

Newsletter 3



Final newsletter

When summer came around the corner in the Netherlands, the students of the circular building hub lab finished their thesis lab experience from the Leiden-Delft-Erasmus Centre for Sustainability. The lab was centered around a real-life case assignment focusing on the opportunities and challenges for a circular building hub in the region of South-Holland given by five caseholders: the municipality of Leiden, the municipality of Alphen aan den Rijn, the province South-Holland, the economic development board of Alphen aan den Rijn en last but not the least branch organization Bouwend Nederland. This circular building hub were to accelerate the transition towards a circular built environment. The lab was structured around a main question that has been addressed by all partners and students involved: "What are the potentials and limitations of a Circular Building Hub?"

The last few months the students have worked together very intensively finding synergies to create an interdisciplinary result to be proud of.

As we all adhere to the lifelong learning principle (and differing time schedules of course) some students have changed their paths away from the Thesis Lab, some have finished their thesis already and are ready for the next steps that will follow while others are still working on their thesis.

This final newsletter will start with an overview of the past activities. Then the interdisciplinary result will be shared together with the recommendations. Finally the newsletter will be rounding up with an evaluation and closing.

One remark: this newsletter will contain hyperlinks to the one pagers and theses of the students as soon as they are finished (see last page). Also see the last page for contact details of all students and coordinators.

Enjoy the read,
Karismi, Wenhui & José Luis

Workshop 'transition & (young) leadership skills'

In the workshop on transition and (young) leadership skills the students have all focused individually on five key sustainability competencies: systems thinking competence, interpersonal competence, anticipatory competence, normative competence and strategic competence and discussed them within our teams. After that we played a game together, the enROADS game, which is an online simulator with the ability to explore and test cross-sector climate solutions. Here we had to use our key competencies and afterwards reflect on those individually again. This workshop has been very helpful for us as students to identify our strengths within the subject of sustainability and how to use them in teamwork.

In-depth lecture 4: Challenges & opportunities for a circular building hub

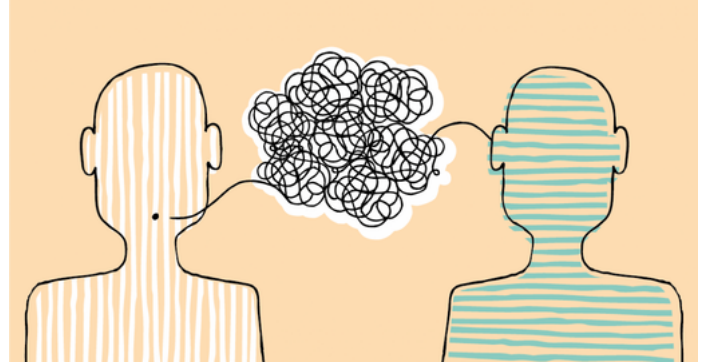
We have had a very interesting panel discussion with four guests on the challenges and opportunities for a circular building hub. The panel guests were: Jo Williams (professor sustainable development at the Bartlett school of planning), Paul Chan (professor design and construction management at TU Delft), Boaz Wasser (circular supply specialist at New Horizon) & last but not least Frouke Pieters (program manager circular economy at municipality of Leiden). This panel represents a mix of accelerators, knowledge brokers, and the public and private sector.

The transition towards a circular built environment is a big change... How do people deal with change? It takes time, and also, regulations in the Netherlands are currently not designed for a circular built environment. We then focussed on the possible role a circular building hub could play in a circular built environment, where all students have touched upon their own subject for a bit. A few main topics were data and information (control) and role of the government, which should be facilitating, but also to take up a role as an example). Williams talked about the differences in effectiveness depending on the scale of the city and its capacity building abilities. Chan, Frouke and Wasser call out the need for a demand driven hub, while at the same time they also state that the issue still remains that there are often time and location mismatches. Adding on there are currently a lot of uncertainties to be dealt with when you look at covid and the Ukain war. In the end, a lesson was that a hub might not even be a solution in transitioning towards a circular built environment...



In the workshop on science communication we had an interesting session led by Julie Schoorl, lecturer Science Communication & Society at Leiden University. We have discussed that science communication can take form in a lot of ways and that the importance lies mostly in being able to clearly debunk unscientifically stated facts and raise awareness on current issues that society deals with. We have learned how to effectively create science communication and this ended up in all students creating their own individual one-pager. See last page for links.

Workshop 'science communication'



In-depth lecture 5: Geopolitical conditions & a circular building hub

In the fifth and last in-depth lecture we had the honour to get a lecture from our academic coordinator, Karel, and a guest lecture by David Peck. This session was centered around how the geopolitical conditions influence the possibilities and challenges for a circular built environment and we had a discussion that went on for almost two hours after the lectures. This is a very good and hopeful sign! We looked into the past, specifically from 1915–2000, to see what lessons were there to take with us. It is during times of war that we can see the big role that geopolitics play. It is (only) then that you can see the power plays that become clear, often focusing on critical raw materials, just like during WWI and WWII. Moving fast forward to today we can see how the energy transition is actually a transition from fossil fuels to metals, creating different critical materials.

A major difference between now and back then is that the current energy transition is led by the private sector with encouragement of governments, while back then it was led by the state with involvement of the private sector. Two plans from the European Commission, 'Fit for 55' and 'REPowerEU', have been introduced and some forecasts were presented during the presentation. The analyses showed that e.g., just for wind and solar PV, up to 2030, in the new REPowerEU scenario the demand for material will be multiplied by five and there will be only up to 160% of supply. This could imply that we are heading towards a new material crisis...

The two-day pressure cooker Finding synergies ⚡

In preparation for the pressure cooker all students from this lab had received an e-mail from Saskia and Karel with some leading questions to think about a concrete visualization of a circular building hub in South-Holland. These questions were constructed in collaboration with the five consortium members. The main question was formulated as follows: "What are the conditions, chances, challenges and limitations for a circular building and remanufacturing hub in the region of South-Holland?". The students could view this as the underlying assignment during the pressure cooker. Moreover, all students individually had to finish their one-pager they started during the science communication workshop and upload this so that the other students could read these as a form of preparation as well.

The pressure cooker was organized by the LDE Centre for Sustainability in the form of a workshop where we could directly work together as a group to prepare our final joint product. This workshop was organized with all thesis labs working in the same room, which allowed for knowledge and idea sharing and finding possible synergies during this pressure cooker. The other thesis labs focused on sustainable aviation, sustainable horticulture and sustainable hospitals.

The first day we started with a Future Fiction Story-assignment, in which we read a future fiction story and had to answer some questions viewing it from a positive side and some questions viewing it from a negative side. After that we started our journey with LEGO Serious Play to explore the possible strategies for a circular building sector and a circular building and (re)manufacturing hub in the region of South-Holland. At the end of the first day all thesis labs had to present their intermediate results to the other thesis labs.

The second day we continued with the LEGO in the morning. In the afternoon our academic coordinator joined and we formulated an idea for the end presentation..



The final presentation: July 5th, 2022

The students of the circular building and (re)manufacturing hub thesis lab have ended their thesis lab experience with a 50 minute presentation for the 5 case holders and other interested individuals. After the presentation it was quiet for a while; everyone had to take some time to let all the information land. It was very impressive. Then, slowly the questions came and Koert even gave an extra presentation explaining different types of a circular building hub and how they were influenced by different factors, that being his thesis topic. After the discussions, this session ended with drinks, while discussions on the transition towards a circular built environment proceeded.

Link to final presentation (slides):

The interdisciplinary result?

After final discussion, we concluded the research with a “paradox”, which states that in order to accelerate the circular transition, we actually need to slow down. In a sense, we need to take a step backwards and facilitate an arena in which all stakeholders can express their demands, expectations, potential roles, in order to take more efficient actions for the circularity transition in the built environment.

In this way, there's no single form entailing the circular building and (re)manufacturing hub. It can be specified from different perspectives depending on the functionality that can be provided, in terms of material remanufacturing, logistics and staging, industrial symbiosis, collaboration, governance and digital/information hubs. The most important step to accelerate the transition towards circularity is to have an overarching vision among all the stakeholders, which enables everyone to work towards the same direction to enhance the transition.



Recommendations on the Circular Building and (re)manufacturing Hub

There are three main recommendations, that are all intertwined, just like the concept of a circular building and (re)manufacturing hub was not as easy as it looked like.

First, and most needed is:

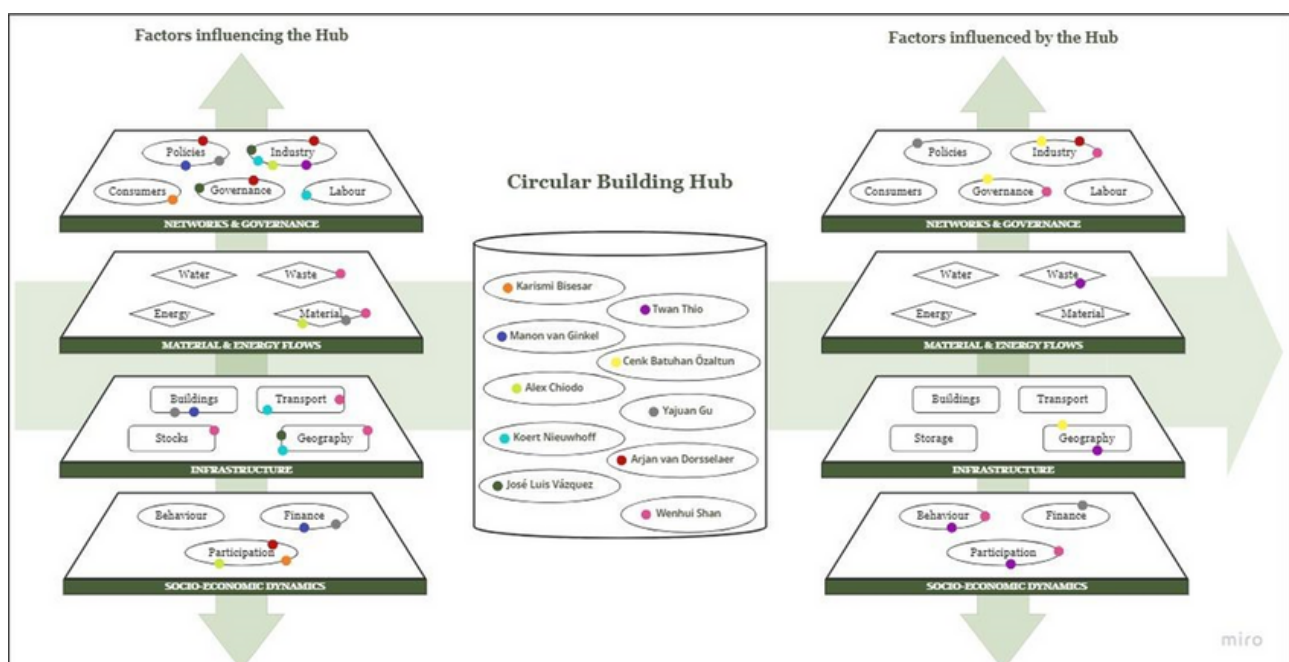
- Collaboration among all the stakeholders. This is really essential during this big transition towards a circular built environment. The government and municipalities have a great positioning point in society to play the role of a facilitator, bringing together all the stakeholders, in order to maximize the opportunity of collaboration among stakeholders.

How to maximize the opportunities when you have an agreement for collaboration among all relevant stakeholders, you ask?

- By developing a full vision of the circular building environment together at a round table where all the stakeholders have a say. This vision is needed to interpret the circularity objective with a more clear and collaborative focus.

And then what?

- Slowing down the speed of achieving the circular economy goal from top-down perspective, in a sense of breaking down the vision and clarifying the roles that each stakeholder plays during the transition, (expectation of different sectors and approaches), in order to develop an overarching framework as an efficient reference.
- AND meanwhile, speed up the operation from bottom-up perspectives, in terms of establishing new regulations and policies, operation of taxes and subsidies, and enhancing the material passport etc., to create windows of opportunity for the changes to take place.



Evaluation from students

With different backgrounds and interests of research, our lab members had great experiences during the whole process. We would like to share our journey in the Lab.

What came out very prevalent in the evaluations is that all students praise the multidisciplinary aspect of the thesis lab. **Alex** calls out that the added value of the multidisciplinary is often underestimated. **Arjan** also highlights the fact that this interdisciplinary cluster is valueable for gaining a more holistic perspective and **Koert** adds on by stating that this is very much needed for the realization of the circular built environment. **Karismi** says she has found her interest in circularity (in the built environment) as a part of sustainability with the help of this thesis lab. **Wenhui** emphasizes that the thesis lab and the communication within has helped her to shape her individual research scope and perspectives, as it did the same for **Karismi**. **Karismi** and **Koert** state that they found the round-table discussions very interesting, where **Karismi** explains that it was noticeable that a lot of discussions gave rise to philosophical perspectives on the transition towards a circular built environment. **Alex** and **Karismi** also point out that they appreciated the pressure cooker that took place towards the end, where all different thesis labs worked alongside each other, because it was very inspirational and led to new insights on sustainability. **Koert** particularly liked the excursions and seeing how the theoretical perspectives we all have as students, transforms in practice. **Arjan** goes on saying that this thesis lab was an opportunity to leverage theoretical knowledge for thinking about solutions to real life issues. A great ending by **Alex** saying that he hopes this format will become more common in the academic context.

The end... giving rise to new beginnings!

The interdisciplinary thesis lab was a great journey for every group member. It was a great pleasure to work with a creative group on our own individual theses projects and the result for the lab. It was a good experience and we worked together as a group to overcome challenges together. The insightful lectures, inspiring discussions and plenty of information-sharing provided us with new perspectives on exploring the possibilities of a circular built environment, while being able to enrich our knowledge and skills on solving complex problems.

We really appreciated the lab coordinator Saskia, who bridged the community together and offered a lot insights, the academic coordinator Karel, who provided constructive instructions for the lab idea development, the lab assistant Julia, who shared and helped a lot with information and material sharing, meanwhile, every commissioner from the university, the municipalities, branch organizations and companies, who provided a great help and lectures to us.

The first Circular Building and (re)manufacturing Hub has come to an end. We hope our preliminary exploration of circularity in the built environment can help to seed the development of future lab research and construction industry and all relevant stakeholders.

Contact details

Here is an overview of the contact details of all the students that have participated in the thesis lab on circular building and (re)manufacturing hubs in the academic year of 2021-2022. One can also find the links to the students' one-pagers and individual thesis projects, if available. Moreover one can find the contact details of the coordinators of the lab.

STUDENTS

Alex Chiodo	chiodo.alex@gmail.com	One pager	Thesis
Arjan van Dorsselaer	a.vandorsselaer@student.eur.nl	One pager	Thesis
Cenk Batuhan Özaltun	C.B.Ozaltun@student.tudelft.nl	One pager	Thesis
José Luis Vázquez	561655jv@student.eur.nl	One pager	Thesis
Karismi Bisessar	karismi@live.nl	One pager	Thesis
Koert Nieuwhoff	K.S.Nieuwhoff@student.tudelft.nl	One pager	Thesis
Manon van Ginkel	manonginkel@gmail.com	One pager	Thesis
Twan Thio	twanthio@gmail.com	One pager	Thesis
Wenhui Shan	w.shan.2@umail.leidenuniv.nl	One pager	Thesis
Yajuan Gu	Y.Gu-3@student.tudelft.nl	One pager	Thesis

COORDINATORS

Julia Schasfoort	J.Schasfoort@student.tudelft.nl
Karel van den Berghe	K.B.J.VandenBerghe@tudelft.nl
Saskia Ruijsink	S.M.Ruijsink@tudelft.nl
