Appendix F: Reflection

This appendix includes the reflection on my research results, design and process of this thesis.

Personal reflection on the process and outcome

It was not easy to find a relevant and interesting graduation topic I wanted to investigate for my thesis. My interests were with the circular economy, but I had difficulties making the subject concrete. Especially around the P1, my topic was not certain and not concrete enough. Literature, my graduation supervisor and supervisors from the university helped me with finalising my topic and making it concrete. After my P2 I received useful feedback which resulted in me changing my research questions and methods to be more critical and make it more scientific. Moreover, I struggled with the aims of the graduation company and the objectives of the university. As I first had the idea to investigate how the business case could be made financially feasible. The scientific and critical perspective was missing in this setup. After the P3, I also realised that I had to look from a different perspective to my preliminary results. Feedback from the P4 helped make the conclusion and discussion of my thesis go a step further. The cohesion was missing a bit in the conclusion, and the discussion could use improvements, and ideas about future directions/solutions.

Something I could have done better but find difficult is probably more often checking with others, students and supervisors, about my methods and progress to receive feedback on possible changes/improvements. I now see similarities with the design courses during my bachelor's. During these courses I also wanted to make my design and then show the end results and not only small unfinished parts, but it is better to discuss it along the way and improve it. This is probably also one of the reasons why I preferred exam courses or where you handed in a document in the end, instead of the design courses. This shows an area to improve myself.

Changes made after the P2 helped with the setup of the research, but if I could have done something differently, then I would have maybe also interviewed experts and/or advisors before the interviews with the developers. That could maybe have helped to ask them even better questions. Discussions with another graduation student helped understand the perspective of investors, and made me realise that this perspective and their knowledge is missing a bit in my stakeholder interviews. But as the time was limited, investor interviews could have been possible if for example 1 less case study was done, and for example if 1 municipality instead of 2 was interviewed.

Relation between graduation project and master programme

The management part of the MBE master track is related to the management of development projects and between the actors involved with business cases. If this process changes and becomes more circular focused, other aspects of the master programme such as the architects will also be challenged to learn more about the new way of working/designing. In practice, the knowledge of the different aspects of the broad MSc AUB master programme needs to be combined to get a good final project and working industry. Therefore, a transition towards biobased housing influences different stakeholders from different backgrounds with the broader building industry in which collaboration is crucial.

Relation between research, design and recommendations

The research started with a literature study which formed the basis of the thesis. This helped determine the scope and made it possible to reflect and compare findings from the empirical research. The literature helped gain insights into the CE, strategies and barriers for the building industry, this was used in the case studies and interviews. Recommendations for research and practice were made after analysing the results and making conclusions. These are made based on the research, and help go further in depth on certain aspects, but also wider in different related areas. There were also recommendations for the research process in this thesis, which came from my supervisors and helped to make it more critical and scientific. But also helped during the beginning of the research with the setup of the topic, and with improvements and feedback for the final part of the process.

Approach and methods

The approach was a bit bumpy, as described earlier, I did not immediately have a concrete topic in mind with the right research questions. It could have been useful to have spoken to more people in practice about the subject earlier on, but other courses also required time and energy. The chosen methodology however, worked well in my opinion. The qualitative methods of case studies and semi-structured interviews allowed for investigating the topic within, but not limited to a certain framework of questions as it is a relevant and developing/new topic. Moreover, the literature study formed a useful framework for the empirical research. The internship at a developer helped me well with making the subject more concrete, making connections to interviewees, and giving feedback on the report, but might also have steered me without realising for (wanting) certain conclusions when analysing the results. The P3 helped me notice this.

Interviewing different developers from different projects and companies helped gather a view on their current opinions of the situation and the future. This helped me learn about ways how the developers made the business case feasible, which gave me a better understanding of which stakeholders and experts needed to be interviewed next to discuss these found solutions. But also to check and verify if they were good or bad solutions or if the other stakeholder thought that the market themselves could or should solve it. This is also how I translated feedback from my mentors in my method, not just developments from 1 developer, but check if the problem occurs elsewhere and talk with relevant stakeholders, how they think about the answers/problems/solutions form the developers.

Although there is still room for improvements, I also learned to be more critical during interviews with the stakeholders. As well as how to reach interviewees, which sometimes can be difficult. But also speaking to different parties allowed me to better understand the different views which helps to be more aware of them during other interviews. Therefore I do think that the approach worked, but only with the changes made after the P2 and P3. After the P3 I realised that I had to change my conclusion, as something became clear from my results which I first did not see as a conclusion of my research.

Values and implications

This graduation project has value on different fronts. This thesis not only helps inform and bring more attention to the climate crisis, but also shows and informs about a circular strategy for the building industry to reduce its environmental impact. This research furthermore helps explore and discuss current practice and barriers from the perspective of

developers, in addition to views of stakeholder and experts relevant to the made adaptations. Furthermore, recommendations for further research and for practice are given. Thus, the results are relevant to academics, practice and society, because climate change has an effect on all of us, and more research is needed to help with the transition.

The ethical aspect went quite well during my empirical research. First, the interview protocol was tested and discussed together with the informed consent form, with the first interviewee of the internship company. This interviewee gave feedback for improvements and ethical aspects. An issue occurred that not all interviewees returned the informed consent form before the interview, therefore I also always informed them about the research context and aim, asked them in the interviews if it was ok if I recorded the interview, if they wanted the transcript and if they wanted to approve it. Moreover did I have the responsibility as researcher to inform them about this and use the (personal) data as intended and keep it safe.

Project results and transferability
By interviewing several different developers the results from those interviews could give a clear and well representation. Also several stakeholders have been interviewed, but not several of the same type. That is also something which could not be possible in all cases, as there is only one Klimaatverbond for example. For the housing developments, several different types of projects were investigated, but one has to be careful with generalisation of the outcome. Especially since building costs and housing prices are project, time, and location specific. The process and research methods have been explained in this report, which makes it possible to do again or add to this research. Furthermore, the appendix includes the informed consent form and interview protocols, which make it also more transferable.