

The Heat4Cool project proposes renewable-based heating and cooling solutions for building retrofitting and demonstrates the high energy efficiency potential of such solutions.

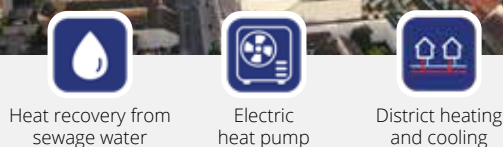
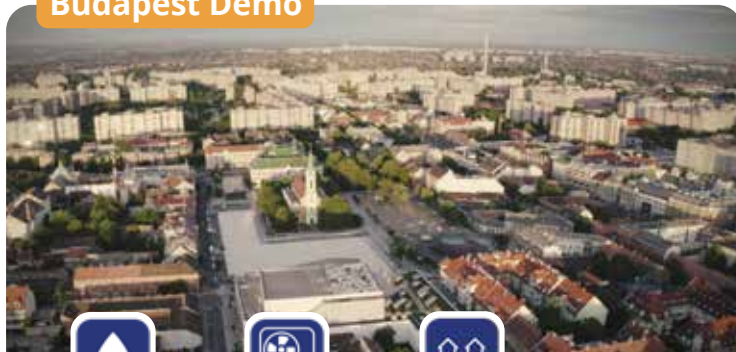
Modeling and simulation have been key in identifying the best configuration and control strategy in each of the four pilot sites. 'RetroSim' a fast simulation tool for building retrofitting has been developed, which in combination with the easy-to-install integrated solutions and post-retrofit monitoring and control, will be crucial for replicability.

Valencia Demo



- Around 50 m² of solar thermal field for domestic hot water, heating and solar cooling through an adsorption chiller,
- Up to 25 kW of thermal power and up to 15 kW of cooling power from renewable energy sources,
- Automated, non-intrusive, adjustment of heating and cooling setpoints (BEMS) installed in 12 apartments.

Budapest Demo



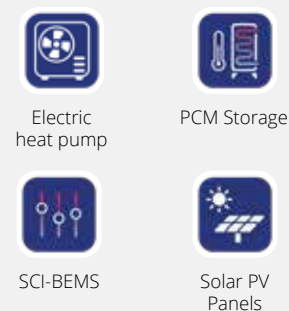
- Sewage water heat recovery to supply the district system circuit
- New innovative heat exchangers up to 750 kW of thermal power recovery from wastewater
- Large scale heat pumps (nominal capacity 750 and 1000 kW) for heating and cooling

Chorzow Demo



- 73 m² of PV field generating 15 kWp of electricity,
- Up to 30 kW of thermal power from renewable energy sources (air source heat pump driven by electric energy produced on site),
- 96 kWh of phase change material thermal storage,
- Individual remote monitoring and control of household radiators (BEMS) installed in 11 apartments.

Sofia Demo



- 72 m² of PV field generating 14 kWp of electricity,
- Up to 10 kW of thermal power from renewable energy sources (air source heat pump driven by electric energy produced on site),
- 36 kWh of phase change material thermal storage,
- Generation of recommendations directed towards the facility manager or the residents (BEMS) for 3 apartments.



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