

Green gas for Vienna

UC9

The Vienna energy system should be climate neutral by 2040*. The fluctuating availability of renewable energy makes gas, which is obtained from renewable energy sources by means of hydrogen methanation, an important energy source for the future (green gas).

- In 2018, Wien Energie conducted a “top-down” study to determine the **demand for renewable chemical energy sources**.
- The ASCR’s “**bottom-up**” review of the study results and calculation of the options for covering Vienna's energy requirements.
- Focus on the **effects** on the infrastructure in the distribution grid (electricity, gas, district heating, cooling) as well as on the transformer level and the expected **demand** for renewable chemical energy sources for the Smart City of Vienna.

*Target year until start of the UC9 project: 2050

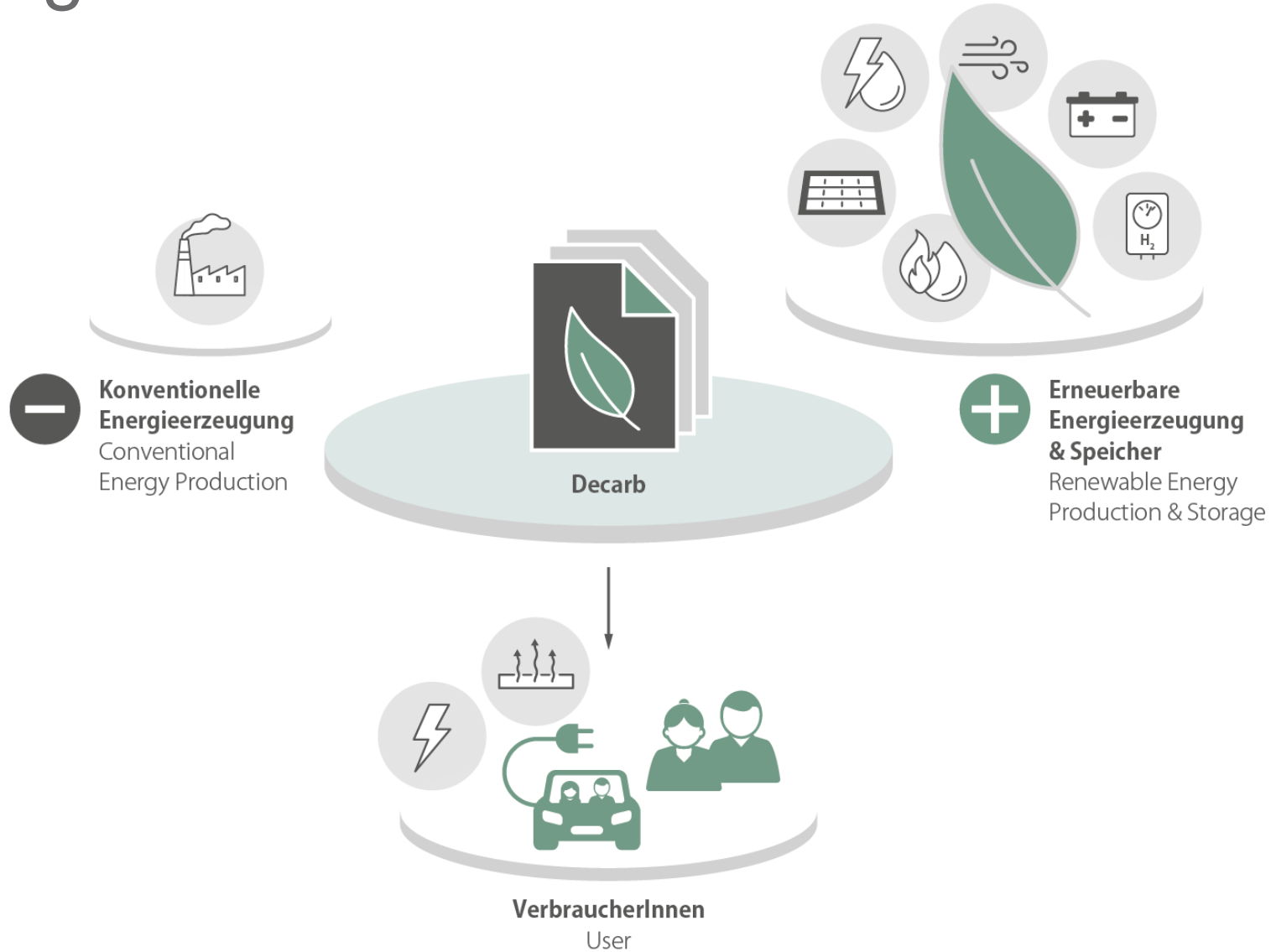
**Siemens, Wiener Netze,
Wien Energie**

Budget: 0.4 million Euro

Testbeds: Model/Simulation

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The benefits:

- For space heating and hot water, natural gas is substituted by district heating and electricity (via heat pumps)
- Green gas is only used by the end consumer, where substitution would be difficult (process heat)
- Overall, the requirements for heat and final energy decrease (by efficiency increases, renovation & new construction, climate change)
- 100% electromobility in private transport requires intelligent charging management in order to relieve transformer stations of the associated load
 - Unintelligent charging -> massive transformer expansion is required (+41%)
 - Intelligent charging -> minor expansion necessary (+7%)