

MSc. Sustainable Design Engineering  
Master thesis project - 2023

# Niches towards a circular society



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STUDENT REPORT

## Title page

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Supervisor: Birgitte Hoffmann,

- Associate Professor in Department of Planning
- The Technical Faculty of IT and Design
- Planning for Urban Sustainability

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## Signature

Mathilde Smith Johnson

Student number: 20176534

Date: 02.06.2023



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Anna Jia Xin Lin

Student number: 20175826

Date: 02.06.2023



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## **Abstract**

In the pursuit of shifting current linear trajectories and the ever-increasing demand for resources this master thesis addresses the critique that circular economy (CE) overlooks the social dimension by unfolding the concept of circular society. The thesis is directed towards answering how niche innovations can support a transition towards a circular society. By examining case examples and conducting case study in a local context, valuable insights into practical implementation are gained. Findings from the individuals of the case study direct attention to meanings and drivers to be engaged in initiatives for a greater purpose. These initiatives highlight the significance of participation, solidarity, and communality in a bottom-up perspective in promoting sustainable consumption and production patterns which aligns with CS. As a result, to support the practical application of circular society, a tool has been developed to guide implementation strategies and contribute to the widespread adoption of circular practices. The proposed tool demonstrates the importance of initiatives with CS elements. The tool aims to bridge academic literature and practitioners in the field. The thesis contributes to the understanding and advancement of circular society by addressing social and environmental challenges, fostering participation and solidarity, and providing practical support for implementing CS principles.

## **Acknowledgements**

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Lastly, we would like to thank Malene Krogh, Alexandre Garcin, Cecilie Zingenberg and for their time to talk with us providing us with deeper knowledge about each their work.

On another note, we would like to thank our family and friends for supporting and encouraging us during the project.

## Reader's guide

The report represents the project group's master thesis for the study programme, Sustainable Design at Aalborg University Copenhagen. The report is structured around 10 sections as follows:

In section 1 the introduction is presented, which is followed by a literature study on circular economy and circular society in section 2. In section 3 is the projects approach to sustainability, and section 4 outlines the applied theory and methods and how they each complements the thesis. Section 5 describes the field and current state of circular society examples. Section 6 is dedicated to presenting the case study we collected empirical data from, which in section 7 provides the analysis of the findings. Section 8 is developing a tool upon the results which is presented further in section 9. Section 10 is devoted to discussion and reflection and section 11 concludes the thesis report.

Due to this being a process report the project group will refer to themselves in the report as "we", "us" "our" and "project group" throughout the report.

## Abbreviations

BAU: Business as usual

CE: Circular economy

CirkØ: Cirkulær Ø

CS: Circular society

EU: European Union

GDP: Gross Domestic Product

IPCC: Intergovernmental Panel on Climate Change

MLP: Multi-level-perspective

MoC: Matters of concern

SDE: Sustainable Design Engineering

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# 1. Introduction



## 1 Introduction

Since 1950, has humanity drastically increased their impact on the Earth. Scientists call it 'The Great Acceleration', and it covers the time period where many areas have changed rapidly, including an increase of people, CO<sub>2</sub> in the atmosphere, nitrogen pollution, agricultural production, and the total size of the world economy. As the population has increased so has the demand for resources which have placed enormous pressure on natural ecosystems and led to widespread environmental degradation (Hebsgaard, 2021; Shoshitaishvili, 2021).

When directing attention to Denmark, the issue of resource consumption becomes evident. Denmark is one of the wealthiest nations and the big buying power is definitely shown in the Danes consumption patterns and the waste that follows it (Basstrup, R., Friis, M., & Schou, M, 2022). Denmark was also one of the first countries in the world to reach its 'Overshoot day' this year. On March 23rd, Denmark exhausted all the estimated natural resources for the year 2023 (Global Footprint Network, 2023). According to the climate council, the Danish government rely too much on untested technologies to provide the necessary reductions needed to achieve the climate goals (Møllgaard et al., 2023). A need to change business as usual is therefore evident. Professor Kathrine Richardson, the leader of Science Sustainability

Center at Copenhagen University asserts that we must decrease our consumption of resources to establish a circular economy. Additionally, she highlights the necessity of a system change, so that it no longer incentivizes the use and disposal of resources (J. S. Nielsen, 2021). Circular economy has been framed as an approach to avoid overshooting the Earth's natural resources and the concept has been acknowledged as a way to create a sustainable transition from industries and organisations (Melles et al., 2022). This includes the Ellen MacArthur Foundation (Ellen MacArthur Foundation, 2015), the European Union (European Commission, 2019, 2020) and the Danish government (Regeringen, 2020). The principles of circular economy are the elimination of waste and the circulation of products and resources at their highest value (Ellen MacArthur Foundation, 2022). However, recent critical perspectives on circular economy have shed light on the lack of emphasis on social sustainability (Bauwens, T., Hekkert, M., & Kirchherr, J. 2020; Friant, Vermeulen, Salomone, 2020; Jaeger-Erben, Jensen, Hofmann, Zwiers, 2021), and it is argued that circular economy relies on narratives of capitalist economic growth (Hobson & Lynch, 2016). As a response to the missing social considerations a new narrative of a circular society has been proposed. Circular society goes beyond the classic circular economy approach of focussing on growth, technology, and market-based solutions. The main narrative of a circular society is that everyone in society must actively commit to and participate in a circular economic transition for it to succeed (Jaeger-Erben et al., 2021).



## 1.1. Project scope

As stated, the problems of environmental degradation, expansion of growth and consumption patterns have become deeply entrenched issues within current society all of which create the problem of waste generation. It becomes apparent to address these issues with new perspectives and to break with the current ways by supporting a radical change through niches. In this project we seek to address these issues through a socio-technical lens building on the narrative of circular society. First the project presents a deeper exploration of what circular economy (CE) and circular society (CS) is a response to focusing on the dominant linear narratives of society, combined with a preliminary analysis that outlines the current state of practical case examples that work with elements of circular society. Following this, a Matters of Concern (MoC) analysis of a case study is carried out in a local community setting within the same context to further understand working with CS initiatives supporting a transition towards a CS. MoC is further described in chapter 4.

## 1.2. Collaboration with a research project

A Danish project that addresses the issues of minimizing waste and resource consumption while focusing on social value is the research project 'Cirkulær Ø', from now on referred to as 'CirkØ'. The project's overall goal is to investigate how the work with circular

economy can be developed, anchored, and create value on the Danish small islands (Hoffmann, 2022a).

CirkØ is a research project starting from 01/11/2022 - 31/01/2024 and their aim is to create:

- Environmental value by focussing on creating less waste and less resource consumption
- Economic value by keeping the same products and/or materials within the system for a longer time and prolong the time they can create value
- Social value by focusing on solidarity and cultural cohesion in the local community and the creation of green jobs.

The partners of the project are: Genskabet from Orø, Fællesskabet Fanø, Aalborg University, Nyforbyelse and The Association of Danish Small Islands (Hoffmann, 2022a).

The CirkØ project has three main activities:

1. State of the art. Where it is researched, how and to what extent does Danish islands are working with circular economy initiatives.
2. Exchange of knowledge between local communities that have implemented circular economy initiatives
3. Dissemination of circular economy development strategies on Danish islands

Throughout the duration of the thesis project, we have gained valuable insights into the CirkØ project and its collaborative partner, Genskabet, which is a volunteer association. We were fortunate to be involved in CirkØ's workshop, held at Genskabet's premises, where the other partner, 'Fællesskabet Fanø', also attended. This provided us with a deeper understanding of Genskabet's initiatives which the project group view as contributions to a circular society. Chapter 6 will delve further into the details of Genskabet.

### 1.3 Research Design

This master thesis addresses the gap of social considerations within the concept of circular economy. It proposes the concept of circular society as a potential narrative to this gap. Despite being in its early stage with vague definitions and a lack of practical examples, circular society holds promise for addressing societal challenges.

This thesis aims to create radical change by examining circular society niches and utilizing their experiences to propose practical applications for practitioners. It focuses on supporting the implementation of circular society for niches, exploring strategies for widespread adoption, and ultimately contributing to the transition towards a circular society.

This has led to the following research questions and sub questions which this project is oriented towards:

Research question:

*How can niche innovations support a transition towards a circular society?*

Sub questions:

- *What other circular society initiatives exists?*
- *How does Genskabet enable participation, solidarity and communality for the local community?*
- *What support can the project group provide, to make circular society more applicable to communities/practitioners?*

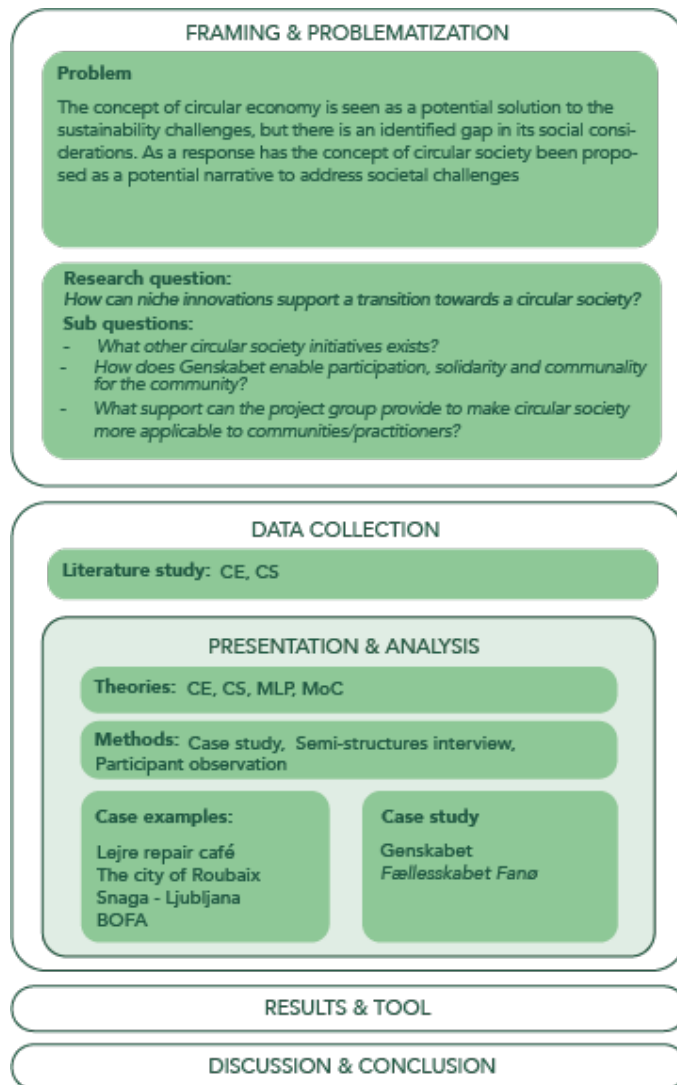


Figure 1- Research design inspired by (Dourojeanni Schlotfeldt, 2019; Śliwa, 2022)

To help answering the research question, we have gathered knowledge through our literature study described in chapter 2, and collected empirical knowledge through ethnographic methods described in chapter 4.

By utilizing the multi-level perspective theory described in chapter 4, the study investigates the context in which the project operates and aims to bring about change.

The project has an exploratory approach, where different practical cases are researched, where the concept of CS is more appropriate explaining the different efforts and initiatives. Next the project investigates the main case study, which is used as an example of how local communities can work with CS in practice. The data is to be applied in an analysis with the CS concept and MoC in chapter 7. Based on the research findings, a tool that supports a transition and challenges the narratives of the growth regime are developed, contributing to practical implementation of circular society. Figure 1 outlines the research design of this study.



## 2. Literature study



## 2 Literature study

This section presents the reviewing of circular economy (CE) and circular society (CS) literature. The purpose of the literature study is to examine the current research and advancements in the field of CE and CS, as well as identify any limitations and gaps in these concepts. Through a comprehensive exploration, this study investigates various aspects of CE and CS, including the associated opportunities and challenges, providing valuable insights relevant to the scope of the thesis.

### 2.1 Circular Economy

CE aims at keeping resources continuously in use by establishing technical and economic cycles, aiming to minimize energy loss and reduce material consumption (Hobson & Lynch, 2016). Such strategies involve slowing, narrowing and closing resource cycles (Bocken et al., 2016; Rahla, K., Mateus, R., & Bragança, 2021), which in a business context have gained significant attention emphasizing on energy efficiency, product life cycle and the use of materials (Korhonen et al., 2018). The concept of CE has become an emergent sustainability discourse in the past decade (Sachs et al., 2019a). Various industry actors have promoted CE as the answer to reduce environmental impacts and create a sustainable transition (Melles et al., 2022). Notably, societal actors also agree that the economy must be circular (Jaeger-Erben et al., 2021a; Korhonen et al., 2018). However, CE is seen as an umbrella concept with no reference to a clear definition (Korhonen et al., 2018).

#### 2.1.2 Challenges of the circular economy

Consequently, CE has often been categorised in a technocentric discourse where it can be perceived as an adjustment rather than a socio-technical transformation (Melles et al., 2022). CE is critiqued to support the current economic growth narrative while framed as ecological modernization (Hobson and Lynch, 2016). This is also supported by a comprehensive study by Friant et al. (2020) which direct attention upon major gaps and challenges of CE, by including factors of systemic thinking on growth, capitalism and decoupling, calling attention to contradictory core elements of the existence of degrowth and capitalism. Recent critical reflection in literature points towards the underlying concern of social transformation and dimension (Jaeger-Erben et al., 2021) being neglected or failure to articulate underlying social problems (Leipold et al., 2021) and the missing attention for social and institutional changes (Merli et al., 2018), which has questioned the legitimacy of CE (Sonnier and Grit, 2022). An extensive literature review also supports the notion that CE research's focus on a technical path to sustainability may be quite optimistic but disregard the immense socio-cultural change that are required (Friant et al., 2020). This highlights the gap addressed in the CE debate of the underemphasised social dimension. This is reflected

in a Scopus search where only 17 percent (out of 23,026<sup>1</sup>) of the articles on CE focus on social sciences.

## 2.2 Circular Society

As a response to the challenges and critique on CE and its lack of a social dimension, the concept of CS has been proposed as a possible narrative to accommodate these challenges.

CE+	An added social policy measure to current CE strategies to equip citizens to choose products and services which are more circular
New prosperity narrative	Narratives on the "Good life" coupled with the notion of circular transformation, includes concepts of post- and degrowth. It decouples societal prosperity and visions of the good life from monetary wealth and also, economic growth from resource use.
Economic reorganisation	Shifts the principle of circularity on to distribution and circulation of power and resources ((im)-material) more evenly including knowledge, wealth, means of production and technologies.
Transformative CS	emphasises on participation, solidarity and communality to establish sustainable consumption and production patterns. In order to reconfigure production and consumption systems to more regional and participatory value creation networks, this viewpoint emphasizes the significance of bottom-up social innovation and emancipatory consumer movements (Jaeger-Erben et al., 2021)

<sup>1</sup> Scopus search on the 3<sup>rd</sup> of April 2023.

CS distinguish circularity as a holistic social transformation that goes beyond economic considerations and market-based solutions and considers people, planet, and prosperity as key sustainability parameters, aiming to ensure the well-being and socio-ecological health of current and future generations (Friant et al., 2020). In a study by Jaeger-Erben et al. (2021) it identifies four approaches to CS that in varied extent focuses on social reorganisation which are labelled as "CE+" "New prosperity narratives" "economic reorganisation" and "transformative CS", see figure 2 for description of each.

The latter two perspectives (economic reorganisation and transformative CS) on CS are similarly described in a visionary context by Bauwens et al. (2020).

It suggests two circular future scenarios which the authors call "planned circularity" and "bottom-up sufficiency". Both particularly emphasises on low technological development which means that they can rely on simple solutions that do not require extensive research and development activities. They can simply involve changes in behaviour and stand in contrast to high-tech solutions that typically necessitate years of development. The scenarios do however differentiate in their governance approaches. Planned circularity is controlled by governments and has a national scale

Figure 2 -Overview of the four approaches to circular society (Jaeger-Erben et al., 2021)

while bottom-up sufficiency is led by civil society on a local scale 'Planned circularity' aligns closely with the concept of 'economic reorganisation,' while 'bottom-up sufficiency' resonates with the principles of 'transformative CS'(Jaeger-Erben et al., 2021b).

The CS debate is still in its early stages and is characterized by its visionary nature, often surpassing practical cases and implementation (Jaeger-Erben et al., 2021). This is further supported by the limited amount of literature available on the topic. A Scopus search for "Circular society" yields only 52 results, in comparison, a search on CE retrieves a significantly larger number of documents, resulting in 23,026<sup>2</sup>.

This scarcity of research on CS emphasizes the need for more knowledge and understanding of its conceptual foundations, as well as practical examples that effectively address the intersection of CE, respect for Earth's resources, and social implications and transformations. Building on the concept of transformative CS (Jaeger-Erben et al., 2021), we also contribute to the literature on CE focused on promoting CE transitions at a broader societal level.

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<sup>2</sup> Scopus search on the 3<sup>rd</sup> of April 2023.



# 3. Our approach to sustainability





### 3 Our approach to Sustainability

This section will provide our approach to sustainability, by drawing on the concept of circular society (Jaeger-Erben et al., 2021), planetary boundaries (Steffen et al., 2015) and six transformations (Sachs et al., 2019).

Our approach to sustainability in this master thesis is that we understand sustainability as staying within Earth's planetary boundaries (Steffen et al., 2015) with a circular society approach for transformation. The goal of planetary boundary approach is to “define a safe operating space for human societies to develop and thrive, based on our evolving understanding of the functioning and resilience of the Earth system” (Steffen et al., 2015, p. 737). Circular society aims to shift our long-standing linear economy towards a more circular one where emphasis is on reducing resource and material consumption without transgressing these boundaries as well as creating consciousness towards how we use the resources by promoting sustainable consumption patterns.

In our thesis we build on the concept of CS and analyse both case examples and a small-scale niche innovation on the island of Orø. Our aim with the thesis is to focus on supporting the implementation of circular society for niches, exploring strategies for widespread adoption, and ultimately contributing to the transition towards a circular society. The project will operate by staying within the Earth's planetary boundaries with a strong

emphasis on social sustainability within improving the quality of life for people. Furthermore, it contributes to the debate of decoupling resource use from economic growth and societal prosperity from monetary wealth by identifying other value creation networks. We view CS as an approach that can enable and change behaviours and patterns in a community level. Therefore, our project complements the six transformations framework that proposes how to implement the 17 Sustainable Development Goals (United Nations, n.d.) promoted by the United Nations (Sachs et al., 2019). The six transformations are divided into six categories which includes: 1. Education, gender and inequality; 2. Health, well-being and demography; 3. Energy decarbonization and sustainable industry; 4. Sustainable food, land, water and oceans; 5. Sustainable cities and communities; and 6. Digital revolution for sustainable development (Sachs et al., 2019b, p. 805).

We especially understand our project to contributing to the transformation ‘Sustainable cities and communities’ which involves cities and urban areas that houses over half of the world population (Sachs et al., 2019), because transformative CS challenge growth and consumption on an everyday perspective in communities. Through community participation comes a shift from our long-standing linear economy towards a more circular one where emphasis is on reducing resource and material consumption as well as creating consciousness towards how we use the resources. This project focusses on transformation from a bottom-up perspective

which in long term perspective may change legislation and other parts of society (Sachs et al., 2019).

To achieve sustainable communities is a highly complex endeavour which bring about involving multiple stakeholders and placement of responsibility (Sachs et al., 2019). However, if citizens actively engaging and participate in changing their fundamental mindset and behaviour, it can lead to a broader acceptance of these changes by other levels of society. This is why our approach to sustainability focuses on staying within Earth's planetary boundaries with a transformative CS lens that emphasize the values of participation, solidarity, and communality.

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## 4. Theories & methods

## 4 Theories and methods

The following section will present the theoretical and methodological foundations of this master thesis. It will explore the applied design process and provide a detailed description of the theories and methods utilized. Additionally, will there be a justification for the selected theories and methods and an explanation of how they contribute to the thesis.

### 4.1. Project framework

#### 4.1.1 Design thinking

Throughout the project, the group has adopted the Design Thinking approach as the overarching framework for conducting project work. Design Thinking is a problem-oriented methodology that aims to address complex problems by iteratively redefining them. This approach proves advantageous when dealing with wicked problems, such as climate change, as it suggests a very agile and iterative approach to the design that allows for constant adaptation of the design through trial and error in response to a dynamic environment (Carlgren et al., 2016; Ney & Meinel, 2019). While this project does not directly propose a traditional design solution, the project group has found value in leveraging the mindset of Design Thinking when working on the case.

#### 4.1.1.1 Double diamond

There are various approaches to implementing Design Thinking, and one of them is the Double Diamond framework which is shown in figure 3.

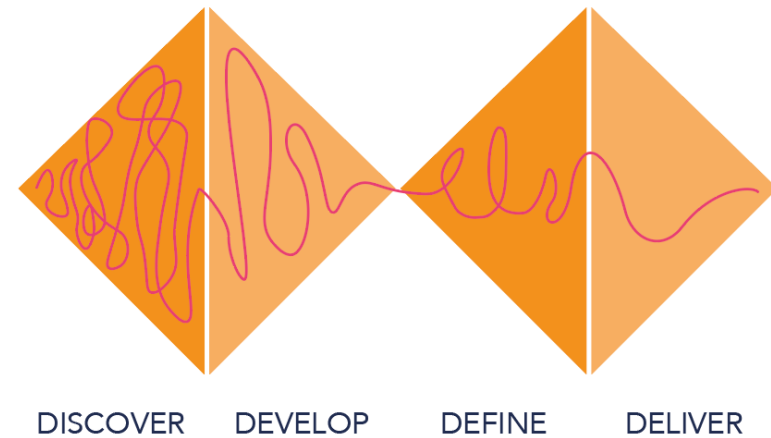


Figure 3- A model of the design method Double Diamond

The Double Diamond consists of four phases: 'Discover,' 'Define,' 'Develop,' and 'Deliver.' These phases alternate between a problem-oriented and solution-oriented focus. In the initial 'Discover' phase, the aim is to expand perspectives through extensive research, gathering information, and exploring the nature of the problem. Subsequently, the process converges to define a specific problem area, known as the 'problem definition.' The third phase involves another divergence, where solutions to the defined problem are explored. The final phase centers around creating and

detailing a final solution. Although the model may appear linear, it can be iteratively applied by moving back and forth between the phases that hold value for the design process (Design Council, 2021). In the project, the Double Diamond framework is reflected through divergence and convergence phases. For example, did the initial divergent 'Discover' phase help the project group gain a lot of empirical knowledge through literature searches, cases and interview This facilitated their transition into the convergence phase 'Define', where they used their findings to identify a knowledge gap and consequently defined a project scope (Design Council, 2021)

#### 4.1.2 SCRUM

##### **SCRUM-board**

The project group used a SCRUM-board throughout the project as a task organisation system, to ensure that the group members could keep track of the tasks that needed to be done for the project as well as align their efforts towards a shared goal (Sutherland, 2014)

##### **Sprints and milestones**

The project was structured around two milestones that were planned by the university. Sprints were defined when working towards the milestones, which were followed by retrospective sessions held after each milestone or as needed (Sutherland, 2014). The group used sprint retrospective to reflect on the project work

as well as the group dynamic (Sutherland, 2014). This helped to plan the next sprint and made it possible to keep doing what worked for the group and avoid future problems or conflicts.

##### **Worksheets**

The project group created online visual worksheets in the online whiteboard tool (*Miro*, n.d.). The worksheets were used as a tool to communicate knowledge in the project group, and they helped the group to keep track of knowledge and documenting it throughout the project

#### 4.2 Theories

The following section provide descriptions of the theories applied in this thesis. Furthermore, it will justify for the selection and utilization of the theories and explain the reasoning behind their inclusion and relevance for the project

##### 4.2.1 Multi-Level-Perspective

Multi-Level-Perspective (MLP) is a theory within the Design for Sustainability Transitions literature and is a way of steering socio-technical system change (Loorbach, 2010). MLP can also be utilized as an analytical and theoretical model for understanding socio-technical systems (Kemp, 1994; Kemp et al., 2001).

MLP recognizes that transitions are complex and non-linear processes that arise from the interplay of diverse factors across

three analytical concepts: niche, regime and landscape (Geels, 2002)

Niches are defined as radical innovations that challenge the established and operates on the micro-level and are defined as radical innovations that challenge the established and are usually protected to avoid pressure from the dominant existing regimes. Niches deviates in culture, practices and structures, and contains unstable rules for the development of innovative practices (Geels, 2002)

Regimes operates on the meso-level and is characterised by the stability of existing technological development. Regimes refer to the dominant established socio-technical system where rules and institutions enable and constrain activities including behaviour and practices within communities of the regimes (Geels, 2002) Regimes give rise to incremental innovations, whereas niches yield radical innovations.

The last concept is the landscape, which is situated at the macro-level and consists of external factors that are difficult to change or directly impact. It is characterised by being slow changing and is build-up of deep structural trends. The landscape understanding provides actors context for interactions or an external structure (Geels, 2002)

In this project, we have applied MLP to gain insights into the current socio-technical regime to explain lock-ins, rules and the

dominating narratives to which CS is a response to. Hence MLP serves as a tool to establish the context and define the scope of our investigation.

Moreover, MLP is employed to explore how CS niches can drive radical niche innovations and foster a sustainable transition towards a future where CS is no longer confined to niche-level practices but becomes integrated within the socio-technical regime. This investigation aims to uncover pathways for scaling up CS and mainstreaming its principles throughout society.

However, the focus of MLP is limited in terms of societal transformations, as it does not describe the small- scale actions or concerns of individual actors. Hence, the thesis turns to the actor-network theory, particularly matters of concern, when delving into our case Genskabet and describe the diverse perspectives and motivations of the actors within.

#### 4.2.2 Actor Network Theory - Matters of Concern

Actor Network Theory (ANT) is a constructivist methodology that examines the relations between human and non-human actors (Latour, 2004). Central to Latour's ANT is the distinction between "Matters of Fact" and "Matters of Concern." According to Latour, reality is not solely determined by objective facts, but is shaped by the concerns and perspectives of different actors. Each actor may have their own unique set of MoC, influencing their understanding and experience of reality (Latour, 2004)

In this project, we primarily use the concept of MoC to gain a

comprehensive understanding of the diverse viewpoints, interests, values, and objectives of Genskabet's members. These factors play a crucial role in affecting the members' involvement in the project. By using MoC, we may obtain a holistic view of the elements that impact the members involvement in the project.

Additionally, by emphasising each member's unique MoC and how they affect the relationship they have with Genskabet, MoC is used as a tool to explain the network between Genskabet and its members. This approach allows us to identify the underlying motivations and factors that drive the members' pursuit of meaningful contributions and how these contributions can push the realisation of Genskabet's objectives.

#### 4.2.3 Circular economy - R-Framework

CE is often associated with three core strategies: slowing, narrowing, and closing (Bocken et al., 2016). However, due to its broad nature, CE encompasses multiple definitions, interpretations, and approaches. For instance, have the European Union (EU) defined CE as "a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible" (European Parliament, 2023). Similarly does the Ellen MacArthur Foundation defines CE as "based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems" (Ellen MacArthur Foundation &

McKinsey, 2017). These different perspectives highlight the diverse understanding and application of the CE concept.

However, in this project we have used the R-framework presented in figure 4 because it can show the different levels of circularity, which slowing, closing and narrowing fails to.

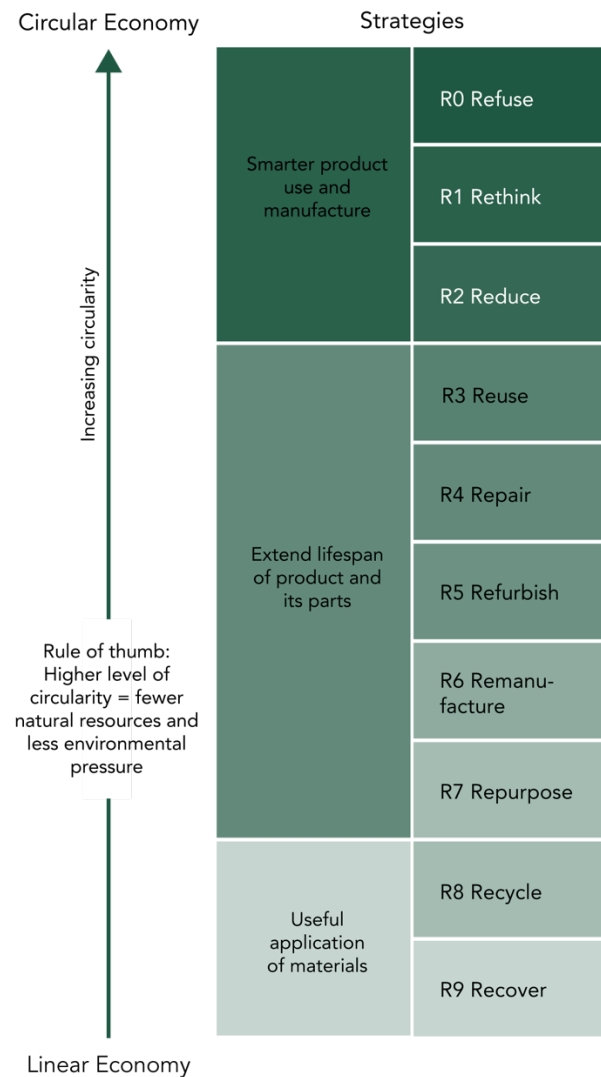


Figure 4- The R-framework adapted from Potting et al. (2017)

The R-framework outlines a set of R-strategies aligned with CE principles, they include (R0)Refuse, (R1)Rethink, (R2)Reduce, (R3)Reuse, (R4)Repair, (R5) Refurbish,(R6)Remanufacture, (R7)Repurpose, (R8)Recycle, and (R9)Recover, the strategies closer to R0 are of highest-level of circularity (Potting et al., 2017). CS literature emphasizes on the fact that it should support less consumption through the R-frameworks highest strategies: (R0) Refuse, (R1) Rethink and (R2) Reduce (Jaeger-Erben et al., 2021a).

In this project, we have therefore employed the R-framework to identify which circularity initiatives that works within the top three strategies of the framework and should therefore be promoted more than others. We have additionally used the R-framework as selection tool when deciding which case examples that could be characterized as engaging with CS.

#### 4.2.4 Circular Society

As stated in the literature study Jaeger-Erben et al. (2021) provide four approaches to CS are identified from current CE approaches which on different levels consider the necessity of social reorganisation. We have chosen to focus on Transformative CS which presents itself as: emphasising on participation, solidarity and communality to establish sustainable consumption and production patterns. In order to reconfigure production and consumption systems to more regional and participatory value creation networks, this viewpoint emphasizes the significance of



bottom-up social innovation and emancipatory consumer movements (Jaeger-Erben et al., 2021).

In the thesis we have emphasised on the notion of the transformative CS since it aligns with challenging consumption patterns and the linear economy in a community-based context. We have used the term CS to identify different case examples and examining the case Genskabet, which all work with elements of CS where the transformative CS is chosen to highlight the bottom-up, citizen and community driven initiatives. Throughout this report, when the term CS is mentioned, it refers specifically to transformative CS.

#### 4.2.5 How do the theories fit together?

The combination of MLP and MoC theories offers a comprehensive understanding of both the broader societal dimensions and the specific actions and concerns within our research MLP is used to analyse the current socio-technical regime, which CS aims to address. By using MLP, we establish the context and scope of our investigation, exploring how CS niches can drive radical niche innovations and facilitate the transition of CS from niche-level practices to integration within the broader socio-technical regime. This analysis helps us identify pathways for scaling up CS and mainstreaming its principles in society. However, MLP has limitations in describing small-scale actions and the concerns of individual actors. To address this limitation and gain a deeper

understanding of our case study, Genskabet, we turn to the theory of MoC. MoC allows us to examine the diverse perspectives, interests, values, and objectives of Genskabet's members, providing a holistic view of the factors influencing their involvement in the project. By emphasizing each member's unique MoC and its impact on their relationship with Genskabet, we can explain the network dynamics between the organization and its members. This approach helps us uncover the underlying motivations and factors that drive members' contributions and how these contributions contribute to the realization of Genskabet's objectives.

The theories of CE and CS complement each other in our project, because CS is a further development of CE and is therefore building upon and expanding the CE concept.

CE provides valuable tools for measuring circularity, and in our project, we specifically focus on the R-framework. By incorporating the R-framework within the broader context of CS, we adopt a more holistic approach to circularity that includes social aspects.

The combination of these two theories in our project has allowed us to identify cases that align with CS, either fully or partially. This approach enables us to explore and analyze initiatives that embrace CS principles and contribute to the transition towards a circular society.

## 4.3 Methods

We have applied different qualitative methods throughout the thesis. The methods are used to collect knowledge of current research in the field of CE and CS. Moreover, it is used to gather data on how other cases are working with circularity and in collecting empirical data for our case Genskabet.

### 4.3.1 Participant Observation

Participant observation is an approach where the researcher takes an active part in the social phenomenon that is being researched. The researcher thus, uses its own sensory experience in producing knowledge (Kristiansen, S., & Krogstrup, H., 2015).

The method combines both participation and observation to achieve a comprehensive knowledge about a social context because as a researcher you yourself are involved in the practice you investigate. In performing participant observation, you have the advantages of doing solely descriptive observation or choosing more focused and selective observation with different degree of interaction to clarify ambiguity which otherwise was left for the researcher to interpret (Kristiansen, S., & Krogstrup, H., 2015). The method can open up for the culture of the field of study giving the observer insider information on what is being studied, and the practices that are performed, which would be difficult through other methods. It can also establish a relation to the observed actors and to ask the “right questions” that otherwise would be

irrelevant if the observer was not present (Brinkmann, S., & Tanggaard, L., 2022).

In the thesis we have used the participant observation technique for collecting empirical data of the case Genskabet during a two-day workshop. Taking into consideration that we already had established a basis of knowledge from the data provided by the CirkØ project. Therefore, we decided to validate prior knowledge but also to establish our own relation with the actors of Genskabet and understanding of the field. The purpose was to establish a deeper insight into the house of Genskabet and its members meanings, motives and practice, while having our own research agenda in mind.

### 4.3.2 Semi-structured interviews

In the thesis we have conducted semi-structured interviews. We have chosen to apply this method to acquire knowledge of relevant actors' opinions, meanings and experiences (Brinkmann, S., & Tanggaard, L., 2020). The semi-structured method makes it possible to ask prepared loose script questions on the researchers' topic while also incorporating opportunities for detailed questions that arise during the interview, that otherwise were not known or thought of before (Preece et al., 2015). Thus, it creates an open-ended structure where discussion is partly facilitated. Conducting interviews is not a neutral technique. Answers are often influenced by the questions the researcher asks, which is important to have in

mind when applying the method (Brinkmann, S., & Tanggaard, L., 2020).

In this project we have used the semi-structured method to qualify expert knowledge on CS after doing literature research for the state-of-the-art section.

In relation to our research of other case examples working with circularity, we were left with more questions from specific cases which we wanted answers to. The semi-structured interview method therefore allowed us to ask those questions gaining deeper understanding and details for some of the cases.

Furthermore, the method was applied to attain even deeper knowledge into the drivers and motives of the people of Genkabet and Fanø from our workshop participation on Orø in relation to the CirkØ project. The purpose was to learn more about the actors' MoC's by identifying the participants attitudes and attributions of meaning. Asking questions that were not presented through the participant observation method, it provided new knowledge that has been beneficial for our empirical data.

#### 4.3.3 Case study

In the thesis we have applied the case study approach. A case study is an analysis of a choice of individual unit (person or community) of study (Flyvbjerg, 2011). Often it comprises of more

detail, depth and richness of what is studied. A case study usually evolves in time and sets boundaries for the unit of study which decides what is the case and what becomes the case contextual setting (Flyvbjerg, 2011).

The case study approach is used for the thesis to provide a detailed study of Genskabet which the project group has identified works with elements of CS. It gives a context-dependant perspective and provides the reader with an in-depth example of how CS can be applied in practice.

The project group primarily applied the case study method while visiting Genskabet at Orø. This allowed for interactions with Genskabet's members, visits to their business premises, insights into their daily operations, observations of their dynamics etc.

#### 4.4 How do they all fit together?

By employing participant observation, semi-structured interviews, and case study, we have employed a multi-method approach that mutually supports and enhances our research. Each method allows unique perspectives that allow us to investigate numerous aspects of the same case and offers a thorough comprehension of the subject. In the context of our master's thesis, these techniques improve the thoroughness, depth, and relevance of our findings.



# 5. Uncovering the field



## 5 Uncovering the field

In answering the research question, it is necessary to understand the current field it is situated in. This section of our study aims to explore the current regime and the specific issues that CS seeks to address. Through the lens of MLP, we examine the underlying structures and dynamics of the current regime, seeking to uncover its building blocks and highlight the necessary changes. MLP provides a valuable tool for understanding the dominant narratives, practices, and rules that shape the existing socio-technical system. Furthermore, in our exploration of the regime, we recognize the significance of niche innovations and their opposition to the established order (Geels, 2002).

The second half of this section is dedicated to exploring other circular initiatives through case examples that currently work and aligns with elements of CS. Which is why the case examples are perceived as niches that challenges the current structural regime.

### 5.1 Introduction to the regime

The introduction in section 1 briefly highlighted the environmental challenges we; the unsustainable overuse of Earth's resources and the unmanageable potential consequences it may entail. In the following section, we will utilize the MLP theory to delve into the dominant socio-technical regime we operate within. This exploration aims to provide insights into the underlying reasons

and mechanisms driving the continued overuse of Earth's resources.

#### 5.1.1 The Growth Regime

The current regime the thesis is navigating in is a deep structural growth regime.

The regime operates with technical elements as Geels et al. (2002) suggests and in this regime a culture of economic growth is dominant.

Economic growth is measured in gross domestic product (GDP), which is perceived as the most central important indicator of prosperity through economic activity, as it among other things makes it possible for countries to compare themselves to one another (OECD, 2023). GDP is a standard measurement of the production of goods and services in a nation in a certain time period. As a result, it also accounts for the revenue generated by such production, or the overall sum spent on finished goods and services (OECD, 2023). In an MLP perspective, it can be characterized as a stabilized set of rules that highlights a core mechanism of the market and thus regime.

Economic growth is an essential topic in economic theory and is frequently framed as a social good that is required for the advancement of society. However, from an ecological point of view several problems emerge. It becomes clear there exists biophysical limits to growth therefore, issues with how we evaluate economic growth become apparent (Røpke et al., 2023). It should be noted

that growth poses a societal dilemma since, while it is a favourable formula for welfare and stability on the one hand, it also has substantial environmental consequences on the other (Røpke et al., 2023).

### **Challenges with Gross Domestic Product**

GDP is criticised on the premise of a multitude of issues making it no longer a reliable measure of prosperity. One of the critique points is that GDP does not look at the quality of growth, but solely at the quantity (Kapoor& Debroy, 2019). GDP also falls short in capturing the distribution of goods and cannot determine how growth is allocated among the population (Kapoor& Debroy, 2019). Ecological economists in particular have been quite critical of GDP as a primary economic measurement tool since it solely places focus on economic growth while saying nothing about resource usage, material well-being or sustainability (Røpke et al., 2023) (OECD, 2023). Hence, an increase in GDP is always seen positively in the regime, but it ignores issues of environmental, social, and other long-term consequences that could eventually negatively impact the economy.

Although the problem surrounding the overuse of the earth's resources is very complex, there is a clear connection between economic growth and the ever-increasing pressure on the planet (European Environment Agency, n.d.). A pressure that cannot continue to rise forever. Economic growth is an integral and embedded part of how we as human beings view our collective

future. Emphasizing that an indicator such as GDP is highly accepted and embedded by regime actors and is arguably a societal trend on the macro level as well. Therefore, it becomes problematic that these concerns are neglected by the use of GDP as the primary economic growth indicator.

### **Take-make-dispose – a linear economy**

Within growth and the indicator GDP, the regime is dominated by a linear trajectory of production and consumption. The linear economy follows the culture of take-make-dispose which implicate taking raw materials, making them into products to be used and lastly throwing it out as waste (Ellen MacArthur Foundation, 2015). In this system producing and selling many products are what creates value. This behaviour has been the essence of industrial development where it has given rise to an unprecedented level of economic growth (Ellen MacArthur Foundation, 2015).

### **“Built-in planned obsolescence”**

Because economic growth is usually presented as a necessity for societal development, and value lies in increasing the sales of products or services. It has accordingly sprouted a phenomenon called “built-in planned obsolescence” that describes a particularly industrial way of designing products, where the intention is to shorten products life span, so consumers have to replace the item quicker, and thereby generating more profit (Nyvold, 2017). This can be done by using fragile parts in the key functions of the

product, creating more fragile designs or preventing replacements or repairs of broken parts (Nyvold, 2017). Previously it has taken more complicated forms, making it even harder for citizens to recognise and react to (Nyvold, 2017). Built-in planned obsolescence highlights a strategy on the current regime that reinforces the linear trajectory of take-make-dispose. Making it even more difficult for the individual to act differently upon.

### **Consumption based emissions**

Directing attention to Denmark, the result of the linear economy, obsolescence and consumerism are strongly evident. Danes remain among the world's top emitters. The consumption-based emissions with the biggest environmental impact are food, transportation and the relatively broad category "consumption goods" that among other things includes clothing and electronics (Basstrup, R., Friis, M., & Schou, M, 2022) (DST - Danmark Statistik, 2021).

The rapid acceleration of this consumptive linear economy since the 20th century and strategies such as built-in planned obsolescence has resulted in an aggressively increase of negative impacts and wasted resources. It has dispersed a range of economic losses and structural waste dominating the regime level. With the current economy, only 5% of the original raw material value is recovered through material recycling and waste-based energy production in Europe (Ellen MacArthur Foundation, 2015).

In a regime perspective the take-make-dispose culture and linear thinking is the most dominant framed practice in the growth regime. It is entrenched in the way of doing connecting to business as usual. Therefore, linear economy over time becomes a constrain on the regime that develops deep reproductive patterns which are challenging to change.

The regime has consequently generated an increasingly amount of waste giving attention to another problem.

#### **5.1.2 The Waste Regime**

As a consequence of a strong narrative in society on economic growth and increasing consumption, we look at the result, which is the waste regime. In Denmark the average person produced an astonishing amount of 786 Kg of waste in 2021 (Eurostat, 2023), ranking Denmark as one of the countries generating the most municipal waste compared to other European countries (Miljøstyrelsen, 2022). For reference, the average European citizen in 2021 generated 530 Kg (Eurostat, 2023).

Therefore, Denmark has become one of the best nations to manage its waste, making Denmark leading in waste treatment and sorting (Europa-Parlamentet, 2023). However, this does not reduce the amount of waste, rather it continues to support the growth of waste and treating of waste.

When looking toward legislation the European Union has set requirements of how waste is to be managed in the Waste

Framework directive (European Commission, 2023), which applies for all members of the European Union. Additionally, it also explains when waste is categorised as waste and distinguishes waste and by-products. EU's waste management and the Waste

Framework Directive is developed upon the waste hierarchy (European Commission, 2023). The Waste Framework Directive could be seen as part of the landscape of waste, in the sense that it dictates what and how waste is to be managed on the regime

level. It sets the direction and legislative rules which both enable and constrain activities such as waste treating and sorting for which regime actors need to act upon.

### The Waste Hierarchy

Both the regime and landscape promote the waste hierarchy, which distinguishes the order of preference for treating and managing waste. In the hierarchy, preventing waste is therefore the preferred option while disposal to landfill is the least favourable see figure 5 (European Commission, 2023).

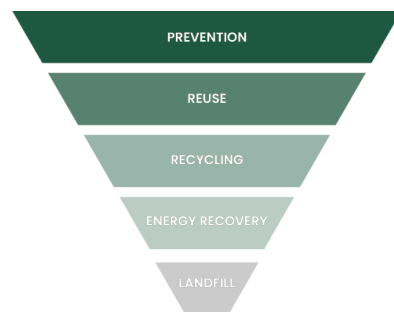


Figure 5 - waste hierarchy adapted from European Commission (n.d)

Within the Waste Directive, the European Union has set necessary targets to comply with the Directive.

It involves:

by 2020, the preparing for re-use and the recycling of waste materials (such as paper, metal, plastic and glass) from households shall be increased to a minimum of overall 50 % by weight
by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste shall be increased to a minimum of 70 % by weight
by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55 %, 60% and 65% by weight by 2025, 2030 and 2035 respectively

Figure 6 - Targets from the European Union for waste

These targets, however, aim at managing waste and do not consider prevention as a means for tackling the huge amount of waste streams.

The same issue was seen in the political agreement and climate plan for the green waste sector and circular economy that were published by the Danish government in 2020 and was followed up by an action plan for CE. Both the agreement and the action plan set new concrete targets for waste sorting and recycling where it focuses on lowering the quantities that are incinerated. However, the action plan has been met with criticism because it does not contain initiatives or targets for waste prevention or increased



reuse which are a part of the higher level of the waste hierarchy and thereby the most preferable initiatives when it comes to managing resources (KL, 2020; Nielsen et al., 2021; Regeringen, 2020).

Consequently, this still does not reduce the amount of waste produced rather it continues to support the growth of waste, the high consumption behaviour and the linear culture of take-make-dispose. For that reason, it accepts the growth perspective that is the cause of the problem in the first place.

The waste regime is dominated by the lower end of the waste hierarchy such as recycling, which is the current path of the regime. The hierarchy acts as a guideline for waste management, but the problem is when regime actors only operate in the lower scale of the hierarchy which often is the easiest choice because then it is not themselves who need to change their way of doing business. The responsibility thus ends at waste treatment facilities and the ones managing these. Yet, recycling is on the lower end of the waste hierarchy and does not address or affect the way we consume or challenge the mindset of people. Therefore, the consumption rates continue and still contribute to the current narrative of growth.

### 5.1.3 Regime conclusion

The current economic growth is part of an immensely stable regime – a dominating structural pathway which has dictated how

the majority of society act and perform; supporting business as usual and how value is created in society focusing on monetary wealth. Related embedded narratives in the growth regime such as growing consumption and waste just continue to contribute to the depth of the issue. Where waste and existing waste handling approaches such as sorting in multiple fractions and recycling are trying to accommodate the aftermath of the consequence of the current economic thinking. The presentation of the current regime provided an understanding of a need for a paradigm change from a growth-oriented regime to a circular society, since it is obvious that the existing regime is overusing the Earth's resources. Transitioning to a circular approach to resources will however require rethinking the way we consume, produce, and manage resources and it calls for a holistic approach like circular society. An approach that prioritizes sustainable practices and can pave the way for a more resilient and environmentally conscious future.

## 5.2 Exploring case examples

In understanding the current narratives on the regime level and the research of the state of the art of CE and CS, we find it relevant to ask: Can we find niches that work with elements of CS? And how can we learn from them? This provides the framing of the question:

*“What other circular society initiatives exist?”*

We have tried to answer this question by looking for niches that

work with CE but tries to expand the concept to have a more holistic approach to CE and thus resemble a more social dimension (transformative CS) in which the state of the art found lacking and are negligibly addressed in mainstream CE.

We have come across various cases that has emerged to counteract the regime through different sources. CirkØ has presented us with some cases, others were discovered through literature. Additionally, we have identified certain cases through our network. By examining the different cases, it became clear to us that there are many different ways to challenge the CE concept and make it more holistic, as the cases and their different approaches to circularity varied greatly.

It is however important to note that not all cases that challenge CE necessarily align with the principles of CS. In our quest to identify niches that effectively incorporate CS principles and gain valuable insights into their implementation, we specifically focused on selecting the cases that showed the strongest alignment with CS among the cases available.

When determining which cases to select, we decided to do a preliminary analysis of the cases based on the elements that CS emphasises on.

This involved considering the following criteria:

- Focus on the higher strategies of circularity on the R-framework
- Citizen driven (bottom up and community driven initiatives)
- Utilization of participation, solidarity, and communality to establish sustainable consumption and production patterns

We selectively chose only those cases that fulfilled all three focal points for the preliminary examination.

### 5.2.1 Selection process

#### **Focus on higher strategies of circularity**

According to the CS literature, it describes that CS should support less consumption through the R-frameworks highest strategies: (R0) Refuse, (R1) Rethink and (R2) Reduce. (Jaeger-Erben et al., 2021a; Potting et al., 2017). Based on this understanding, our focus was on identifying cases that were engaged in initiatives related to these top three strategies of the R-framework. While none of the cases exclusively focused on Refuse, Rethink, and Reduce, a few of them placed significant emphasis on these strategies (figure 7) As a result, we made the decision to approve these cases for further examination and disapprove the cases that did not work with the highest strategies.

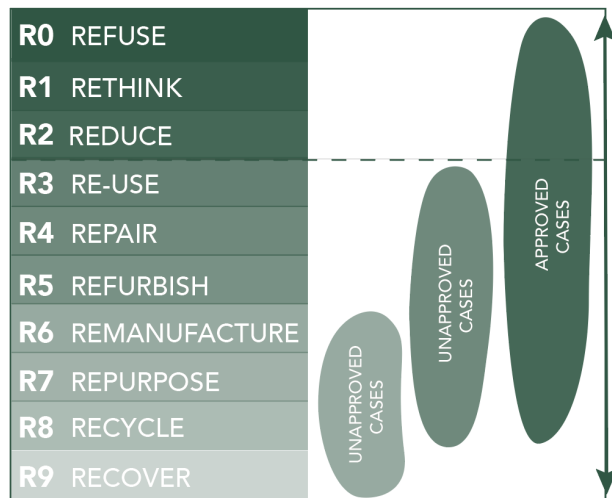


Figure 7 - How different groups of cases was placed in the R-framework

### Citizen-driven

In our selection process, we made the decision to include cases that were driven either fully or partially by citizens and to exclude cases that were exclusively managed from a top-down approach, as our focus was on investigating how local citizen driven initiatives could work with CS.

### Participation, solidarity, and communality

Cases that did not prioritize creating solidarity, communality, or fostering participation to establish sustainable consumption and production patterns were also excluded. This is because CS specifically emphasizes these elements as fundamental for

achieving sustainable consumption and production. This process can be seen in appendix 1.

After the selection process of analysing the relevant cases that works with CS, presented in figure 7. We have identified four cases that we argue can be defined as niches for CS, as they all incorporate these elements.

The following section will introduce the four case examples, providing an overview of the reasoning behind selection of the case and their approach to circularity through various initiatives. To ensure a comprehensive understanding of the case examples, we have made efforts to reach out to actors involved in these cases. This allows us to gather additional information and insights that may not be fully captured in the written reports. By engaging directly with the relevant individuals, we aim to obtain answers to any questions or details that may have been omitted or overlooked in the published materials.

### 5.3 Presentation of the case examples

While the information on the cases primarily originates from case descriptions, we have made efforts to gather additional insights by reaching out to key stakeholders involved in each case. With the exception of the 'Snaga - Ljubljana' case then all other cases will be accompanied by an interview, which will be presented together with the case, respectively.

### 5.3.1 Lejre repair café

We choose to include this example because it is an example of involving citizens in a concrete and engaging way which supports the CE agenda while also considering other social values in the implementation of repair cafés. This example works directly with repair and feeds into reuse of products.

A repair café is a site where citizens can receive help, guidance and learn to repair goods instead of dispose of them. Often a café is managed and based on volunteers called 'fixers' that repairs the delivered items. A repair café is open for everyone to participate regardless of experience. Typically, a café has shared tools, that can be stored on site or fixers can bring their own tools (Landdistriktspulje, n.d.; Repair Café Danmark, n.d.).

Lejre repair café was a project between Lejre municipality, Naboskab (now, Behave Green), Repair café Denmark and was funded by Liv og Land. The project scope was to test if and how repair cafés can be established in local communities and rural areas of Denmark (Landdistriktspulje, n.d.).

#### **How did they do it?**

Startup & preliminary study:

In the beginning of the project, they needed to figure out if there was interest in repair. The project started with a preliminary questionnaire and conducted interviews to understanding if there

were any interests, what kind of interest and which local powers to activate. This research of interest was possible because the project had received funding from Liv og Land and allocated a consultant to the project.

#### **Information meetings & awareness:**

Information meetings was held in those places where there was identified a particular interest. Information about the project and what kind of support the consultant, municipality and Repair café Denmark could provide was communicated. Topics involved: guidance, coordination, recruitment, communication and support for tools and catering. Communication channels included the municipality's Facebook and website, the local newspaper and local events.

#### **Dialog and development:**

Seven villages were interested, where five of them established a formalized repair café with citizens as facilitators. The last two did not have local capabilities to carry out the idea in practice.

#### **Openings & communication:**

The municipality directly helped with making the repair café visible through the municipality's communication channels. Local press was present, and the mayor agreed to cut the red ribbon. A welcoming atmosphere and the repair itself were the responsibility of the local volunteers of the café.

### Dialogue across repair cafés:

The project experienced an increasing demand from the repair cafés to share experiences with the other repair cafés, to become part of the community and to support each other. Therefore, there was arranged a transversal meeting for the possibilities to network, have fun, exchange of experience and build relationships across all the cafés (Landdistriktspulje, n.d.)

### Results:

- Four repair cafés continued to operate after the project period.
- New relationship between the municipality and the local community
- Strengthen community in the villages – forming of local meeting places
- Raised awareness of personal consumption

### How the case works with CS

Repair Café initiatives works for CS in a practical manner by promoting repair as an integral part of everyday life and engaging individuals in circular practices. Unlike top-down approaches, they prioritize active participation and envision a society where people are knowledgeable contributors to circularity. The concept of a "Café" signifies the importance of fostering connections within local communities. This aspect is fundamental to their way of

operating since it is through these social connections that Repair Café initiatives cultivate the essential repair knowledge and skills required for a thriving circular society. With the assistance of the municipality, Repair Café initiatives offer citizens the opportunity to actively contribute to sustainable change while also supporting their local community. While Repair cafés direct environmental impact may be modest, they aim to shift mindsets and promote a different perspective on possessions and repair, which can lead to significant indirect environmental benefits.

### [Interview with waste planner from the municipality](#)

Malene Krogh from Lejre (21.04.2023)

Interviewee:

Malene Krogh is waste planner for Center for Technology & Environment in Lejre municipality.

We had the opportunity to participate in an interview with Malene, who was the waste planner from Lejre municipality during the repair project. Birgitte Hoffmann, who is the project manager from Aalborg University for the CirkØ project had set up the meeting and thus the interview questions. We wanted to participate in the interview because the Lejre initiative showed such promising results after the project ended. Therefore, we wanted to know the aftermath of the initiative and current challenges and success of the

repair cafés. The interview insights presented are the main points that were relevant for this thesis project. The complete interview can be found in Appendix 2.

### **Interview insights:**

#### **Annual meetings**

Malene invites all café-coordinators for an annual meeting where her role involves sharing knowledge and inquiring about the needs of the cafés, where she encourages the cafés to contribute with their expertise and make them feel like they are part of the municipality. She mentions the municipality is currently working on establishing a fund for the cafés to apply for. By listening to them and providing funding, even small amounts can have a significant impact. Other than that, all cafés operate without her.

#### **Challenges**

Visitors: There is a need for more citizens to drop by for repair services. To facilitate the meeting point between citizens and repair services is difficult, because it is challenging to make it a habit for people to get their things repaired. She highlighted the challenge to broaden the citizen group. It was also mentioned that there were difficulties in getting followers and create a supportive environment around new ideas and visions.

### **Values and tendencies**

She expressed that repair cafés contribute to so many other values such as the senior community and village identity. It symbolizes what kind of place Lejre is (e.g., a place that can do something, be proactive, potentials and feelings for the place you live in).

Community, branding, male communities.

She experiences men are often the ones that fixes and women manages the administrative elements and the contact with the municipality.

### **Experimentation**

Malene explained one of the repair cafés experimented with broadening the target group by engaging a daycare to inform parents about the initiative. It failed with the parents however inspired the institution to focus on repairing their moon cars and toys, etc. She sees potential in collaboration with schools which needs to be strengthened and anchored.

### **Mobilisation**

From her experience the repair cafés lack visible effects of their work to keep them engaged. For example, by seeing many people using the cafés or achieve high results in what they have repaired (in terms of weight). She questions the time, energy and resources of the volunteers in relation to when they no longer can manage to continue their efforts.

Another aspect is the dissemination of their result, which we found quite interesting. Both Solrød and Odsherred have contacted her regarding starting their own initiatives.

### 5.3.2 The city of Roubaix

Another case example is the city of Roubaix. In Roubaix nearly half of its population lives below the poverty line. The metropolitan was dependant on its neighbouring towns to shift focus to zero waste within collection and treatment of waste, however it failed to do so. This became a huge driver to successfully mobilize citizens towards a zero-waste mindset where the focus point was on the practices around waste thus at the source of the problem (Zero Waste Europe, 2018).

Due to its unique characteristics, Roubaix did not only want to work towards less waste to address issues such as street cleanliness and climate actions, but adopting circular principles could also mean economic savings for the low-income population, revitalization of small businesses, improved welfare, a sense of pride in Roubaix, and a stronger connection between citizens and the Town Hall (Zero Waste Europe 2018, 2018).

### How did they do it?

#### Engaging families:

Roubaix launched a 1-year voluntary challenge in 2015, urging families to reduce their waste production by 50%. Promoted via a leaflet in the citizens' mailboxes, with the goal of involving residents in the transition to zero waste. 100 households accepted to participate and were given weighing scales to measure their non-residual waste. A requirement was for the families to participate in 14 workshops throughout the year. The workshops covered topics for everyday ideas to reduce waste. Topics included: homemade cleaning supplies and cosmetics, food waste reduction, and composting. Local associations were involved in the training. The modules were repeated throughout the year to accommodate participants' schedules and interests.

Participants in the challenge had varied motivations for taking part. Some were environmentally conscious and were encouraged to take action by the municipality's support, others were primarily motivated by a desire to change their lifestyles, save money, or be part of a collective project.

The success of the initial family challenge inspired more people to participate, as they witnessed the positive impact on their neighbours and realized its feasibility. During the second round of family challenge, some of the initial participants took on the role of

coaches for the new round. This initiative works with refuse, rethink, reduce and recycling.

**Results:**

- The family challenge played an essential role in driving the zero-waste strategy by mobilizing a critical mass of people in town who support the transition to circularity. It has had a ripple effect, impacting their social circles, neighbours, and the local shops where they purchase goods
- After one year, 25% of participating households managed to reduce their waste over 80% and 70% of them reduced it by 50%.
- In the 2016 challenge, 120 households have joined the initiative (Zero Waste Europe 2018, 2018)

**Involving schools:**

Roubaix piloted a holistic program in four schools of different sizes. More schools then joined and adopted specific actions. The aim was to gather enough information to roll-out the program to all education centers in Roubaix.

Actions towards zero waste focused mainly on school canteens and included:

- Training 150 canteen staff members
- Implementing new systems for separate waste collection
- Reducing food waste

- Establishing composting sites on school premises
- Replacing disposable tableware with reusable options like trays and napkins
- Providing reusable tableware for classrooms
- Offering guidance for school events.

This initiative works with reduce, reuse and recycling.

**Results:**

- Staff and children were able to integrate the changes and expressed their satisfaction.
- Parents have started discussing the zero waste changes during pick-up time, which has facilitated the growing interest. Resulted, that the town hall is planning to develop specific guidelines to encourage other schools to adopt the zero- waste approach. The goal is therefore to replicate the success achieved in Roubaix and extend the initiative to other communities (Zero Waste Europe 2018, 2018).

**Support from merchants and businesses:**

All the initiatives described above created interests among merchants and businesses. The households who took the challenge received a voucher equivalent to half their waste fee (150€) to spend in those shops, reinforcing the local economy.

The city helped shops, cafes, and restaurants to integrate zero waste strategies into their business models. The municipality



introduced assessments of the waste generated by businesses and suggested targeted measures for waste reduction. Additionally, they have launched a call for projects to encourage bulk selling. To become a zero-waste business, each merchant must commit to specific actions tailored to their business type.

This initiative works with rethink, reduce, reuse and recycling (R-framework).

Results: Over 30 small businesses supported the transition of those living zero-waste (Zero Waste Europe, 2018).

### **How the case works with CS**

In Roubaix, there are several initiatives actively working towards achieving a circular society. These initiatives have a primary focus on raising awareness among citizens about their current consumption patterns and resource utilization. They aim to provide citizens with the necessary knowledge, skills, and tools to change their habits and contribute to circularity.

While Roubaix is known for its emphasis on circular economy, we argue that many of their initiatives go beyond mere environmental concerns and actively contribute to the development of a circular society. These initiatives place significant importance on engaging citizens from diverse social backgrounds. They recognize the various benefits that circularity can offer, such as promoting street cleanliness, achieving economic savings, improving welfare,

fostering city pride, and strengthening the relationship between citizens and the local government.

Roubaix serves as an exemplary model for the creation and scaling of circular society initiatives. The city has been committed to this approach to circularity since 2014, and it has become an integral part of its operations, demonstrating the successful integration of circular principles into a community.

### [Interview with the former lead of Roubaix's zero waste project](#)

Alexandre Garcin from Roubaix (12.05.2023)

Interviewee: Alexandre Garcin the deputy mayor of Roubaix, who led the Zero waste project of Roubaix.

We arranged an online interview with Alexandre Garcin to learn about the current status of the Zero waste project, almost a decade after it started. The prepared interview questions can be seen in appendix 3.

Alexandre shared that the project has made significant progress since its launch in 2014, with Roubaix continuing its strong focus on the circular economy. They have implemented an ambitious policy that promotes a pragmatic, socially conscious, and positive ecological approach.

Roubaix recently released a new circular economy strategy for 2022-2026, building on the foundation of the Zero waste project.

The strategy includes actions such as knowledge sharing, highlighting circular economy initiatives, and promoting the city's reputation through the Circular Economy (Ville de Roubaix, & Économie Circulaire Roubaix, 2022).

### **Initiatives**

Many initiatives from the beginning of the project have expanded, such as the family challenge, that is now an annual event and supporting waste merchants that wants to transitioning to circular practices. However new initiatives, like upcycling competitions, have also emerged.

Alexandre also shared a website with us that were used to share knowledge about all the different initiatives that Roubaix provides. (Zéro Dèchet Roubaix, n.d.)

Alexandre was very happy with the significant impact the Zero waste project has had on Roubaix's citizens. Some participants support the initiatives because they care about the environmental others join because they want to adopt a healthier lifestyle, and some appreciate the cost-saving benefits of resource reduction.

### **5.3.3 Snaga - Ljubljana**

Next is the example of Snaga, which is the waste management system in Ljubljana. We have chosen this case due to their noteworthy accomplishments and endeavours in achieving zero

waste. Snaga has been working with circular economy since 2004, they have devised various fascinating approaches to becoming more circular, which can serve as inspiration for others. These initiatives encompass grassroots movements, waste reduction and sorting, and altering stakeholders' mindsets towards a scheme that initially lacked appeal (Erika Oblak, 2019).

### **How did they do it?**

Snaga employed three main strategies:

- Door-to-door collection of organic waste
- Reduced collection frequency for residual waste
- Robust communication strategy focusing on prevention and reuse

### **Circularity Initiatives**

#### **“Get used to reuse”:**

This initiative is aimed at promoting socially responsible behaviour by encouraging the reuse and consumption of products in a way that respects our environment, ourselves, and our finances.

This was done with the help of:

- a “recycled” song “Letiva (Let’s fly)”
- a video manifesto
- posters
- container stickers

- events and workshops in district communities and the Re-use Centre with online, social and educational activities,

Result: In 2014, 75 items per day changed owner while in 2018 this number increased to 150 (Erika Oblak, 2019a).

#### **“Raise your voice against food waste”:**

Snaga made a campaign aimed to educate and empower individuals to reduce food waste and promote a more sustainable approach to consumption. One of the events related to the campaign consisted of people taking the streets and saying slogans such as "Even though we stand in the streets, it does not mean we are hungry!" and "We are fed up with food waste" they were used to draw attention to our wasteful behaviour and encourage change (City of Ljubljana, 2014; Erika Oblak, 2019b).

#### **Snaga changed the waste collection scheme:**

In 2013, Snaga reduced residual waste collection frequency after successful door-to-door collection in Ljubljana. Initially, low separate collection areas opposed the change, causing overflowing containers. Despite the pressure, Snaga continued with the reduced frequency and improved communication. They arranged a media trip to show residual waste containers filled with recyclables. This exercise changed media opinion, who joined Snaga in requesting citizens to better sort their waste.

Result: Ljubljana's initiatives decreased the average monthly waste expenses to €8.20 in 2018. This is one of the lowest rates in Slovenia, with less than €100 average yearly cost for households compared to the national average of €150/year (Erika Oblak, 2019b)

#### **How the case works with CS**

Ljubljana is actively engaged in multiple initiatives that contribute to the promotion of a circular society. They serve as a notable example due to their extensive experience in circular practices which initially focused on (R8) Recycling, that is placed in the lower parts of the R-framework, but over time, their efforts have successfully shifted towards emphasizing higher-level strategies in the R-framework such as (R0) Reuse (R1) Rethink and (R2) Reduce. Ljubljana has managed this by implemented campaigns aimed at educating citizens, raising awareness, and preventing food waste. These initiatives, along with a range of events and workshops, have not only fostered a greater emphasis on resource utilization but also provided valuable social and educational opportunities. By targeting these areas of the R-framework, Ljubljana aligns with the core principles of a circular society. Furthermore, Ljubljana has effectively communicated with its citizens about the necessary changes in waste management practices. Instead of alienating the public, they have managed to garner support and cooperation, which is crucial for successfully implementing sustainable changes towards a circular society. Through their diverse efforts, Ljubljana

actively contributes to the advancement of a circular society by promoting awareness, education, and sustainable practices in waste management and consumption.

#### 5.3.4 BOFA – Waste management on Bornholm

BOFA is the waste management authority on the Danish Island of Bornholm. BOFA plans, builds, and operates the facilities required for Bornholm's waste treatment and recycling from the regional municipality. BOFA is chosen due to their ambitious vision and innovative mindset of searching for new directions to achieve zero waste.

##### **How did/do they do it?**

In the waste plan 2022-2034 for Bornholm, specific areas of action underlines Bornholm as a pilot site for testing innovation and citizen engagement (Christensen et al., 2022):

- Collaboration with BOFA's (private sector) waste collection service provider
- Co-financed development activities with external stakeholders
- Dialog and engagement with citizens
- Zero Waste Bornholm - An innovation and partnership platform

##### **Waste free island in 2032:**

BOFA's vision is called "Bornholm showing the way - without waste 2032," it focuses on finding other, more sustainable waste management alternatives to incineration, as Bornholm's incineration plant will be closed in 2032. To avoid the construction of a new incineration plant, BOFA aims to create more sustainable waste services on Bornholm until 2032, with the goal of making Bornholm the first Danish and Northern European green island. The vision has received international attention because of its radical approach and have creating a global dialogue surrounding the pursuit of a zero-waste island. (Christensen et al., 2022). Given Bornholm's small size, environmental aspirations, and geographical position, Bornholm stands as a tangible and credible model for guiding the transformation of a society from a linear to a circular economy. The island's waste management system has played a crucial role in this transition, fostering close collaboration with both citizens and businesses. By actively involving and engaging stakeholders, Bornholm showcases a practical approach to successfully implementing circular practices within a local community (BOFA, 2019; Christensen et al., 2022).

##### **Research and partnerships:**

"We are continuously seeking interesting partnerships, so that we together can crack the code for a zero-waste society," Director Jens Hjul-Nielsen states (Christensen et al., 2022). To boost partnerships and research BOFA often work with students and

universities and takes part of international projects supported by EU funding. Currently, BOFA participates in five EU-funded projects: SYMSITES, HEPHAESTUS, REDOL, Circular Economy Beyond Waste, FREIIA. Additionally, BOFA manage their own innovation platform called Zero Waste Bornholm, which involve partners from various sectors to develop solutions for Mega Challenges identified for Bornholm. This initiative works with reduce, reuse, repair and recycling.

#### **Citizen engagement:**

BOFA has a visitor center where they host sessions on waste and circular economy for schoolchildren of all age groups. Furthermore, BOFA has developed an outreach program in collaboration with schools on Bornholm, that focusses on developing curricula and establishing waste bin stations as a pedagogical tool for introducing knowledge about circular economy from an early age (Christensen et al., 2022).

This initiative works with refuse, rethink, reduce, reuse and recycling.

Result: BOFA visitor center has one of the highest per-capita visitor numbers for a municipal waste company in Denmark with 3,000 annual visits.

#### **How the case works with CS**

BOFA participates in moving towards a circular society through their diverse strategies and initiatives. One notable aspect of their commitment is their proactive approach to staying informed about the latest research and knowledge on waste management. They collaborate with universities and participate in international projects funded by the EU to explore innovative methods for achieving waste-free operations. This dedication to embracing new research demonstrates their determination to lead the way in waste management advancements. BOFA's initiatives and visionary plan have gained attention and engagement from both local stakeholders in Bornholm as well as external actors. Their efforts have started a meaningful dialogue surrounding the pursuit of a zero-waste island. Because of this has BOFA become a prominent actor in the circular society movement, serving as a source of inspiration for others and contributing to the overall development of circular practices.

#### [Interview with BOFA](#)

Cecilie Zingenberg from BOFA

Interviewee:

Cecilie is a project manager and civil engineer at BOFA, Bornholm's Waste Treatment under the Regional Municipality of Bornholm.

We conducted an interview with Cecilie from BOFA to learn more about how the Danish Island of Bornholm is working towards their 2032 vision of achieving zero waste and to be a 'Green Living Lab'. We were curious about the specific actions BOFA takes to achieve their goals. Which was evident in our preparation of interview questions.

In preparing interview questions, we researched BOFA's vision and explored its website for concrete actions it has taken towards reaching the vision. The questions and in-depth interview insights for Cecilie can be found in appendix 4.

### **Interview insights:**

#### **Island/Lab**

Islands does generally not have as many resources when it comes to waste management as the mainland of Denmark which support Bornholm as a place for experimentation. A difference of being an island is that there are fewer external influences which makes the citizens of the island more involved and have a closer relationship with each other.

#### **Challenges**

Cecilie highlighted several challenges associated with transitioning to zero waste at the citizen level, including embedded routines and the prevailing mindset regarding waste disposal. One specific example she mentioned was resistance to change from older

citizens on the island which hold the belief that all waste ultimately is landfilled or incinerated, indicating a lack of trust towards waste being recycled. BOFA tries to tackle the mistrust by sharing knowledge with the citizens.

#### **Initiatives provided by BOFA**

BOFA educate citizens through a bus that drives around the cities on Bornholm to inform them about waste management. Additionally, they provide a school service where 4000 students a year learn about waste and recycling, which is also aimed for children to influence their parent's routines.

#### **Private initiatives**

There are many initiatives regarding reuse and recycling on the island. Multiple thrift shops have collaborations with local sport clubs where the shop collect usable items on the island for resale and the profit goes to the sport clubs. Another initiative is a Facebook page named "last stop before BOFA" where the criteria include item must be free of charge or for exchange only. No money involved. Lastly, Cecilie mentioned the Bornholm Market, which is the island's version of DBA which is quite popular.

### 5.3.5 What did we learn from the cases?

Through the literature study did we identify that the existing literature on CS lacks practical examples (Jaeger-Erben et al., 2021a). However, as discussed in the preceding chapter, we have discovered that circular society initiatives do exist and are projected in different ways. These initiatives may not explicitly identify themselves as working with CS, as they might preview their actions as being a part of CE or just a sustainable way of living. Despite the diversity in terminologies and perspectives, these examples demonstrate the practical implementation of CS initiatives that emphasises on participation, solidarity and communality to establish sustainable consumption and production patterns (Jaegar et al., 2021), and can therefore be viewed as CS niches (Geels, 2002). To further the understanding of how CS can be realized in practice, the presented case examples serve as valuable sources of insights. These cases demonstrate that communities can proactively engage in aspects of CS even in the absence of dedicated legislation or regulations. They exemplify self-organization and offer practical initiatives to address social and environmental challenges within local contexts. Examining these cases has provided valuable insights into how to implement circular society principles in everyday settings.

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## 6. Genskabet



## 6 Genskabet

In this chapter, we introduce the volunteer association Genskabet. The information presented here draws from various sources, including data obtained from their website, insights derived from CirkØ's empirical work (Hoffmann, n.d.), and empirical data gathered through presentations and conversations during our visit to Genskabet, for complete workshop notes see appendix 5. The methods in which we used to collect the empirical data is presented in chapter 4. An analysis of the collected data will be presented in chapter 7.

### 6.1 The vision of Genskabet

Genskabet's vision is to be a sustainable, user-driven multicultural house with reuse and recycling as a focal point. A recycling center with repair and recycling of recyclable items, with both workshops and the shop itself. To become a sharing mecca where tools, cars, trailers, etc. are shared. A demonstration house for alternative energy, energy renovation and rebuilding. A meeting place with opportunity to creative expression and socializing for all ages. And an information center with exhibitions, tours, lectures, courses, events and more (Genskabet, 2023).

Through participant observations and presentations from the board members of Genskabet their goal is to be a zero-waste island and to buy their own property. They are actively working towards saving enough money to buy the house they are renting.

### Timeline - Genskabet

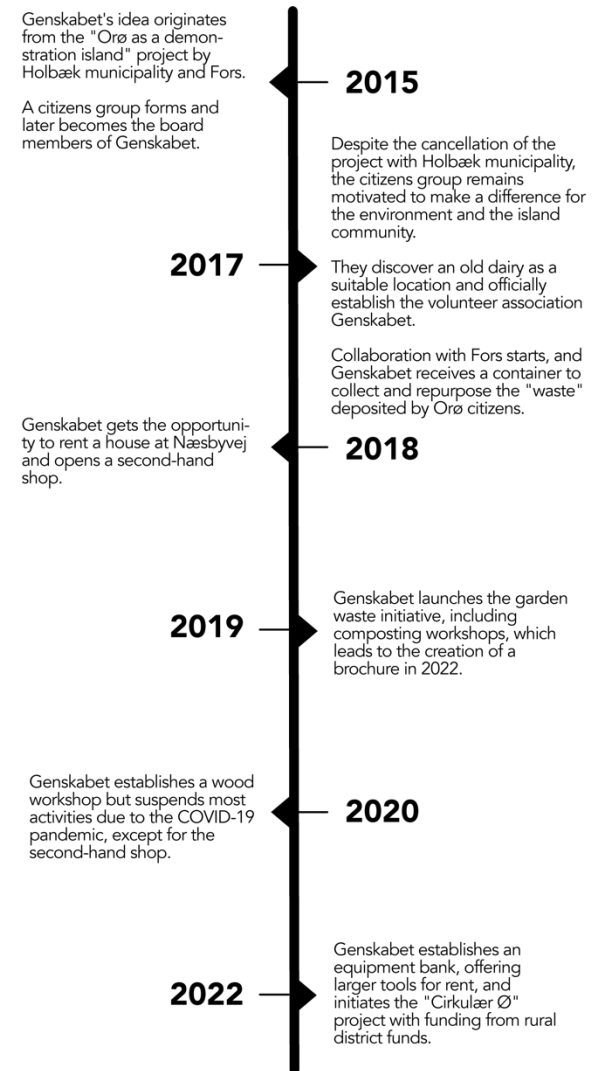


Figure 8 - Timeline of the establishment of Genskabet

## Establishing Genskabet

The beginning of the idea of Genskabet started back in 2015, where the project "Orø as a demonstration island" initiated by Holbæk municipality and the public utility Fors with the aim of experimenting with waste sorting and recycling. A citizens group was formed on this behalf to participate in shaping the project (which is now boardmembers in Genskabet). Later, in 2017 the project with Holbæk municipality gets cancelled. However, this group of citizens had visions, ideas and drive to do more for the environment and the community on the island. They found an old dairy as a location for their visions and activities and officially established the volunteer association of Genskabet. This ignited a collaboration in a material sense with Fors, which provided a container for Genskabet to use. This container is used for the citizens of Orø to place their "waste" to be sold or reused in Genskabet. In 2018, they moved to new facilities on Næsbyvej and since then they have created different initiatives including courses, workshop and an equipment bank (figure 8).

### 6.1.1 Broadened vision

In the beginning at the opening of Genskabet there was this misconception from people thinking it was a private shop and people did not know what it was or what was sold. It was articulated quite mysterious, but then it gradually became more visible with the move to Næsbyvej. Over time, especially for elders on the island the shop became an active part of the island society.

Renting the house made Genskabet as a second hand shop much more visible and got acknowledged by the island. People notice it by driving by and understands the concept of dropping off items in the container and the shop. This is visible by the increase of people who want to hand in their things, which is a clear development over the years.

However, many people believes that they are only a second hand shop. Since, it is the only visible thing. The rest of the activities are more invisible, and people do not seem to understand the vision for the place.



Picture of Genskabet - source: authors

## **Genskabet - More than a second hand shop**

Genskabet view themselves as more than a second hand shop. Genskabet is a meeting place for the citizens of the island, it is a community managed collectively and driven of volunteers.

Besides the shop, activities include upcycling groups every Tuesday evening, inspirational presentations and courses such as grinding courses, glass cutting, how to use tools and equipment courses and courses related to how to have a more sustainable lifestyle. Genskabet offers repair as well and has tested different set-ups however it has not been implemented as a regular occurrence. Moreover, occasionally they offer presentations and debates with experts and professionals sharing knowledge on specific topics to inspire and make everyone smarter about sustainable choices in everyday life, in construction and the local community.

### **Organisation**

Genskabet is organised in workgroups with a horizontal structure. It seeks to have sociocracy as its governance system. Genskabet is membership based and for 100 kr. Pr. Year members supports the associations activities and gives access to the use of the workshop, sharing facilities and the equipment bank. Currently, around 60 members are enrolled where 20 of them are actively involved in the daily operations.

The association Genskabet have a collaboration with Fors A/S, therefore everything that is sold in the shop and from the container belongs to the waste fraction of direct reuse from Orø's recycling sites (Genskabet, 2023).

### **Challenges**

Genskabet has reached a point in their development where they are reconsidering their way of working and what strategy is best fit to achieve their vision. Now they are a certain size it is difficult to manage and yet they need more members who wants to take an active part in the daily work. Going from having no members and customers to where they are now is incredible as it is, however, challenges such as resources threatens the place as well as scaling their efforts to engage more people and anchor their vision.

## **6.2 Fællesskabet Fanø**

Although, the case of this thesis is focused on Genskabet, in the CirkØ project there is two Danish Islands involved Genskabet from Orø and Fællesskabet Fanø from Fanø (Hoffmann, 2022b). And hence one of the main activities in the CirkØ project is the exchange of knowledge and cooperation between the islands we find it useful both for the understanding of our analysis and thus our paper to present Fællesskabet Fanø. By introducing Fanø its insights become equally relevant and contributes to the scope of the thesis.

Fællesskabet Fanø is the name of a plan for the development of a

sustainable Fanø which is developed by the committee for green transition and sustainability on Fanø. The development of the plan started in 2019 and got adopted by the City Council in 2020 (Fanø Kommune, 2020). The Fællesskabet Fanø plan had identified seven themes to work within sustainability. It covers:

- Sustainable and circular economy
- Tourism
- Construction
- Foodstuffs
- Biodiversity
- Recycling
- Transportation

The plan also specifies the vision which is:

“In the future, everyone on Fanø will contribute via small and major efforts for the green transition. Everyone knows that they can make a difference and take responsibility for their own actions. The awareness that people and nature are connected is strong, and it helps to strengthen the experience of coherence. Fanø is a community you want to be part of - A community you both travel to and move to in order to be part of” (Fanø Kommune, 2020, p.3)  
(translated by the project group).

Following the development and adoption of the plan, the most recent local elections in 2021 resulted in the formation of a new mayor and local council. Unfortunately, this meant that the

adopted strategy was neglected. However, a few from the initial citizen group who helped shape the plan and other interested formed their own independent workgroup. This passionate group of citizens has continued the plan’s work and has undertaken the plan’s framing more loosely. This group of people therefore seeks inspiration to initiate concrete efforts to be implemented on the island (Hoffmann, B., n.d.)

Due to this, Fanø finds itself in a very different position compared to Genskabet in their process of becoming a circular community. Genskabet is already relatively established as a circular community, while Fanø is just starting to establish their initiatives.

### 6.3 CirkØ workshop

As mentioned previously, the project group visited Genskabet at the Danish island Orø in connection with a CirkØ workshop. We participated to gather empirical knowledge on the CirkØ project and our case Genskabet. Therefore, this chapter presents the setting and framework during the visit.

#### **Our objective**

Our primary objective for the workshop was to gain a deeper understanding of Genskabet, Fællesskabet Fanø, and CirkØ. We envisioned that our visit to Orø would provide us with valuable insights into these volunteer associations and their operations. We wanted to learn about their various initiatives, understand their

working methods and explore their visions, with a particular focus on their engagement with CS. Consequently, we maintained a CS perspective throughout the workshop, enabling us to address the following sub-question:

- How does Genskabet enable participation, solidarity, and communality for the local community?

In addition, we sought to connect with representatives from Genskabet and Fælleskabet Fanø to gain insights into their achievements, challenges, and motivations.

Furthermore, as part of the CirkØ framework, the workshop aimed to foster knowledge exchange among local communities engaged in circular economy initiatives. Therefore, it was advantageous for us to explore the significance of knowledge exchange for Genskabet and Fælleskabet Fanø, as well as the benefits they derived from participating in such sessions. We aimed to unfold the values it provided and the insights they gained for their future endeavours.

### Setting the scene

The CirkØ workshop consisted of a two-day exchange workshop to Genskabet on Orø the 6<sup>th</sup> and 7<sup>th</sup> of May 2023. The workshop was planned to be the first time the partners from Fællesskabet Fanø visited the association of Genskabet on Orø.

On first day the agenda included introductions and presentations of everyone since it was the first meeting where everyone was gathered. A presentation and tour of Genskabet including information on the creation of the organisation, their activities and initiatives. The second day was workshop based and consisted of presentation with insights and inspiration from the project managers and a vision and mobilisation workshop.

### Participant demographic

In the introductory session of the workshop, all participants were requested to introduce themselves. Despite their shared involvement in the Circular Ø project, the group consisted of diverse individuals. In the following figure a visualisation of the participants at the workshop is provided (figure 9).



Picture of workshop participants outside Genskabet -source authors



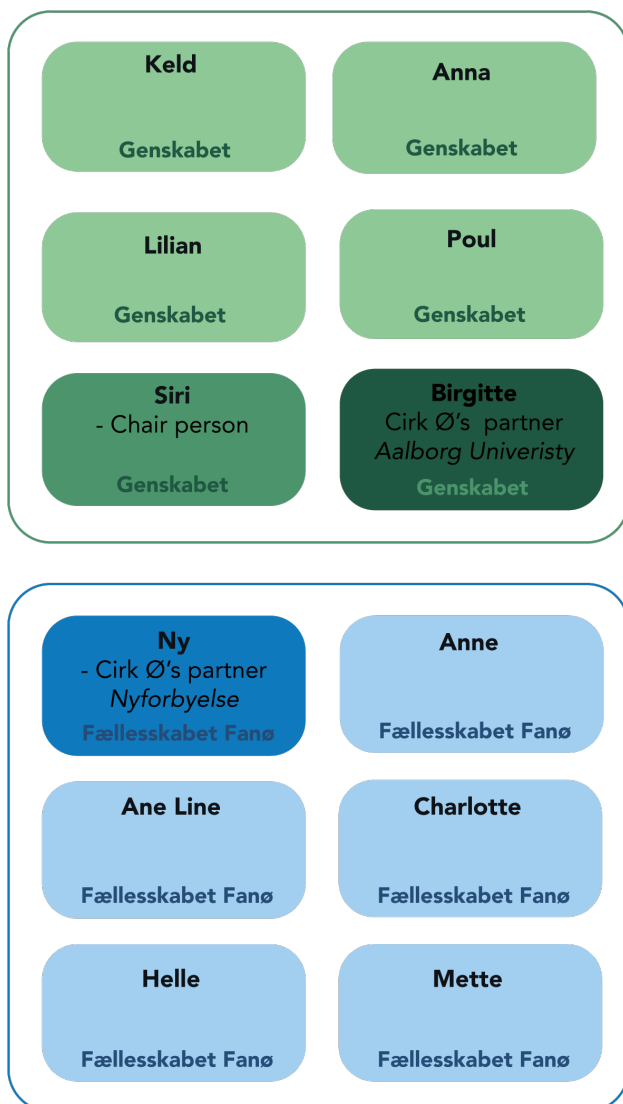


Figure 9 - Workshop Participant: Green is the people from Orø & blue is the people from Fanø

## Interview guide

Before the workshop we had prepared a few questions to ask the participants of the workshop, the questions were:

- Why are you a member of Genskabet/Fællesskabet Fanø?
- What did you gain from attending this weekend at Orø?
- What initiatives did you find interesting, and want to include in their future work?

We asked these questions at the end of the workshop days after two days filled with new impressions and insight. They were recorded on a phone and the transcriptions of the interviews can be seen in appendix 6.

When collecting the data, it was only the participants attending the exchange of knowledge workshop which insight was collected, and thus not all members of Genskabet and Fællesskabet Fanø are represented. The empirical data produced from these interviews is analysed in the next section.

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# 7. Analysis

## 7 Analysis

In this section an analysis of the empirical data is presented with the analytical framework: Matters of Concern (MoC).

Based on the collected empirical data four different MoC's are identified for what the different participants found interesting and valuable for being a member of Genskabet, they are:

- Community
- Climate/sustainability
- Use and/or develop skills and competences
- Influence Genskabet

An overview of the data is compiled in figure 10. The figure illustrates all interview statements from the semi-structured interview. The interview statements are all translated from the original language to English by the project group. The complete data can be found in raw transcriptions in Appendix 6.



Figure 10 - Overview Genskabet's different MoC



## 7.1 Presentation of the different MoC

### **Community (Orange)**

One of the identified MoC in our analysis is community. This is based on empirical findings from the interviews. The Community MoC focuses on fostering a sense of community. Some actors' values establishing relationships and building a network with others. An example for this viewpoint is Keld from Orø who explains:

"I came over to Orø and was completely alone. I didn't know anyone at all. No one comes up to you and asks if you want this or that, you have to be outgoing yourself, and then I tried Genskabet (...) I think Genskabet is fantastic, and it doesn't matter if you're an old grump like me or if you're young, everyone meets and talks together, it's very social and nice, good friends." - Keld

Keld joined Genskabet partly because, as a newcomer to Orø, he wanted to meet local residents but also to make new friends and create a social network for himself. Therefore, this becomes an important value for him.

For others the primary importance in community lies in collaborating with fellow community members to create tangible value. An example of this viewpoint is Lilian from Orø:

"I have previously been involved in scouting and sports club activities, that mechanism of participating in a community that is something different from a friendship where you only drink coffee,

but instead do something together that has a utility value [and is one of the reasons why I am still a part of Genskabet]" - Lilian

For Lilian, it is not necessarily only the social aspect of interacting with people that she values the most, but rather the collective effort and tangible impact that can be achieved when the community works together towards a common goal.

This "Community" MoC also highlights the importance of social values in driving change such as communality and solidarity as important aspects which may be seen as factors that current CE approaches neglects.

### **Sustainability (Green)**

To have the "Sustainability" as a MoC is focussing on respecting the Earth's limited resources but can be expressed in different ways and of different levels of engagement towards the sustainability agenda. Some individuals prioritize the well-being of future generations, while others focus on creating sustainable employment opportunities and some might solely focus on the recycling of products.

The actors related to this MoC therefore all care about the Earth's resources in some degree, but they show it, or act upon it in different ways and to different extent.

We will show this with a Sustainability figure (figure 11) developed by the project group based on the empirical findings which in this “sustainability” MoC is based on interview findings, conversations between participants and the project group and from the introductory presentations of everyone.

On one side of the figure, there are actors who engage in small everyday actions such as waste sorting. On the other extremity, there are those who take significant actions such as participating in demonstrations or serving as pioneers in grassroots movements. The sustainability figure also takes into account the time invested by individuals in sustainability-related actions, which influences their position on the figure.

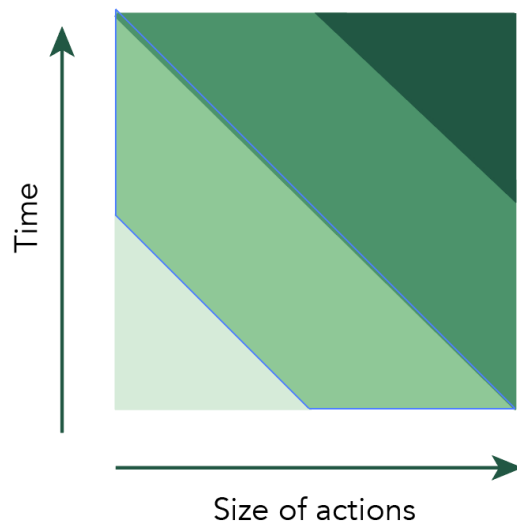


Figure 11 - Sustainability figure developed by the project group

The darker green an actor is placed; the more time and energy is devoted to the sustainability agenda.

The purpose of the sustainability figure is to differentiate between actors who are deeply committed to creating a more sustainable world and those who engage in occasional small sustainable actions. As a result, Genskabet addresses the diverse needs of the actors in various ways, even though they share a common concern.

An example of actors that is deeply committed to creating a more sustainable world and would be placed in the dark green area of the sustainability figure is Poul and Anna. Poul has been deeply immersed in the climate agenda for numerous years, actively engaging as an activist in the fight against climate change. He is driven by a profound sense of injustice and anger towards the consumer society and the textile industry that holds significant influence over the climate.

When asked about the motivation behind his participation in Genskabet, Poul stated:

“Indignation. A terrible anger towards consumer society, especially the textile industry” - Poul

Likewise, Anna has actively engaged in activism for many years. Ever since she was a child, she has been concerned about the greenhouse effect. She is driven by the slow progress of things,

which made her do small actionable initiatives for herself. She mentions:

"There is so much talk and nothing is happening [...] That's why I just wanted to do something concrete from now on. It may be very little, and it may mean very little, but every little bit counts." - Anna

Another person is Keld, who serves as an example of an actor placed in the mid green area. While he may not have a strong focus on sustainability activism or a desire to drive systemic changes, he demonstrates a significant commitment to sustainability in his personal life. Keld invests considerable time in sourcing sustainable materials for his own house and finds value in being a part of Genskabet.

"I spend a lot of time finding sustainable materials to build a house with" - Keld

Participating in Genskabet not only provides him with social connections but also contributes to a meaningful cause.

During our visit to Orø and interactions with the members of Genskabet, we observed that none of them would be classified in the lightest green area of the spectrum. All the participants we met were actively involved in circular initiatives and dedicated substantial time and effort to the sustainability agenda.

This "Sustainability" MoC emphasises the individual's engagement to act for the planet and counteract the current regimes narratives

of growth, consumerism and waste. It also showcases the mindset and interest of the participants.

### **Use and/or develop skills and competences (Blue)**

This MoC is based on empirical findings from the interviews. Having a MoC related to the desire to use and/or develop skills and competences can be associated with the management and operation of Genskabet as an organisation. Some members possess knowledge about organisational management and wish to utilize these competences, while others are interested in acquiring knowledge about running an organisation. Additionally, it can also be directly associated with the shop Genskabet. Here, members have the opportunity to learn or teach specific skills or competences, such as creating art, upcycling, or repairing objects.

The member Lilian belongs to one of those whose MoC is to develop skills and competences within the organisational work, she states:

"I have served on the board for several years and have a personal ambition to become skilled in board work" - Lilian

Lilian's membership in Genskabet is driven by her desire to enhance her personal skills in board work.

Siri also shares this MoC, but her focus is on acquiring new skills and competences, utilizing her existing ones, and sharing knowledge with others. With a design background, Siri aspires to

develop upcycling projects and teach others how to engage in such endeavours. She states:

“Personally, I have some dreams of realizing upcycling projects, and I also have ambitions for teaching” - Siri

But she also wishes to learn more about the organisation of Genskabet and to explore how to work with sociocracy in practice, contributing to expanding her knowledge.

“Creating something new from something old is something I find extremely exciting, but I also find all the organizational aspects equally fascinating. Currently, we are working with sociocracy, which offers some opportunities that I am looking forward to exploring even further” - Siri

Another member is Birgitte that see use her professional skills where she sees herself contributing with more organisational aspect to Genskabet:

“I think I will continue [to engage] with my sort of professional perspective and ask, how can this develop and things like that” and “contribute [...] but more in an organizational way”- Birgitte

This concern highlights the interest of different members of Genskabet. Where organisational skills, creativity and teaching are values of importance.

### Influence Genskabet (Pink)

This MoC is based on empirical findings from the interviews. Having "Influence Genskabet" as a MoC entails having the opportunity to actively contribute to and shape the development of Genskabet. This includes both making changes to specific initiatives, such as deciding the colour of the shop or which workshops that should be held, as well as being involved in Genskabet's overarching vision and long-term plans.

The participant Lilian values the ability to influence which ideas Genskabet chooses to pursue, making it her MoC

“I still have a dream of establishing a more electronic makerspace”  
- Lilian

Siri also shares the "influence on Genskabet" MoC. Like Lilian, she finds it exciting and enjoyable to come up with concrete ideas for specific improvements within Genskabet. Additionally, Siri has her own ideas about the future of Genskabet, including how it should be managed and the next steps for growth and expansion.

“What I find exciting about it is that we are transitioning from a smaller initiative to becoming slightly bigger. We are reaching the limit of what can be achieved through voluntary efforts. If we are to scale up the green transition, we need to go beyond that and explore the possibilities of creating jobs and making it sustainable for people to stay involved” - Siri

Birgitte also overlaps in influencing Genskabet and the possibilities she envisions for the association, she states:

“[Helpful] in making it more strategically. Maybe by expanding collaboration with municipalities and the community, and perhaps involving some businesses like Coop” - Birgitte

However, she emphasizes the collective effort and do not want to push something no one in Genskabet is interested to do.

For some actors addressing these MoC sufficiently motivates them to be part of Genskabet. However, for others, it may not be the sole factor of interest, and Genskabet must also accommodate other needs in order to attract their participation.

“Influence Genskabet” highlight the social value of participation by Genskabet providing a voice for the members and giving them agency to act upon their interest.

## 7.2 Multiple Matters of Concerns

Upon analysis of a member such as Poul, it becomes evident that his involvement in Genskabet stems predominantly from the MoC "Sustainability." Poul demonstrates a profound dedication to addressing climate-related issues, and the awareness that his participation in Genskabet contributes to environmental sustainability serves as a significant motivation for his continued engagement with the organization.

After analysing the other members, it is apparent that none of them have a distinct MoC that motivates their participation in Genskabet in the same manner as Poul experiences.

The other members have at least two MoC that drive them to be a part of Genskabet.

A member like Keld, for instance, subscribes to two MoC's:

"Community" and "Sustainability" Keld participates in Genskabet because it is important for him to be part of a community where he, as a newcomer, can establish new relationships and make friends and acquaintances. Additionally, he appreciates that this community is dedicated to a good cause that he highly supports.

A member that has multiple MoC's is Siri. As the chairperson of Genskabet she is involved in many aspects of the organisation and contributes to most of the initiatives. Siri's involvement in Genskabet therefore stems from all the presented MoC: "Community", "Sustainability", "Use and/or develop skills and competences" and "Influence Genskabet"

Siri finds great value in being a part of Genskabet where she can create a community and together work for the sustainability agenda and create tangible value. Siri finds great value utilizing her existing knowledge from her design background in projects throughout Genskabet, as well as sharing her knowledge with others and acquiring new skills and competences in Genskabet. Besides this another driver for Siri is to be able to have a voice in

the daily operations of Genskabet as well as being a part of the future plans of the organisation.

Genskabet creates a lot of value for Siri, and that might be the reason why she is the most involved person in Genskabet, and is putting so many hours and energy into it.

Siri finds immense value in her participation in Genskabet. It allows her to contribute to a community dedicated to the climate agenda and make a tangible impact. Her background in design is utilized in various projects, enabling her to apply her knowledge effectively. Additionally, she shares her expertise, learns new skills, and actively contributes to shaping Genskabet's daily operations and future plans. This strong sense of involvement explains why Siri is the most engaged member, dedicating significant time and energy to her contributions in the organization.

### 7.2.1 Summary

Based on the analysis of statements provided by Genskabet's members, it is evident that each member expresses at least one MoC that Genskabet addresses. This finding emphasizes the value that Genskabet brings to its members, serving as a significant driving force for their participation. While some members find satisfaction when Genskabet addresses one of their MoCs, others require the fulfilment of multiple MoCs before committing to involvement.

Therefore, it is advantageous for Genskabet to offer a diverse range of valuable aspects to both current and prospective members, as this generates a compelling incentive to join the organization (figure 12)

Furthermore, our analysis reveals that members are not necessarily required to fully align with or comprehensively understand the overarching vision of the project. They can still derive value from specific aspects of the initiative and derive a sense of fulfilment from their engagement.

Lastly, the different MoC emphasises the individual's engagement to act for the planet and their values of driving change to counteract CE's technocentric discourse. It also highlights interests such as organisational skills, creativity and teaching are values of importance and providing a voice for members and giving them agency to act upon their interest.

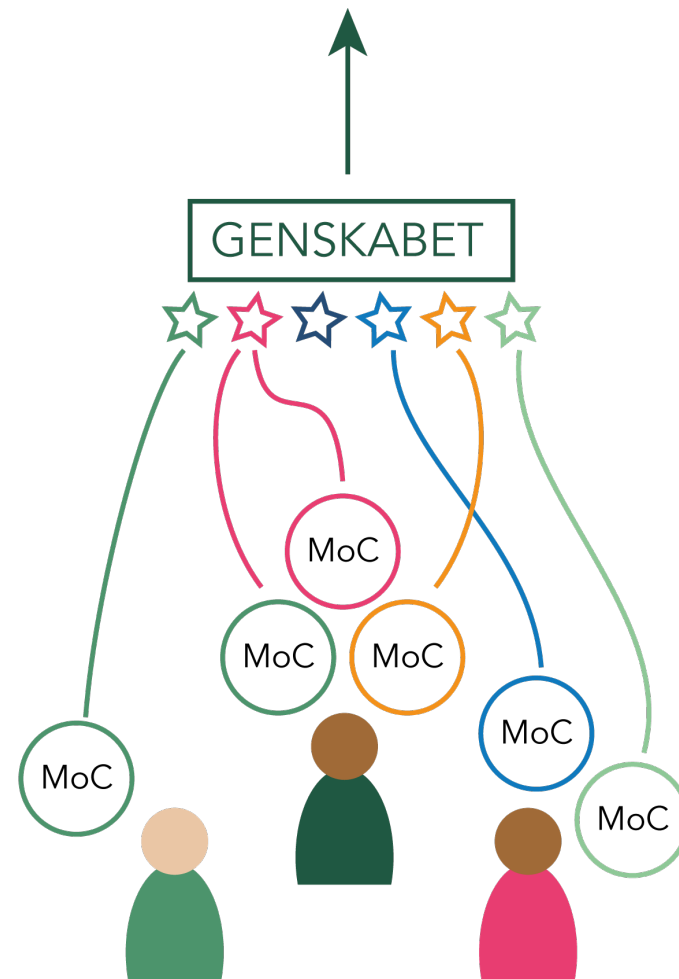


Figure 12 - Genskabet's members different MoC supporting Genskabet's vision

### 7.3 Fanø

The participants of Fælleskabet Fanø share similar motivations for joining a local circular community as the members of Genskabet. As a result, their MoC align to a great extent. However, Fælleskabet Fanø primarily focuses on the MoC related to 'community', 'climate', and 'influencing their organisation' because Fælleskabet Fanø has not yet developed many initiatives that would enable participants to utilise or develop new skills and competences (see figure 13 of presentation of Fælleskabet Fanø's MoC). This limitation is primarily attributed to the early stage of establishment for Fælleskabet Fanø, where their focus is primarily on envisioning the future trajectory of the organisation.

Exactly the vision for the projects is one of the main differences between Genskabet and Fælleskabet Fanø.

The participants from Fælleskabet Fanø are relatively aligned on their vision for their organisation as they share a common understanding of the benefits of working within a local community. They recognize that small citizen-driven communities like the one Fanø strives to establish, have the potential to create something unique and contribute to promoting change in ways that may differ from top-down approaches. These communities can also serve as catalysts for initiating and driving changes themselves



Figure 13 - Fælleskabet Fanø's different MoC

"We have talked a lot about that it is clever to work with an island because it can be like a mini-project where you can monitor it and then scale it up, so I think these islands are very essential in this green transition" - Ane Line



“I believe that change should come from within ourselves, it comes from each individual because it is citizen-led. It comes from the grassroots, and I find it extremely exciting to see the energy associated with it. It's also one of the reasons why we can act much faster than if it had to go through political processes or more overarching processes” - Charlotte

“I'm interested in people and how communities can create a better society, and I see that the solution lies in these places where you engage and become part of something bigger that creates meaning” - Anne

This aligns with Fanø's vision, which emphasizes on the importance of community and highlights the idea that "Everyone on Fanø contributes to the green transition through small and large initiatives. Subsequently, it also supports the that they have something at heart that they want to act upon, which is in line with going counteracting the current regime to create a more sustainable society.

On Orø, the situation is slightly different. While the island still maintains some alignment with their 2017 vision, it seems that the overall visions and dreams for Orø have somewhat taken a backseat in light of the daily operations of Genskabet. However, during the workshop, several members were reminded of past ideas they had once planned to implement in Genskabet but, for various reasons, had never implemented.

## 7.4 Exchange of Knowledge

One of the key objectives of our project is how local communities can create niche innovation for CS. It was therefore important for us to investigate how knowledge exchange can happen among local communities that want or already have implemented circular economy initiatives. We sought to evaluate whether the workshop successfully facilitated such knowledge sharing, given the similar objective of the CirkØ project. Additionally, we aimed to understand the perspectives of the representatives from Orø and Fanø regarding the exchange of knowledge about their respective projects and initiatives on their islands, and to gain insights into how each island approaches the creation of a circular local community.

Regarding the 'Community' MoC the workshop provided a setting for participants to meet new people as well as spending time with fellow members of their respective organisations.

“First of all, it struck me that it was absolutely fantastic to meet all of you, both the students and the people from Fanø” - Keld

“It has been a couple of really good days. It has been wonderful to meet people from Fanø and to be together with our own group in this way” - Lilian

“It has been fantastic to be together with people who are so engaged, as everyone has been here” - Helle

“When you're in a place like this, together with people from Orø, I feel like I'm part of something that is a little bigger than when it's just on Fanø. Being a part of something is very important to me”

- Mette

The 'Climate' MoC was successfully addressed during the workshop through the overarching theme of sustainability and the focus on various sustainable initiatives. Participants engaged in meaningful discussions about the sustainable practices and projects happening on Orø and Fanø. This proved to be particularly valuable for participants with the 'Climate' MoC, as they gained valuable knowledge and insights on how to enhance the sustainability of their respective islands.

“I think it's important, especially for a practical project like Genskabet, to ensure that we have a theoretical framework in place (...) It has been good for me to see our small project in a larger context and realize that what we're doing is good, but that it can be improved. We can utilize branding, strategy, and inspiration to enhance our work” - Poul

The workshop effectively addressed the MoC "Use and/or develop skills and competences" as well as the MoC "Influence Genskabet/Fællesskabet Fanø" for several participants. These two MoC's complemented each other because the learnings that happened throughout the workshop, for some participants sparked an interest in using the newly found knowledge to influence their

organisations. The workshop created a setting where representatives from both islands could share experiences and learn from each other. It enabled participants to utilize their specific knowledge of initiatives on their respective islands, allowing them to educate others. Additionally, participants had the opportunity to broaden their horizons through exposure to a multitude of new initiatives presented by representatives from the other island, as well as the speakers Birgitte and Ny.

The participant Anne found great inspiration in Orø's approach in creating a local circular community during the workshop. She gained valuable insights into implementation strategies and witnessed how one initiative can evolve into something greater. This fulfilled her MoC "Use and/or develop skills and competences" as she enhanced her knowledge and skills in this area.

Moreover, the workshop sparked her motivation to implement new initiatives within Fællesskabet Fanø, demonstrating the fulfilment of her MoC "Influence Fællesskabet Fanø". As she was inspired to apply her newfound knowledge and contribute to the development of her own community.

“I'm taking a lot of inspiration with me from [Orø]. What they're doing here, especially with those who have years of experience with implementation and how one thing can develop into more, can we do the same on Fanø? Maybe there are some things we can

do a little differently, but maybe we can have the same starting point” - Anne

Charlotte, another participant, found that both her MoC’s “Use and/or develop skills and competences” and “Influence Fællesskabet Fanø” were effectively addressed during the workshop and that they mutually reinforced each other. Charlotte greatly appreciated the opportunity to learn about Orø’s composting initiatives, which allowed her to enhance her skills and competences in that specific area. This directly fulfilled her MoC of skill development. Moreover, she expressed her intention to implement the composting initiative on Fanø, which aligns with her MoC of influencing Fællesskabet Fanø. By bringing the knowledge and experience gained from the workshop back to her own community, Charlotte can actively contribute to shaping and influencing sustainable practices on Fanø.

“I have been very interested in what they are doing regarding composting (...) I find it extremely exciting and would like to take it further over to Fanø and try to work on it a bit more” - Charlotte

The workshop also had the ability to make participants see the value in having influence on their respective islands, and to have a setting where representatives from both islands could share their experiences and learn from one another made some participants enthusiastic to begin working on initiatives they were introduced to during the workshop.

“Well, I've been affirmed in some things we do that could be done slightly differently, especially in terms of communication and attracting new target groups” - Siri

“I think this exchange from island to island, seeing what is being done and what has been created in different places, or here on Orø and taking it further to Fanø, is exciting” - Charlotte

Moreover, the workshop served as a catalyst for some participants, motivating them to finally initiate projects they had long considered but never acted upon.

“The equipment bank that Genskabet talked about was very inspiring. Many of the things that were inspiring were also things I had thought about to some extent, and then you come in and hear that some have succeeded with it, and that's very inspiring” - Ane Line

“I've received some good tips- (...) It has given me new perspectives on things I had already thought about. It just provided a fresh perspective, and I got new ideas out of it” - Anna

## 7.5 Genskabet towards a circular society?

The following chapter is based on workshop notes which were gathered through conversations and participant observation, see appendix 5 for a complete overview.

When directing attention towards the concept of CS, that emphasises participation, solidarity and communality to establish

sustainable consumption and production patterns (Jaeger et al., 2021), we have identified synergies with Genskabet and its overall activities.

First is the vision of Genskabet that aims at becoming a sustainable user-driven multicultural place with focus on reuse and recycling which corresponds with the elements of CS. The vision encompasses aspects of repair, upcycling, informative lectures, workshops and sharing of resources, energy renovation and rebuilding but also creativity and social aspects such as communality and social interactions which aligns with principles of CS. The association demonstrates where they see themselves in the future and it represents their commitment to transform current consumption and production systems to more sustainable ones.

Secondly, CS involves reaching out and engaging with a wider audience through participation which their first obstacle to overcome was visibility which they have managed after their move to Næsbyvej making them more visible and thus increased their awareness and integration in the island society. This increased visibility has resulted in more people understanding the concept of the shop and actively participating by donating goods. This was evident, when the project group passed by the shop on Orø and it was crowded with people. This development indicates a growing engagement and inclusion of the community with Genskabet. Additionally, since they want to become a zero-waste island and have a goal of buying Genskabet's own property instead of renting

it indicates a dedication to a lasting impact and an invested permanent presence on Orø.

Third, during the CirkØ workshop it was repeatedly mentioned that Genskabet is more than a second-hand shop. They offer a variety of activities and workshops focused on upcycling, sustainable choices in everyday life and practical courses which emphasises care of the material things and resources you already have. It serves as a meeting place for citizens, creating social value and communality, which emphasises connectivity. Lastly, the fact that Genskabet is collectively managed by volunteers emphasises cooperation and solidarity. Care, connectivity, and cooperation are all ideas/elements of a "re-invention of inter-human and humanity-nature relationship" (Jaeger-Erben et al., 2021) working together to form a CS narrative.

By providing these opportunities Genskabet enables community members to acquire new skills and knowledge, fostering participatory value creation networks which is aligned with transformative CS. Therefore, Genskabet's activities go beyond being just a second-hand shop.

### **Higher Level Circularity and Agency**

The presence of Genskabet evidently highlights the accumulation of a significant amount of items, resulting in the shop becoming filled up to the brim and with limited space it can create a sense of material problem identification (problematization) just by entering,

which, may make people realize that they consume a lot of things, materials etc. And thus, increased awareness of their individual consumption is made conscious and very visible.

Moreover, while Genskabet offers workshops related to the lower scale of the R-framework strategies, the key distinction lies in their invitation for people to actively be part of the process whether it is repairing an item, participation in a course or a workshop. It highlights “the importance of sufficiency and systems of provision that support consuming less through strategies of refuse, rethink and reduce” (Jaeger-Erben et al., 2021, p. 2) through participation. Fostering agency by inviting individuals to act enables the possibility for them to learn and build capacity enhancing their understanding of reuse, repair, and recycling. This acknowledges “people as embedded in complex systems rather than as passive recipients” (Jaeger-Erben et al., 2021, p. 2). Therefore, engagement can facilitate the transition from lower strategies to higher strategies of circularity. Thus, agency can support engagements towards a circular society.

### **Challenges**

However, Genskabet also faces challenges related to its growth and sustainability. As they have expanded and gained more members and customers, managing the organization has become more complex. They recognize the need for more active participation from members to sustain their operations and achieve their vision. Overcoming challenges such as resources and

engaging more individuals will be crucial to maintaining and scaling their transformative efforts.

Genskabet demonstrates elements of transformative CS through its vision, broadened visibility that invites participation, and activities. Their commitment to sustainability, community building, skill development, and active engagement aligns with the principles of bottom-up social innovation and emancipatory consumer movements. While they have achieved significant progress, addressing challenges and securing the necessary resources and involvement will be essential for their continued transformative impact.

### **7.6 Concluding remarks on the analysis**

As a local organisation that operates outside the established regime, Genskabet functions as a niche at the micro level by engaging in elements of CS including participation, solidarity and communality. Genskabet is therefore taking an active role in the fight against the overuse of resources and waste generation. This positions Genskabet as a radical niche innovation challenging the existing regime and landscape that has a particular focus on economic growth, waste management, and the associated overconsumption of the Earth’s limited resources.

However, for Genskabet to transition from its relatively protected environment and effectively address the pressures exerted by the dominant regime, it requires support. Currently, Genskabet

primarily receives support from its members, but it also receives some support from actors that visit the shop or attend Genskabet's events and workshops.

Our analysis indicates that in order to get members' support it is not crucial that the members fully align with or completely comprehend the overarching vision of Genskabet. Instead, what matters is that Genskabet offers its members something they find valuable and that addresses one or more of their MoC's. We have identified four different MoC that Genskabet addresses 'Community', 'Sustainability', 'Use and or develop skills and competences' and 'Influence Genskabet'. Members who subscribe to these MoCs consider them important and actively participate in Genskabet because it provides them with an opportunity to improve or develop something they personally find meaningful. This was evidently also supported by the analysis of Fællesskabet Fanø.

What holds importance for Genskabet, is therefore not the presence of a unified group of actors speaking with one voice. Instead, Genskabet can involve diverse actors with varying interests and agendas who come together in challenging consumer society and in driving change.

This is how the members of Genskabet enable participation, solidarity and communality for its members.



# 8. Developing a tool



## 8. Developing a tool

This chapter presents the process of developing a tool to effectively share the results of the report. Hence, it seeks to answer the sub-question: “What kind of support can we (project group) provide, to make CS more applicable to communities/practitioners?”

### 8.1 Why a tool?

From a design for sustainability transitions standpoint, we want to create something for practitioners that can support them in working with CS. Therefore, in order to effectively share the findings of this report and facilitate the replication and possible scaling of CS initiatives, the creation of a tool would be highly beneficial. This tool would serve as a source of inspiration, guidance, and navigation, aiding practitioners in determining the appropriate measures to adopt when embarking on a transition towards a CS. Our motivation for this approach is influenced by our educational background, where the utilization of design tools has proven valuable in facilitating design processes.

### 8.2 Developing the tool

To develop the tool, we want to draw on all the knowledge we have gained throughout the project, with special attention on sustainability and CS. Therefore, we are developing a tool that incorporates the research from the state of the art, learnings from

the case examples, Genskabet and Fanø as well as the results of our analysis (see figure 14).

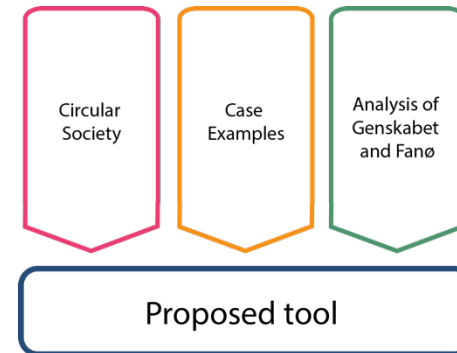


Figure 14 - process overview of what knowledge is embedded in the tool

Because we understand sustainability as staying within Earth's planetary boundaries we therefore see “planetary boundaries” as a design requirement as it should be incorporated as an integrative layer throughout the tool.

#### 8.2.1 Categorising

For supporting the project group in developing the outline and content of the tool, we use a Miro board for this process (Miro, n.d.). From here we asked ourselves how we can develop a tool that may support local communities in working with CS, while acknowledging the different meanings, concerns and initiatives identified that advance the development of bottom-up, citizen and community driven initiatives.



First, we gathered all the identified initiatives and values from each case example and wrote them down on post it's in addition with the initiatives from Genskabet, Fanø and the MoC identified from the two islands.

When the different initiatives, values and concerns are gathered in clusters is it clear that there are synergies between them. For example, are the values identified for the Lejre repair cafés similar to the concerns and drivers for Genskabet and Fællesskabet Fanø. This serves as the foundation for sorting the knowledge into different groups and categories more systematically.

When doing this mapping, it helps us visualize all our findings from the research data and empirical data. As shown in the illustration, this formed the basis for the development of five principles as a result, see appendix 7 of this process.

Agency, learning, engagement, cultural mindset

As Planetary boundaries was already established as a design requirement will planetary boundaries be presented as the final and overarching theme/principle.

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# 9. Results

## 9 Results

From the previous section on developing the thesis results into a tool, we will in this section present the tool including what it entails and how it can be used.

The tool has been developed to support practitioners at different stages of their journey towards a circular society (CS). It aims to provide guidance and assistance to those who are beginning to work towards a CS and may find the process overwhelming or challenging. By offering clear principles and practical questions, the tool aims to make the transition to CS more manageable.

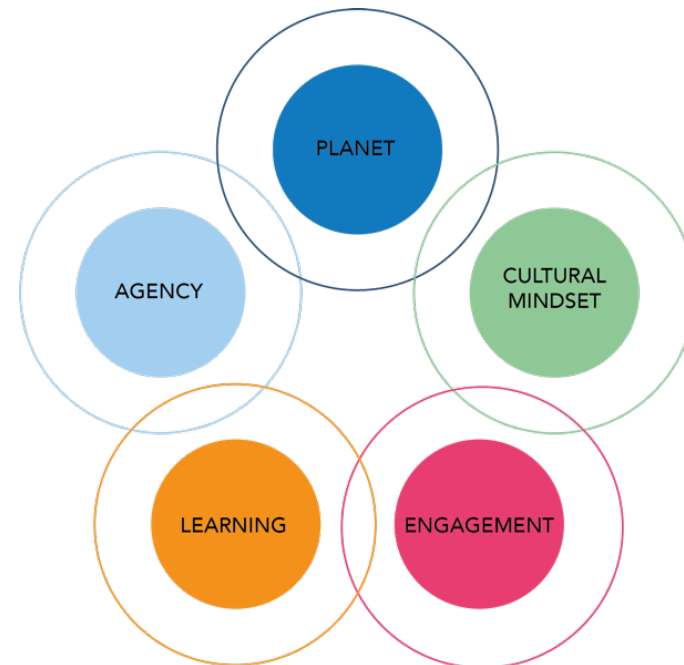
Additionally, the tool is designed to be valuable for practitioners who are already engaged in CE or CS initiatives. It serves as a source of inspiration, allowing them to explore the relevance and effectiveness of their CS visions and ongoing initiatives. By incorporating the guiding principles into their current work, practitioners can gain new perspectives and align their efforts with the broader goals of achieving a circular society.

Overall, the tool seeks to empower practitioners by offering practical guidance, inspiration, and exploration strategies, thereby facilitating progress towards a circular society and promoting the adoption of sustainable practices.

The tool is a guiding tool that helps practitioners consider ways of approaching CS. It includes five guiding principles: Planet, Agency,

Learning, Engagement and Cultural mindset that highlight important considerations when working with elements of CS. It also provides a series of questions to guide practitioners in their CS efforts and offers examples illustrating how different aspects of CS initiatives can be initiated and implemented.

We have named the tool “Circular society initiative – 5 guiding principles”.



## 9.1 Circular Society Initiatives - 5 guiding principles

### Planet

#### **Includes:**

“Planetary boundaries” perspective, strategies of Refuse, Rethink, Reduce, acknowledging human and non-human species.

#### **Questions to think about:**

- In which ways can we include the meanings of all actors including into our initiatives, activities, and decision-making processes?
- How can our main focus be on initiatives that mainly work within strategies of refuse, rethink, reduce?
- How can your small efforts lead to bigger impact for the environment?

#### **Examples:**

- Ljubljana: Snaga made the campaign "Raise your voice against food waste" that focused to raise awareness on preventing food waste - local NGOs, and food service providers joined this work
- Roubaix's initiative with families and businesses, to make them think about their consumption and utilisation of resources

### Agency

#### **Includes:**

Participation, feeling of being part of something bigger, provide a voice for people in the environmental and social agenda, invited to act, create visibility, network and grassroots movement.

#### **Elements to think about:**

- Can you provide a setting for citizens and local communities to act?
- In which ways can you enrol people and partners? Make it concrete for people to understand, think about expanding your network through visibility.
- What competency do you lack? What kind of people do you need or want to recruit? Ambassadors, spokespersons?
- How might we emphasize the benefits that come with collective responsibility?

#### **Examples:**

- Roubaix: Provided active participation for families through everyday sustainability through hands on ideas for how to make a zero-waste living. Merchants and businesses were involved, expanding the initiatives network through a voucher scheme.
- Genskabet: They work for a sense of collective responsibility by exploring collaborative forms of

governance that can support collective management resulting in providing members with the possibility to act.

- Lejre: the municipality gives local passionate citizens a voice to act and create something for their community through a supportive role. The citizens got mobilized to continue after the project ended.

## Learning

### Includes:

Exchange of knowledge, learning from others, communication, understand local citizens and sustainable consumption patterns, advancing your initiatives.

### Elements to think about:

- Has anyone else done something similar that you can be inspired by? Can you learn from others? Find out who.
- With whom and how do you share, communicate knowledge for the change you seek?
- What competence and skills do you need to learn or want to teach others in?
- Re-evaluate your learnings
- Can you explicitly communicate what you want to do for a change in the society?
- Can you learn from knowledge institutions and organizations through establishing a collaboration?

### Examples:

- Roubaix: Engaging families (they teach families to prevent waste, how to sort, and how to make their own cleaning supplies by workshops), educated school children
- CirkØ: knowledge sharing of different initiatives and experiences, provide a setting where the islands can learn from each other
- Genskabet: Provide workshops for citizens to learn about everyday circularity and to teach others in building knowledge and competencies.
- Lejre: The repair café initiative provided knowledge and guiding on how to repair items and incorporated learning from other repair cafés
- BOFA: are open for new research to become waste free through collaboration with universities and international projects with EU funds.
- Ljubljana: events and workshops in district communities and the Re-use Centre with online, social and educational activities.
- BOFA: established a visitor center to host sessions on waste and circular economy for schoolchildren. BOFA also has an outreach program in collaboration with schools that focusses on developing curricula and establishing waste bin stations as a pedagogical tool for introducing knowledge about circular economy from an early age. Additionally, a

knowledge bus that drives around town to inform citizens about their waste.

## Engagement

### Includes:

Communality, creating awareness about your circular society efforts, involvement, make and keep people engaged, ownership, impact, create a sense of belonging to the community, new values, a common goal

### Elements to think about:

- How can you engage your community, how have you done it so far, what works and what did not?
- People might not have the same motivation and drivers to be engaged
- Approach the person/organization
- Identify a specific target group
- Identify ways to create awareness for that specific group?
- How can you create local value? And how do you create utility value?
- Research what the community values, this can often be quite different of what you have thought of – what creates belonging for them?
- What is the common goal?
- Make it enjoyable and fun and emphasize communality.

### Examples:

Roubaix: Diverse set of values and drivers to be part of the zero-waste project including environmental, healthier lifestyle, economic savings, street cleanliness, improved welfare, pride for the city and a closer links between citizens and town hall.

Lejre: the municipality engaged citizens to support the circular economy agenda through outreach of citizens and the support to establish repair cafés

CirkØ: acknowledging Genskabet's activities, facilitating to meet like-minded people, provided inspiration.

Genskabet: engage through communality by having a setting where people can meet new people, to make friendships, and to be part of something. Additionally, drivers and motivations for the members to join were related to sustainability, community feeling, developing and using competences and skills, and to influence Genskabet's organization and initiatives.

BOFA: Keep themselves as an organization engaged through the latest research and knowledge on waste management. They have a zero-waste platform to engage actors in solving mega challenges for Bornholm. Lastly, their ambitious vision helped attract and engage actors worldwide in the discussion of a zero-waste island.

## Cultural mindset

### Includes:

Creating a collective narrative about circularity, encouraging circularity in everyday life, break down our own biases, change consumption and production patterns.

### Elements to think about:

- Can you make the initiative more directed to the “Planet” principle in focus?
- How to help other change their mindset?
- Can you make them aware of the problem at hand?
- Can you make the problem visible?
- What patterns is crucial to change?
- How can you make people think differently about their consumption and resource usage?
- Be patient, it can take time to see the effects of your initiative

### Examples:

Roubaix: the families involved slowly changed their perspective on their behaviour and their level of consumption because they realised the new value creation of their efforts

Lejre: instead of throwing things out, it can be repaired in a repair café. It provided support for a change of practice.

Genskabet: It made the problem visible through the huge amount of items that is given to Genskabet, has changed their perspective and consumption for members

Lubljana: Change of behaviour strategy through collecting the sorted waste more often than residual waste which changed the citizens way of sorting

## 9.2 Utilisation of the tool

The tool “Circular society initiative – 5 guiding principles” can be seen as explorative principles for the development of circular society initiatives. Each principle of the tool can be utilized independently or in combination with other principles, offering flexibility to practitioners. The tool recognizes that practitioners may choose to focus on specific principles based on their needs and preferences. Whether practitioners wish to work with three out of five principles or all of them, the tool accommodates their flexibility and allows for customization. It provides practitioners with the freedom to tailor their approach according to their specific requirements and the context in which they are operating.

However, we do encourage practitioners to apply all five principles to gain a more comprehensive exploration and understanding of its initiatives.

The tool incorporates key elements of the concept of circular society, including participation through agency, solidarity through a planetary and cultural mindset, and communality through engagement. These elements serve as enablers for achieving the objectives of the tool. Additionally, learning is emphasized as a crucial aspect for progress and improvement within the context of the tool. By integrating these CS key elements, the tool aims to foster a holistic and inclusive approach to change consumption and production patterns (Jaeger-Erben et al., 2021).

### 9.3 Discussion of the tool

While the "Circular Society Initiative - 5 Guiding Principles" tool is designed to provide support and guidance to practitioners working towards a circular society, it is important to acknowledge its limitations. Some potential limitations of the tool may include:

1. **Contextual Variation:** The tool may not fully account for the diverse contextual factors and specific challenges that practitioners may face in their case specific context. Different areas and communities may have varying needs and constraints that require other approaches.
2. **New Knowledge:** As the field of circular society continues to evolve, new insights and approaches may emerge that are not incorporated into the tool. The tool's effectiveness may be limited by its reliance on existing knowledge and

practices, potentially excluding emerging strategies and perspectives.

3. **Implementation Challenges:** While the tool provides guidance, it cannot guarantee successful implementation. The actual adoption and implementation of the principles may encounter practical challenges, resource limitations, and complexities that may need to be addressed on a case specific context.
4. **Evaluation and Measurement:** Assessing the impact and progress of CS initiatives can be challenging. The tool does not provide comprehensive metrics for evaluating the effectiveness and outcomes of the implemented strategies.
5. **Continuous Improvement:** The tool should be seen as a starting point and as a result of the report, rather than a final solution. It may require periodic updates and revisions to reflect upon new insights, emerging best practices, and changing societal needs.

Therefore, it is crucial for practitioners to critically engage with the tool, adapt it to their specific contexts, and complement it with additional resources and expertise as necessary.

#### 9.3.1 The contribution to the field of CS

The contribution objective of this tool is to bridge the gap between academic literature and practitioners in the field of CS. Recognizing



that this is a relatively new concept with limited practical examples and vague descriptions in the literature, the tool aims to provide practical guidance and support for working and implementing CS principles. By offering tangible examples, methodologies, and strategies, the tool seeks to facilitate the practical application of CS principles, making them more accessible and actionable for practitioners.

In the thesis pursuit to advance research on CS, it is crucial to explore real-world case examples and examine how the theoretical definitions of CS translate into practical implementation. By having more practical CS examples to study, academia can gain valuable insights into the application and effectiveness of CS principles. This empirical investigation is essential for enhancing the understanding of CS and further develop the research on CS.



# 10. Discussion and Reflection



## 10 Discussion and Reflection

The objective of the thesis was to examine niche innovations and its role in supporting a transition towards a circular society. The findings and outcomes of this research are presented in the preceding chapter. In this chapter we will cover a discussion of the limitations encountered during the research and the decisions made during the process that may have influenced the outcomes of the study.

### 10.1 Limitations of the study

#### 10.1.1 Second-hand knowledge

A limitation to this study is concerning the research of the case examples provided. The knowledge gathered are of second-hand character, because the case examples are written in published reports, which involves the risk of potentially biased or selective information presented in them. However, as mentioned in section 5 (exploring case examples) we made efforts to reach out to actors involved in these cases to capture overlooked knowledge. We argue that the combination of reports and interviews made the knowledge sufficient for this study.

#### 10.1.2 Empirical data

In gathering empirical knowledge from Genskabet, participant observations were applied. The project group actively participated in the workshop organized by the CirkØ project. However, it is

acknowledged that if it had been the project group (us) facilitating a workshop and shaping its content, it could have potentially provided even deeper insights and enriched the data for the study. Being involved in the design process would have allowed for a more active role in shaping the workshop dynamics and content, potentially leading to a greater understanding of the subject matter and the data generated being within the scope of this thesis. When collecting the data, it was only the participants attending the exchange of knowledge workshop which insight was collected and thus not all members of Genskabet and Fællesskabet Fanø are represented. Therefore, you could argue if it was representative for the whole association of Genskabet that there could be other interest/concerns that are unexplored.

#### 10.1.3 Scope boundaries

Upon reflection, it is recognized that another narrowing of the scope in defining the thesis may have provided other insights. One area for discussion is the broad scope of niches and niche innovations. It could have been beneficial to specify the focus, such as concentrating solely on a particular niche innovation like food waste. However, given the choice of exploring the novel concept of circular society, emphasis in this report is on the approach rather than a specific product or segment. The decision was made to encompass many aspects of a CS approach, including diverse case examples. This broad approach aimed to capture the multifaceted nature of circular society and provide a deeper understanding of its

implementation. Additionally, waste in this regard have been our overarching theme which encompasses a wide range of materials and products from different sectors, making it difficult to categorize or address in a singular manner.

#### 10.1.4 Selection of theory

The project group acknowledges the selection of theory has shaped the thesis approach for the exploration, analysis and synthesis of the report. However, it can be argued that the empirical data collected during the CirkØ workshop when applying the four moments of translation (Callon, 1986) could have shaped the project differently, potentially resulting in alternative outcomes and more case specific recommendations concerning the problem of recruiting members. Additionally, adopting another theory such as practice theory (Hand and Shove, 2007) to examine a specific practice within Genskabet may also have yielded other findings which is unexplored in this thesis.

It proposes the concept of circular society as a potential narrative to this gap

#### 10.2 Reflection

The project addresses a missing social dimension to CE and presents the proposed concept of CS as a potential narrative to this. We argue that niches, such as the local communities mentioned and the case study examined, actively embrace the principles of CS thinking. Therefore, it is crucial to promote and

facilitate the establishment of visible initiatives that invite citizens to engage and actively contribute to the reconfiguration of CS practices. These initiatives should empower communities to build their capacity and play a central role in shaping CS practices that hold social, cultural, and environmental value. By placing communities at the forefront, we can foster a more inclusive and sustainable approach to CS.

This report highlights the aspects of niches as a response to current linear trajectories. Through the case examples, Fællesskabet Fanø and Genskabet, it showcases the power and concerns of bottom-up, citizen-driven initiatives that engage local actors in driving change. These initiatives operate within the context of a local community and focus on small-scale efforts, which demonstrates the significant impact and transformative potential of self-organizing actions towards sustainable consumption and production patterns and to address environmental and social concerns at the local level. The report recognizes and argues the influential role of local communities that actively participate in elements of CS activities within everyday life through place-based initiatives.

Moreover, by working with the local community perspective and small-scale efforts, you build relations to people and influence mindsets, behaviour and understandings. Alongside raising awareness of environmental issues, it is equally important to empower individuals and encourage their active engagement. By

understanding people's concerns and interests, we can try and encourage them towards taking action. Providing people and the planet with a voice means not only informing them about environmental challenges but also creating opportunities for them to participate, create value for the local community and foster communality. Recognizing that individuals have the capacity to contribute to positive change, we encourage them to get involved.

In this context, niches can serve as platforms that enable immediate action based on the available resources within the local context. This stands in contrast to the slower pace of deep structural changes that typically occur at the regime or landscape level. Niches provide a space where innovative ideas and practices can be implemented faster, allowing for experimentation and learning in real-world conditions. By leveraging local resources and grassroots efforts, niches can contribute to the development and advancement of CS initiatives, even in the face of broader systemic challenges.

Lastly, while this report focuses on the role of circular society and niches in driving social and environmental change, we recognize that these efforts should not be seen in isolation. We acknowledge that other forms of niches, as well as changes at different levels, can also contribute to the transition towards a more sustainable society. We do not ignore that political decisions or other actors in all society levels can support this change as well. Therefore, we emphasize that the promotion of CS and the development of

niches should be complemented by broader initiatives and collaborations involving various stakeholders to achieve comprehensive and impactful transformation.

### 10.2.1 Contributions to the CirkØ project

Starting from our collaboration with the 'Cirkulær Ø' project for this thesis, we have acquired valuable insights into the research project.

In addition, we are also able to contribute knowledge to the three activities that the CirkØ project aims to achieve.

In the first activity, which is research of how and to what extent Danish Islands are working with CE initiatives, we contribute with BOFA's initiatives which is located on Bornholm.

For the second activity, which involves exchange of knowledge between local communities that have implemented CE initiatives. In this respect, we contribute with the preliminary analysis of the four case examples Lejre Repair Café, Roubaix, Ljubljana and BOFA, respectively, which in various ways challenge the conventional understanding of CE and serve as examples for other local communities working with circularity, where we highlight their elements of circular society. Besides this we also contribute with our observations and analysis of the CirkØ workshop where representatives from both Orø and Fanø attended.

Finally, in relation to the third activity of disseminating CE development strategies on Danish Islands, we believe that our results, presented in the form of a tool, can greatly contribute to

this dissemination effort. The tool provides practical guidance, inspiration, and exploration strategies that can support actors in their endeavours to develop CE and CS strategies. By offering these resources, we aim to support and empower individuals and organizations seeking to drive sustainable and circular development.

### 10.2.2 Contribution to Sustainable Design Engineering knowledge

In this project, we leverage the competencies acquired through our study program in Sustainable Design Engineering (SDE). In this project the overall purpose is to contribute with new knowledge to the field of SDE. For us to contribute with knowledge we need to have the competencies to produce new knowledge. Subsequently, the SDE program equips us with skills and knowledge necessary to address sustainability challenges and wicked problems.

For instance, the socio-technical approach which we have applied to the thesis are gained from SDE. The approach recognises the interrelations of understanding the social and technical aspects when solving problems. Understanding of the waste regime and its material resources and the factors that constitutes this development is crucial to connect with human lives and how it has impacted from it, which represents the social factors. By being able to understand socio-technical systems and break down parts to

study it is a capacity we have as sustainable design engineers. Thus, the ability to analyse complex problems from an interdisciplinary perspective.

As an SDE, we are capable of managing and participating in design projects that contribute to a sustainable transition. Subsequently, the project works to unfold the concept of CS and propose a tool to make CS more applicable for practitioners. The tool is a contribution to SDE knowledge which we invite other SDE to reshape, use and improve.

Moreover, we also provide SDE with extensive knowledge on the concept of CS and provide practical case examples with insights of CS initiatives, drivers for making people to act and principles for navigating in this field that SDE can be inspired by and learn or critically reflect upon.

We believe that our notion of circular society may be helpful and can provide new knowledge and an alternative perspective of how to work with circularity in general but also CE. And that values such as participation, solidarity and communality can drive change for more sustainable consumption and behavioural patterns. By working with sustainability from a citizen and community-driven perspective, we emphasise such endeavours is one way to support sustainable transitions.

By doing the empirical case study on Genskabet and providing other case examples that work with CS we contribute to the

identified gap described in literature of the under addressed social consideration in CE and practical examples of CS.

By applying our SDE competencies to this project, we contribute with new knowledge to SDE and to the development and implementation of sustainable narratives within the context of circular society.

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# 11. Conclusion



## 11 Conclusion

This thesis project pursued to answer the research question:

*How can niche innovations support a transition towards a circular society?*

To answer the question, we have researched CE and CS. We have done an exploration of different practical examples that can be perceived as niches and conducted an empirical case study exemplifying CS in a local community context. The results are developed into a tool that supports a transition and challenges the narratives of the growth regime are developed, contributing to practical implementation of circular society.

In conclusion, the scope of this project addresses the pressing issues of environmental degradation, expanding growth, and waste generation within our current society. By adopting a socio-technical lens and focusing on the social dimension often overlooked in practical work on circular economy, we aim to create radical change and break free from the prevailing linear narratives. Through comprehensive research of CE and CS, combined with a case study analysis in a local community setting, we have gained valuable insights into the practical implementation of circular society initiatives. These initiatives, although diverse in terminology and perspectives, demonstrate the importance of participation, solidarity, and communality in establishing sustainable consumption and production patterns.

In the case study of Genskabet it exemplifies elements of transformative circular society through its vision, inclusive engagement, and commitment to sustainability. As a niche innovation operating outside the established regime, Genskabet actively challenges the current norms of economic growth, overconsumption, and waste generation. However, for Genskabet to effectively address the pressures exerted by the dominant regime, it requires support from its members and external actors. Our analysis indicates four different MoC: 'Community', 'Sustainability', 'Use and or develop skills and competences' and 'Influence Genskabet', which members consider valuable to be engaged and participate in Genskabet because it improves or develop something they personally find meaningful. Genskabet can involve diverse actors with varying interests and agendas who come together in challenging the consumer society and in driving change.

With the concept of circular society, we aim to operate within Earth's planetary boundaries (Steffen et al., 2015) while promoting sustainable consumption by emphasizing participation, solidarity, and communality, therefore, the project seeks to create sustainable communities (Sachs et al., 2019) and facilitate the shift toward circular society. This project focusses on transformation from a bottom-up perspective which in long term perspective may change legislation and other parts of society (Sachs et al., 2019).

The presented tool aims to bridge the gap between academic literature and practitioners in the field of circular society. By offering practical guidance, examples, and strategies, the tool seeks to support the implementation of circular society principles and make them more accessible for practitioners. It is important to acknowledge that the tool may not encompass emerging strategies and perspectives that may arise in the evolving field of circular society. As such, the tool's effectiveness may be limited by its reliance on existing knowledge and practices. In summary, this project and the resulting tool contribute to the understanding and advancement of circular society by addressing social and environmental challenges, fostering participation and solidarity, and providing practical support for implementing CS principles.

### Opportunities for further studies

Admittedly, opportunities for further studies are prevalent. Since there may be more principles than the ones highlighted in our tool. Subsequently, future studies on CS can and will affect the tool, when new knowledge emerges. Especially, since CS is such a new narrative, which provide an avenue for further research both conceptually and empirically to nuance the use of the tool and its principles. Another different avenue for future research is the impacts of the tool and studies on how it may contribute to sustainable development in other levels of society. Lastly, our result of the study is encouraged to be reproduced and qualified from others which is an undertaking for future endeavours.

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