

Smart cooling and heating

UC5a

In Use Case 5a, ASCR researches and compares renewable cooling and heating energy concepts and corresponding technologies:

- Extension of the **Kirschblütenpark** testbed (with district heating (DH) connection and underfloor heating) by a heat pump, which is used to cool the floor in summer. Waste heat is fed back into the DH secondary grid, the effects are observed, and the possible scalability of the solution is assessed.
- Thermally self-sufficient supply of the **Käthe-Dorsch-Gasse** testbed exclusively via renewable sources (depth probes and air heat pumps). Heat pumps are used for cooling in summer, with the waste heat used for hot water and to regenerate the deep probes.
- **Grasbergergasse** Wastewater utilisation

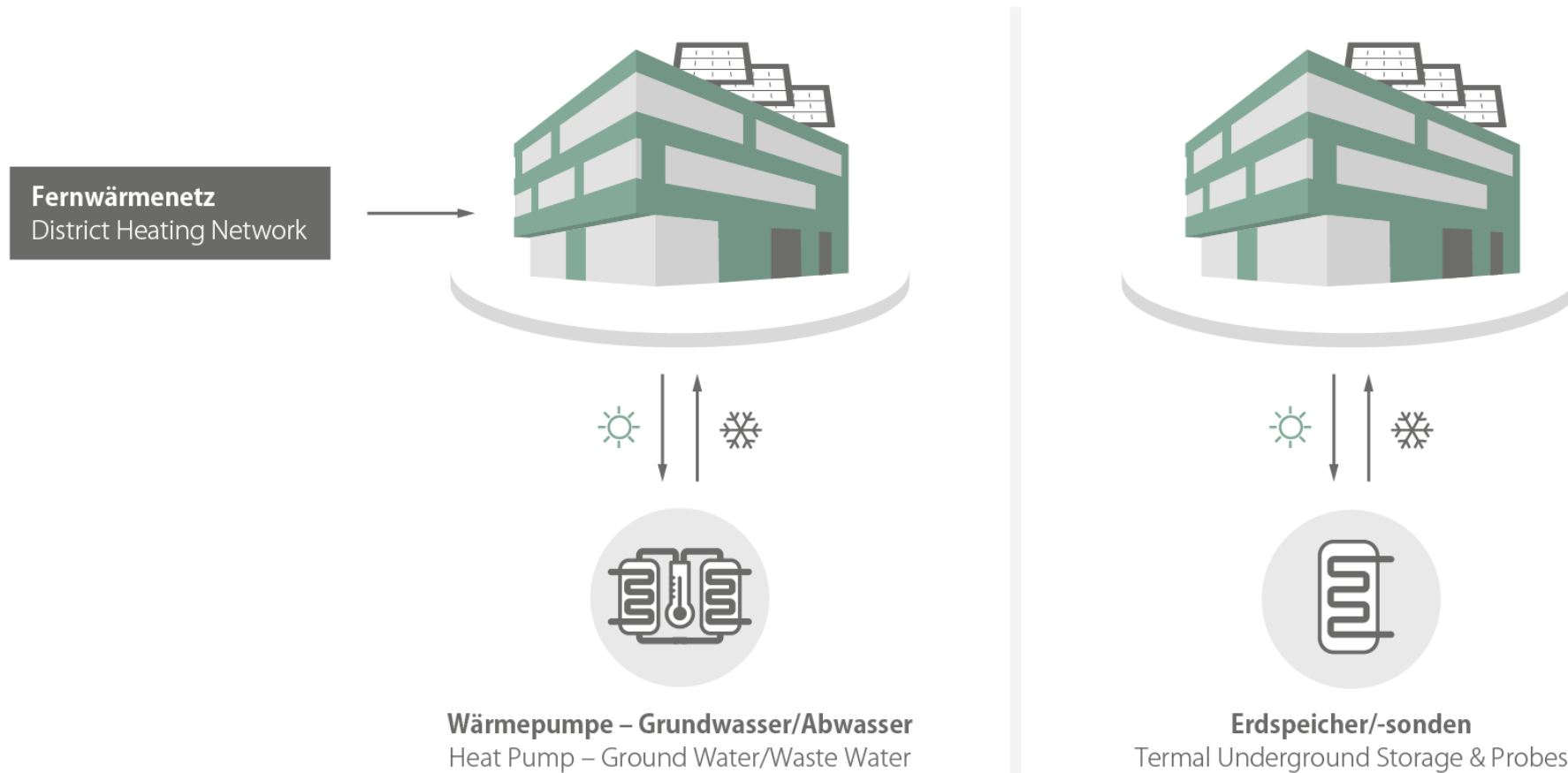
Wien Energie

Budget: 0.75 million Euro

Testbeds: Arakawastraße,
Käthe-Dorsch-Gasse,
Grasbergergasse

Smart cooling and heating

UC5a



Smart cooling and heating

UC5a



The benefits:

- Optimised provision of heat and cold. When cold is provided, the waste heat is used, so that, in contrast to conventional refrigeration machines, the waste heat is not simply given off into the surrounding air, which increases the temperature in the city even further.
- Energy efficiency increase through an optimal combination of decentralised and networked elements
- Energy recovery: Greywater heat, groundwater