

Chalmers University of Technology

Student Engagement

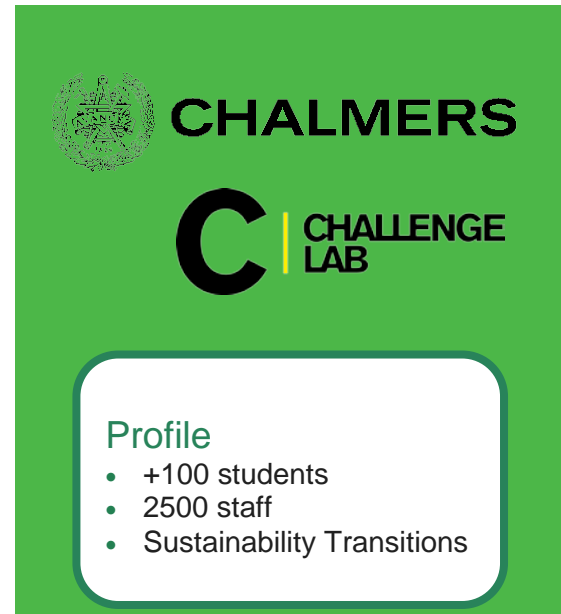
Challenge Lab

Case study: Student change agents in the triple helix

About the project

Summary

The Challenge Lab is a platform where master students act as change agents, engaging in sustainability transitions in socio-technical systems by applying *backcasting*. Creating transitions in a complex socio-technical system, where universities need to collaborate with the public- and private sector (the triple helix) is often hindered by various kinds of lock-ins. In Sweden, previous attempts to solve this include companies, governmental bodies and researchers acting individually to bring together stakeholders to dislodge these lock-ins. To complement this, a neutral “Challenge Lab” arena was created, where master students run transformative backcasting projects. Industrial stakeholders claim the students were in a unique position as unthreatening, yet challenging. Academic stakeholders highlight students as unravelling issues and going deeper into the questions resulting in quicker processes and trusting in their own dialogue work. Public sector stakeholders claim dialogue resulted in true personal opinions coming to the surface and another stakeholder modified their overall climate strategy as a result of the change agent dialogue. Students are seen as unthreatening yet challenging change agents, catalysing trust on various triple helix system levels. In this case study, we highlight one example from the Challenge Lab master thesis where two students in their master thesis integrated stakeholders to enable a transformation of the transportation system in the City of Gothenburg.



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Profile

- +100 students
- 2500 staff
- Sustainability Transitions

Project partners – for the master thesis in this case study

Johanneberg Science Park AB

Viktoria Swedish ICT AB

Göteborg Energi AB

Chalmers University of Technology AB

City of Gothenburg Traffic Office

Ecoplan AB

Volvo Cars AB

Region Västra Götaland

IVL - Swedish Environment Institute

Volvo Group AB

Move About AB

Parkeringsbolaget AB

The results

The problem

System lock-ins are hindering sustainability transitions. The system lock-in in this case is of a normative character: Actors tend to work in silo-settings dealing with one issue at a time, locked in themselves with few or narrow perspectives struggling with reductionism. The insufficient level of awareness leads to the creation of sub-optimal solutions on complex issues especially from low perspective awareness. This calls for an integration of actors, perspectives and issues.

When it comes to approaching normative lock-ins hindering sustainability, a potential solution would be to increase the level of collaboration across borders, to co-create the future system as a whole by having integrative approaches towards the challenges. This could be realized by conducting dialogues to build trust within and between organisations/institutions, and understand others' perspectives Sustainability transitions are - after all - interactions between technology, policy/power/politics/economics/business/markets, and culture/discourse/public opinion.

The approach

To address the above problem with normative lock-ins in the triple-helix, the university has the capacity and mandate to conduct education, research and innovation. These capacities makes it natural for universities to take on a special role in building regional knowledge clusters in a neutral, open and inviting way. Not least the university students might have a unique role in the transitions, as they can be a "bonding medium" building trust between stakeholders in the triple helix and questioning mental models. Students can take this role as they have the dual capability of being unthreatening yet challenging. Unthreatening, since most stakeholders at some point have been a student, therefore know their situation and can identify with them. In addition, students seldom represent a certain establishment in society with economic, organisational or power incentive stakes in the challenge at hand. Students are challenging as they are knowledgeable and can question current modus operandi by introducing new perspectives. To bring forth the potential that students possess, they need space for change and to be trusted as change agents. It is also helpful for them to operate from a neutral arena, with no "strings attached". Universities with their students thus have the potential to play an important role in dealing with both the normative lock-in described, but also system lock-ins.

Our goals

The main purpose for the master thesis highlighted in this case study was to demonstrate a way of co-creating a strategy for scaling up electromobility in the city of Gothenburg by implementing the backcasting methodology in a participatory multi-stakeholder environment. The overarching goal for the Challenge Lab is highlighted in the integrative aspect of this student engagement. Master theses are to serve as transformative and integrative in the systems they address.

Performance and results

The master thesis highlighted proposed a strategy path depicting an interdependency among technology, policy and society in the short-term (2016-2025) as well as the long-term (2025-2050). For that a stakeholder dialogue was conducted and the results acquired were used as input for building the strategy. In this strategy the final concepts, such as trialability programmes, standardised charging infrastructure and the development of a common vision and strategy, were included. It was ultimately concluded that applying a participatory backcasting methodology is highly appropriate when co-creating a strategy to overcome complex sustainability challenges.



Furthermore, it is important to take into consideration the interplay between technology, policy and society and how they influence each other when developing a strategy for the future. Moreover, policy measures that aim at a mental shift for the users are considered of high priority, therefore they have to be applied in the short-term. Last but not least, merging isolated actions from stakeholders attempting to scale up electromobility into cross-boundary collaborations under a common vision and strategy is essential in order to accelerate the phasing-out of fossil fuel based transportation.

The master thesis proved to be a successful utilization of results, since the impact of the thesis could be identified as the initiation of a new strategy pathway for the stakeholders involved, especially for the main stakeholder, the Traffic office of the city of Gothenburg. This Challenge Lab master thesis case study is an example of the types of impact that the student engagement has through the neutral challenge lab platform.



The future

Lessons learned

The Faculty has learned that the students are the change agents we allow them to be, although the guiding framework and tools are necessary to co-create in a complex setting with multiple stakeholders.

Sharing your project

The students in this particular case have been sharing their results through their publication "Electromobility in Gothenburg - A Backcasting Approach for Developing a Strategy toward Electrified and Sustainable Transportation in the Future." (PHILIPP HOFMANN and SPYRIDON NTEMIRIS 2016)

What has it meant to your institution to be a GUPES Green Gown Award finalist?

It has given us recognition and has probably been helping us get a record number of applicants for the coming Challenge Lab course and thesis.

Further information

www.challengelab.org

Twitter: @TheChallengeLab

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