P5 REFLECTION

This chapter reflects on the chosen research approach, outcomes relationship with the broader context and the scientific value.

Research approach
The main research method of this research consisted out of the transition tool. Due to the prominent role of the gas-free transition in current societal discussions, statements concerning the ability of the existing housing stock to become gas-free were made by many AECO sector professionals, of which reasoning is not always provided. Furthermore, research is often performed from a certain perspective and showcases preferred outcomes. Transparency concerning the outcomes lacked.

As a result, the choice was made to develop a transition tool myself based on literature review. This way, an in-depth understanding was gained concerning the transition process and the influence of the separate features on the overall feasibility outcomes. Without this knowledge of the building, users and services details, outcomes would not have been well-grounded. The goal was to develop a tool that matched the desired level of complexity to answer the research questions, while remaining clear and understandable for the reader.

When evaluating this approach, the transition tool generated the desired answers to obtain the research objectives. The tool combined both detailed building aspects and housing stock feasibility overview. The level of complexity demanded careful consideration, as time and scope limitations were present while having almost endless possibilities to further specify the details of the transition tool. Variables related to individual dwelling characteristics, such as orientation, site layout and shape, are not integrated into the tool and therefore their influence on the feasibility results are not researched. Therefore, while aiming to provide the desired information for homeowners to come to a well-considered decision, the research approach did not incorporate the effects of the individual dwelling details.

By developing the transition tool myself, this did result in a large 'calculation' part of my thesis. While consuming a fair amount of time due to the relatively uneducated background, it is perceived as an essential step to come to well considered results. When evaluating the time-management process of the research, time limitations did occur to study for example the shared heat pump concept in more depth.

Broader context
The graduation topic illustrates a strong relationship with current scientific, professional and social discussions. While already being relevant during my field of study selection 15 months ago, research concerning the gas-free transition process has become more extensive since then. It seems that every AECO sector professional has an opinion, one more backup by empirical facts than others. This research is able to support the discussions by the development of a transparent transition tool with a level of detail which is able to calculate the most important values, while remaining clear and understandable for the reader.

Projects results are transferable and adaptable to future changes by the flexible transition tool. While currently not publicly shared, the transition tool has the ability to function as tool for policymakers and market parties in both the AECO and financial sector.

The empirical results are positioned in a verity of other feasibility studies concerning the energy transition of the existing housing stock. As mentioned before, it was perceived as necessary to develop a transition tool from scratch. Other research in this field of study with more time, capacity and data available are likely to formulate more substantiated results. However, the approach of this research is seen as sufficiently accurate to draw conclusions.

Scientific Value
In view of the Master track Management in the Built Environment, the research linked to a number of aspects which have been discussed in the two-year curriculum. Firstly, it aims to solve energy efficiency problems, which have been central in many parts of the track. Secondly, knowledge on the multi-actor decision-making process to resolve large scale problems is applied to identify which outcomes are specified to the different aims and goals of the stakeholders

However, the graduation topic was not specifically discussed during the Master track. The curriculum focusses on managerial aspect of the Built Environment, academically discussing topics mainly on a relatively higher level such as Corporate Real Estate Management (CREM) and housing corporations, which are due to their long-term vision more applicable to managerial challenges. Privately owned dwellings, while presenting more than half of the Dutch building stock, are less discussed.