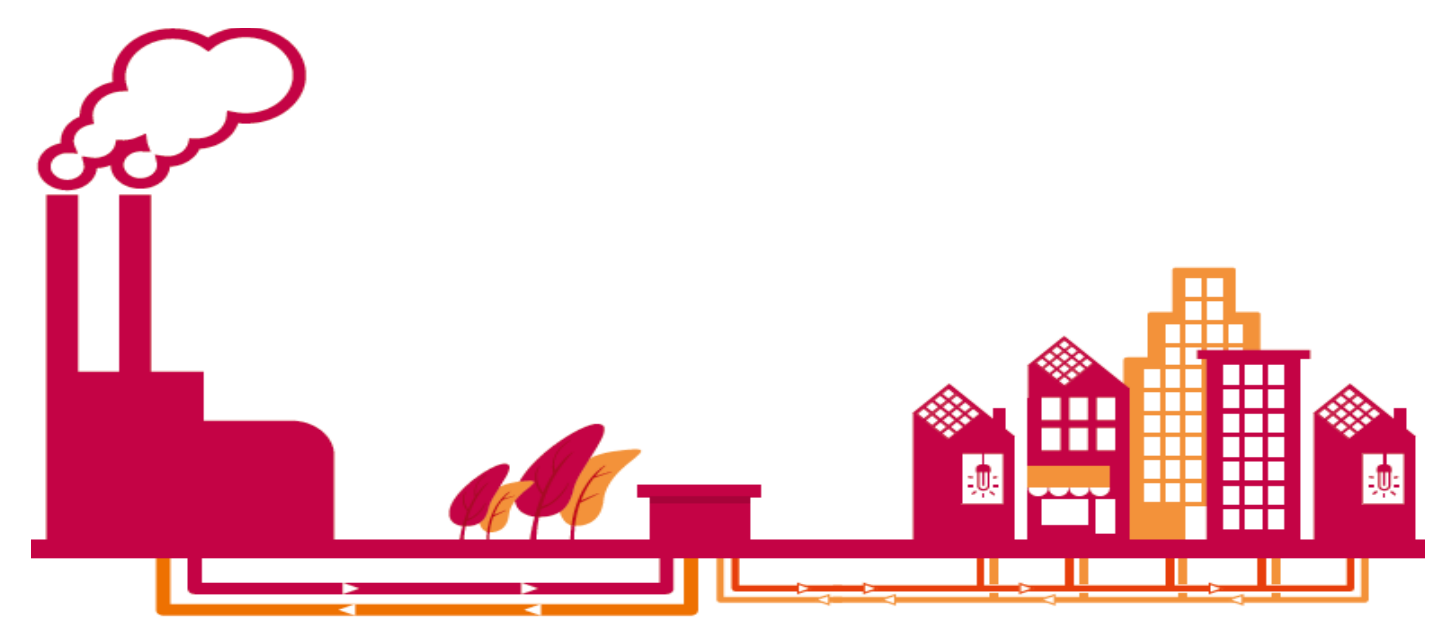


Sustainable Heating Solutions

A Pathway to District Heating Integration

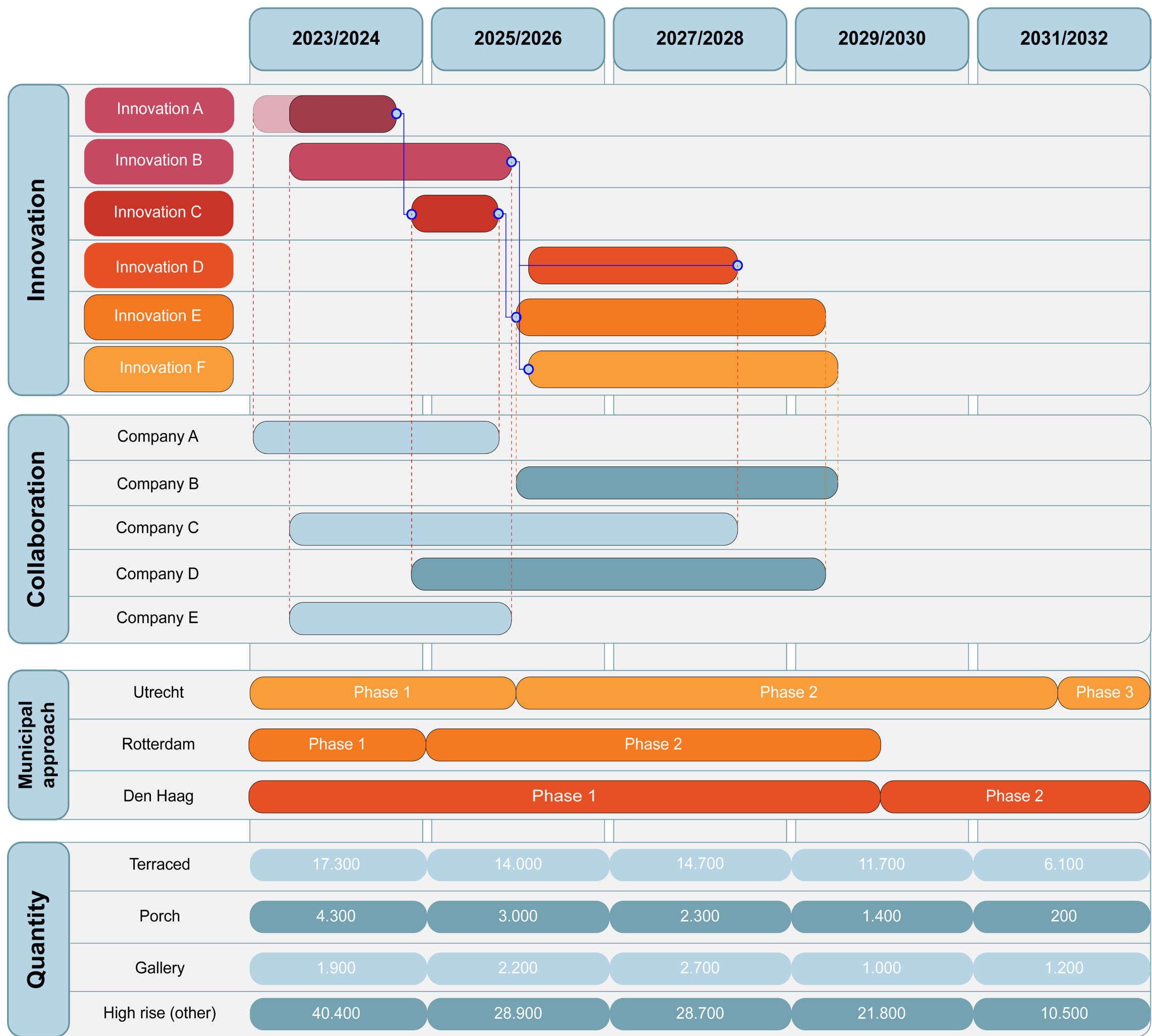
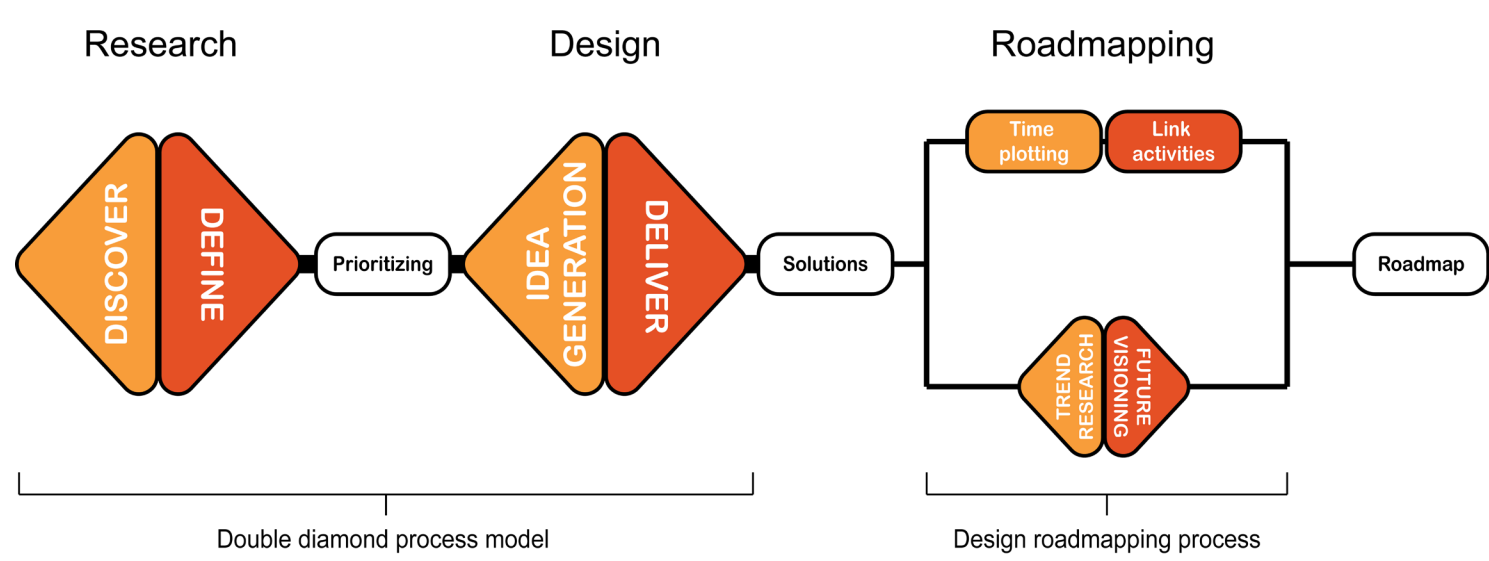


1. Context

By 2050, the Netherlands aims to achieve a climate-neutral society, however over 90% of buildings currently use natural gas or fossil fuel oil as their main energy resource. To align with this goal, a Dutch energy company is taking measures to phase out natural gas and promote district heating. In order to connect existing residential areas to district heating new solutions should be developed.

2. Process

The research utilized a combination of the roadmapping process and the double diamond process model. The project began with stakeholder and competitor analysis, qualitative research through employee interviews, and problem refinement. Further interviews with the end customer explored solution desirability. The subsequent phase included brainstorming, workshops, and method selection to develop the most promising solutions. Roadmaps were created to outline strategic directions and activities.



3. Result

Five solutions are proposed as necessary to transition porch buildings, gallery buildings, and terraced buildings from gas to district heating. By implementing these solutions, there is the potential to connect 67.2 percent of the existing building areas. The general roadmap serves as a valuable tool for the energy company's Innovation team, outlining the strategic direction for the upcoming years. It provides guidance by highlighting the innovations, their related activities, external collaborations, the municipality district heating approaches, and the number of buildings to be connected to district heating. Additionally, individual product innovation roadmaps are provided to the company, presenting an overview of essential components, associated workload, and required internal and external collaborations.

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Technology & strategy roadmap development for
connecting residential areas to district heating.
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Strategic Product Design

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