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HOTMAPS

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CORINA SIMON

FINAL CONFERENCE, 30TH OF JUNE 2020

Funded by the Horizon 2020 programme
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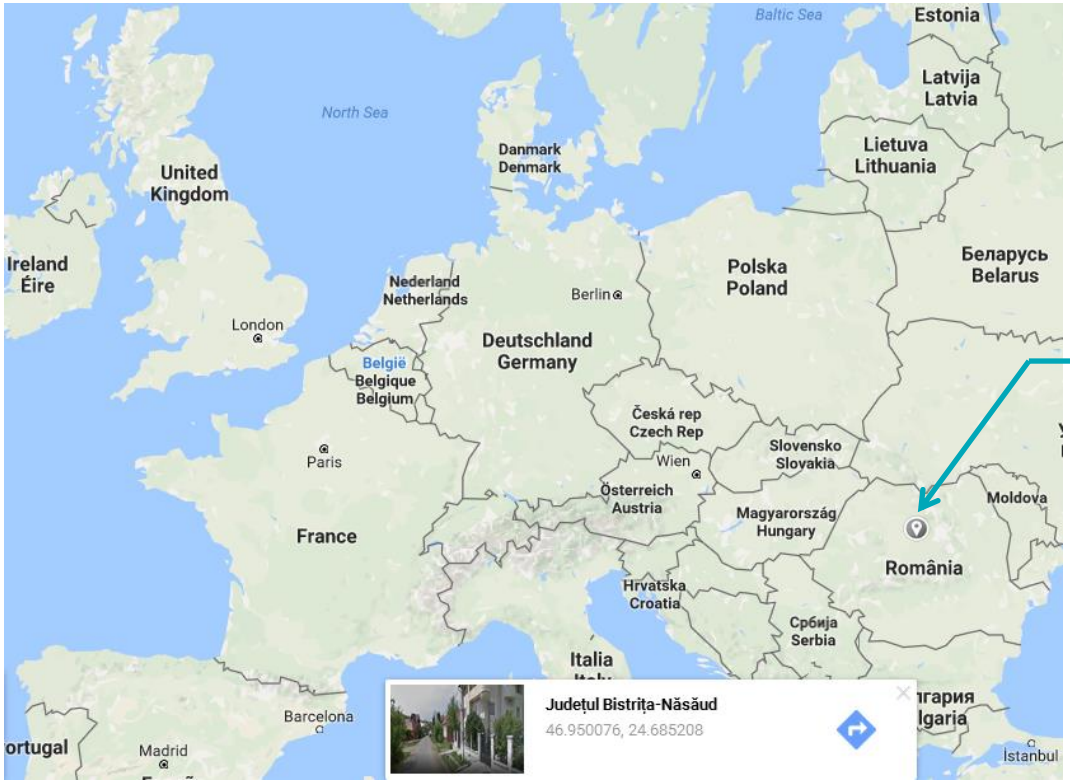
Pilot area Municipiul Bistrita, Romania

Corina Simon

Project duration: October 2016-September 2020

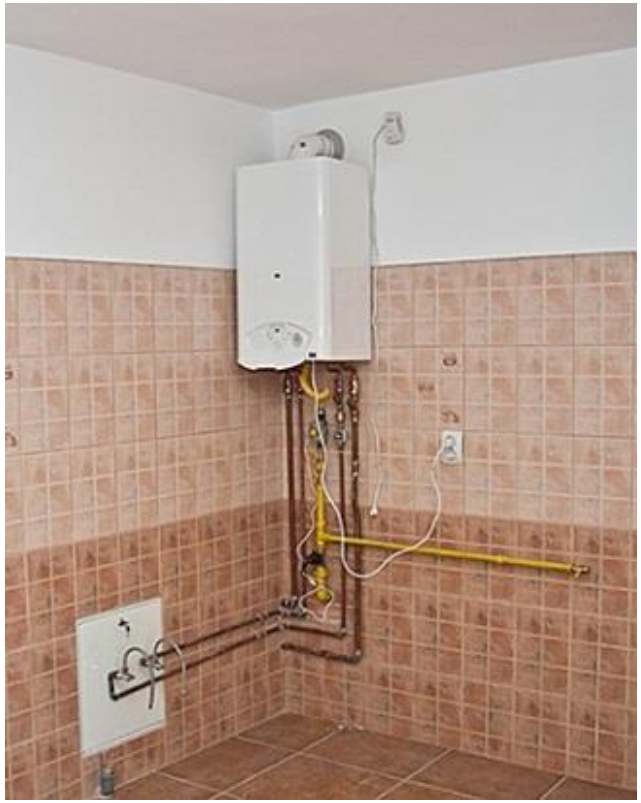
- Size (145,47 km^2)
- Population (75.076 inhabitants)
- Location (South Eastern Central Europe)



BISTRITA City

The existing heating and cooling system vs. district heating/cooling

Before 2007



The existing heating system

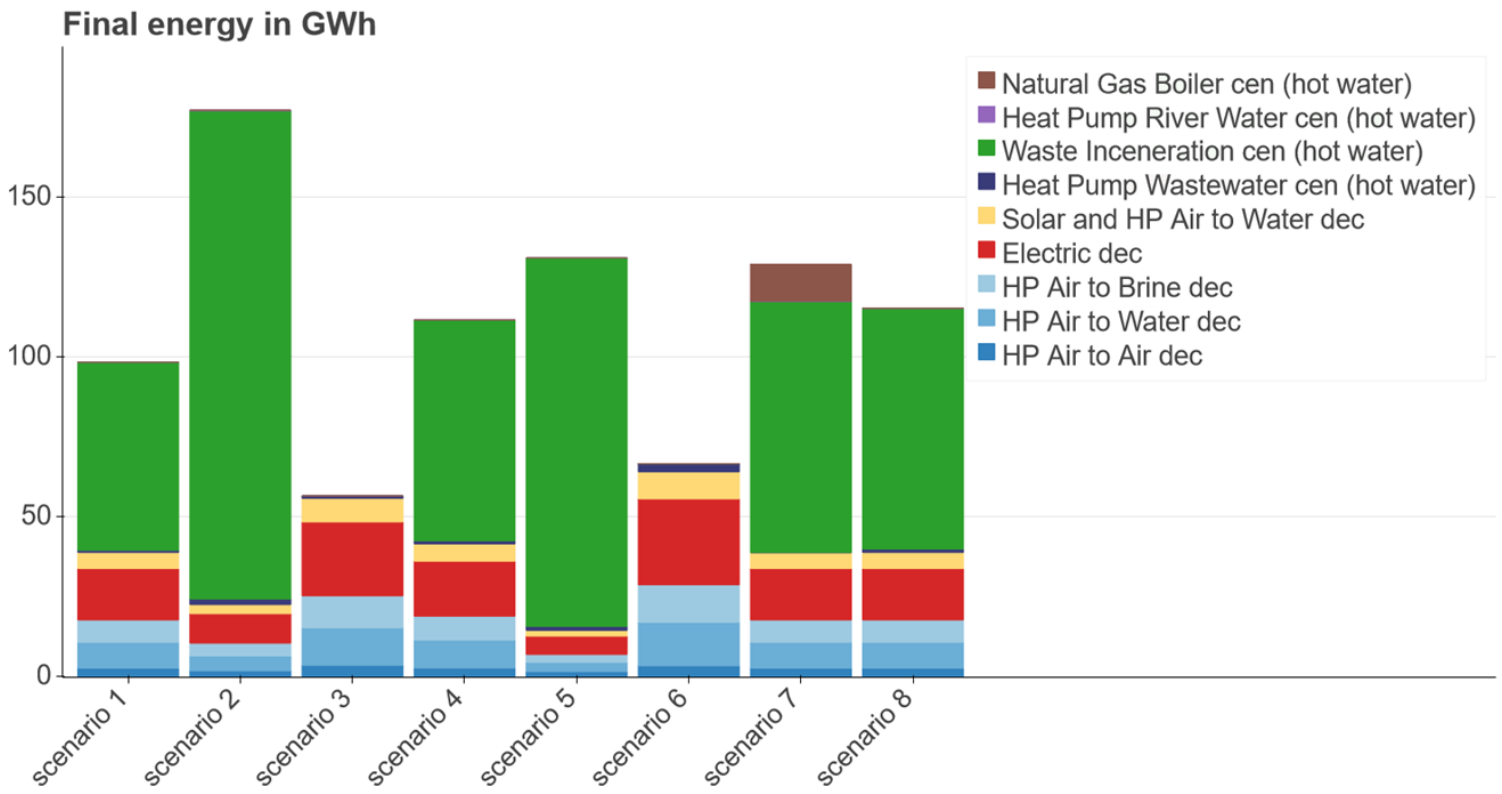
Political goals

- To reduce the heating energy consumption and the CO2 emissions, Bistrita Municipality implemented in 2010 a local program related to the thermal rehabilitation of apartments buildings
- Until now, there had been rehabilitated 16% of buildings meaning 74 blocks of flats out of 450

Hotmaps: the tool to start local heat strategy

Scenario nr.	1	2	3	4	5	6	7	8
Scenario Name	**Main scenario**	**Low savings of heat demand**	**High savings of heat demand**	**Low District Heating connection rate**	**High District Heating connection rate**	**Low District Heating share**	**Natural gas and Waste incineration in DH**	**High Electrictiy and CO2 price**
Savings in heat demand of the buildings	36%	19%	50%	= main scenario	= main scenario	= main scenario	= main scenario	= main scenario
Decentral supply	default technology mix, no CO_2 prices paid	= main scenario	= main scenario	= main scenario	= main scenario	= main scenario	= main scenario	= main scenario
District heating network	70% connection rate, 41% DH on total	70% connection rate, 53% DH on total	70% connection rate, 4% DH on total	50% connection rate, 27% DH on total	90% connection rate, 58% DH on total	70% connection rate, 9% DH on total	= main scenario	= main scenario
District heating supply	Waste incineration, HP in waste water, Biomass boiler, medium distribution temperature, medium prices	= main scenario + HP in river water, heat storage and Biogas CHP	= main scenario without waste incineration	= main scenario	= main scenario	= scenario 2	= main scenario, no HP waste water and natural gas boiler instead of biomass boiler	= main scenario with high prices

Overview of scenarios in the different calculation modules combined with overall city scenarios and sensitivities



Total final energy demand for space heating and hot water generation in the city of Bistriţa in 2050 in the different scenarios distinguished between the different supply technologies

Conclusions

Achieving a low carbon heating system in the city of Bistriţa is based on two important pillars:

-the reduction of heat demand in buildings and

-the supply of the remaining heat demand with energy derived from renewable or excess heat sources.

Thus, the availability and cost of different options in these two fields are crucial.

AFTER HOTMAPS

- **goals**: achievement of a centralized heating system in Bistriţa, based on low CO2 emissions
- **milestones**:
  - 2030 - Completing the activity of identifying the potential of local renewable energy sources and planning a possible feasible DH, in accordance with the identified resources;
  - 2040 - At least one DH in a new residential housing neighborhood
  - 2050 - Low CO2 emissions DH based on the scenarios presented in the project; connection of approx. 70% of buildings to DH.

Hotmaps partners & pilot areas

The experts behind the project

Scientific partners

TU WIEN — Technische Universität Wien — Vienna | Austria

Aalborg Universitet

cem

energycities — Where action & vision meet

Hes·so — Haute Ecole Spécialisée de Suisse occidentale — Fachhochschule Westschweiz — University of Applied Sciences and Arts Western Switzerland

EURAC research

Fraunhofer ISI

ethink Energy Research

PlanEnergi

e· energy center

Pilot areas for developing and testing the tool

Aalborg Kommune

Ville de Genève

Bistrita Municipality

Stadt Frankfurt am Main — Energiereferat > Die kommunale Klimaschutzagentur

Milton Keynes Council

Kerry County Council — Cumhain, Cabhair, Comhbheas

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