



## Bachelor Thesis

# Review of the development of the distribution grid in the German heating sector since 1950

The current capital stock of heating systems in Germany is largely dominated by fossil fuels. (Bundesverband des Schornsteinfegerhandwerks, 2022) The corresponding grid infrastructure has been developed since the 1950s including pipelines for gas as well as district heating. Over time the former emerged as the dominant technology in urban areas.

This thesis is meant to analyze the evolution of the heating structure in urban regions of Germany in the past 75 years. Focus should rely mainly on district heating and gas infrastructure. Therefore, policies and policy instruments shall be evaluated that contributed to the emergence of the dominance of gas. Additionally, an answer should be provided for why focus was set on the development of the gas infrastructure rather than district heating.

A point of comparison is the review of the Danish heating sector development provided by Johansen & Werner 2022.

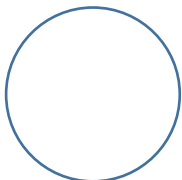
## Key tasks and objectives of the thesis

- Present the development of the German heating sector since 1950.
- Identify criteria suitable to evaluate heat-related policy actions.
- Evaluate the key policies and regulations using your criteria.

## Literature

- Johansen, K., & Werner, S. (2022). Something is sustainable in the state of Denmark: A review of the Danish district heating sector. *Renewable and sustainable energy reviews*, 158, 112117.
- Bartels, M. (2009). Cost efficient expansion of district heat networks in Germany. *Schriften des Energiewirtschaftlichen Instituts* 64.
- European Commission (2022). Overview of District Heating and Cooling Markets and Regulatory Frameworks under the Revised Renewable Energy Directive. *European Union*. Luxembourg

## Contact



### Contact

**Maria Kotzias**

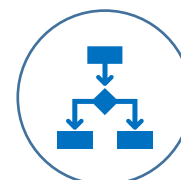
E-Mail: maria.kotzias@uni-koeln.de

## Topics



- District heating
- History of heating infrastructure
- Energy efficiency

## Methods



- Literature review