

Decarbonisation of industrial and commercial process heat in Vienna

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Stadt
Wien

Energieplanung



Klima- & Innovationsagentur Wien

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Key objectives of the study

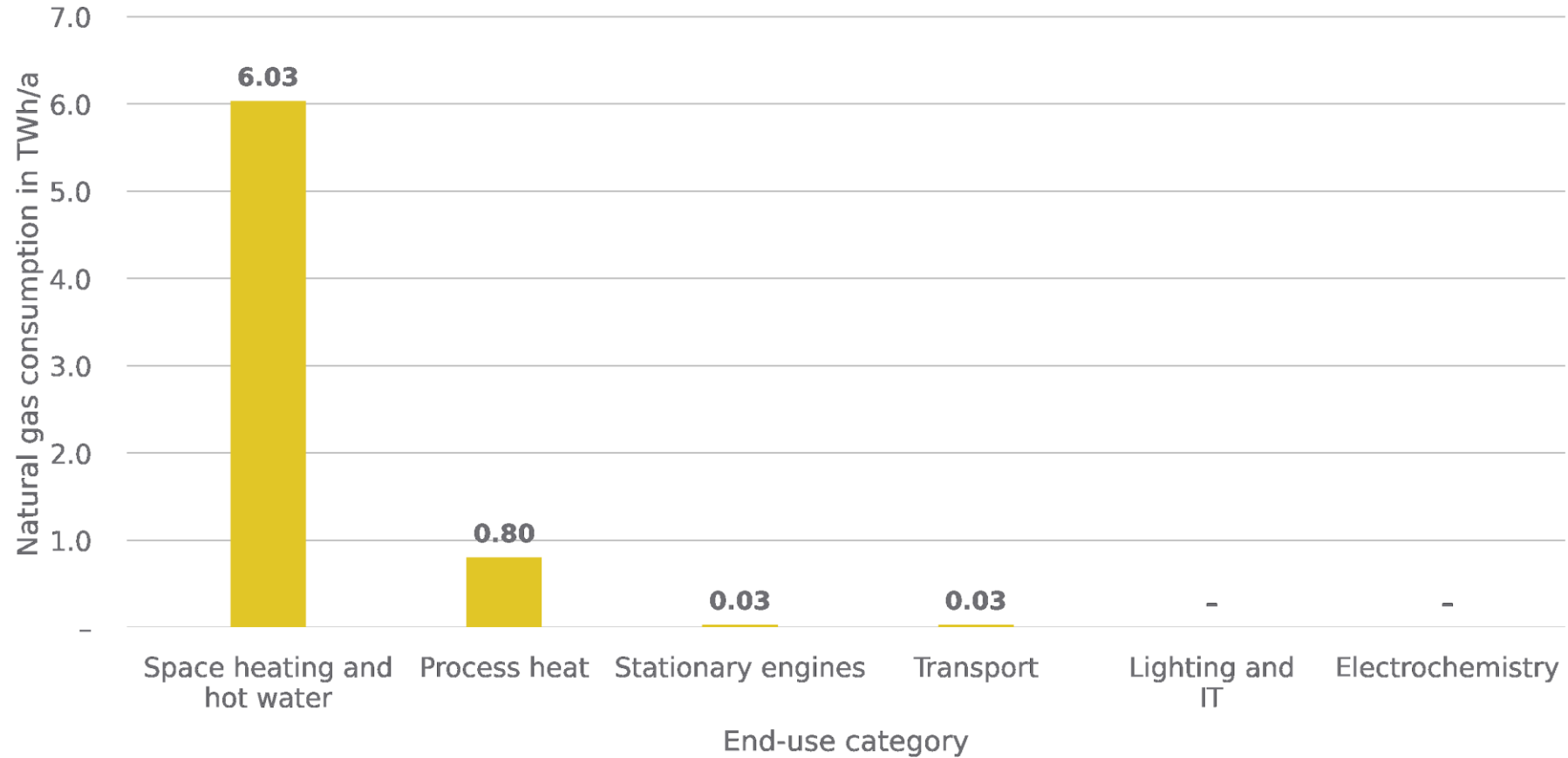
Identification of the **most relevant** industrial and commercial processes in Vienna that utilize **natural gas** for supplying **process heat**.

Characterization of the relevant processes by **temperature level**.

Analysis of **renewable alternatives** for the transition away from fossil fuels.



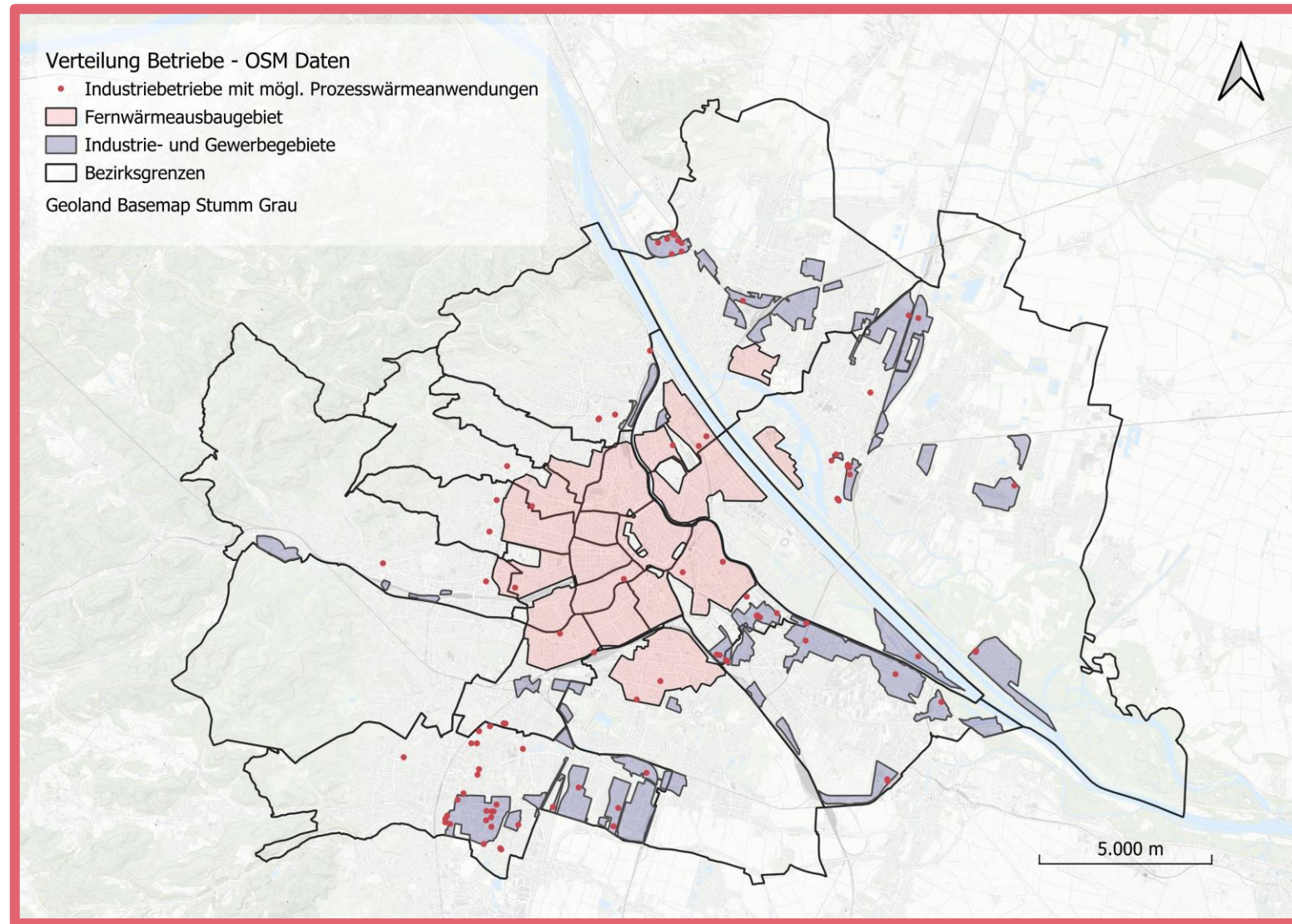
Comparison of gas consumption for space heating vs. process heat in Vienna



Source: Statistics Austria (Year: 2022)



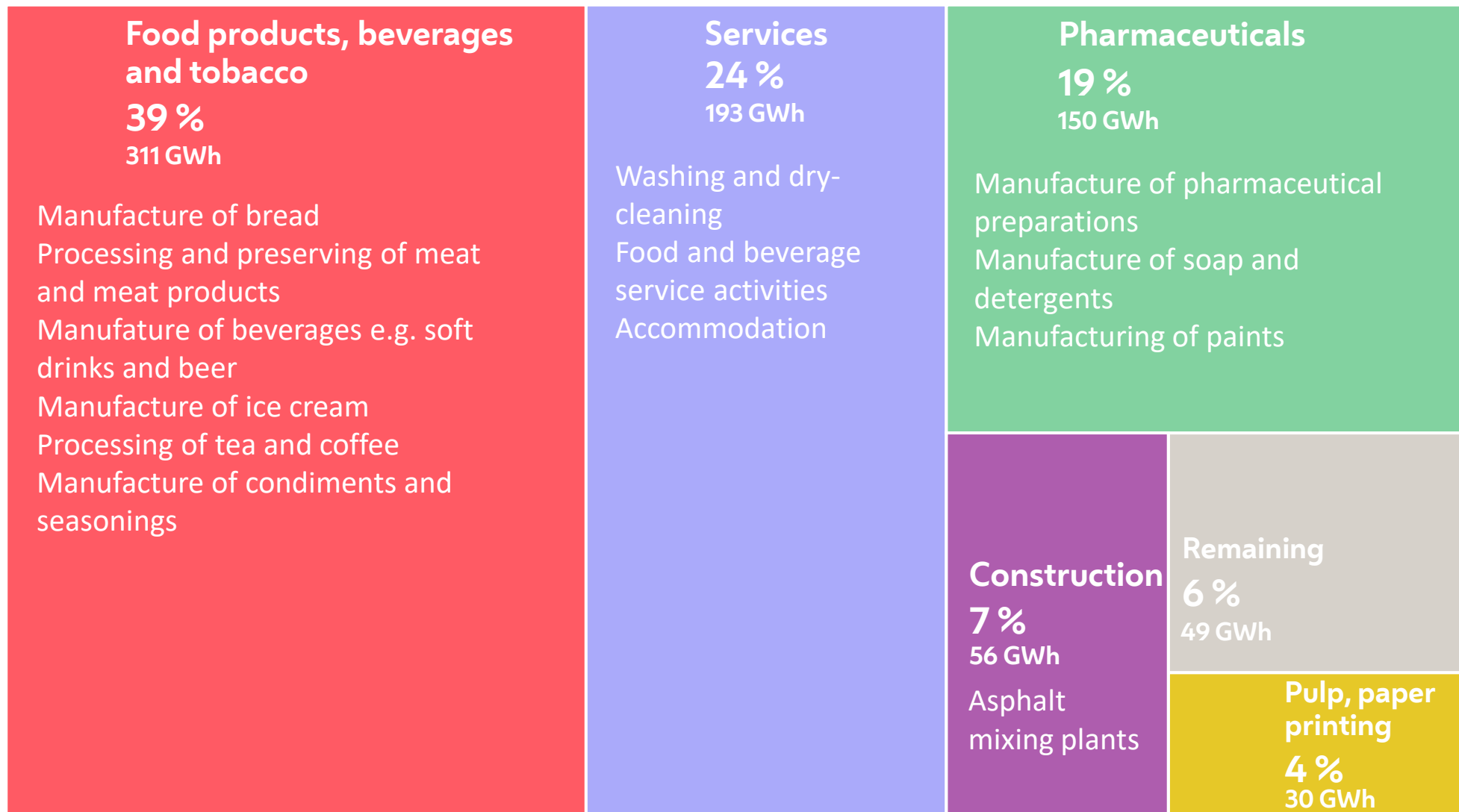
Distribution of Industrial Facilities with Potential Process Heat Applications



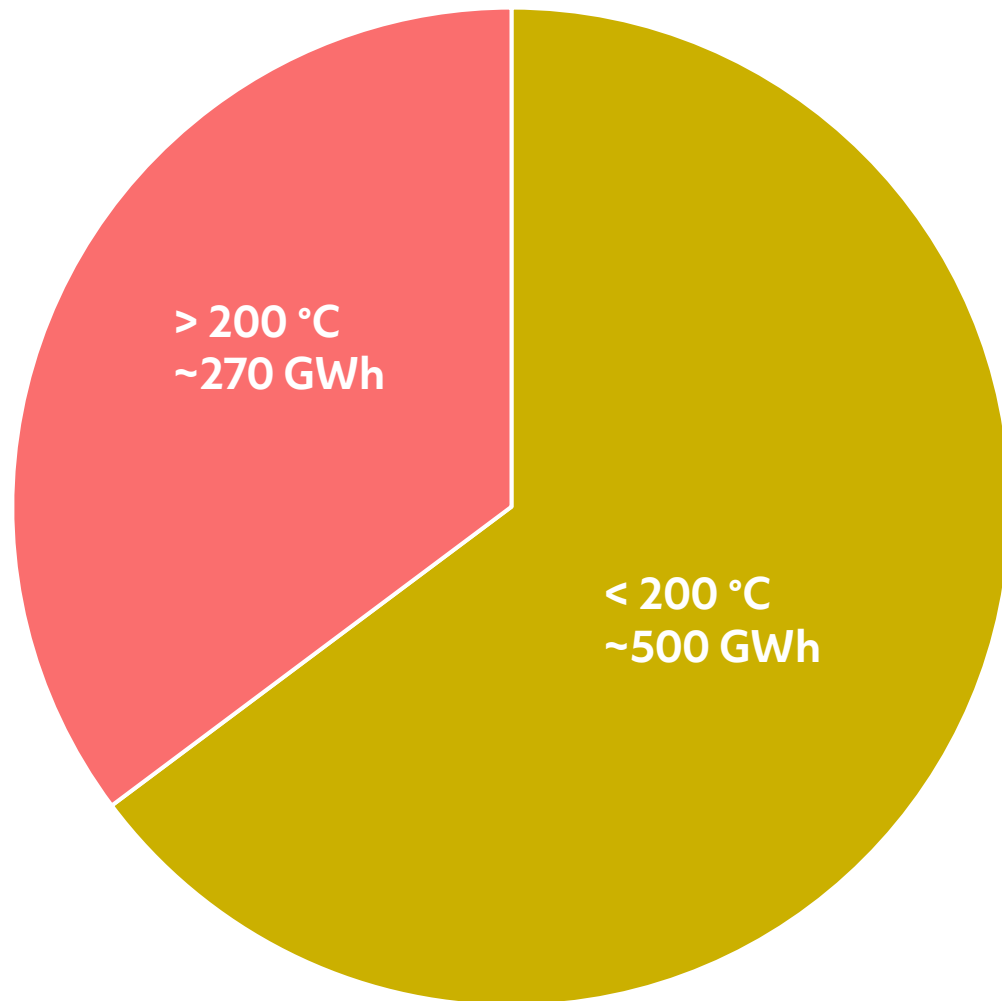
building categories „industry“ and „manufacturing“ from Open Street Map.



Main Sectors by Natural Gas Demand for Process Heat Applications



Breakdown of gas consumption by temperature level in the manufacturing sector



Process heat below 200°C:

- Food and beverage industry
- Pharmaceutical industry

Process heat above 200°C:

- Construction
- Non-ferrous metals

Manufacture of paints, varnishes and similar coatings



Industry profile and process characterisation

- **Energy Intensity:** Unlike other chemical sub-sectors, this branch primarily focuses on the **processing of raw materials and mixing**, leading to generally **lower process temperatures**
- Presence in Vienna: Around 10 companies
- This case: manufacturing of road marking materials

Processes and temperature levels				
process	Temperature level [°C]	District heat	Steam boiler	electricity
Exhaust air purification	840			
Cleaning (container)	80			
Ventilation (space heating)	80			
Mixing	60			
Pre-heating	60			



Conclusions

Electrification and energy efficiency are key for decarbonizing process heat in Vienna.

- **Limited energy-intensive industry in Vienna**
- The share of **gas consumption for process heat below 200 °C** is likely **higher than** captured in the **statistics**.
- In **urban areas**, some **decarbonization options** can only be used to a **limited extent**.
- District Heating could be an option as primary source for low-temperature processes





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ein unternehmen der **wienholding**

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