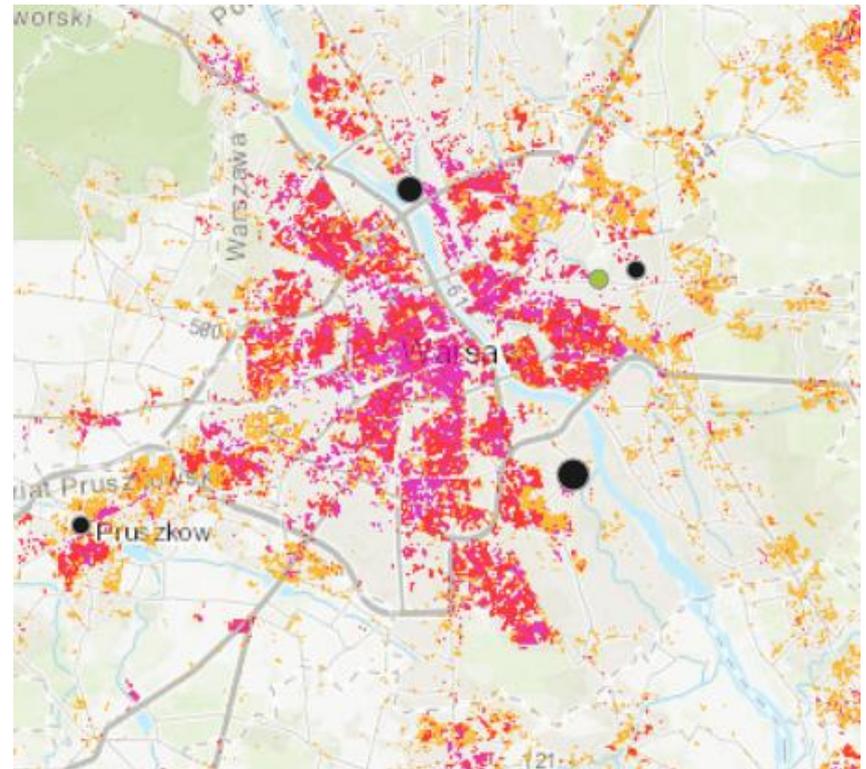
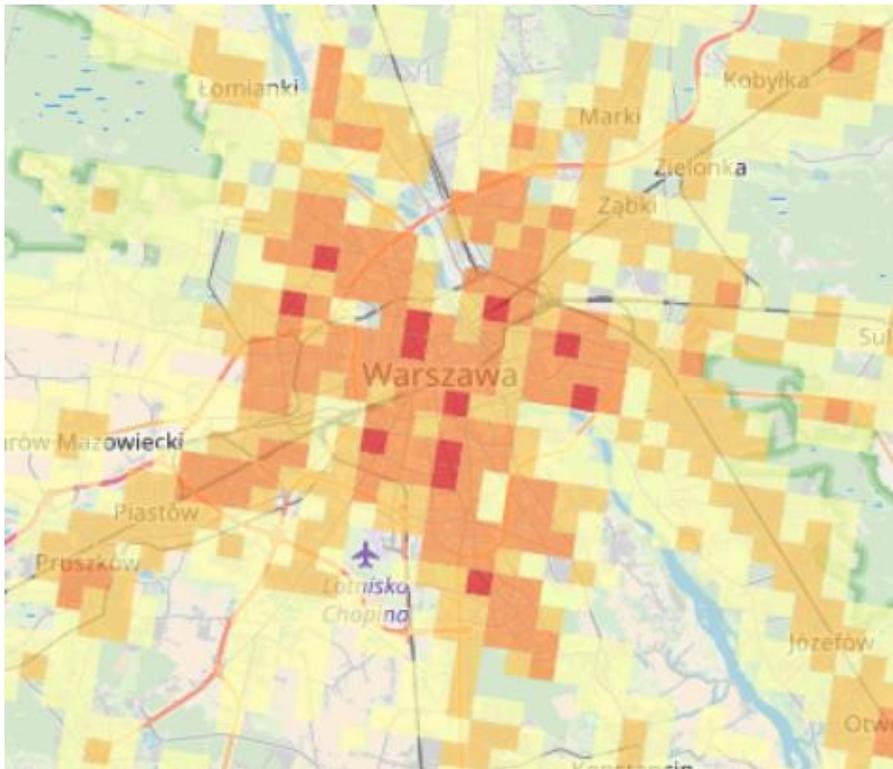


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Peta4.2: Increased level of detail



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Demonstration of Peta4.2

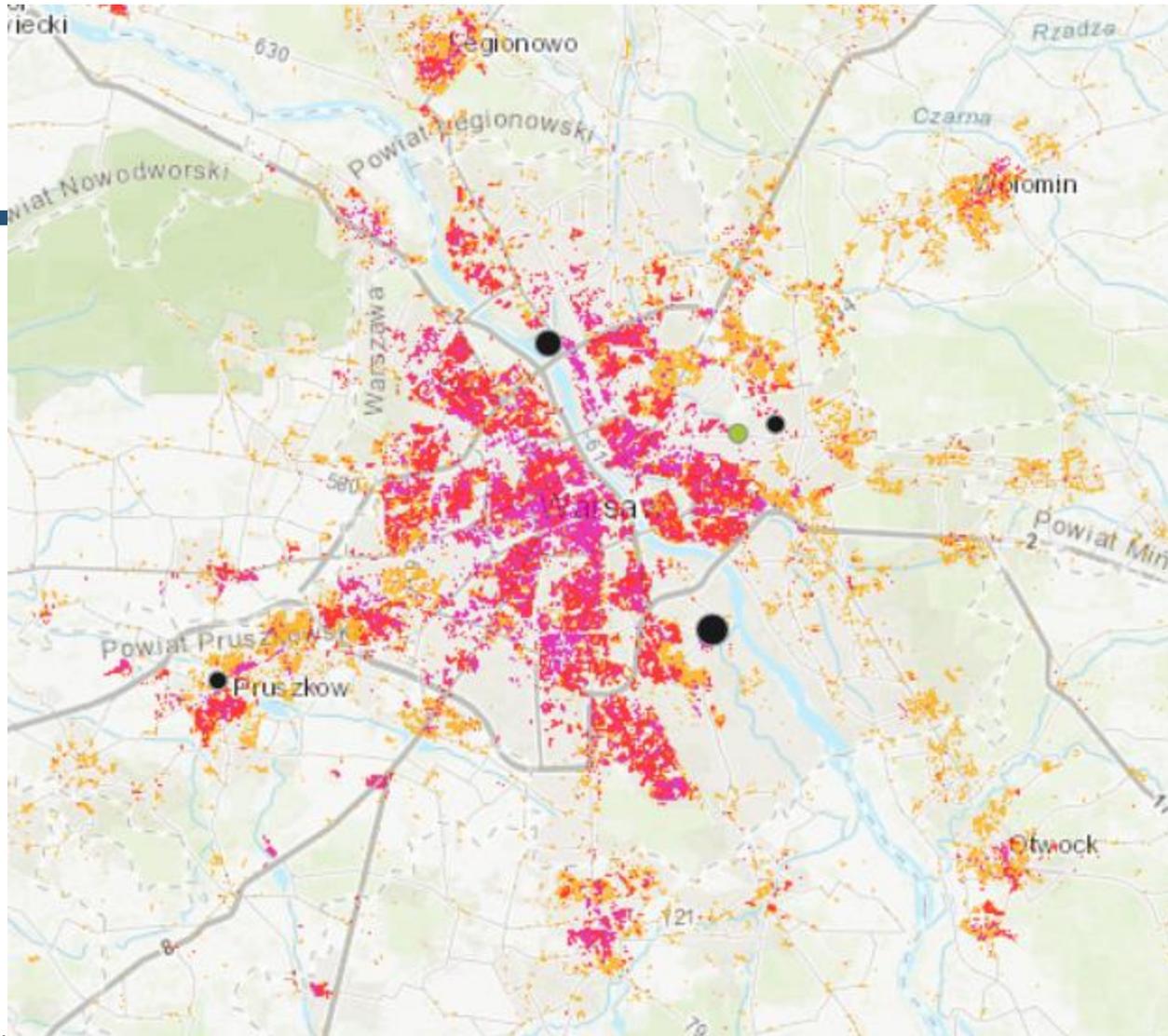
- <http://www.heatroadmap.eu/peta.php>



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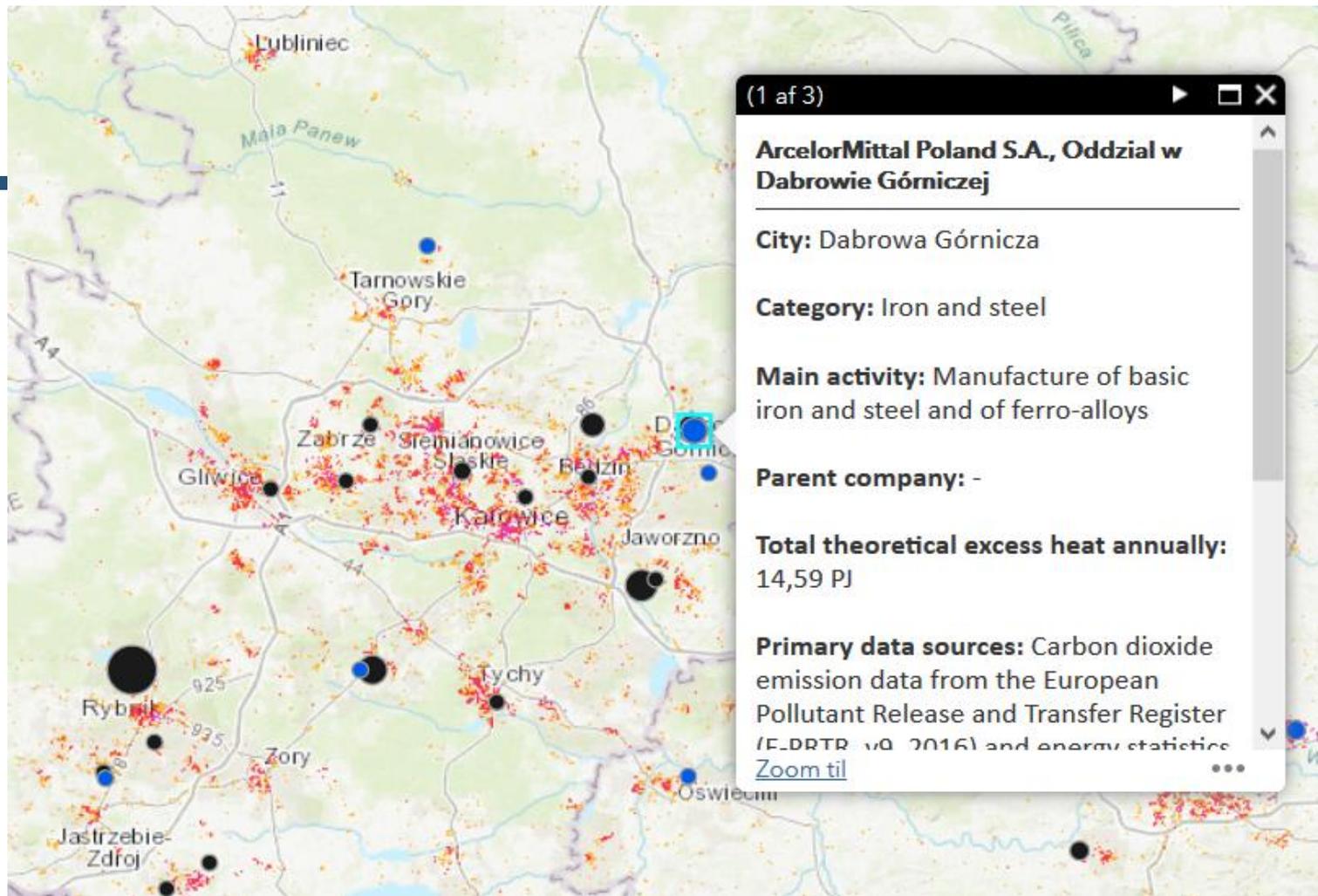




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THANK YOU FOR THE ATTENTION

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New Project:

www.reuseheat.eu



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