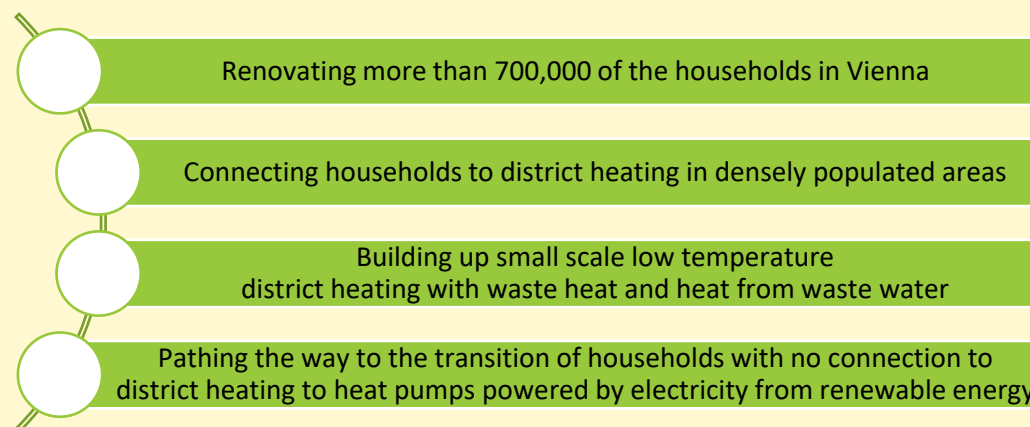


DECARBONISING DISTRICT HEATING IN VIENNA

On the way to Climate Neutral District Heating (DH) in Vienna, Austria

The municipality of Vienna has set the ambitious target to be reach climate neutrality by 2040. Therefore, Wien Energie, the municipality's largest energy provider, is a strong player in decarbonizing the heat market in Vienna, Austria. Currently, more than 600 000 households in Vienna use fossil fuels for heating, a lot of them are using district heating.

For **more energy efficient buildings** and **decarbonised heating systems** of households in Vienna, this needs to be done:



Wien Energie

Three pillars have been identified, in order to increase the energy efficiency of buildings and effectively implement the proposed climate neutral heating system in Vienna:

- **Legal requirements** for the transition away from fossil fuels as heat sources in buildings is key to decarbonizing the building sector.
- Furthermore, optimised **local strategic planning** of demand and available sources builds the practical foundation of the implementation.
- Lastly, **subsidies** create incentives for the renovation needed, in order to facilitate the transition to climate neutral heating systems.

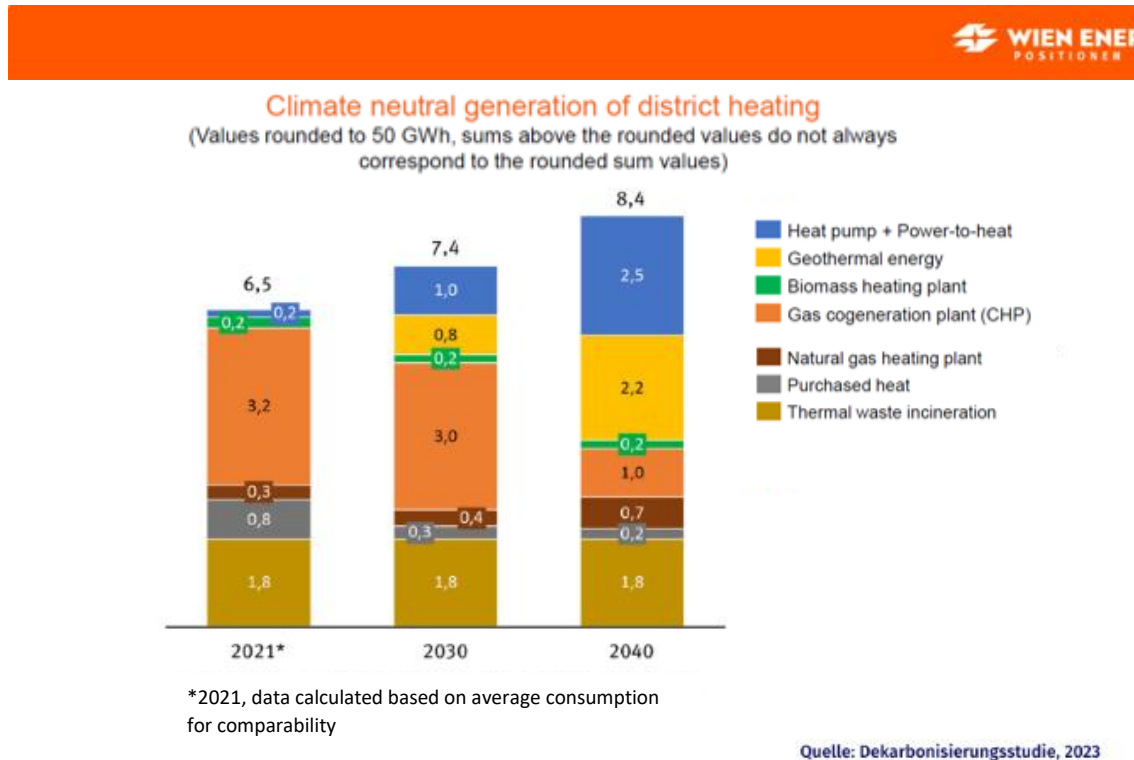
The path to climate neutral heating requires the expansion of **more decentralised plants**, driven by a heat source and limited in temperature.

Primary sources of DH will be **geothermal plants**, **heat pumps** and the **waste-heat** of waste treatment facilities. In an effort to stabilize the electricity sector, **heat storage** methods will play an important role.

Through the implementation of heat storage, different technologies will guarantee security of long and short-term consumption. These are granted through a combination of heat pumps and electrical boilers.



Wien Energie centres its' strategy on various energy forms. The graphic below showcases the path to decarbonise district heating and shows a prognoses of energy sources used throughout district heating in 2030 and 2040.



Source: ©Wien Energie

These are the key factors to decarbonise district heating of Wien Energie:

- Expansion of geothermal energy
- Expansion of large-scale heat pumps
- Implementation of carbon capture technologies
- Use of green gases in power plants
- Utilization of seasonal energy storage
- Temperature reduction in district heating network

Decarbonizing the heating sector in Vienna is a large-scale ambition which requires the support of legal and public administration to incentivize the renovation process. The municipality of Vienna sets its' climate-neutral transition on the basis of incorporating geothermal and renewable energy sources for electricity, as well as on expanding security of heat storage.

The pilot project 'Village im Dritten' showcases an example of small scale low temperature district heating in Vienna's third district. Here, a city quarter with approximately 2000 apartments, schools and commercial buildings are coupled to a low-temperature network based on geothermal probes.