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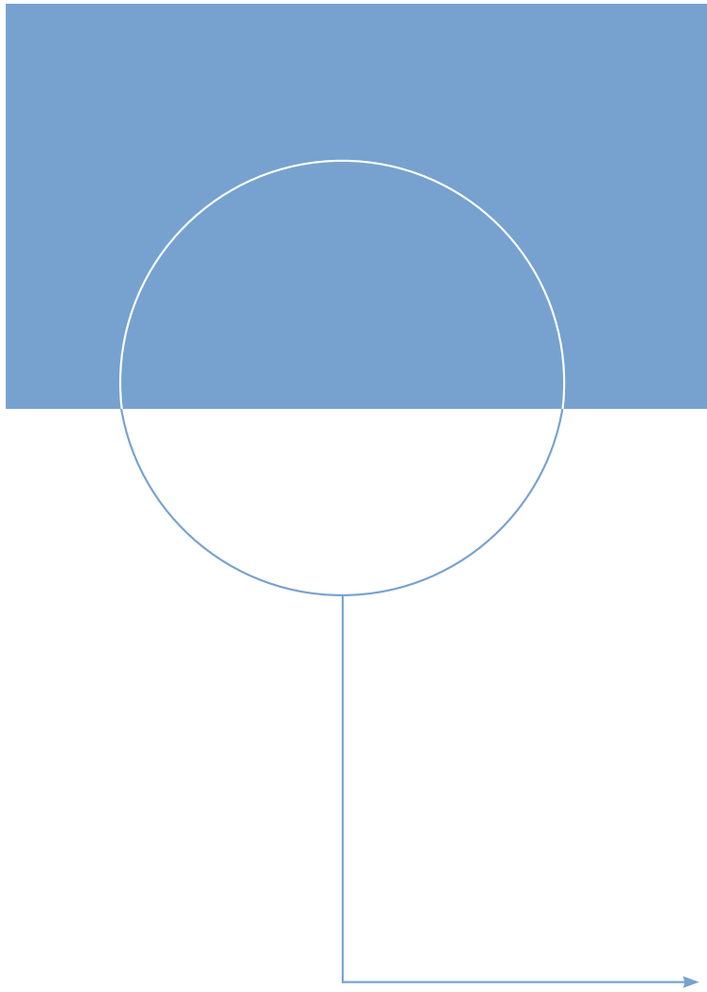
Sustainable Development Goals and Sustainable Business Models

- A Case study of Slettvoll AS

July 2020



Master's thesis

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Sustainable Development Goals and Sustainable Business Models

- A Case study of Slettvoll AS

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International Business
Submission date: July 2020
Supervisor: Annik Magerholm Fet

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Summary

This master thesis aims to enlighten the readers in topics related to sustainable development goals (SDGs) and sustainable business models. In line with the agenda for sustainable development and the adoption of the UN Sustainable Development Goals (SDGs), companies have a responsibility to transition their businesses to be key environmental and societal players and evaluate the social, environmental, and economic aspects of a company's operations. The SDGs can be used to map social and environmental impacts on the value chain activities, and to establish, measure and track progress toward reduced negative sustainability impacts across the company's business model.

We started out by gaining knowledge within the field of SDGs and relevant themes linked to our chosen research topic. In addition, we were gaining much useful knowledge from our case study Slettvoll, provided by their management. Relevant information within the furniture industry, sharing of their current business model, value chain, and the future plans due to sustainable development has been given. In our problem solving, we have applied the RESTART framework as well as other important models and framework like the CapSEM, SDG compass and Osterwalder Business Canvas.

This methods combined with relevant literature, white papers, recent news and initiatives updated in our research process, and the information obtained from our three interviews, we were able to map out how a furniture company can implement and operationalize the SDGs to attain more sustainable practices. We have also tried to identify how a company can measure and track progress within their environmental performance, improvement areas and how to communicate the results to the stakeholders. Considering both limits in time and page restrictions we are only addressing the SDGs that our case study have decided to work on: SDG 8 – Decent work and economic growth, SDG 12 – Responsible consumption and production, SDG 13 – Climate action and SDG 15 – Life on land.

We have applied the SDG-compass to identify shape, steer, communicate and report strategies, goals and activities and found several possibilities in how a furniture company can transform their business model by implementing more sustainable practices in their value chain, both upstream and downstream. We have also conducted a net effect analysis of Slettvoll's sustainability efforts, a materiality assessment, and given a proposal for a new sustainable business model Slettvoll can adopt to and described the transformation process. Our findings will be presented and explained thoroughly as we move through the chapters of this thesis.

Preface and Acknowledgements

This Master's Thesis was prepared and conducted during the spring of 2020 at The Norwegian University of Science and Technology (NTNU), Department of International Business, Ålesund. The thesis is a collaboration with Slettvoll AS, a Norwegian company specialized within furniture manufacturing.

We would like to start by thanking our dedicated supervisor, professor in sustainability at the department of International Business, and vice- principal at NTNU, Annik Magerholm Fet. Her enthusiasm, guidance, knowledge, competence, and wisdom has provided us with the best starting point and throughout the entire research process of this master thesis.

Sustainability and strategic project manager at Slettvoll, Karoline Fløtre Gati. Your information sharing and willingness to participate in our thesis, your dedication to lead and make Slettvoll more sustainable is admirable, it was a pleasure to cooperate with you.

Professor at NHH and chief of the Sustainability Centre at NHH, Lars Jacob Tynes Pedersen for in depth perspectives of the circular economy and guidance through conversations and as co-writer of the book RESTART, the framework we have been using as a part of our problem solving.

Tina Saltvedt, chief of finance and sustainability at Nordea. Her skills and enthusiasm for a greener finance environment gave us a valuable addition and perspective on how the financial institutions operate due to the SDGs and sustainable business models.

All of you, your contributions to this thesis have provided us with new competence and skills within sustainable development and sustainable business models and enabled us to conduct an in-depth research process and hopefully some valuable contributions to a greener transformation in the future.

We would also like to thank our family and loved ones for the support, patience, and everlasting faith in us while working on our master thesis.

Hanne Irene Hoem Lunde & Christine Trengereid

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Acronyms

B2B	Business to Business	**ISO**	International Standards Organization
B2C	Business to Consumers	**KPI**	Key Performance Indicator
BH4S	Business Hub for Sustainability	**LCA**	Life Cycle Assessment
CapSEM	Capacity building in Sustainable and Environmental Management	**LCC**	Life Cycle Cost
CBM	Circular Business Models	**LCI**	Life Cycle Inventory
CDP	Carbon Disclosure Project	**LCM**	Life Cycle Management
CE	Circular Economy	**MDG**	Millennium Development Goals
CEBM	Circular Economy Business Model	**NASA**	National Aeronautics and Space Administration
CEO	Chief Executive Officer	**NHO**	The Confederation of Norwegian Enterprises
CP	Cleaner Production	**NHH**	Norwegian School of Economics
CSR	Corporate Social Responsibility	**NTNU**	Norwegian University of Science and Technology
DFE	Design for Environment	**OECD**	Organization for Economic Co-operation and Development
EEB	European Environmental Bureau	**PCR**	Product Category Rules
EMS	Environmental Management Strategy	**REACH**	Registration, Evaluation, Authorization and Restrictions of Chemicals
EU	European Union	**SBM**	Sustainable Business Model
EPD	Environmental Product Declaration	**SD**	Sustainable Development
EPE	Environmental Performance Evaluation	**SDG**	Sustainable Development Goals
EPR	Producer Responsibility	**SE**	System Engineering
FSC	Forest Stewardship Council	**UN**	United Nations
GDP	Gross Domestic Product	**UNCED**	The United Nations Conference on Environment and Development
GFM	Green Furniture Mark	**UNEP**	United Nations Environmental Program
GHG	Greenhouse Gas Emission	**UNFCCC**	United Nations Framework Convention on Climate Change
GPP	Green Public Procurement	**UNGCN**	The UN Global Compact Norway
GRI	Global Reporting Initiative	**WSSD**	World Summit on Sustainable Development
IE	Industrial Ecology		

Table 1: Acronyms

1. Introduction

A rising awareness of responsible sustainable development and improved environmental performance has led to a growing debate due to the climate crisis we are experiencing. The climate change debate and concerns hence the industry's impact on the environment and rising levels of carbon emission, has created consumer awareness and a greener preference amongst all stakeholders for sustainable products and services (Chen and Chai, 2010, pp. 27-28)

The new SDGs is a result of a process more inclusive than ever before, the governments involve businesses, citizens, and the civil society. A shared agreement and effort in the future directions within sustainable development and the actions required among all sectors and businesses plays a vital role if we are going to succeed. (UN Global compact, n.d)The level and speed of the company's adoption of more inclusive and sustainable business model will affect the rate of success due to the SDGs. The challenges addressed in these goals will eventually effect all companies worldwide.(SDGcompass, 2015, p. 6)

According to the EEB approximately 10 million tons of furniture is disposed of by consumers and businesses in EU member states yearly. In addition, nearly all of this ends up in either the landfill or by incineration (EEB,2017, p.3). Clearly this has great potential for improvement. In a transformation process, it is very important to include corporate social responsibility (CSR) in the overall business strategy. CSR is the business self- regulation that aim to be social accountable. Many companies that incorporate CSR initiatives strive to contribute to the social, environment or economy in a positive way. (Skye Schooley, 2020)

In our case study of Slettvoll AS, a Norwegian furniture manufacturer we have tried to identify the positive and negative externalities and the company's environmental footprint. We have also tried to answer the formulated research question; 1) How can a company use the SDGs in their transition to a more sustainable practice and how will this influence their business model, 2) How to measure and track progress of the environmental performances and 3) How can the SDGs be operationalized in the company's business model and lead to more responsible production and consumption? The main purpose is to achieve increased sustainability within the company's business model, add value and further growth.

1.1 Background

In 2015, The United Nations during the UN Sustainable Summit in New York, set out several Sustainable Development Goals (SDGs). The aim was to serve as guidelines for the future and targeting optimal conscious development. *Transforming our world: the 2030 Agenda for Sustainable Development* was adopted by 193 countries and members of the UN General Assembly. 17 SDGs were outlined, and 169 targets associated with economic, social, and environmental issues.(Sustainable Development Goals UN, 2015) (Sustainable Development Goals UN, n.d -a)

So why is Sustainable Development important for Norway and Globally? Due to the rapidly growing population more resources will be needed to be able to accommodate for it. Unfortunately, the resources we benefit from now are not all renewable and we will be in lack of resources in the future if we do not act. Industry and consumption have been the building blocks for global development over the last 200 years and growth and production has resulted in welfare. Today, we are experiencing challenges in the business environment that require new business models and solutions on how to operate. Consumer behaviour and product preferences, innovation, business models and sales channels are changing. We are moving from an ownership economy to a service economy, this access-based economy opens up for a more circular economy through the entire life cycle of a product and a change in business models. (Reite, 2020)

One of the main tools promoted in the transformation process from an unsustainable development to a sustainable development is Eco-efficiency. As defined by the World Business Council for Sustainable Development (WBCSD), *"Eco-efficiency is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle to a level at least in line with the Earth's estimated carrying capacity.* In short, it is concerned with creating more value with less impact (WBCSD, 2006, p. 3).

For nearly 50 years we have seen a development within the field of sustainable development, evolving from awareness to more detailed goals and action plans, see appendix 14.1 for historical events. Back in 1972, at the UN Conference of Human Environment (Stockholm Conference) there was an increased interest in issues of Sustainable development. But the initiatives focusing on state duties was only referring to responsible conduct by individuals,

companies and communities in protecting and improving the environment in its full human dimension (UiO, 2016). Sustainable development (SD) was first defined in 1987, by the World Commission on Environment and Development (Brundtland Report) as:

> *"A Development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*. (Environment & Society, n.d)

Responsibility of private enterprises, small and large multinational companies was referenced in this report(Environment & Society, n.d). In the nineties, several actions and conferences within environmental and sustainable development indicated an increased interest and higher consciousness to the subject. *The United Nations Conference on Environment and Development (UNCED), Earth Summit* in Rio de Janeiro,1992, the focus was on the role of major groups, business and industry, transnational corporations, small and large enterprises role in sustainable development, United Nations Sustainable Development (1992, as quoted in Behringer and Szegedi, 2016, p. 16). In 1994, *Barbados Programme of Action* (Barbados) was released. The principles and commitments to sustainable development in Agenda 21 was reaffirmed and translated into policies, actions and measures in national, regional and international levels, the Barbados declaration was adopted (Sustainable Development Goals UN, n.d-a).

The Special Session of the General Assembly to Review and Appraise the Implementation of Agenda 21 (United Nations, 1997), in New York 1997, focused on corporate responsibility and involvement. A more responsible consumption and sustainable technologies was promoted and put on the future agenda. United Nations General A., (1997, as quoted in Behringer and Szegedi, 2016, p. 16). In Johannesburg 2002, the World Summit on Sustainable Development (WSSD) was held. The conference brought a huge amount of participants, heads of State and Government, leaders and delegates from non-governmental organizations (NGOs), businesses and other large groups together to focus on the world challenges, conservation of the natural resources, a growing population and improvement of people's lives was the overall agenda(Sustainable Development Goals UN, n.d-i).

The United Conference in Sustainable Development, Rio 20 +, hosted in 2012. Focused on a political outcome document with clear and practical measures for implementing the sustainable development and launched a process of developing a set of SDGs. Adoption of green economy policies and strengthening the UNEP program and a high-level political forum for sustainable

development (Sustainable Development Goals UN, n.d-g). The latest addition to SD came in 2020 when The European Commission (EU) adopted the new *Circular Economy Action Plan, for a cleaner and more competitive Europe*. This is one of the main blocks of the European Green Deal and a part of the new agenda for sustainable growth in Europe. The background for this initiative was the European Commission launch of the first Circular Economy Action Plan back in 2015, where 54 actions were presented and either delivered or in process of being implemented. This historical perspective on the development and raised awareness experienced within the field of sustainability and environmental issues is the foundation and backbone for the shared expectation and obligation to contribute to a more sustainable future. The goals, initiatives and actions have also captured our interest and inspired us while we were working with the themes in our master thesis. (European Commission, n.d-b)

1.2 Objectives and Research questions

Based upon the background and the challenges referred to in the introduction the objective of this thesis is:

How to implement and operationalize the SDGs to attain sustainable practices within the industries business models

This will be achieved by answering the following research questions:

- How can a company use the SDGs in their transition to a more sustainable practice? How will this influence their business model?
- How to measure and track progress of the environmental performances?
- How can the SDGs be operationalized in the company's business model to lead to more responsible production and consumption?

The research questions are somewhat intertwined. However, we chose these three questions to make sure that we capture all aspects on how the SDGs can be used in achieving a more sustainable business model.

1.3 Structure

Chapter 1 Introduction	First, a presentation of the background, objectives and research questions of our master thesis will be identified.
Chapter 2 Methodology	An overview of the methodologies applied in the research paper is provided.
Chapter 3 Slettvoll AS	In chapter three we will present our case study, Slettvoll.
Chapter 4 Interviews	A presentation of the interview subjects and a timetable of communication, limitations of the study are described.
Chapter 5 Tools, models and frameworks	A historical review of development within sustainable development and relevant tools, models, and framework.
Chapter 6 SDG and sustainable business models	Detailed description of the adoption of the SDGs, Sustainable Business Models, BH4S and circular business models.
Chapter 7 Circular economy and sustainability within the furniture industry of EU	Takes on the situation and the opportunities within the EU furniture industry and The EU circular action plan.
Chapter 8 Sustainable development in Norway	Several initiatives, activities and packages described due to the green transformation and sustainable development in Norway.
Chapter 9 Business model - Slettvoll	Current business model of Slettvoll is presented, andalso a positive and negative externality assessment, the “recognize face”.
Chapter 10 On the way to a RESTART- Interview	In this chapter, the interview with Lars.J.T Pedersen, Professor at NHH and co- author of the book RESTART is provided
Chapter 11 Slettvoll’s RESTART	Takes on the Slettvoll’s RESTART process, but first the process and SDG focus of the company to attain a more sustainable business model.
Chapter 12 Discussion	This chapter is a summarization and discussion of our findings and result of the overall objectives, based on our three research questions
Chapter 13 Conclusion	Authors concluding remarks and recommendations are presented.

Table 2: Structure of the thesis

2. Methodology

In this chapter an overview of the methodologies used in the work on our thesis described. Starting with an elaborating on qualitative and quantitative methods, both with regards to our thesis process, as well as methods used in measuring sustainable progress for companies. Further, the research design and data material will be explained, as well as the literature review. Figure 1 shows a model on the initial plan for methods to be used in the problem solving.

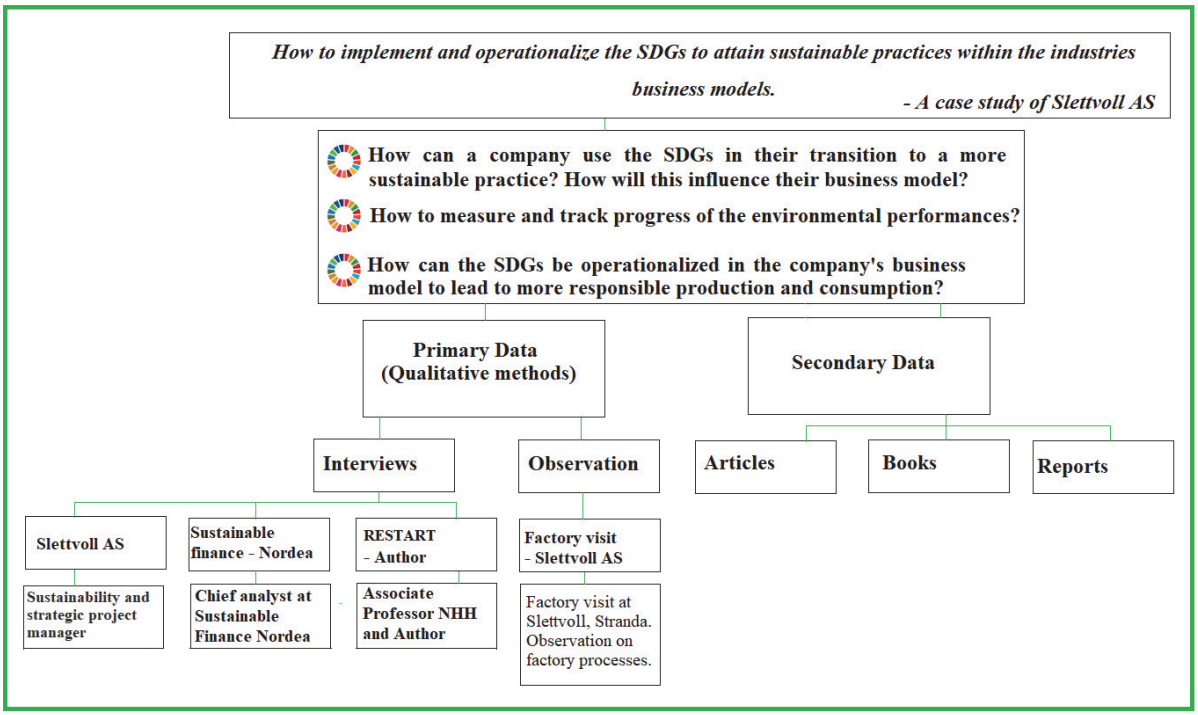


Figure 1: Research objective, questions, and methods

Methodologies can be grouped into qualitative and quantitative. For this research, it was important to find the best methodology to achieve the information needed for our problem solving. In our work we have mainly been using qualitative methodologies, so the focus is on this. However, for companies and their work in gathering data and using specific tools in their work towards sustainability, quantitative methods is needed as well. Therefore, a short introduction of the main principles in quantitative research is given before a presentation and overview of qualitative research methods.

2.1 Quantitative research

"Quantitative research is a structured research approach involving a sample of the population to produce quantifiable insights into behaviour, motivation and attitudes."

(Wilson, 2012, p. 130)

Quantitative methodology can be divided into two types, experimental and survey. It is deductive in nature, with the research having a cause and effect approach. Reality is objective and independent of the researcher (Salem Press, 2014, p. 15). According to Cuba and Lincoln, (1989, quoted in Salem Press, 2014, p. 15) quantitative research is considered to be accurate, reliable and valid. Generalization in the research leads to predictions, understandings and explanations, Creswell (1994, quoted in Salem Press, 2014, p. 15).

Of the main principles in quantitative research, collecting data is more structured and not as flexible as with qualitative research. The results from a quantitative research would also be easier to replicate to make direct comparisons on the results. (Wilson, 2012, p. 131) Quantitative methods are methods that typically relies upon mathematical and statistical analysis (Walle, 2015, p. 24).

"If you can't measure it, you can't manage it"- Peter Drucker (as quoted by Cofeen, 2009)

However, many studies will make use of both quantitative and qualitative research (Wilson, 2012, p. 131). In chapter 5, different tools, models and frameworks is presented, one of which is the CapSEM model, Capacity building in Sustainability and Environmental management (Fet and Knudson, 2019), see chapter 5 (5.2) for a presentation of the model, and in chapter 12 (12.5) the model is used as an example for the case study. This model shows different tools that can be used in different stages in the sustainable development process of a company. The tools are also shortly described in appendix 14.2 and will require qualitative research, quantitative research or a combination of both. Qualitative research can be used to explore and understand, while quantitative research can be used in measuring in a conclusive and confirmatory manner. (Wilson, 2012, p. 131). Used in combination, it might give a better picture (Wilson, 2012, p. 127). With Key Performance indicators (KPIs) for example, all measures are technically quantifiable, however, qualitative variables can be used to help analyse the measures (Barr, 2013).

2.2 Qualitative Research

According to Creswell (1998), qualitative research is a naturalist approach, and his definition states:

> *"Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting." (Creswell, 1998, p. 15)*

The researcher's reality is subjective, seen through the eyes of those taking part in the study. Patterns or theories are developed in the research process and is therefore inductive in its nature Cuba and Lincoln, (1989, quoted in Salem Press, 2014, p. 15).

In qualitative research the data gathering is more flexible and less structured compared to the quantitative research. It typically uses small samples of individuals, and they are not necessarily representative of a large population. However, the respondents are carefully selected considering the time and effort that will be spent researching their views. The produced data will not be quantifiable or statistically valid, however, qualitative research attains deeper and more penetrating insights into the topics. (Wilson, 2012, p. 103)

According to Onwuegbuzie and Leech (2005, quoted in Salem Press, 2014, p. 14), the methodology chosen for a research, should be depended on the research questions. Considering that this study aims to retrieve comprehensive information about our research topic, and wanting to achieve a more holistic view, we decided to utilize a qualitative approach to our study. Conducting interviews with carefully selected interview subjects that possesses competence and experience in the field of our research.

2.2.1 Methods

There were several different qualitative methods to choose from in working on this thesis. Our initial approach was to conduct interviews, in addition to observation at Slettvoll`s main factory at Stranda, see figure 1.

Participant observation is a way for the researcher to become more involved with what is being studied. Observing in the social arena of the informants can provide an invaluable insider view (Walle, 2015, p. 79). According to James Spradley (1980, quoted in Walle, 2015, p. 93), there are five types of participating observation; nonparticipating, passive participating, moderate participating, active participating and complete participating. The plan was to go

through with a passive observation, being present, however, just functioning as an observer and not participating. Our goal in this was to see first-hand how the operations in the factory are being conducted. Unfortunately, the observation had to be cancelled due to the Corona pandemic, and therefore it was not possible for us to achieve information using this method.

Our sole method during this process was therefore conducting interviews. Interviews can be unstructured, semi- structured or structured. The different styles of interviews will influence what type of information is gained (Walle, 2015, p. 71).

Unstructured interviews also called in depth interviews, is according to Boyce and Neal (2006, quoted in Walle, 2015, p. 71) a type of interview where the informant is given great freedom in their responses. The freedom and flexibility of this interview style gives both the informant and researcher a more open communication which may lead to the capturing of diverse and possible unexpected information. Informants of an unstructured interview are usually carefully selected. The preparations before conducting this sort of interview, however, tends to be quite extensive. It is time consuming, often more costly and might entail needing to conduct significant secondary research on beforehand in order to be sufficiently prepared. Unstructured interviews are a good choice when wanting to gain insight and important information from people with specialized knowledge. (Walle, 2015, pp. 71 - 72).

Semi structured interview is an interview style that also gives the informant opportunity to respond quite freely. However, the interview is more controlled by the fieldworker in order to gain specific information. As with unstructured interviews, semi structured interviews should also be held in a conversational tone, even though it is being steered in a certain direction. The interviewer may need to require a certain amount of knowledge, but this is usually less than what is needed in an unstructured interview. This interview style is a good choice when specific information is needed. (Walle, 2015, pp. 72-73)

Structured interviews are more similar to surveys. The protocol is more inflexible and formal, the approach might be masked, however, in order to relax the subject. The data is precise, and the informant is given little freedom in their responses unlike the unstructured and semi structured interview styles. Typically, the interviewer codes the results in a quantitative manner. This interview style tends to be the cheapest and quickest version of the methods. The approach is good when the information needed is specific whereas the answers might be complex. (Walle, 2015, pp. 73-74)

2.3 Literature review

This part will take on a literature review, relating the project to an existing research stream (Walle, 2015).

The starting point of the research project was an extensive literature review of the concept sustainable development, SDGs, and sustainable business models. Search engines such as Oria and Google Scholar was used to find relevant literature on our thesis topic. However, much useful, and relevant literature was also provided to us by our supervisor, Annik Magerholm Fet. We have been looking at the historical development and kept updated on the current situation, initiatives and announcement through the media and internet during the entire period of the project. By identifying useful theory, frameworks and tools while gaining more knowledge and skills in the problem-solving process we were enabled to work on the research questions and conclude with our findings.

The thesis aims to address the key research questions to explore how a company can become more sustainable by integrating the SDGs. (1) How can a company use the SDGs in their transition to more sustainable practices and how will this influence their business models? (2) Which key performance indicators should be used to measure and track progress and (3) How can the SDGs be operationalized in the company's business model to lead to more responsible production and consumption?

The literature review confirms that there is a rising interest within the world society addressing development within social, environmental, and economic sustainability. Several reports have been thoroughly studied: from the United Nations (UN), the European Union (EU), the European Environmental Bureau (EEB) e.g. to find an interesting approach and a reasonable framework for this master thesis. Indicators and indicator work within sustainable development, the SDGs and sustainable business models have been identified.

The data collection is based on secondary data collected from the documents, reports, and white papers available. The primary data was supported by the empirical data collected from interviews and conversations in person, by mail and by teams-meetings.

3. Slettvoll AS

Slettvoll AS has since the very beginning been focused on combining quality and beauty. Inspired by the beautiful and changing nature, the real, simple and down to earth, has according to the firm, always been characterizing their development. Delivering handmade furniture by exceptional craftmanship makes every piece of furniture unique. (Slettvoll, 2019)

3.1 Introduction

It all started in 1951, in a beautiful village called Stranda at Sunnmøre. Hans and Bergit Slettvoll founded the company in their very own home. They started by producing wicker baskets, wagons for dolls and small furniture. Being in a different time era, Hans and Bergit, not knowing it at the time, transported their products in a very sustainable matter. They would ride their bicycles down to the route boat with their products, delivering them to be further transported out to the world. The business bloomed and turned out to become quite a success, and in the 1970`s Slettvoll had become the leading manila furniture business in Scandinavia. (Slettvoll, 2019) Nearly 70 years later they are still going strong.

The first Slettvoll Store was opened at a barn in Kolsås in Bærum in 1999, and it is still going strong. One year later a new store was opened at Skøyen in Oslo and is still the most profitable of the stores in Norway. (Slettvoll, 2019)

In 2003 the company decided to opt their products out from the big furniture companies, making their products only available from their own stores. A choice that according to the CEO, was crucial to their existence today (Vanebo, 2019). The company continued to grow, and in 2008 the first store outside of Norway was opened in Stocholm, Sweden (Slettvoll, 2019).

The company was recognized in 2015, with an honorary award for business of the year in Møre and Romsdal. The statement said, “A forward looking and innovative company that grows and creates new jobs”. The purpose of the award is to motivate and inspire the business community to contribute to society. (Rosbach, 2016)

Today, there is a total of 15 Slettvoll stores in Norway, 3 stores in Sweden, and in 2019 they established the first store in Copenhagen (Slettvoll, 2019).

Next, the company’s business idea, vision, mission and values will be presented, based on information provided to us by the company:

Business Idea:

We are going to be an attractive destination for furniture's and interior.

Vision:

We are going to be a clear furniture- and interior concept on the same level as the best in the world.

Mission:

By having a total interior concept and offer personal guidance we are creating homes founded of the lives supposed to live there.

Values:

- *Long-term perspective*

"Our products have a long lifetime, independent of trends. This long-term obligation to the customers provided by Slettvoll, results in a safe and everlasting relationship.

- *Welcoming*

At Slettvoll you are going to experience a welcoming atmosphere and a service minded organization. The human resources are the center of attention amongst both colleagues and customers.

- *Highly skilled*

The company is globally oriented and updated due to the changes, trends and customer preferences the industry experiences and has the skills to provide well designed homes according to the customer needs and adjusted hence to functional living.

3.2 The Case study

In this thesis our focus will be on Slettvoll as a case study. However, the idea is to look at the company as an example within the industry. Thus, this project covers the industry, and how a company can work on transitioning their practices using the SDGs and operationalize them in their business model, as well as tracking and measuring progress.

Slettvoll recently began their process in transforming their business model to become more sustainable in their practices. They started by going through all the 17 SDGs and worked out which they wanted to focus on going forward. They ended up with the goals:

SDG 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

SDG 12 – Ensure sustainable consumption and production patterns.

SDG 13 – Take urgent action to combat climate change and its impact.

SDG15 – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reserve land degradation and halt biodiversity loss. (Sustainable Development Goals UN, n.d-d)

Slettvoll are already in many ways operating in a sustainable matter, having many local suppliers, and keeping much of their production at their factory at Stranda. However, they still need to work carefully and strategically, to make sure they are making the right decisions for their company. Not only is this work beneficial for Slettvoll, but also, they will stand as a role model for other companies in their line of industry.

Slettvoll has been great contributor in our problem solving of this thesis, giving us much useful and relevant information on the industry, their business, value chain, and their plans going forward. The next chapter is an overview of our interview processes, both with the company, as well as other people with great competence and knowledge about the subject.

4. Interviews

In the process of solving the research questions of this thesis, we decided to contact three people with different competence and knowledge on the research topic. All three responded positively to our requests, and after conducting qualitative interviews we gained much useful and valuable information. Table 3 shows the interview subjects, method, and the time of meeting. Followed by a short presentation of the process and each interview subject. Based on the different interview methods presented in chapter 2 (2.2.1), we decided that the best way of conducting these interviews was by holding semi structured interviews. Even though unstructured (In-depth) interviews may provide more information, the research topic of sustainability is so large, so we needed to make sure that we were provided with the relevant information for our research questions, and therefore steered the conversation in the desired and specific direction.

Sustainability and strategic project manager- Slettvoll Furniture AS

It was important to gain relevant information about our case study, Slettvoll AS. Sustainability and strategic project manager, Karoline Fløtre Gati, was our contact. She has been working at Slettvoll since 2014. Gati, have also had other positions within the company, and before working on sustainability, she was a quality manager for procurement and production, as well as project manager and customers service manager. In her current position she is working on managing the company towards a sustainable and circular economy. Gati has a bachelor's degree in export marketing, and a master's degree in MA International Business in Leeds, England. In addition, she has taken additional courses in brand management and internationalisation, as well as innovation and new business models at NHO.

Gati has been a great asset for us in solving our research questions and provided us with much useful information. She has been available for us during the entire process, responding to questions and giving us information. Our goals for the meetings was to get to know the company, mapping out their current business model, including potential "hotspots". Identifying value chain actors, examining their upstream and downstream activities, and the products/services sustainability aspects and effects. Further on, we wanted insight in the company's plans in becoming more sustainable using the SDGs.

The first meeting with Slettvoll took place at their Headquarters in Ålesund. On beforehand it was agreed upon to keep this as an informal meeting to get to know each other. Gati provided us with a very good and insightful presentation of the company and information with regards

to their current business model, as well as their plans going forward. By gaining all this information on the first meeting, we were able to use this in mapping out their current business model, see chapter 9. The next meeting took place in the beginning of April during the Corona pandemic. The information gained from the previous meeting was used as a base to build a semi - structured interview guide for the second meeting and interview. By this, we achieved even deeper insight in their ongoing work on sustainability Finally, we had a last meeting, also by using Teams. This was a meeting mainly to discuss our findings, and getting certain information clarified. In addition, Gati gave us information on Slettvolls progress since the last time we spoke. In chapter 11, the information is used in presenting their process using the RESTART model.

Chief analyst of sustainable finance - Nordea

Wanting to learn more about how important and central it is for companies to become more sustainable, we contacted Thina Saltvedt, the chief analyst of sustainable finance at Nordea. She was interviewed about her knowledge and expertise around the sustainable financial aspects. Saltvedt, has a masters and doctors' degree from the university of Manchester and has been working on sustainable finance for about 2,5 years. Before that she worked as an oil analysist for over 10 years.

In appendix 14.3, the information obtained from our meeting with Saltvedt is presented, including how financial institutions can influence businesses in becoming more sustainable, and the challenges and opportunities they encounter in these processes.

Associate professor of ethics and economics - NHH

We also got an interview with Lars Jacob Tynes Pedersen, associate professor at NHH, and leader of the Centre for sustainable business. He does research, teaching and dissemination on topics broadly linked to the intersection of where business economics meets sustainability, and how sustainability can be integrated into business models. At NHH he teaches in a master course on sustainable business models, and there is also an executive program offered to people wanting further education or be supplemented on the subject. In addition, Pedersen is co-author of books such as Responsible and Profitable (2013) and RESTART – Sustainable business model innovation (2018), written together with Sveinung Jørgensen. In chapter 10, the interview with Pedersen is presented, and the RESTART framework is used in chapter 11 showing an example of developing a sustainable business model for Slettvoll.

Interview subjects	Time
Sustainability and strategic project manager, Slettvoll - Karoline Fløtre Gati	
1. Meeting – Informal meeting. Getting to know the company.	28/02/2020
2. Meeting – Semi structured interview, Teams.	03/04/2020
3. Meeting – Discussing findings of the results. Teams.	17/06/2020
Chief analyst of sustainable finance at Nordea - Thina Saltvedt Meeting – Semi structured interview. Teams	20/05/2020
Associate professor of ethics and economics at NHH - Lars Jacob Tynes Pedersen Meeting – semi structured interview. Teams	28/05/2020

Table 3: Interview subjects and time of interview

All interviews were held in Norwegian, by using Teams. A sound recording was conducted and approved by all informants. Transcripts were made of the recordings to ensure that no valuable information was lost.

4.1 Limitations

The Corona pandemic caused some issues for our initial plan in conducting this research. As mentioned earlier the observation of the factory processes, had to be cancelled. In addition, the interview had to be held online, rather than meeting in person. Nevertheless, we feel this has not compromised our overall results, considering the amount of strong and insightful information our contact at Slettvoll provided us with. The Corona situation also made it somewhat harder to get access to secondary sources. Ordering physical material from the library through Oria was not possible due to the risk of contagion. Luckily, search engines for academic literature like Oria and Google scholar could provide relevant online material to use in our thesis. It is advised to use as much original sources in a thesis as possible, however, this also then was somewhat affected by not being able to get access to the material. Instead this thesis might have more referencing to secondary sources than usual. The first meeting with Slettvoll was not audio taped since it was not scheduled as a formal interview. Instead there were taken fieldnotes during the conversation, covering much of the information that was given to us. However, there is a possibility that information was lost, considering not all parts of the conversation were taken notes of, and without a full audio it is not certain that every important part has been noted from the first meeting. Finally, due to the page limitation in the master thesis the interview with Thina Saltvedt is placed in the appendix.

5. Tools, models and frameworks

There are several tools, models, and frameworks available for companies to use in their process of sustainable development. This chapter takes on some examples, starting with a brief historic overview of the development and tools that are being used by companies to achieve a sustainable business model. The CAPSEM- model gives an overview of different tools that can be used in the sustainable development process, the Osterwalder business model canvas, a strategic management tool is great to apply in mapping out a company's business model. Finally, the RESTART framework for sustainable business model innovation, and the SDG compass, a guide for business actions on the SDGs will be presented.

5.1 Historic review of the tool's development

From local and site-specific focus, toward holistic life cycle thinking in Scandinavia with focus on Norway. (Fet, 2013, p. 204) Environmental consciousness in Scandinavian companies has developed a lot over the last 30 years. This movement can be described as the concerns of local and site-specific focus due to the environment, towards a more holistic and life cycling thinking. Several process improvement programs were introduced, and Cleaner Production (CP) assessment became the analytical tool for many companies that wanted to identify their energy use and the environmental aspects, connected to their processes within production. (Fet, 2013, p. 204) In the mid-1980s, CP was introduced and the United Nations Environmental Program (UNEP) formulated Cleaner Production in 1987:

The conceptual and procedural approach to production and demands that all phases of the life cycle of a product or of a process should be addressed with the objectives of prevention or the minimization of a short- and long-term risk to humans and the environment. A total societal commitment is required for effecting this comprehensive approach to achieving the goal of sustainable societies. UNEP (1987, as quoted in Fet, 2013, p. 197)

The principles of system thinking, and life cycle orientation are put in focus and the definition includes many forms of preventive actions that cause environmental problems like pollution prevention, source reduction, waste minimization, life cycling thinking and clean technologies. The CP principles can be summarized as *precaution*, *prevention* and *integration* from macro to micro scale, it also includes actions within policy, processes and products. (Fet, 2013, p. 197)

Programs for Process Improvement

When "Teknisk miljøanalyse" (technical environmental analysis) was introduced in the early 1990s, it was designed to identify the most cost- efficiency and best solutions to prevent waste and pollution, in addition to possibilities within increased resource recovery and recycling, Teknologisk institutt (Institution of technology) (1992, as quoted in Fet, 2013, pp. 204 -205), The Confederation of Norwegian Enterprises (NHO) supported at the same time. A Handbook for Implementation of Cleaner Production, NHO (1991, as quoted in Fet, 2013, pp. 204 -205)

Norway implemented the Cleaner Production (CP) by nationally financed programs, specifically directed towards certain branches, e.g the furniture industry and the shipbuilding industry in Møre og Romsdal. The pilot projects followed a two-step model; the first phase was a simplified survey of potentially processes that could be problematic within the company. Secondly, an in-depth analysis suggesting projects of improvement. Source and solutions of the process was the main focus, rather than end-of-pipe-solutions. The government offered financial support to several projects within development of cleaner technologies, and the achievements of the CP projects often resulted in good results with minor investments also referred to as *picking the low hanging fruits.* These projects resulted in a lot of experience and led to adoption in other international projects conducted internationally, other Scandinavian countries also implemented the CP but differed slightly from the Norwegian model. The University College of Østfold also established a study program in environmental technology supported by the Norwegian Pollution Control Agency in the early 1990, later on they established a collaboration with Møre Research and Teknologisk Institutt Norway. This resulted in an establishment of a national database for CP results and also laid the foundation for further implementation in the Scandinavian countries for environmental impact analysis. (Fet, 2013, pp. 204 - 205)

Programs for Product Performance Improvement

The strategies within CP also include strategies within cleaner products and early in the 1990s a Danish five-year project called the UMIP project used Life cycle analysis (LCA) methodology as the key element. The aim was to develop a methodology based on LCA product design and to prove the ability of this method in depth for five industrial applications, Environmental and Energy ministry (1996, as quoted in Fet, 2013, pp. 205 - 207)

In concern of Norwegian industry and the implementation of CP programs, Østfold Research was a pioneer in the application and implementation of LCA. In the end of 1990s, a laboratory

was established at the NTNU to support companies, this was financed through the Productivity 2005 research program. This research centre has become one of the leading research centres for LCA in Norway, and it aims to support companies in the collection of background data and also by developing branch-specific databases, Fet et al. (2009, as quoted in Fet, 2013, pp. 205 - 207)

Hence, data gathering and support of the environmental performance of the products, several mechanisms have been developed. But, only few studies have coupled the Life Cycle Environmental (LCE) data to Product's entire Life Cycle Cost (LCC) data (Michelsen and Fet, 2010, pp. 561 - 570). Within Norwegian legislation and guidelines for public procurement, LCC is considered as important and refers to the total cost over its entire lifetime, in addition this includes the costs from resources and energy use, waste management and emission NHD, (2004, as quoted in Michelsen and Fet, 2010, p. 206)

In Norway, the Green Public Procurement (GPP) is included in the development of the national strategy for sustainable development. Due to lack of knowledge on approaches in the life cycle process, there is a nonconformance between requirements and actual practise. Norway has succeeded with a lot in terms of GPP, but the original goals have not been reached/met, Fet et al. (2009, as quoted in Fet, 2013, pp. 205 - 207)

Programs for Reporting and Communication

In 1989 environmental reporting by Norwegian companies started to get available to the public, awards were used as a mechanism to encourage initiatives and to reward good performance in environmental issues by companies. This award scheme ended in 2005 since the intended effect was not reached. Another source of environmental performance identification is the annual report conducted by the companies through the reports on sustainability and corporate social responsibility (CSR). Information of the environmental performance of a company's annual reports was required in 1999, by The Norwegian Accounting Act. The Global Reporting Initiative GRI, (2010, as quoted in Fet, 2013, p. 207) gives clear guidance to companies on how to go beyond the national requirements and act responsible. GPP has led to product reporting requirements taking the entire life cycle of a product in consideration. The addressing of resource extraction, pre-production of materials, production or assembly of parts, part-production in the value chain at different sites, distribution, use, repair, final treatment and in the end recycling of materials are quite comprehensive in terms of reporting. (Fet, 2013, p. 207)

The data collected in terms of Life Cycle Analysis (LCA)- methodology results in different declarations, covering both broad and specific environmental categories e.g. ISO 2012c and ISO 2012b, Fet and Panthi (2012, as quoted in Fet, 2013, p. 207)

The link between sustainable development and CSR

The Sustainable Development (SD) and Corporate Social Responsibility (CSR) concept progressed for a long time separately, and the link between them was not explicit. By looking at the definitions and the development process of SD, the conclusion can be summarized as; CSR business model promotes business contributions to the SD and it contributes to a balance between interest within economics, environmental and social expectations. By integrating the SD into the business strategy, the interaction of the concepts CSR and SD has strengthened, and in the recent years, CSR has been an integral part of sustainable development, World Business Council for sustainable development (2000, as quoted in Behringer and Szegedi, 2016, pp. 21-22). Corporate sustainability is the company's own defined initiatives due to sustainable development, but the CSR is the approach the managerial voluntary follows in the process of sustainable development, Steuer, Langer, Konrad, & Martinuzzi (2005, as quoted in Behringer and Szegedi, 2016, p. 22) . Basically, Corporate sustainability and corporate responsibility can be used as synonyms, United Nations Global Compact, (2013, as quoted in Behringer and Szegedi, 2016, p. 22).

The contribution to change unsustainable consumption and production patterns must be united by the governments, non- State actors, business sector, international organizations, and individuals. A shared action plan will result in a change towards more sustainable patterns within production and consumption. Creativity, innovation, and investment is the private businesses key role in solving the challenges within sustainable development. A well-functioning and dynamic business sector that protects the labour rights, health, and environmental standards due to international standards and agreements will be a driving force in the development of sustainability, United Nations General Assembly (2015, as quoted in Behringer and Szegedi, 2016, p. 22). The link between SD and CSR is no longer only theoretical, but all the practical initiatives indicate an increasing role of companies to establish sustainable development(Behringer and Szegedi, 2016). See appendix 14.1.

Programs for Environmental Management System (EMS) Implementation

The Norwegian authorities stimulated the EMS and CP program implementation within companies in the 1990s. The EMS was intended to start implementing processes in large companies first, then subsequently put pressure on small firms, hopefully resulting in a Domino-effect. By the mid-1990s, the Ministry of Environment financed the start of EMA program implementation and continued this integration with supporting ISO 14001 programs. Smaller companies operating in Norway were introduced to a simplified system, the Eco-Lighthouse system, Miljøfyrtårn (2010, as quoted in Fet, 2013, p. 208). The company had to fulfil a set of sector-specific requirements to fulfil the Eco-Lighthouse certificate, including writing annual environmental reports. This program was established in 2000 as an official system for environmental management in Norway and financed by the Ministry of environment. The number of ISO 14001 schemes internationally applied by the SMEs are growing. (Fet, 2013, p. 208)

The Environmental management strategy (EMS) helps a company to manage and secure sustainability performance and its improvements. The overall management system must ingrain this process to "*manage environmental aspects, fulfil compliance obligations, and address risk and opportunities*" ISO 14001 (2015, as quoted in Fet and Knudson, 2017, p. 165). Procedures for identifying and understanding environmental aspects within operations are also included in the EMS, by setting objectives and targets for increased environmental performance, establishing programs required to achieve the goals and reviewing the results of actual performance; a well-functioning management is vital to succeed. Organizational structure, processes, procedures, practice and resources set to determine and implement policy within environmental concerns must fit the organisation. An important part of environmental management is the identification of a firm's environmental aspects e.g. activities, products, or services that cause an impact on the surroundings, ISO 14001, (2004, as quoted in Fet and Knudson, 2017, p. 165). A continuous advancement is essential within a firm's EMS, systematic monitoring and improvement programs that are consistently reviewed should secure this process. Continuous improvement is the basic block for the two models often used when designing and implementing an EMS framework e.g these two holistic approaches; the Plan-Do-Check-Act (PDCA) model Deming, (1950, as quoted in Fet and Knudson, 2017, p. 165) and the system engineering (SE) model, Fet; Fet et al, 2013, (1997; 2013, as quoted in Fet and Knudson, 2017, p. 165)

Product category rules and environmental product declaration

In 2002, the Norwegian EPD Foundation was established by NHO and BNL after an expressed desire from Norwegian Corporate sector to have development of credible, standardized and internationally valid product and service EPDs, (Fet, 2013, pp. 207 -208). The information in an EPD should be LCA-based according to ISO 14025 and provide purchasers and others, informed comparisons between products. This should result and encourage further improvements in the environmental performance of products in their life cycle. (Fet, 2013, p. 202). The Norwegian Product Category Rules (PCR), ensured by the EPD Foundation and also responsible for the PCR comply with the ISO14025 standard and also that the EPDs development are in accordance with PCR available for industries. (Fet, 2013, pp. 207 - 208)

In 2008, a case study within furniture production *Product category rules and environmental product declarations as tools to promote sustainable products,* was conducted by Fet, Skaar and Michelsen. The tools that promote sustainable products due to rules and declarations were studied and the experience gained, and the findings of this research project is presented briefly below. (Fet *et al.*, 2009)

All the new requirements and regulations put an increased pressure on the companies to provide detailed information on their products to communicate to the stakeholders. For small-and medium sized enterprises (SMEs) this is challenging due to lack of resources and available expertise. The environmental impacts a product might cause is not enough to identify, you must understand beyond the production phase and examine the entire life cycle of the product from extraction of raw material, production, use, recycling and disposal. (Fet *et al.*, 2009, p. 201)

The possibilities to develop environmental product declarations (EPDs) for products with the help of data assistant tools are looked upon in this case study. To exemplify this, Norwegian furniture production companies have been questioned and contributed with information. This case study demonstrates how an industry can react to the challenges and the development process, leading to product category rules (PCRs) and EPDs according to The International Organization for Standardization (ISO) 14025, ISO a; Fet et al (2006 ; 2006, as quoted in Fet *et al.*, 2009, p. 202)

ISO 14000- series distinguishes between three different types of declarations, all these Type 1-3 programs require that the life cycle aspect is taken into consideration (Fet *et al.*, 2009, p. 202).

First, a database was developed, containing indicators related to environmental data specifically relevant for the furniture industry. This resulted in a life cycle assessment tool (LCA) usable for selected products and has become the backbone of a data assistance tool that design and present the EPDs. The LCA expands the focus from site to value chain and is a complex process, declarations and environmental labels aim to address this by a detailed and specific product description. (Fet *et al.*, 2009, pp. 201 - 202)

By selecting five key performance indicators (KPIs) the database and the KPIs ensure standardized assessment of products, it also enables comparison of existing products and environmental performance of potential new or redesigned products. All this has resulted in a tool that gives SMEs an opportunity to communicate and provide environmental performance information to all stakeholders with limited resources available. Competence on LCAs and environmental performance increases and enables them to identify improvement areas (Fet *et al.*, 2009, p. 201). The data-assisted tool for sustainable product improvement (DATSUPI) is under continuous development, the program is also further modelled to make it useful for other than the furniture industry with LCI (Life cycle Inventory) dataset specifically designed for their materials and processes. (Fet *et al.*, 2009, p. 206)

DATSUPI is applied to make EPDs, the data-assisted tool for sustainable product improvement is made to address the following issues: *The program is meant to measure environmental impact in the external environment based on LCA-data from environment data bases and industry specific information, and the effects by using products based on emission tests of single materials and total furniture'.* (FetNybakke and Lange, 2009). In appendix 14.4, an example showing parts of the EPD results is presented,the "Twin chairs" by Helland Møbler AS.

ECO-labelling

Stiftelsen Miljømerking and the EU-flower (European Commission) are eco-labelling schemes, functioning through The Nordic Council of Ministers and the European Commission, including stakeholders and member state bodies. A specific set of product criteria must be obtained to qualify for use of these labels, stakeholders and a group of qualified experts have developed and revised these criteria's in a highly transparent way. Producers, importers and retailers can apply for these eco-labels for their products if they see the importance of such labelling since the schemes are voluntary. Other label-schemes of interest that address single environmental

criteria, e.g. the Water Footprint of products (ISO 2012b) and Carbon Footprint of products (CFP) (ISO 2012c). There are several other schemes that address only one phase in the LC of a product, e.g the Forest Stewardship Councils (FCA), this declaration of wood products states that the wood is harvested in a sustainable manner. (Fet, 2013, p. 202)

5.2 CapSEM model

In appendix 14.5 and figure 2, the CapSEM – model toolbox is displayed. CapSEM stands for Capacity building in Sustainability and Environmental Management. This model was developed by Norwegian University of science and technology (NTNU), by our supervisors Annik Magerholm Fet and Haley Knudson, in cooperation with several other universities in Europe, Africa and Asia. The model contains four levels: Process level improvement, product–level and value chain improvement, organizational level improvement and finally system level change. (Fet and Knudson, 2019, pp. 3 -5) It gives a great overview in which tools that can be used at the different levels in the sustainable development process. Some of these tools have already been addressed in point 5.1, however in appendix 14.2, a short description of all the tools in the CapSEM model is presented.

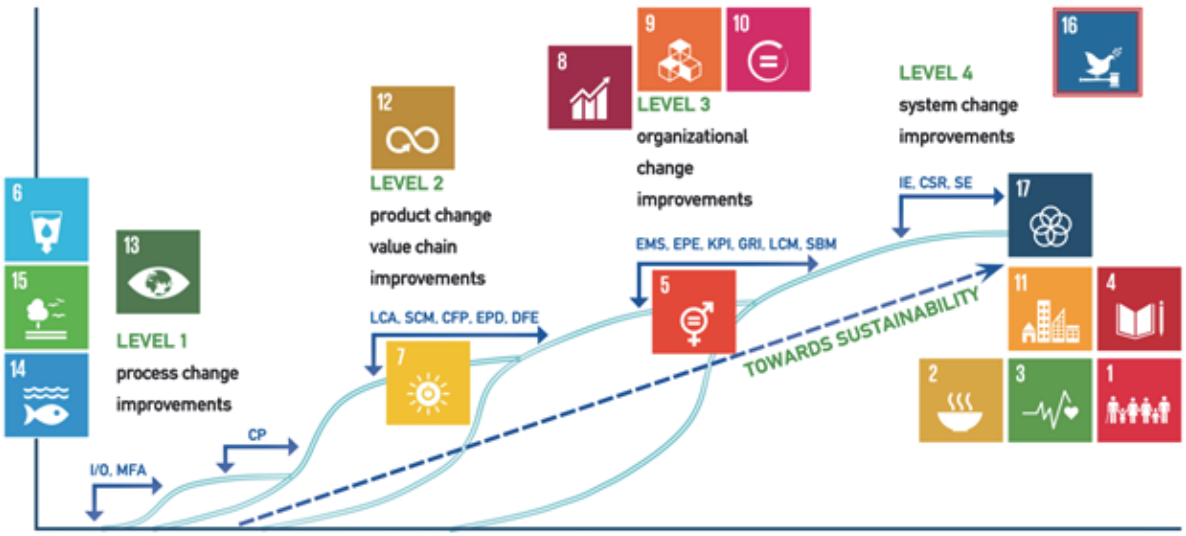


Figure 2: CapSEM model. Stepwise change with the SDGs (Fet and Knudson, 2019, p. 26).

For level 1 in the CapSEM model, input-output analysis, material flow analysis and cleaner production, are suggested tools that are possible to use in detecting areas for improvement in the processes necessary for attaining the raw materials needed for productions. Goals that are especially applicable at this stage is SDG: 6 (Clean water and sanitation), 13 (Climate action),

14 (Life below water) and 15 (Life on land), which are all SDGs that relate directly to nature, water, soil and air, see figure 4 (Fet and Knudson, 2019, p. 27).

Next, at level 2, the suggested tools for product - and value chain improvements, the focus being on making sustainable improvements on the products and their value chain. Life cycle assessments (LCA) and Environmental product declarations (EPD) are a couple of the tools at this stage. SDGs that are especially applicable at this level is SDG 12 (Responsible production and consumption) and 7 (Affordable and clean energy). The goal being to transform the linear consumption and production models into circular ones (Fet and Knudson, 2019, p. 27).

In level 3, the organizational level improvement is concerned with how the organization can deal with and make improvements on its sustainable challenges and accordingly strategic improvement. Environmental challenges (EC), Key performance indicators (KPI) and sustainable business models (SBM) are a few of the tools possible to use at this stage (Fet and Knudson, 2019, pp. 8-9). The SDGs suited for this part are: 5 (Gender equality), 8 (Descent work and economic growth), 9 ((Industry innovation and infrastructure) and 10 (Reduced inequalities). Goal 8 and 9 having the more economic aspect with innovation, infrastructure, industry, and economic growth, while goal 5 and 10 are within the more social aspect concerning inequalities. (Fet and Knudson, 2019, p. 27)

At the final stage of the CAPSEM model, System level change, the remaining SDGs: 1 (No poverty), 2 (Zero hunger), 3 (Good health and wellbeing), 4 (Quality education), 11 (Sustainable cities and communities), 16 (Peace, justice and strong institutions) and 17 (Partnerships for the goals) are suited in that they are all drivers for a systematic change (Fet and Knudson, 2019, p. 27). Applicable tools at this stage are System engineering (SE), corporate social responsibility (CSR) and industrial ecology (IE). While the levels from 1-3 deals with the more environmental parts of the processes, organization, value chain and products, level 4 is concerned with the incorporation of the stakeholders. (Fet and Knudson, 2019, p. 8).

5.3 Osterwalder business model canvas

The business model canvas was developed by Osterwalder and Pigneur and is a great tool for companies to summarize their business strategies (Chaffey and Ellis - Chadwich, 2019, p. 77). From the book Business Model Generation (2010) the business model canvas is described in detail, going through all the nine building blocks. From the book it is stated that there are four

areas covered by the nine building blocks: *Customers, offer. Infrastructure and financial viability. (Osterwalder et al., 2010, p. 15).*

> *The business model is like a blueprint for a strategy to be implemented through organizational structures, processes and systems. (Osterwalder et al., 2010, p. 15)*

Customer Segment

Customer segments explains what groups of organisations or people the company seeks to reach. A good way to satisfy customers is to group them into segments of people by for example similar needs and behaviours. A business can define one or several segments of different sizes. After having chosen which segment to focus on the business model can be designed around the specific needs of the customers. Examples of customers segments are mass market (focusing on one large group of customers), niche market (targets specific distinct segments), segmented (focuses on different segments, with slightly different needs), diversified (serves unrelated customer segments) and multi-sided platforms (one or more interdependent segments). (Osterwalder *et al.*, 2010, pp. 20-21)

Value propositions

The value propositions are the solutions for the customers problems and needs. It describes what products and/or services the company offers. The value proposition may be innovative and present new offers to the market, while others represent already exciting products and services, however with added attributes and features. Newness, performance, accessibility, cost reduction, price and customization are all examples of contributing factors in creating value for the customers. (Osterwalder *et al.*, 2010, pp. 22-23)

Channels

Channels describes how the company will communicate with and reach their customers in order to deliver their value propositions. There are five phases in a channel and the channel types can be split into direct and indirect, in addition to owned and partner channels. The phases includes: *Raising awareness among customers about a company's products and services, helping customers evaluate a company's value proposition, allowing customers to purchase specific products and services, delivering a value proposition to customers and providing post – purchase customer support (Osterwalder et al., 2010, p. 26)*. A company can reach their customers through owned channels, partner or a mixed one. Owned channels can be direct, a web site for example, or indirect like retail stores owned by another organization. The partner

channels are indirect, for example partner owned web sites. These gives lower margins but expands the reach. (Osterwalder *et al.*, 2010, p. 27)

Customer Relationships

The company should define what relationship it wants to have with their customer segments. The relationships can be driven by *customer acquisition, customer retention and boosting sales (Osterwalder et al., 2010, p. 28).* Examples of categories of customer relationships are personal assistance (human interaction-based relationship), dedicated personal assistance (dedicating the customer with an assigned client), self-service (no direct relationship with the customer), automated services (mix of customer self-service and automated processes), communities (user communities to facilitate connections between members) and co creation (creating value along with the customers). (Osterwalder *et al.*, 2010, p. 29)

Revenue streams

From each customer segment the company generates one or more revenue streams. The streams can also have different pricing mechanisms. These can be dynamic meaning they change based on market conditions, for example auctions, or fixed being predefined based on statistic variables, like with list prices. There can be two types of revenue streams, one-time payments called transaction revenues and recurring revenues, meaning ongoing payments. Different ways to generate revenue streams can be: Asset sale (selling ownership rights to a physical product), usage fee (use of a service), subscription fees (continuing access to a service), renting /leasing /lending (temporarily usage of an asset), licensing (use of protected intellectual property), brokerage fee (intermediation services on behalf of two or more parties) and advertising (fees for advertising a product, service or brand) (Osterwalder *et al.*, 2010, pp. 30-33).

Key Resources

The key resources are essential for the company to create and deliver the value propositions, reach markets, maintain customer relationships, and gain revenues. The resources can be *physical, financial, intellectual, or human. Key resources can be owned or leased by the company or acquired from key partners (Osterwalder et al., 2010, p. 33).*

Key activities

The business model needs several key activities in order for it to work, and they can be categorized by production, problem solving and platforms/ network. Production activities are typical for the manufacturing businesses and involves designing, making, and delivering

products. In problem solving the activities are to come up with solutions for individual customer problems. Activities within platforms and networks are related to management of the platforms, promotion and providing services (Osterwalder *et al.*, 2010, pp. 36-37).

Key partnerships

This building block explains the company's network of suppliers and partners. Partnerships are becoming more important for companies with the possibilities of optimizing the business model and economies of scale, reducing risks and uncertainty, and gaining certain resources and activities. There are four different partnership types: 1. *Strategic alliances between non – competitors 2. Competition: strategic partnerships between competitors 3. Joint ventures to develop new businesses 4. buyer – supplier relationships to assure reliable supplies (Osterwalder et al., 2010, p. 38).*

The cost structures

The final building block is the cost structure which describes the costs of operating the business model. The business model cost structures can be distinguished in two: cost driven, meaning the company minimizes the costs were possible, and value driven which rather focuses on value creation, for example luxury hotels. Characteristic of cost structures are fixed costs, variable costs, economies of scale and economies of scope. (Osterwalder *et al.*, 2010, pp. 40-41)

5.4 RESTART

The authors of *RESTART – 7 ways to a sustainable business (2018)*, Jørgensen and Pedersen shrive to give us an introduction on how to innovate both sustainable and rewarding business models (Jørgensen and Pedersen, 2018a, p. 2). *The Business Model* RESTART is according to Jørgensen and Pedersen themselves inspired by literature within business model innovation, for example: Osterwalder and Pigneur 2010; Kaplan 2012; Gassmann et al. 2014; Morris et al. 2005; Foss and Saebi 2017; Zott et al. 2011. In addition to literature within organizational change, specifically Lewin 1947. (Jørgensen and Pedersen, 2018c, p. 187)

> *We claim that the business models of the future will require frequent REDESIGN, which necessitates controlled EXPERIMENTATION, and be characterized by SERVICE-LOGIC, based on ideas from THE CIRCULAR economy, which will make ALLIANCES even more important, in order to achieve the right RESULTS, in a world where the scorecard is THREE-DIMENSIONAL.*
>
> *(Jørgensen and Pedersen, 2018c, p. 19)*

According to Jørgensen and Pedersen there are three trends that leads to the need for a RESTART, *the sustainability problems, digitalization, and the technological opportunity space and changing consumer preferences and lifestyles.* The comprehensive sustainability problems, the social and environmental challenges in the world needs to be addressed (Jørgensen and Pedersen, 2018c, p. 5). Customers, regulating authorities as well as other stakeholders put pressure on companies to design more sustainable and smarter business models (Jørgensen and Pedersen, 2018a, p. 4). In these times the rapid digitalisation and technological innovation, makes for an abundance of opportunities for companies to find solutions and create new and sustainable business models (Jørgensen and Pedersen, 2018c, p. 5). With new digital and technological tools, companies can reduce their negative footprints, as well as increase their utilization of resources. The final trend putting pressure on companies, is the change in customer preferences and lifestyles, making it possible to deliver services and products in new sustainable ways. (Jørgensen and Pedersen, 2018a, p. 4)

The business model visualises how the company can create, deliver and capture value (Teece, 2010, p. 172). The business model contains the:

> **The value creation** also called the "Value proposition", is what the company offers to meet the customers need.
>
> **The value deliverance** is the resources, activities and partners that is needed in delivering the value proposition.
>
> **The capture of value** is the company`s income model and cost structure, how they achieve their profits.
>
> Jørgensen and Pedersen (2015, quoted in Jørgensen and Pedersen, 2018c, p. 59)

Innovation of business model:

In order to innovate a company`s business model, the RESTART framework can be used to identify new ways to create, deliver and capture value. (Jørgensen and Pedersen, 2018c, p. 59)

The RESTART process is recommended to be executed in four separate steps (figure 3):

The first to faces, "Recognize" and "Rethink" are considered to be the problem formulating, while the last two faces, "Reinventing" and "Reorganizing" are about finding solutions and further integrating them into the new business model. (Jørgensen and Pedersen, 2018c, p. 187)

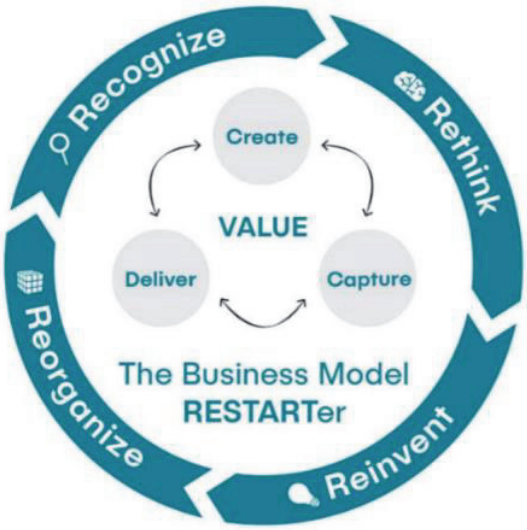


Figure 3: Recognize - Rethink - Reinvent - Reorganize(Jørgensen and Pedersen, 2018a, p. 10)

1. **Recognize** the current business model. Identify the need for change by looking at the negative and positive externalities.
2. **Rethink** the business model. Explore the opportunities and threats and identify the changes in the markets, technologies, and consumer preferences that the current business model has failed to exploit.
3. **Reinventing** the business model. After developing new ideas and hypothesis from the process in recognizing and rethinking the current business model, the company can decide upon a new business model.
4. **Reorganizing** the business model. When all the faces are completed, the new business model can be implemented. (Jørgensen and Pedersen, 2018c, pp. 184-187)

There are seven different parts in the RESTART framework (figure 4):

After recognizing the current business model, Pedersen and Jørgensen, recommends the business should begin with "START" in the "Rethink face". First STA is the *circulation*, *service- logic* and *alliances*. The company needs to think about how they can create, deliver and capture value in new ways, by considering circularity, developing services and finding partners that can help complete the business, contribute with resources and enable new and value adding activities. Second, the "RT", which is the *result*, where the company needs to figure out what to prioritize, and *three - dimensionality*, what goals the company wants to pursue, and finally looking at how this can be integrated in the new business model. (Jørgensen and Pedersen, 2018a, p. 18) The "RE" part of the model and the third step is presented in the

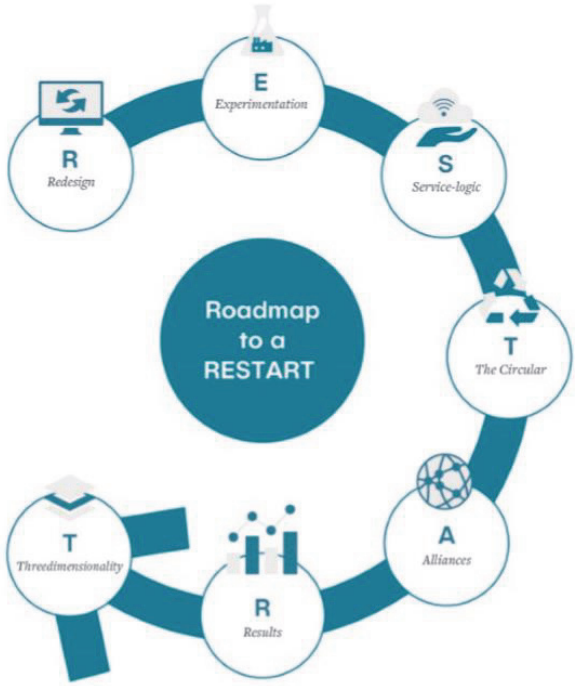


Figure 4: Roadmap to a RESTART(Jørgensen and Pedersen, 2018c, p. 52).

"Reinvent face". The company should perform experimentation before redesigning the new business model (Jørgensen and Pedersen, 2018a, p. 34). Finally, the last step is implementing the new business model in the "Reorganize face", developing KPIs and incentives and allocating authority. (Jørgensen and Pedersen, 2018a, p. 44)

Circulation

"Circular rather than linear economy"

In order to achieve a circular economy, more companies need to adopt to a circular business model, in other words a circular economy is the sum of the circular business models (Youtube, 2019). The transition process involves moving from a "take, make and dispose" economy, also known as linear value chain, to a circular value chain. Pedersen and Jørgensen, suggests that there are at least three necessary responses in solving the problems in moving towards a circular model. The resources need to be used in a way that does not exhaust the resource stocks. Today, many resources, such as different minerals, fuels, metals and fish stocks, are used in such a rate that they eventually may be completely depleted. Secondly, companies need to design products, services and processes to reduce the use of scarce resources and rather facilitate reuse (Jørgensen and Pedersen, 2018c, p. 106).

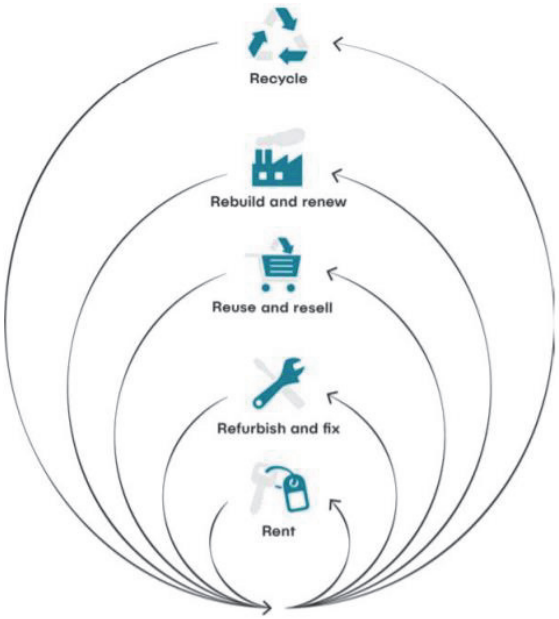


Figure 5: Different ways of upcycling. (Jørgensen and Pedersen, 2018c, p. 108)

Finally, in order for the material to be reused, it is important that they are kept at the highest quality possible. There are two different ways of recycling, "downcycling" and "upcycling". Upcycling being the best way within a circular economy, where the resources are maintained so that it can be used repeatedly. In traditional recycling, which is really downcycling, the resource gradually degrades until it's no longer usable. (Jørgensen and Pedersen, 2018c, p. 106).

Figure 5 shows five different levels of circular business model designs. For a furniture company, all these are possible solution in designing a more circular business model. For example, they could rent out furniture, offer repair services, reuse parts of the products or resell them, the furniture could be refurbished and renewed, or the resources and materials can be upcycled, and then reused, instead of having new virgin resources extracted. (Jørgensen and Pedersen, 2018c, p. 107)

Service logic

"Service logic rather than product logic"

Companies can shift their focus moving from being product logical and ownership based to service logical. By doing so, they contribute to improving utilization capacity and reducing the waste of resources. Access models and sharing economy are service logical models, this can be sharing services, streaming services, or offering leasing/rental/subscription payment solutions rather than the customer having to buy and own. (Jørgensen and Pedersen, 2018b, p. 89)

As companies works on making strong and durable products, they may also experience a decline in their sales and profitability, selling fewer products to each customer. The loss may be retained however, by offering additional services to their customers, as the same time enhancing their value creation. Mont; Tukker (2002; 2004 as quoted in Jørgensen and Pedersen, 2018b, p. 92)

Alliances

"Alliances rather than solo – runs"

Companies would benefit in collaborating and making connections to other parties in their work towards creating sustainable and profitable solutions. Forming alliances both within and across markets and sectors has become more and more common over the years (Jørgensen and Pedersen, 2018b, p. 121). However, companies need to make investments in order to achieve successful alliances, and even though the rewards can be big in making success from the collaboration, the investment may be risky an require costs, CF. Das and Teng (2001, as quoted in Jørgensen and Pedersen, 2018b, p. 123).

Forming alliances can be challenging, considering different organisations come together, having different goals and objectives, trying to come up with mutually beneficial solutions. In addition, collaboration usually requires for the companies to be open with each other on their business models, which also might be risky considering they are exposing information on their internal processes to a potential competitor, Drechsler and Natter (2012, as quoted in Jørgensen

and Pedersen, 2018b, p. 123). Managers are often faced with a paradox in situations like this, having to collaborate and compete at the same time. However, when it comes to sustainability, collaborating might be completely necessary, considering the complexity of the problem and the need to find the right competence, factors of input, technology, and other resources. (Jørgensen and Pedersen, 2018b, p. 126)

Result

"Results rather than indulgences"

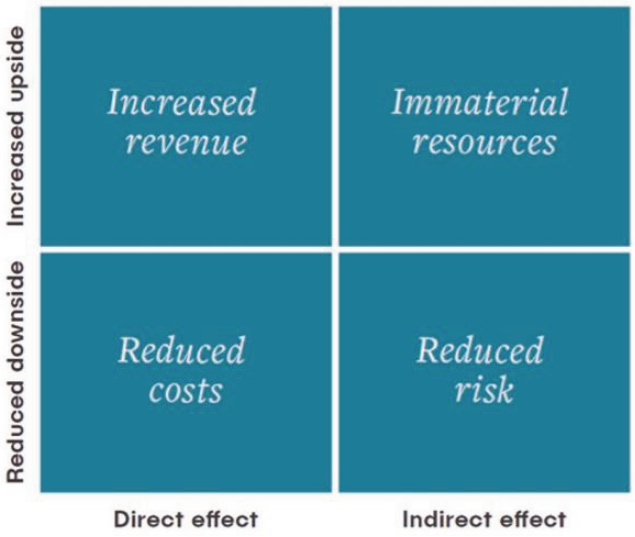


Figure 6: Sustainability influence on company performance. Based on Esty and Winston (2009, as quoted in Jørgensen and Pedersen, 2018b, p. 139)

Companies needs to keep in mind the important sustainability issues and work on solving the problems, rather than doing what makes them look good. To gain results, prioritization is key. (Jørgensen and Pedersen, 2018b, p. 135). According to Pedersen and Jørgensen, there are different factors within different sectors that influence what sustainability issues the company will prioritize and the efforts they will implement in working on them. Within the product market for example, the "push" factors are competitors that are offering more sustainable and attractive products and services, while the "pull factors" are the customers demanding more sustainable solutions, and the company's opportunity to differentiate. (Jørgensen and Pedersen, 2018b, p. 148). Figure 6 shows how the company efforts on sustainability may lead to reduced costs (reducing the downside) or/and increased revenues (increasing the upside) as a direct effect. Indirectly the company can experience a reduced risk (reducing the downside) or/and immaterial resources (Increasing the upside). The sustainable development can also influence the company's performance by improving their reputation and gaining an increased trust from their key stakeholders. In addition, the indirect downside, reducing the company's risk, may result in favourable conditions for investors and lenders (Jørgensen and Pedersen, 2018b, pp. 138 -139).

Three - dimensional

"Three -Dimensionality rather than One – Dimensionality"

Companies are moving from the bottom line being one dimensional, focusing on the economic aspects, to a three-dimensional bottom line, were the objectives are social, environmental, and financial. It is important that the entire organization is designed in a way that makes it possible for the company to become both sustainable and profitable. The goals and objectives need to be appropriate for the cause. It's also important to measure and monitor progress and communicate this to all stakeholders (Jørgensen and Pedersen, 2018b, p. 153). Key performance indicators (KPIs) are essential management tools that can make improvements in the decision – making process, and important for external reporting purposes, Perrini and Tencati, (2006, as qauted in Jørgensen and Pedersen, 2018b, p. 163) . In addition, individuals, groups, and entities should be rewarded if contributing with more sustainable solutions (Jørgensen and Pedersen, 2018b, p. 153). Pedersen and Jørgensen emphasis four organizational characteristics important in promoting the goal achievements through all the three performance dimensions.

1. Assignment of authority and accountability within the organization and placement of suitable competence in the right places in the organization

2. Contact with stakeholders inside and outside the organization

3. Development and monitoring of control systems and performance indicators

4. Development of appropriate incentive structures (Jørgensen and Pedersen, 2018b, p. 160)

Experimentation

"Experimentation rather than turnaround."

Conducting controlled experiments and identifying what works and why, is important in being able to succeed with the business model innovation. By performing experimentations, the company can increase the likelihood of a successful implementation of the new business model in the market (Jørgensen and Pedersen, 2018b, p. 75). Experimentation can take several forms, for example designing and testing new products and service prototypes, or new business models in the markets Chesbrough (2007, as quoted in Jørgensen and Pedersen, 2018b, p. 84). It is necessary in creating sustainable and profitable business models that companies experiment with different customers in different markets, and with various ways in delivering and capturing value. (Jørgensen and Pedersen, 2018b, p. 85)

Redesign

"Redesign rather than standing still".

After the experimentation and testing, the company is ready to redesign the business model, this means changing how the company creates, delivers, and captures value, with the aim of being both profitable and sustainable. The business model should be redesigned in a way that reduces the shadow the company casts on the environment and society, as well as increasing their shed of light (Jørgensen and Pedersen, 2018b, p. 55).

When all parts of the RESTART framework are completed, the final face is reorganizing the business model. The new business model is then implemented, incentives and KPIs are developed and authority is assigned. Making the business ready for a new RESTART. (Jørgensen and Pedersen, 2018a, p. 44)

5.5 SDG Compass

The SDG compass provides a great guide in the processes of using the 17 SDGs in becoming a more sustainable business. The guide includes information about the different goals, examples of key actions and solutions, key business indicators and tools, as well as the SDGs intermediate targets. It goes through five steps, starting with understanding the SDGs, then defining priorities, setting the goals, integrating them in their business model and finally how to report and communicate the sustainable changes (SDGcompass, 2015). See figure 7. Below the steps will be described in more detail.

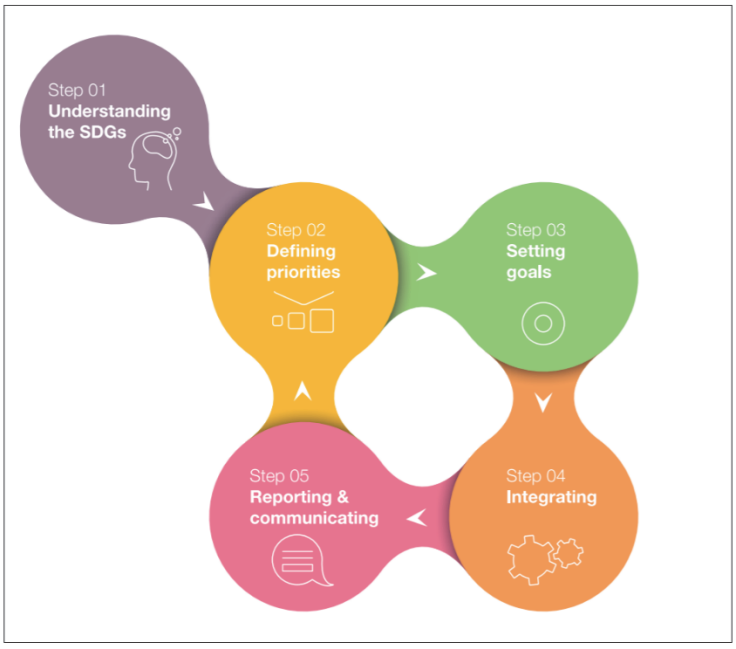


Figure 7: SDG Compass. (SDGcompass, 2015, p. 5)

Step 1 - Understanding the SDGs

The first step is about becoming familiarized with the SDGs, why they were developed and how companies can benefit from using them.

The SDGs are a result of an extensive process and one of the most inclusive in UN history. More than 1500 companies contributed with inputs and guidance through the UN global compact alone (SDGcompass, 2015, p. 7). See appendix 14.6, for a short description of the 17 SDGs. The goals were designed for companies to make sustainable choices in their investments, their business solutions and practices. (SDGcompass, 2015, p. 6).

By Working on sustainable development, a company can find new ways in growing, as well as lowering their risk profiles. The SDG compass is a framework that can help shape, steer, communicate and report strategies, goals, and activities. In addition, the process can foster several benefits for the company. For example, the SDGs aims to get global, public, and private investment flows to shift, supporting the cause of their goals. Thus, by identifying future opportunities and offer relevant technologies and solutions through sustainable business models, a company can expect more possibilities with a growing market and easier access to capital. Another benefit is enhancing the corporate sustainability value. Going through the value chain, and integrating sustainable initiatives where possible, the company can create new value, for example by: developing new market segments, building and strengthening their brand, lessen employee turnover and increasing operational efficiency and product development, which again can stimulate to more sales and profitability (SDGcompass, 2015, p. 8). Helping to advance the SDGs, will also be likely to improve trust and strengthen the relationship with the company's stakeholders. In addition, keeping up with development of new policies will reduce legal risk and reputational damage to the business, as well as building resilience for costs or obligations of possible future laws. The SDG framework helps companies in communicating better with their stakeholders on their progress and might create effective partnerships and alliances with other companies, organisations, governments, and society. Businesses are dependent on society to succeed, the SDGs will help to sustain. (SDGcompass, 2015, p. 9)

Step 2 - Defining priorities

The 17 goals will not be relevant for a company to the same extent. Thus, in the second step there are three broad actions the company should focus on: *Map the value chain to identify impact areas, select indicators and collect data and define priorities.* (SDGcompass, 2015, p. 11)

Looking at all the parts of the value chain can help find “hotspots”, assessing areas far down and up the value chain and identifying areas likely to have positive or negative impacts on the SDGs and what they represent. The idea is to perform a high-level scan, mapping out were the impacts are expected to be most substantial, considering both current and future protentional ones. By doing this the company can implement SDGs were they will increase positive impacts, or minimize negative impacts. (SDGcompass, 2015, p. 12). In this process it is also important to include external stakeholders to gain their views and concerns on the companies impacts with regards to the SDGs. There are several tools available for companies to use in their mapping of impact areas covering the entire value chain, see appendix 14.2, Life Cycle Analysis and Input-Output analysis as examples. (SDGcompass, 2015, p. 13)

In collecting data and selecting indicators, SDG compass provides an overview of business indicators that are mapped against the SDGs and their targets. For example, indicators from sources such as the GRI (Global Reporting Initiative) and the CDP (Carbon Disclosure project), can be used for the individual impact area, or the company can choose to make their own indictors. One or more indicators should then be selected for each impact area, and it needs to show the relationship between the business activities and their impact on sustainable development for the progress to be tracked over time. A five-step process called the logic model can be used to find what data should be collected. It uncovers the paths from inputs, activities and outputs, to outcomes and impacts. Now, collecting data might be harder the further down you move in the logic model, thus, a possibility can be to measure the inputs, activities and outputs, and then use that to make estimations to the outcomes and impacts. Lagging indicators can be used to measure outcomes and impacts, while leading indicators can be used to predict the outcomes and impacts. The collection of data can for example be done by using data from current purchasing and sales system, developing new reporting systems, having field visits, or conducting interviews, focus groups or/and questionnaires. In addition, to ensure the quality of data, control systems should be put in place. (SDGcompass, 2015, p. 14)

After having gained an understanding of current and potential negative and positive impacts on sustainable development, the company can start defining priorities. Criteria’s helpful in this, are for example to consider the current and potential negative future impacts. Situations such as supply chain disruption, new regulations, pressure from stakeholders and changing market dynamics. Another criterion is to find opportunities for the company to attain advantage or grow from the current or potential positive impacts, such as innovating and developing new products and solutions. (SDGcompass, 2015, p. 15)

Step 3 - Setting goals

Setting goals are crucial for the company to drive good performance and is the next step after having defined the priorities. Within this step the company should: *define scope of goals and select KPIs, define baseline and select goal type, set level of ambition and announce commitments to SDGs.* (SDGcompass, 2015, p. 16)

When defining the scope of goals, it is important to look at the defined priorities and set goals that is to cover them all through the economic, social, and environmental aspects of sustainable development. The KPIs are meant to be used in driving, monitoring, and communicating progress, and are recommended to be specific, measurable and time – bound. The company should start by looking at the indictors used in the impact assessment when selecting KPIs. If possible, they should be directly addressing the impact or outcome of the company's activities. However, would this turn out to be difficult due to lack of data for example, then the company can use KPIs that can be considered as substitutes and address resources that they plan to undertake like investments or specific activities. (SDGcompass, 2015, p. 17)

For each goal it is important to define the baseline. The baseline can be linked to a specific point in time or period. How it is defined can make a considerable impact on the probability of reaching the goal. Transparency on why and how the specific baseline was chosen is therefore recommended. When it comes to selecting what type of goal to set, there are two different categories. First, the absolute goals which express the anticipated impact on society but does not take in consideration the company growth or decline. Second, are the relative goals which measures the company performance per unit of output, however the impact the goals will have is unclear. (SDGcompass, 2015, p. 18)

Next, is setting the level of ambition. Ambitious goals are better than moderate goals when it comes to driving performance. By setting goals that are high to an extent that no one yet know how to solve them, the company will encourage innovation and creativity. Recently, companies have started to take a more outside - in approach when setting ambitions, rather than the more traditional inside- out. Outside- in, meaning taking external, societal, and global needs in consideration, as well as aligning them with the SDGs. The time horizon on the goals should be long enough to represent a turning point for the industry, however, with long time horizons it is less certainty of delivering them. Thus, in these cases it is recommended to also make short term goals. (SDGcompass, 2015, p. 18). Finally, announcing the commitments to the SDGs to the public, is a good way to promote your work towards sustainable development. In addition,

it might also strengthen the communication with external stakeholders, as well as gaining more engagement from employees and business partners. The company should communicate progress on a regular basis to the public, considering a risk of potentially not meeting their targets in time. (SDGcompass, 2015, p. 20)

Step 4 - Integrating

After having established KPIs and goals for each of the priorities selected by the company, it is essential to address these goals by integrating sustainability into the business and implement the targets across the functions. This step includes: *Anchoring sustainability goals within the business, embed sustainability across all functions and engage in partnership*. (SDGcompass, 2015, p. 21)

In order to thoroughly anchor sustainability goals into the business model it is important that the CEO and managers communicates the changes throughout the organization. The board of directors also pose an essential role, for example, the sustainable goals can be integrated as criteria's in company recruitment and remuneration of executive management. Two principles are important in anchoring the goals to the organization. The first one involves making sure the company has a shared understanding in how the sustainability goals results in value for the business. Second, integrating the goals in the performance reviews and remuneration schemes, and using incentives suited for the role an individual has in achieving the goal. Eventually, the company would benefit from the sustainability goals being integrated as a part in the company's strategic, financial and operational goals, as well as in the vision, mission and purpose statements, an in that way connecting the sustainable development to the future success of the company. (SDGcompass, 2015, p. 22)

Embedding the sustainability across all functions is depended on corporate functions, such as research and development. The goals are more likely to be achieved if they are owned by the corporate functions that are most close to the area the goal is directed to. Having individual goals and targets will help in succeeding. In addition, to give time for strategic discussions relevant for the sustainability priorities, it has become more common for companies to have cross- functional sustainability councils, board and task forces. (SDGcompass, 2015, p. 23) Another important step in integrating the SDGs is engaging in partnerships. There are three types of partnerships a company can look at:

- *Value chain partnership, within which companies in the value chain combine complementary skills, technologies, and resources and bring new solutions to market.*

- *Sector initiatives that bring several industry leaders together in efforts to raise standards and practices across the entire industry and overcome shared challenges.*
- *Multi - Stakeholders partnerships, were governments, private sector and civil society organizations join forces to tackle complex challenges. (SDGcompass, 2015, p. 24)*

Step 5 – Reporting and communicating

In complying to stakeholder's demand for information, more and more companies report and communicates their work and progress on the SDGs. Thus, the final step of the SDG compass takes on*: effective reporting and communication and communicating on SDG performance. (SDGcompass, 2015, p. 25)*

There are several ways in effectively reporting and communicating the company's contribution to the SDGs. For example, formal reports, company websites, events, social media, labelling of products and services, advertising and so on. In addition to improving trust and building company reputation, sustainability reporting has become a useful tool to support processes in sustainable decision making, drive performance, attract investors, engage stakeholders, and stimulate the development of the organization. (SDGcompass, 2015, p. 26) In sustainability reporting it is important to use internationally recognized standards offered by for example the GRI or CDP (SDGcompass, 2015, p. 27). GRI, defined ten principles for reporting sustainability. These are divided in two groups.

Reporting principles for defining report content: Stakeholder inclusiveness, sustainability context, materiality, completeness.

Report principles for defining report quality: Accuracy, balance, clarity, comparability, reliability and timeliness. (Globalreporting GRI, 2016, p. 7)

The first principle helps the organizations to choose what content is to be included in the report, considering their activities, impacts, and the stakeholders' interests and expectations. The second principle is about ensuring the information's quality in the report. It is important that this is presented properly, and that the information permits the stakeholders to take suitable actions based on fair and reasonable assessments of the company (Globalreporting GRI, 2016, p. 7). It is also recommended that for effective reporting the company focuses on material issues, meaning economic, environmental and social impacts, regardless of being positive or

negative. (SDGcompass, 2015, p. 27) Reporting and communicating with the SDGs means discussing performance, and for every identified SDG, companies can reveal:

-Why the SDG had been identified as relevant and how
-The significant impacts, whether positive or negative, related to the relevant SDG.
-Their goals for the relevant SDG and progress made in achieving them.
-Their strategies and practices to manage impacts related to the SDGs and achieve goals through integration across the business. (SDGcompass, 2015, p. 28)

5.5.1 SDG Action Manager Tool

The UN Global Compact Norge (UNGCN) is an organisation for sustainable business environment and is the biggest initiative within sustainability with over 10.000 member organisations globally, including 160 Norwegian companies. (UN Global compact, n.d-a)
The SDGs agenda of 2030 is the key operating target. Traditionally, reporting has been the main contribution within sustainability, this is still important; but for many businesses it all depends on the actions and initiatives they must perform to contribute to this process. SDG Action Manager tool is made especially for businesses to guide them stepwise in analysis, activities, evaluation and tracking of improvement. It also includes indicators providing SDG performance, bookmark report and an improvement report system. (UN Global compact, n.d-b) The tool was launched in January of 2020 (Munger Hannah and Sofina, 2020). It is free to use, and confidential (bimpactassesment, n.d).
According to the SDG Action Manager website you are provided with tools that can help to:

- *Find your starting point. Learn which SDGs matter most to you based on your company profile, and how to take action today.*
- *Understand and share your impact. Get a clear view of how your operations, supply chain, and business model create positive impact, and identify risk areas for each SDG.*
- *Set goals and track improvement. We have 10 years to achieve the SDGs. Stay motivated and visualize your progress on the dashboard.*
- *Collaborate across your company. Invite colleagues to join the SDG Action Manager, contribute expertise, and see real-time progress and performance.*
- *Learn at every step. Determine high-impact action based on thought-provoking yet actionable assessment questions, benchmarks, and improvement* guides. (UN Global compact, n.d-b)

6. SDGs and Sustainable business models

In September of 2015 at a UN summit, leaders from all around the world decided to adopt the 17 sustainable development goals, and in January of 2016, they came into force. All countries are expected to establish national frameworks and commit to these goals to achieve them within 2030. The SDGs are built upon the Millennium Development Goals (MDGs), and aims to end all forms of poverty, handle the climate changes and fight inequalities. Countries also have the responsibility to monitor the progress of the implementation of the goals, making it necessary to perform timely data collection. (UN, n.d-c) The SDGs are universal goals for both developed and undeveloped countries and are meant to be applicable for all companies regardless of size, sector, or where they operate (SDGcompass, 2015, pp. 7 -10). As mentioned in the introduction, the adoption of the UN's, 17 SDGs has made an impact and influenced the world society to be more environmental responsible so the SDGs and increased accountability within sustainable development can be reached.

> *"The goals encourage companies to reduce their negative impacts while enhancing their positive contribution to the sustainable development agenda*"
>
> (SDGcompass, 2015, p. 6)

6.1 SDG

In appendix 14.6 all the 17 SDGs are shown, along with a brief description of each individual SDG. Considering both limits in time and page restrictions on our thesis, this part will only address the different goals selected by Slettvoll to work with. The company decided to focus on goal 8, 12, 13, and 15. These goals will be presented in more detail, along with examples of possible actions and solutions, targets, and indicators.

SDG 8 – Decent work and economic growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. (SDGcompass, 2016b)

Between 2016 and 2030, there will be a global need of 470 million jobs for new entrants to the labour market (UN, n.d-b). In the world today 60 % of all workers lack any kind of employment contract, and nearly half of the world's population lives on equivalent of about US 2 $. Less than 45 %, is employed on a full-time basis, and still declining. In many places having a job does not mean that one escapes poverty. Inequality, poverty and discrimination are often related

to low-grade working conditions, and workers within certain groups, for example; female workers, young people, migrants and workers with disabilities face problems in getting decent work. (SDGcompass, 2016b)

Globally the gender pay gap stands at 23 percent, and without action another 68 years will go by before achieving equal pay. In addition, men's labour force participation is at 94 percent, while for women this is 31 percent lower, at 63 percent (UN, n.d-b). Even though Norway is a highly developed country, the gender pay gap is an area that still needs to be addressed. According to Statistics Norway (SSB), women earned 87,6 percent of men's average monthly salary in 2019, meaning the gap is at 12,4 percent. With regards to agreed monthly payments, the gap is slightly lower, at 10,5 percent. Going through the 85 most common occupations for women, and the 85 common for men, the total of 121 occupations shows that there are only 16 occupations where women have a higher median monthly salary than men. (Askvik, 2020)

In order to achieve a sustainable economic growth, society needs to create conditions that allows for people to have good jobs that stimulate the economy, while at the same time not harming the environment (UN, n.d-b). Creating decent work opportunities are beneficial both for businesses and the society. Upholding labour standards across value chains and operations, reduces the risks for companies to experience reputational damage and legal liability. In addition, businesses can gain more skilled and talented workers by embracing diversity and having a non-discriminatory practice. (SDGcompass, 2016b)

Due to the Corona Pandemic, working on job creation will be even more important in the years to come. In Norway, as of April 2020, the unemployment had more than doubled and 400 000 people were registered as either unemployed, partially unemployed or job seekers at Nav. (Kleven *et al.*, 2020)

SDG Compass provides several non – exhaustive examples of actions and solutions in how companies can work on SDG 8:

- *Offer apprenticeship opportunities*
- *Foster entrepreneurial culture and invest in or mentor young entrepreneurs.*
- *Initiate skills development programs moving down company supply chains.*
- *Put in place mechanisms to identify child labour and forced throughout global supply chains, and implement remediation when abuses are discovered.*
- *Install a firm policy against unfair hiring and recruitment practices, particularly of vulnerable groups such as migrant workers. (SDGcompass, 2016b)*

SDG 8 also includes 10 intermediate targets, and the SDGs knowledge platform, at sustainabledevelopment.un.org, provides a clear presentation of each intermediate target, as well as suited indicators for global use. (Sustainable Development Goals UN, n.d-e). e.g:

SDG target:

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

Indicator:

8.3.1 Proportion of informal employment in non-agricultural- employment, by sex.

(Sustainable Development Goals UN, n.d-e)

SDG 12 – Responsible consumption and production

Ensure sustainable consumption and production patterns. (SDGcompass, 2016a)

If the global population is to reach 9,6 billion by 2050, then almost three planets would be necessary to provide the natural resources that are being sustained in the current lifestyles (UN, n.d-a). Along with a growing middleclass, demand for already constrained natural resources will increase. (SDGcompass, 2016a). Even though much of the worlds surface is covered by water, there is less than 3 percent that is fresh. 2,5 percent of which is frozen in Antarctica, meaning all of humanity is left with only 0,5 percent. Nevertheless, water in river and lakes is polluted by people faster than what the nature can purify and recycle. At the same time there are more than 1 billion people in the world with no access to fresh water. (UN, n.d-a)

Energy use in OECD countries will increase by 35 percent by 2020, despite the energy efficiency gains due to technological advances. After transport, the fastest growing areas of global energy use are commercial and residential. 20 percent of global energy is consumed by households, simultaneously contributing to 21 percent of resultant CO2 emissions (UN, n.d-a). However, over the years there has been a substantial increase in expansion of renewable energy. In appendix 14.7, and by the International Renewable Energy Agency, the annual power expansion is shown, were non-renewable energy has declined, next to an increased share of renewable (IRENA, 2020).

Every year a third of the food produced ends up as garbage by consumers and retailers or spoiled because of poor transportation and harvesting practices. This is around 1 trillion dollars, and 1,3 billion tons worth of food. Approximately 30 percent of the world's total energy consumption and 22 percent of the total greenhouse gas emission is caused by the food sector. The ability to supply food is also reduced by land degradation, diminishing soil fertility and water used in unsustainable ways. (UN, n.d-a)

Natural resources that we are depended on can be regenerated if people reduce their ecological footprint. It would not be enough to integrate sustainable processes in the production of products and services to meet emission reduction targets, constraints of natural resources or the growing demand for basic needs and access to energy. Societies must find ways in meeting people's needs without using more than the ecological limit of the planet. Patterns on consumption are in need of becoming more sustainable, especially lifestyles within industrialized societies. (SDGcompass, 2016a).

The Earth Overshoot Day marks the date when humanity`s demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. (Earth Overshoot Day, n.d) In appendix 14.8 the past overshoot days from 1970 to 2019 is presented, in 2019 the date was at its earliest, the 29 of July. The date has moved down two months over the last 20 years, and humanity is now using 1.75 Earths (Earth Overshoot Day, 2019). The country overshoot day, figure 8, gives a good illustration on the overuse of resources, and the differences between the individual countries. It shows which date the overshoot day would land if the entire world population lived like the people in the respective country. If everybody lived like people in Norway for example, the overshoot day would land on the 18 of April 2020 (Earth Overshoot Day and Network, 2020a), meaning Norwegian Businesses needs to find new solutions that enables sustainable consumption patterns.

It is an important first step to identify potential "hot spots" within the value chain of a company and where improvements can have an impact to the environmental and social system as a whole. Thus, after identifying the areas potential for improvement, the business can start designing innovative solutions that can enable and motivate people to reduce their impacts and live more sustainable lifestyles (SDGcompass, 2016b). Today 93 percent of the 250 biggest companies in the world, is reporting on their sustainability. (UN, n.d-a)

Figure 8: Country Overshoot Days. (Earth Overshoot Day and Network, 2020a)

Examples of key actions and solutions on this goal, provided by SDG Compass are:

- *Implement product portfolio analysis tools to understand environmental and social footprint of products within lifestyles as well as production. Innovation must align products and applications to appropriately address sustainability mega trends.*
- *Develop innovative business models such as moving from selling products to selling services, to retain ownership of the products and help close the material loop.*
- *Enable sustainable consumption by developing innovative solutions that can reduce energy need in usage and educate consumers about these benefits.*
- *Reduce manufacturing impacts by substituting virgin raw materials in products with – post consumer materials through recycling and upcycling.*
- *Apply modular design, so products constituent parts will be easily separated and either re – used without further processing, or easily recycled near the point of disposal.*
- *Significantly reduce waste and ensure that any unavoidable waste is utilized to the fullest degree (e.g. organic waste as fuel or fertilizer).* (SDGcompass, 2016b)

SDG 12 consists of 8 intermediate targets, below 1 of these targets are chosen as an example. In addition, a suitable indicator.

SDG target:

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycle and reuse.

Indicator:

12.5.1 National recycling rate, tons of material recycled.

(Sustainable Development Goals UN, n.d-b)

SDG 13 – Climate action

Take urgent action to combat climate change and its impacts. (SDGcompass, 2016d)

Extreme weather events, rising sea levels, increased average global surface temperature, ocean acidification and changing precipitation patterns, all caused by the anthropogenic emissions of CO2 and other greenhouse emissions, will eventually have an impact on people's livelihoods (SDGcompass, 2016d). The average sea levels rose by 19 cm between 1901 to 2010 because of global warming and the ice melting. The ice in the artic have reduced every decade, by 1,07 million km^2, and since the 1990 the global emissions of CO_2 have increased by nearly 50 percent (UN, n.d). As resources, food and water becomes more scarce, marginalized groups like women, elderly and children will be particularly affected, which again will have a negative impact on achieving the other SDGs. (SDGcompass, 2016d)

The COP 21 (Conference of the parties), held in Paris on 12 December 2015, resulted in an agreement by the parties of the UNFCCC, known as the Paris Agreement. The aim being to battle the climate changes and work for a sustainable low carbon future, speeding up and intensifying the necessary actions and investments. The agreement brought all nations into working on a common cause in battling the climate changes and to assist developing countries in doing so. It`s central aim is to in force the responses to global climate changes by making sure the global temperature rise keeps well below 2 degrees Celsius in this century, above the pre – industrial levels, however, pursuing an even lower degree Celsius at 1,5. (UN, n.d-e).

Figure 9 was made by NASA as a response to how some people believe there are disagreements between scientists on the earth changing temperatures. According to NASA Climate, there are four international science institutions that collects data of temperatures from thousands of

stations around the world every year. The results, in figure 9, shows that they are quite in sync with each other, and they agree that the last decade has been the warmest on record. (NASA, n.d).

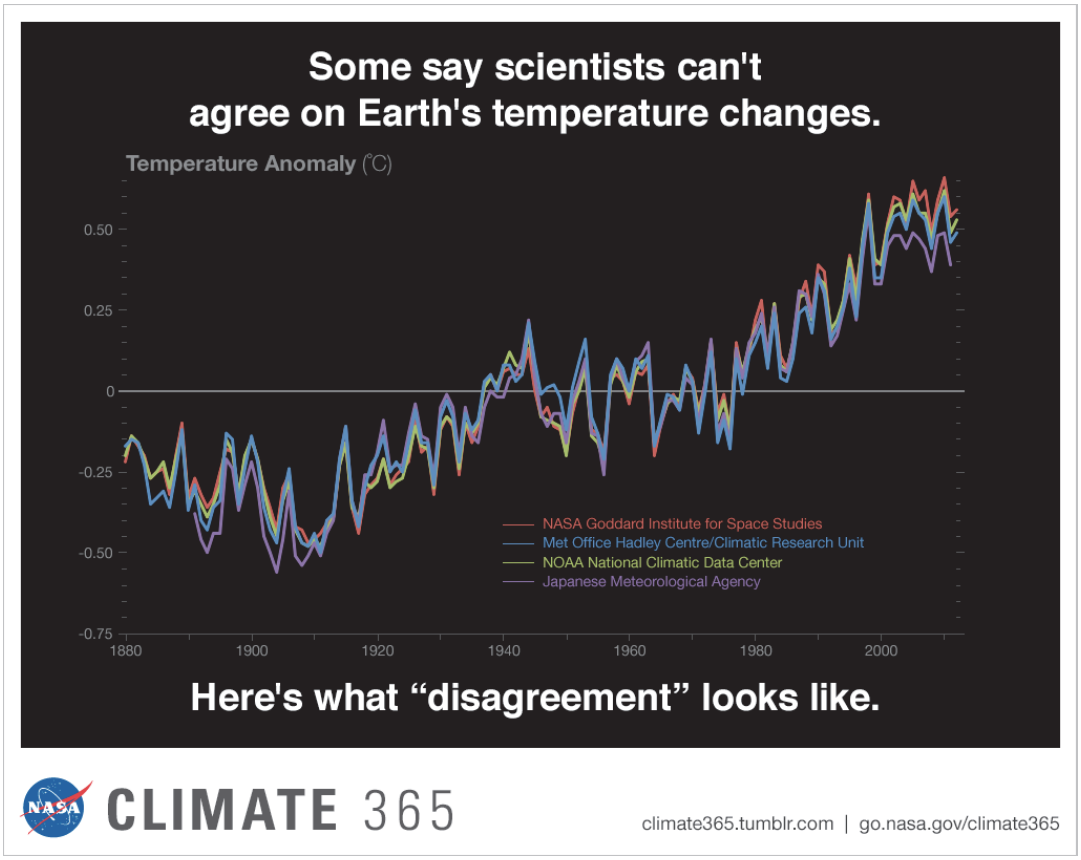


Figure 9: Earth temperature record. (NASA, n.d)

To combat the climate changes, the world needs to transform its energy, food, transport, agriculture and forestry systems to make sure that the cumulative net emissions keep below one trillion tons of cumulative carbon. Meaning that by the second half of the century there should be global net zero emission. At the same time, it is important that the world anticipates, adapts, and becomes resilient to the climate changes present and expected impacts. Businesses can effectively work on this goal by decarbonizing their operations and supply chains. Following climate science, a company can set ambiguous targets of emission reduction, lower their carbon footprint of products, services and processes, continuously improve their energy efficiency, and increase the investments on developing innovative low carbon products and services. (SDGcompass, 2016d)

Examples of key actions and solutions for this goal, provided by SDG Compass:

- *Source all electricity the company consumes at its facilities from renewable sources – such as wind, solar or hydro – or install renewable energy generation capacity on-site.*
- *Retrofit the lighting systems of the company's facilities to energy efficient LED lighting.*
- *Increase investment in innovation to improve the efficiency of the company's product portfolio, thereby enabling customers to reduce their greenhouse gas emission (GHG) emissions.*
- *Invest in CCS (carbon capture & storage) technology to capture emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the carbon dioxide from entering the atmosphere.*
- *Reduce GHG emission from transport operations with abatement levers such as reducing the carbon footprint through greater fuel efficiency, local sourcing, modal shift to lower carbon modalities (e.g. air to sea freight), modular transport, improving container utilization, warehouse optimization, etc.*
- *Understand climate risk and build resilience into the company's assets and supply chain.*
- *Expand sustainable forest management through responsible sourcing practices and product substitution.*

(SDGcompass, 2016d)

SDG 13 consists of 5 intermediate targets, one of the targets along with an indicator is presented:

Target:

13.1 Strengthen resilience and adaptivity capacity to climate related hazards and natural disasters in all countries.

Indicators:

13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies

(Sustainable Development Goals UN, n.d-c)

SDG 15 – Life on land

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reserve land degradation and halt biodiversity

loss. (SDGcompass, 2016c) Over the past 50 years 60 % of the world's ecosystem services has degraded. A short overview of the deforestation, land degradation and biodiversity loss are presented below. (SDGcompass, 2016c)

30,7 per cent of the earth's surface is covered by forest. The forests provide shelter and food security and is the home to over 80 per cent of all terrestrial species of animals, insects and plants. In addition, 1,6 billion people, including 70 million indigenous people, are depended on it for their livelihoods. Protecting the forest will reinforce the natural resource management, and cause and escalation of the land productivity. The forests are crucial in the battle against climate change and the protecting of biodiversity. However, about 13 million hectares of forests are lost every year. (UN, n.d-d).

Following comes the on - going degradation of dry lands, which has resulted in the desertification of 3,6 billion hectares. Currently, about 15 per cent of land is protected, however, the biodiversity is still at risk. Millions of people's lives and livelihoods are affected in their fight against poverty, caused by the deforestation and desertification as a direct effect of human activities and the climate change. For example, there is 2,6 billion people in the world that is depended upon agriculture, however, 52 percent of this land has been affected by soil degradation. It has been estimated that the loss of arable land is at 30 to 35 times the historical rate. In fact, 74 percent of poor people in the world are affected directly by the land degradation. (UN, n.d-d)

The biodiversity loss has been accelerating, and the risk of species extinction has increased by nearly 10 percent over the last 25 years (UN, 2019). Over 7000 species of plants and animals are reported in unlawful trade in 120 different countries. Eight percent of the 8 300 animal breeds known are extinct, and 22 percent is on the verge of extinction. With regards to trees, there are 80 000 species, but less than one percent have been studied for potential use. Plants provides 80 percent of a human's diet, however, only three types of cereal crops provide 60 percent of the energy intake- rice, maize, and wheat. In addition, 80 percent of people in developing countries and rural areas are depended on plants for medicine. (UN, n.d-d)

Companies are depended on provisions services, as fresh water, and food, as well as regulatory services, like climate regulation and water purification. Thus, they have a direct effect on the ecosystem, and can contribute to this goal by working on managing, measuring, and reducing their impact and dependence on ecosystems and land. Companies needs to work on restoring degraded land to secure the supply of natural resources and raw material in the future. Restoring

and preserving vital ecosystems by investing in innovative research and development, natural infrastructure, and implementation of responsible sourcing polices. (SDGcompass, 2016c)

Examples of key actions and solutions for this goal, provided by SDG Compass:

- *Measure, manage and mitigate impacts on ecosystems and natural resources.*
- *Scale up best practices for land use planning and management.*
- *Invest in natural infrastructure as a cost-competitive alternative to grey infrastructure.*
- *Finance the restoration of degraded land for production and/or conservation purposes.*
- *Support and apply landscape approaches, based on multi-stakeholder dialogue and collaborative action, to overcome social and environmental fracture lines in landscapes facing deforestation, land and ecosystem degradation.*
- *Commit to and implement responsible sourcing practices beyond compliance - applying environmental and social safeguards - for all raw materials and commodities.*
- *Expand markets for responsible forest products and thereby support sustainable forest management.*
- *Foster product and technology innovation to optimize resource efficiency, reduce impacts on ecosystems and lower carbon emissions.*
- *Scale up industrial reuse of water and support watershed protection programs*

(SDGcompass, 2016c)

SDG 15 consists of 12 intermediate targets, below one of the targets along with the indicator is presented:

Target:

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular, forests, wetlands, mountains and drylands, in line with obligations under international agreements

Indicators:

15.1.1 Forest area as a proportion of total land area

15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type.

(Sustainable Development Goals UN, n.d-f)

6.2 Sustainable business models

In this section Lüdeke-Freund`s definition of business models for sustainability and the actions required to achieve the ultimate results will be presented. Next, an introduction of Business Hub for Sustainability (BH4S), a regional initiative that aim to make the process of operating within the SDGs easier by providing guidance, models and useful tools to the industry while adopting and transforming their business models. Finally, an overview of five different circular business models, identified by Accenture, a global management consulting company will be described. But first, a definition of sustainable business model:

"A business model for sustainability is the activity system of a firm which allocates resources and coordinates activities in a value creation process which overcomes the public/private benefit discrepancy. That is, a business model for sustainability is the structural template of a business logic which creates the business case for sustainability". (Lüdeke-Freund, 2014)

This can be achieved by:

- *Extending value propositions to integrate public and private benefits (product/value proposition pillar.*
- *Making customers involved and responsible partners in value creation processes (customer interface pillar).*
- *Taking advantage of partnerships which enhance resources and activities (infrastructure pillar).*
- *Evaluating combined measures like Environmental Shareholder Value and Environmental/Social Business Model Value (financial aspects pillar), and*
- *Dedicating resources and activities to secure free, legitimate and legal behaviour and to explore currently neglected opportunities in non-market spheres (non-market pillar).* (Lüdeke-Freund, 2014)

In the transformation of a company's business model and the process required to become more sustainable we find that innovation plays an important role. The definition of Sustainability-oriented innovation is:

Making intentional changes to an organization's philosophy and values, as well as to its products, processes or practices to serve the specific purpose of creating and realizing social and environmental value in addition to economic returns (Adams et al., 2016, p. 181)

6.2.1 BH4S

The Business Hub for Sustainability (BH4S) was established in 2020 as a regional initiative in the county of Møre og Romsdal. The project is anchored at NTNU, Ålesund with project manager Annik Magerholm Fet, vice principal at NTNU, along with 15 other partners[1] .The Business Hub organizes open webinars for businesses, researchers, and major stakeholders in the business community. The main goal for this hub is to take a national position for sustainable business models and to foster cooperation, develop knowledge and skills to transform businesses through business models that can contribute to solve some of the challenges that the UN's Sustainable Development Goals (SDGs) for 2030 highlighted. (bh4s, n.d)

The BH4S-website will offer member organisations or companies that require further competency with a toolbox that is essential in the process of seeking information on how to transform and integrate the SDGs successfully into their business models. and add more value to the products or services they offer and hopefully create new and attractive jobs in the region. The design of the website helps members to become more environmentally and economically sustainable and strives to turn this new knowledge into a competitive advantage in both national and international markets. To achieve this advantage, you must be able to document the processes within production and ensure that the products and measures of strategy are in line with the SDGs. You must also reduce materials and emission by the principles of cleaner production and circularity and designing products that are easily repaired, re-used, or recycled. Guiding environmental and sustainability (ESG) reporting by use of indicators reflecting the business case will also be covered. To achieve this, 3 subs must be identified. First, it is important to create a certain level of understanding around the business models for sustainability. Then, processing models and methods framework will be offered so that implementation of strategies of sustainability is consistent with the SDGs. And finally, different business cases for sustainability will be exemplified so that the HUB members will be more visible (bh4s, n.d).

[1] NTNU, HiMolde, HiVolda, ProtoMore AS, ÅKP AS, NCE iKuben, GCE Blue Maritime, NCE Blue Legasea, Møreforsking AS, Nibio Tingvoll, NORSØK, SINTEF Ålesund AS, SINTEF Manufacturing AS, SINTEF Ocean AS, Runde Miljøsenter, Tafjord Energi Arena, Norwegian Rooms

Businesses will be more resilient by adopting sustainable business models (SBMs) when crisis occurs such as the coronavirus, crisis within the economy and other market disturbances and the BH4S will be a helpful resource to attain the competence, knowledge and skills to operate within a demanding business environment in constant change. (bh4s, n.d)

6.2.2 Circular Business Models

According to Bocken (2016) and buildt upon research by Stahel, McDonough and Braungart, in the article "Product design and business model strategies for a circular economy", there are three strategies within cycling resources in a circular business model:

1. Slowing resource loops – By designing high quality, long lasting goods, as well as offering life extension of the products (repair, remanufacturing), the utilization period is prolonged, which again slows down the flow of resources.
2. Closing resource loops – The loop between post– use and production is closed through recycling. Going from linear to a circular flow of resources.
3. Narrowing the loops – Use less resources per product, more resource effectiveness. (Bocken *et al.*, 2016)

In a comprehensive study of 120 different companies that were finding new and innovative ways in improving their resource utilization, Accenture, an international consulting firm, identified five different circular business models, see figure 10 and appendix 14.9. Circular supply chain, product life extension, sharing platform, product as a service and recovery and recycling. (Accenture, 2014, p. 12)

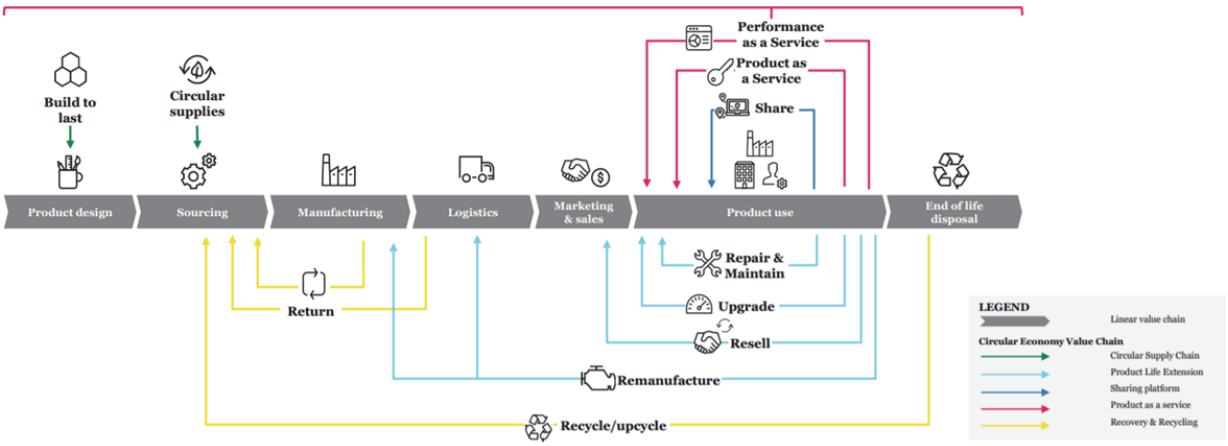


Figure 10: Different Circular Business Models along the value chain. (AccentureSitra and Finland, 2019, p. 19)

In this next part the five business models will be described in more detail. The models can be used alone or in combination with others. (Accenture, 2014, pp. 12 - 15)

Circular supply chain

This model is especially powerful for businesses with a high environmental footprint or that deals with limited resources. Marked with the green lines in the beginning of the value chain in figure 8, supplying fully recyclable, renewable, and biodegradable resources. For the value chain this means that products are designed to last and within sourcing the supplies are circular. Companies will work on cutting waste and remove inefficiencies, phasing out the use of scarce resources. (Accenture, 2014, p. 13)

Product life extension

Marked with light blue lines in the value chain, this business model extends the company's products and assets lifecycle. The model is well suited for businesses within business to business (B2B) segments, for example industrial equipment, as well as business to consumers (B2C) companies within markets where re-commerce is common, or a products does not change much from the previous version. Instead of disposing the leftover or used materials, companies can instead maintain or improve it, restoring its value. By companies within the furniture sector offering different services, for example repair, upgrade and upholstering, the consumers can keep their products longer. In addition, if the company were to buy back used products, they can clean, make necessary repairs and then further remarked the product. If the products are not possible to repair, then parts and components can be used in the production of new products, or as parts in the repair of used ones. Having extended usage of the materials and products generates additional revenue. (Accenture, 2014, p. 14)

Sharing platforms

The sharing platform business model is a platform that encourage individuals or organizations to collaborate on the usage of products. It is a good model for companies that has a low utilization or ownership rate. For Example, a company can share what they have in their production that is at overcapacity or underutilized, and in that way increase productivity and user value. The dark blue line represents the share business model in the value chain. (Accenture, 2014, p. 14)

Product as a service

The red lines in the value chain represents product as a service. This is a model that moves from "the buy and own" to a "pay for use", and a shift from volume to performance. The business model is beneficial for companies with high production costs and a skill advantage in relation to their customers in managing maintenance of their products. Instead of seeing the reusability, sharing and high product lifetime as a threat for future sales, the move to product as a service turns this into an opportunity for increased revenues and reduced costs. (Accenture, 2014, p. 13)

Recovery & Recycling

Marked in yellow in the value chain, recovery & recycling is the final circular business model identified by Accenture. By innovative recycling and upcycling services within the value chain, waste transforms into value. Solutions like closed loops recycling and cradle to cradle, where disposed products can be processed into new, as well as industrial symbiosis, where one industries waste can be utilized by another. The model is well suited for companies where waste material can be reclaimed and reused cost effectively, or where large volumes of by – product is produced. It utilizes new technologies and capabilities that can recover most types of resources that is equal to or above the initial investment. The model maximizes the economic value of product return flows and reduces the material disposal leakage. (Accenture, 2014, p. 13)

7. Circular Economy and Sustainability within the furniture industry in the EU.

This chapter takes on the situation for furniture companies within the EU, as well as the EU circular economy action plan. A detailed description of the opportunities lying within the furniture industry transitioning to a more circular economy and the factors that have an impact in this process will be presented. The Circular Economy Action Plan from 2015 has been adopted by the European Commission. In March 2019, a complete action plan for the execution of the 54 actions was delivered. This 2020 document is a part of Europe's new agenda for sustainable growth, environmental protection, and increased competitiveness. The packages that support the EU's transition to a more circular economy will also be given a large section of chapter 7. Finally, a brief description of Sustainable consumption and a behavioral study on consumers' engagement will be revealed.

7.1 Circular economy, opportunities in the furniture sector

In September 2017, The European Environmental Bureau (EEB), released a document on Circular Economy within the furniture sector. According to the report "Circular economy opportunities in the furniture sector", about 25% of the world's furniture is manufactured in the EU. This represents a €84 billion market and 10 million tonnes of furniture are discarded by businesses and households per annum. The segment also employs about 1 million EU citizens dominated by small-and medium size enterprises. (EEB, 2017, p. 3)

The main purpose of the report was to contribute towards the debate in Europe around challenges and opportunities for transitioning towards a more circular furniture sector. Policy makers and key actors across the furniture value chain can use the findings in their development on how to create a suitable framework, how to transition and how to integrate and operate to achieve more circularity within their industry (EEB, 2017, p. 9). The research included:

- *Exploration of policy options considered as needed to support transition towards circularity across the European furniture section, and*
- *Assessment of the potential impact of policy instruments explored through this study- in terms of increased stimulus across the furniture value chain. This includes a presentation of estimated economic, environmental, and social outcome associated with different scenarios for moving to the sector towards circular economy.*
  (EEB, 2017, p. 9)

A range of scenarios are presented in this document, including policy measures that offer potential options and addressing barriers and advancing circularity across the Furniture sector in Europe. One of the main ideas is to define a 'Green Furniture Mark' (GFM) similar to the EU energy label, with the intention of providing consumers and procurement professionals with clearer information of furniture products on the environmental and circularity features (EEB, 2017, pp. 4-5).

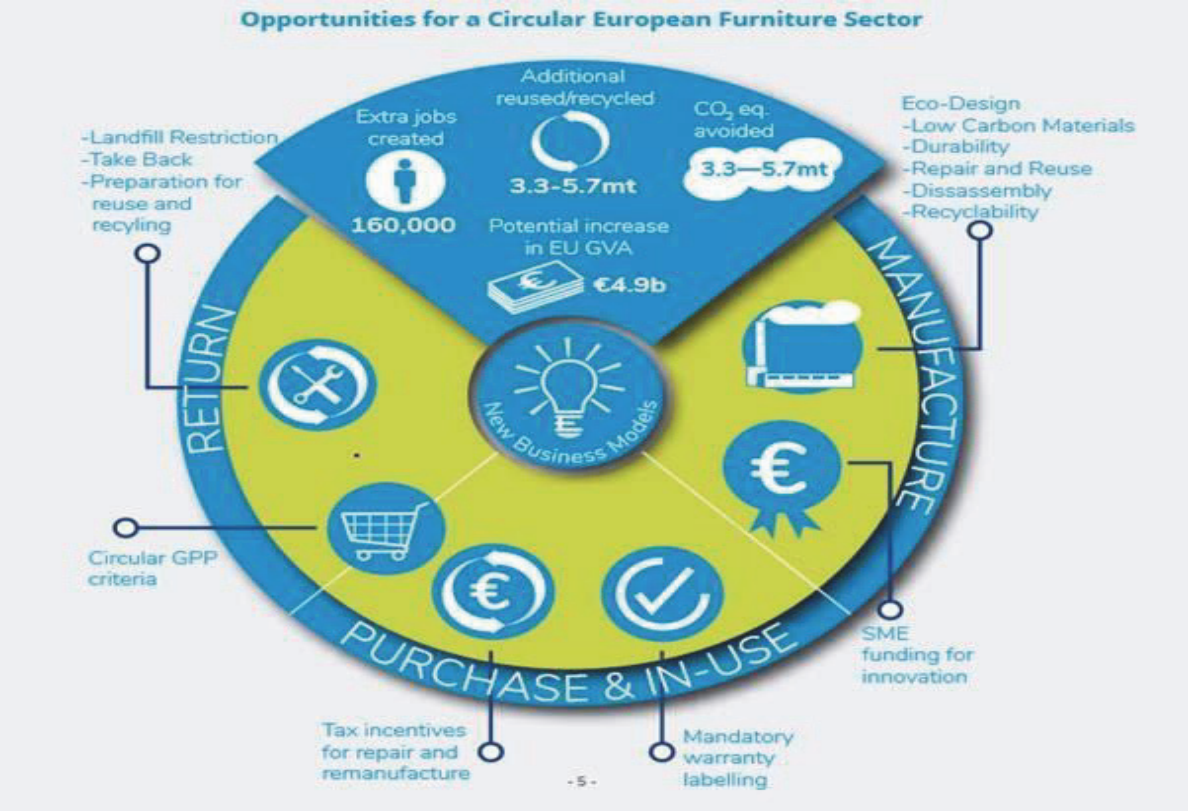


Figure 11:Opportunities for a Circular European Furniture Sector (EEB, 2017, p. 5)

The industry of furniture manufacturing within the EU has experienced different challenges in both economic and regulatory environment over time, this includes improved logistics, manufacturing growth in emerging markets, increased demand for low cost items, raw materials, energy costs and labour within the EU (EEB, 2017, p. 3). In addition, declined tariffs on foreign trade, a growing awareness and increased demand from consumers for sustainable products, European Remanufacturing Network (Parker *et al.*, p. 78). CE interventions can help to counter the trends within repair, refurbishment and remanufacture that can lead to value recovery, job creation in the furniture industry and economic growth, see figure 11. At the same time, these processes can benefit the environment while saving on resources. An adoption of appropriate demand and supply chain levers in the process of change must be integrated and operationalised to optimize the desired environmental, economic, and social benefits. (EEB, 2017, p. 3)

Rates regarding recycling in the EU have improved after introducing new directives and policy mechanisms and objectives. Remanufacturing accounts for less than 2 % in manufacturing turnover and the activity in higher-value circular resource flows are minimal, European Remanufacturing Council (EEB, 2017, p. 3). If we look at the specifics and indicators within the furniture industry, we can see that reuse of furniture is quite common and tends to be on a small scale and local social goals rather than larger scale economic and environmental goals (EEB, 2017). The barriers to obtain a more CE furniture sector are broad, but by stakeholder consultations and literature review this report presents identification of several barriers that can occur due to different scenarios, and also how to advance circularity across the EU furniture sector. This sector is not homogeneous due to differing consumer patterns, waste infrastructure types and capacities within the member states (EEB, 2017, p. 4). The factors presented in this research includes:

- *Lower quality materials and poor design*
- *REACH Regulation*
- *Poor consumer information and availability of spares*
- *Limited collection and reverse logistics*
- *High cost of repair and refurbishment*
- *Weak demand for second-hand*
- *Poor demand for recycled materials*
- *Weak over-arching policy drivers (EEB, 2017, p. 4)*

Adoption and implementation of policy measures is acknowledged and presents greater challenges for those countries who have an underdeveloped system within waste recovery, recycling, and waste treatment technology. But we should not limit the ambition level due to these facts, in the setting of policy instruments that can contribute to significant improvement and value deliverance within this specific sector and a wider economy. A move towards circular economy models within the EU furniture sector would benefit a broad range of complimentary policy instruments and deal with market failures on both demand and supply sides (EEB, 2017, p. 4). To develop instruments such as Extended Producer Responsibility (EPR), Green Public Procurement (GPP), labelling schemes and eco-design requirements, could cover a cross variety of durability, the use of recycled material content, reused components, hazardous substance, design to facilitate repair, remanufacture and recycling within CE criteria. As mentioned before, these core criteria could be used to define a “Green Furniture Mark” (GFM)- a new A to G-rating instrument similar to the EU energy label, with the intention of providing consumers and

procurement professionals with clearer information on the environmental and circularity features of furniture products. This rating could be determined by a points style system using a self-assessment approach but with third party oversight. (EEB, 2017, p. 5).

The potential impact of each of the policy packages has been given in appendix 14.10 where the estimates have been modelled through application of available data and key assumptions referenced within the report. A summary of the result and the key headlines in respect to the impact on recycling and additional tonnage reuse, job creation and net and carbon reduction are presented in this. The results for estimated tonnage and climate change impacts are presented on an annual basis, net of impacts occurring in the baseline. The key findings in the table shows that the benefits of climate changes are the most significant for the Full Mandatory package. The findings of this report might contribute towards closing the gaps in knowledge, and further deployment across the European furniture sector within circular activities (EEB, 2017, p. 7).

7.2 EU Circular Economy Action Plan

A new Circular Economy Action Plan has been adopted by the European Commission, a package that support the EU's transition to a more circular economy was forwarded in December 2015. In March 2019, a complete action plan for the execution of the 54 actions was delivered. This document is a part of Europe's new agenda for sustainable growth, environmental protection and increased competitiveness and is also the main block of the European Green Deal. Sustainability and competitiveness will in the long term be encouraged by a circular economy and it can also help to preserve resources, save costs for EU industry, and unlock new opportunities within businesses. (Comission, 2019)

By using finite natural resources in a smarter and more sustainable way and finding new and innovative means in the product life cycle we can move on from the "take-make-dispose" culture. The 54 action steps in the plan introduces us on how to "close the loop" and how to drive forward both economic progress and environmental considerations within a life cycle by recycling and reusing. Mayor benefits can be offered by a more circular economy, we can create 580.000 new jobs, the environment will be exposed to less carbon emission and billions of savings for EU businesses Building a new generation of resource-efficient and innovative European businesses can have the benefit of creating local low and high skilled jobs, offering

and producing clean products and services to the global market and create opportunities for social integration and cohesion at the same time. (European Comission, n.d)

The EU definition of circular economy:

> *"In a circular economy, the value of products and materials is maintained for as long as possible. Waste and resource use are minimized, and when a product reaches the end of its life, it is used again to create further value. This can bring major economic benefits, contributing to innovation, growth and job creation". (European Commission, n.d-a)*

The Action Plan outlines both material-specific and general actions, since the circular economy have obstacles that are generic, and all the different sectors and materials face specific challenges within their value chain due to the particularities. (European Commission, n.d-a)

Sustainable Consumption

An increased pressure on the environment, climate change and competition for resources due to rising consumption has become a global problem over the last decades. Resource demand makes our society and industry vulnerable to market volatility and high prices and import dependent. A more resource- efficient and sustainable circular economy has been promoted by several EU policies through the EU Circular Economy Action Plan. By integrating the perspective of the consumer linked to the optimal lifetime circle, durability of products, repair, upgrade, disassemble and product recycling. If we also include a second hand market and increase the rate of utilization by offering renting and leasing models and also provide relevant and credible information to the consumer in the purchasing process, we might contribute to a transition so they are making a more sustainable decision by communicating fair and clear. Certain behavioral studies have been conducted to investigate and explore the consumer angle of this subject and the overall engagement. (European Commission, n.d-c)

Behavioral Study on Consumers' Engagement

This study tries to identify the objectives of consumer engagement and to provide policy-relevant insights within the circular economy. Several research tasks and literature review in the EU and third countries were conducted, also consumer focus groups, online consumer survey, behavioral experiments and stakeholders' interviews were executed. The overall research found that actual engagement was low, despite that consumers were generally willing to engage in the practices of circular economy in theory. Experience within renting/leasing or

second hand was almost zero (-90 %), but most consumers do repair products (64%). The lack of engagement in practices within the circular economy can be explained by poor information supply regarding product reparability and durability. Also, a lack of sufficiently developed markets offering leasing, renting, sharing service or secondhand products might be a cause. In the experiment part of behavior in the study, information provision was found highly effective while trying to shift decisions within purchasing products with higher reparability and durability, but it was also revealed in both experiment and survey that repair decisions are often disrupted if actions require effort by the consumer. The overall findings identified a gap between the willingness and actual engagement of the consumer and revealed that there is a large potential in improvement. To further enhance consumers' engagement in the circular economy, the study provides several recommendations regarding policy. A new study is intended to be conducted in 2019/2020 by the DG Justice and Consumers. The main purpose will be to provide new consumer measures and identify the fitness of the Consumers national and EU legal framework within the circular economy. (European Commission, n.d-c)

7.3 Circular Economy Action Plan, EU - 2020

In March 2020, the European Commission (EU) adopted the new Circular Economy Action Plan, for a cleaner and more competitive Europe(European Commission, 2020). This is one of the main blocks of the European Green Deal and a part of the new agenda for sustainable growth in Europe. The background for this initiative was the European Commission launch of the first Circular Economy Action Plan back in 2015. The initiatives announced in the new Action Plan include initiatives along the entire life cycle of products, targeting design, circular economy processes, sustainable consumption etc, the EU aims to ensure all resources used are kept as long as possible within the EU economy. Both legislative and non-legislative measures targeting where actions bring real added value at EU level are introduced. All these activities can drive investment, remove obstacles or inadequate enforcement stemming from European legislation. (European Commission, n.d-b)

By 2050 the annual waste generation is projected to increase by 70%, and the global consumption of materials, such as fossil fuels, biomass, minerals, and metals are expected to double in the next 40 years. The European Green Deal launched a concerted strategy for a climate-neutral, resource-efficient, and highly competitive economy in 2019, by scaling up the circular economy from being typical front- runners to economic players. By this contribution

they might achieve climate neutrality by 2050 and by decoupling economic growth from use of resources. This will ensure long term competitiveness of the EU, to reach this ambition an acceleration of the transition towards a regenerative growth model that gives more than it takes from the planet's resources and keeping use of resources within the boundaries of the planet must be fulfilled. One of the key elements in this process is to reduce consumption footprint and increase circular material use rate. The new action plan presents measures in how to make sustainable products as the norm in the EU, they also aim to empower consumers and public buyers and also hold focus on the sectors that have the highest use of resources and have the biggest potential for circularity. The action plan also has initiatives to ensure less waste and how to lead global efforts on a circular economy and make it work for the people, regions, and cities. By working together on a shared framework for sustainable products, businesses will experience new opportunities in both the EU and beyond. The transition to a sustainable economic system is an indispensable part of the new industrial strategy of the EU (European Commission, 2020, p. 4), and we know that the Norwegian government will contribute to the integration of the same agenda and action plan adjusted to the Norwegian system. The innovative models based on tight relations with customers, mass customizations, the collaborative and sharing economy, powered by digital technology and sharing of big data, artificial intelligence and blockchain will speed up the circularity and the dematerialisation of the economy and make the EU less dependent on primary materials. (European Commission, 2020, p. 4)

High quality, safe and functional products which are affordable, efficient, and last longer will be provided to the citizens in a circular economy. The range of sustainable services, digital solutions and product-as-service will result in upgraded knowledge and skills, innovative jobs and bring better quality of life. In total we can say that the Circular Economy Action Plan provides us with a future-oriented agenda for how to achieve a cleaner and more competitive Europa in co-creation with consumers, economic actors, citizens, and civil society organisations. The plan will also be ensured a streamlined regulatory framework and fit a transformation to be more sustainable in the future. The plan aims to create new opportunities and maximize these and at the same time minimise the burdens on businesses and people while transitioning. Europe cannot achieve transformative changes by acting on its one, they intend to lead the way at a global level by using their influence, financial resources, and expertise so that the 2030 Sustainable Development Goals will be implemented(European Commission, 2020, p. 5). To succeed with the transition to circular economy, the process must be systematic,

transformative, and deep in both the EU and beyond. It will require cooperation and alignment at all levels of all stakeholders in the EU and international (European Commission, 2020, p. 24). The EU commission will take actions that are intended to support the global shift to a circular economy and lead efforts at international level to reach a global agreement on plastic and ensure that Free Trade Agreements reflect the enhanced objectives of circular economy (CE). The EU will also propose a Global Circular Economy Alliance to identify governance gaps and knowledge and forward partnership initiatives including major economies. The Circular Economy Action Plan will be promoted in the context of bilateral, regional and multilateral dialogue, forum and environmental agreements. International programs of cooperation will be developed, and an international platform of Sustainable Finance will be included in this action plan. (European Commission, 2020, p. 22)

8 Sustainable development in Norway

This chapter will take on the sustainable development in Norway. The Norwegian government has announced several initiatives, activities, and packages due to the green transformation within the Norwegian industry, some of these actions and most recent initiatives will be presented in the next sections.

8.1 Cooperation on green competitiveness/ Roadmap for green trade 2050

According to the UN, trade is the biggest contributor to global development and poverty alleviation. In Norway, trade is the biggest private sector and has over 370 000 employees that contributes to 9% of the total value creation on the mainland-Norway. If we are going to reach our goals regarding an emission reduction of 40 % within 2030, both merchandising and consumption must change if we are planning to become a low carbon society within 2050. (Virke and LO, 2017, p. 2)

Trade represents not large isolated direct emissions to environment and climate, but can have an impact on the green change by promoting new business models and circular economy, by adding premises for the products offered and sold by helping the consumer to make the right environmental decisions. This also includes that trade must take even more responsibility for the whole value chain due to environmental and climate issues. To contribute to a sustainable society gives a lot of opportunities but also a large responsibility in your behaviour and actions. (Virke and LO, 2017, p. 2)

The government formed an expert panel in June 2015 for green competitiveness: The mission was to “enhance prepositions for an overall strategy of green competitiveness”. By this means the ability to compete in a global business environment where strong tools are used within the climate politics. The main purpose is to discuss and identify an offensive and growth oriented politic to strengthen the green competitiveness within an effective use of resources. Different branches have been included in the research and given their solution and ideas to a unified preposition and a road map for the trade interest towards a low-carbon society in 2050. This map has four main purposes:

1. Enlighten the role of trade and its vision for sustainability within this sector in 2050, both suggestions and solutions.

2. The map is a helpful tool for the government and should provide the expert panel with information on best practise and how to strengthen the green shift and increase its competitiveness in the future by a strong environmental and climate politic.
3. The map is meant as a recommendation tool for the Norwegian trade association in how to conduct, act and make responsible consideration on how to contribute despite a demanding global environment and a constantly changing frame of conditions.
4. The map is a continuation of Virke and LOs cooperation due to climate and environment, focusing on dialogue between all parts involved and the goal of raising competence. Valuable contribution to this document has been given from several different organisations and establishments. (Virke and LO, 2017, p. 2)

The mission of this green map and the surrendering of the documents result is not an end, but hopefully a start of lots of important initiatives within politics in how to realize a green and sustainable development in the future and enhance increased competitiveness of Norwegian trade. (Virke and LO, 2017, p. 2)

Big challenges and lots of opportunities

In the future we will face big challenges and climate changes will become more serious and noticeable, the population growth will also become more challenging. The sum of all this will have a big impact and put pressure on nature and resources. Today's business models will lead to a large use of resources and environment destructions. Due to the next 30 years we must find new models that combine the vision of a good life and reduction of environmental destruction and less use of resources. By this, we need new and innovative solutions as the green shift represents to survive. The sector within trade sets premises within ethical and environmental standards when purchasing goods, and by this setting the green profile within Norwegian trade. They have a large impact and influence of the customers preferences and buying process. (Virke and LO, 2017, p. 4)

A vision of a green future

The vision for 2050 is that trade has taken an active role in becoming fossil free and climate neutral, and to secure that we both buy and consume products that satisfies environmental and ethical requirements and keeps material in the circular economy as long as possible without any pollution. Today we live good lives were access is more important than to own and were usage is more important than consumption. In 2050 they predict that trade has an important role in

both facilitating and creation new patterns in consumption. Within operations, aspect within climate-controlled location, fossil free transport and energy usage. (Virke and LO, 2017, pp. 4-5)

Intelligent Growth

New concepts and business opportunities will secure economic growth that does not operate in expense of climate and environment. In The future demands smart usage and a securement of circular economy if possible. New concepts must be innovated regarding leasing, hiring, repair and reusage, this will lead to a more responsible circular economy in all phases of the life cycle of a product or service. (Virke and LO, 2017, p. 5)

Green business opportunities

The map draws up possibilities for new roles within trade in the green shift, for both services and concepts and by offering a greener product spectre. The consumers state that they want greener solutions but often act inconsistent, the ambitions can be good but in the moment of purchase other needs and desires win. The business opportunities lie within offering attractive, accessible, and competitive green products, the whole value chain needs intensive actions to offer this. The pros of trade are numerous, cost savings by using less resources and reuse existing resources once more in new services and income areas. The government can by adding new regulations and stricter requirements regarding environment and ethics in public buyer processes give important signal to suppliers and merchandisers all over. The demand of green-ethical products will continue to increase from the large buyers. We must speed up and the faster we do this, the better we can adjust due to the future requirements and demands. The leading participants within trade have already adjusted to today's challenges and formed ambitious strategies for how to be energy efficient, integrated a sustainable production and defined a goal on how to help customers live a greener life. There is much work to be done, but through cooperation, integration, delegation and dialogue the effort will pay off both internal and external for the business, social and environmentally. It must be rewarded to be climate friendly and offer sustainable products, clear incentives must be given if you focus on sustainable solutions and services, it’s important to speed up the development. When we recruit and large numbers of companies join in, the expectations from the customers will increase and the speed of transformation rises rapidly. (Virke and LO, 2017, p. 5)

8.2 Green Deal Package 2020

The Norwegian government presented the Green Package deal 29.05.2020. The main purpose is to promote and encourage Norwegian industry to adopt into a more sustainable economy and a better exploitation of resources. The government suggests granting 3,6 billion NOK divided by different initiatives within research, development of new technology, circular economy, and green shipping. 1 billion of the funding is suggested to support the green renewal of the industry in 2020-2022, Innovation Norway, Siva and Forskningsrådet (Research counsil) will both administer and grant money to green projects through a green platform. ENOVA is suggested to have a 2 billion grant to secure renewable energy, the maritime and supply industry e.l.Climate-and Environmental Minister, Sveinung Rotevatn (V) states that lower emission and higher value creation must be united in the Industry to secure green growth. Norwegian Forskningsråd is intended to get 75 million in support to strengthen low emission projects, by stimulating research, development, and innovation we will reduce emission of greenhouse gasses and stimulate industry development. Hopefully, this initiative will strengthen our green competitiveness in a time where we are expecting low activity. There are several initiatives in this green transformation process. Due to this package a total of 100 million will go to projects that aim to promote circular economy and better exploitation of resources. Research within the circular economy will be granted 40 million and the environmental institutes will be offered 30 million e.g. Another initiative is the increased allocation to the green transformation in the commune, where Klimasats are intended to generate a 50 million grant. Klimasats will be the administrator and funding institution to projects within greenhouse gas emission reduction and transformation into low emission communities. Other initiatives will include green shipping, offshore wind projects, hydrogen strategy development plan and NORWEP. The green deal package will help to secure new and green job development and at the same time strengthen the industries competitiveness internationally, says Minister of Industry, Iselin Nybø (V). Tina Bru, Oil-and Energy Minister hopes that the new research centre planned, will unite the best of Industry, institutes, and academia to solve the challenges related to a more sustainable future. New technology and methods in problem solving might enable new possibilities within the green transformation. (Regjeringen, 2020)

9. Business model - Slettvoll

This chapter will present the current business model of Slettvoll and how they create, delivers and capture values today, see figure 12. Secondly, an assessment of the firms positive and negative externalities with regards to sustainability will be described. This is the "recognizing your business model" phase. It is the first step in the innovation of a new sustainable business model, the next steps in the RESTART are presented in chapter 11.

9.1 Current business model

The Osterwalder business model canvas has been used in the mapping out of this business model, see chapter 5 (5.3) (Osterwalder *et al.*, 2010)

Value propositions

This is the core of what the business offers to its customers, and the most important part in the business model creating success for the company (Chaffey and Ellis - Chadwich, 2019, p. 77).

Slettvoll helps the customer that wants to have a representative and comfortable home that they can be proud of. Offering tailored products and services with high quality. The company sells furniture and interior, as well as offering delivery and personal decorating services. They differentiate themselves from other furniture companies and have no ambitions in growing to become one of the largest. As one of the owners commented; "*We are not for everyone, but we go to the heart of those who loves us*" (Vanebo, 2019).

Customer segments

The customer segment is the target groups that the value propositions is supposed to attract (Chaffey and Ellis - Chadwich, 2019, p. 77).

Slettvoll`s customer segment is the premium high-end customers that is interested in good quality products. The established target group are mainly men and women at the age of 35 and above. Customers with private homes, cabins, and summer cottages, eager to decorate their homes in exclusive design furniture and interior. According to Vik, what is more important than a high-income customer is that they are interested in furniture and interieur. When marketing their products, the mass market is not interesting. Slettvoll wants to reach out to the customers that appreciate great service, being met by employees with competence and who value the creative process in the trade itself. (Vanebo, 2019)

Customer relationships

The relationships that the business establishes with its customers (Chaffey and Ellis - Chadwich, 2019, p. 77)

Slettvoll is as mentioned earlier known for the quality and great design of their products. They offer exceptional service to their customers that compliments the exclusiveness of their offer. The customers are presented with comprehensive concepts and a professional expertise from the employees at Slettvoll. In an article from Retail Magazine, The CEO at Slettvoll commented that the people are just as important as the products, and it`s a needle eye to be hired into the company. Creative abilities and high competence are important in meeting the customers (Vanebo, 2019).

The customers are offered tailor made and unique furniture worthy of creating a representative home that the customers can be proud of. Made with Norwegian craftsmanship, the furniture is stylish and the design, timeless. The company offers personal decorating services to their customers as well. Sustainability and strategic project manager, Karoline Fløtre Gati, said during our interview, that the service provided to the customers while delivering the products is completed in a very professional matter. It is important that the customers experience exceptional service from the time they order the product, till it is delivered in their home. Slettvoll also have a customer club, with over 40 000 members. Being a member of the club gives you certain benefits, for example it gives you news, exclusive invites and unique offers before it is offered to other non-members. (Slettvoll, 2020)

Channels

Methods used by the company to reach their customers when delivering their products and services (Vanebo, 2019).

Slettvoll have their own stores as well as franchise stores. To purchase products and services from the company, the customers can visit one of their stores in Norway, Sweden or Denmark. It is also possible for customers to reserve items in the store through the company`s webpage, however, this is not possible for all products.

Key partners

Establishing partnerships are opportunities to expand reach, exploiting online and offline value networks (Chaffey and Ellis - Chadwich, 2019).

Even though Slettvoll have a lot of their operations inhouse, there are still several outside partners within their value chain. Slettvoll has their own transport, but they also use other outside companies in transporting the components to production as well as furniture out to the customers. The company also uses outside IT services. Slettvoll have suppliers that deliver components and textiles to their factory for production. In addition, they have suppliers delivering finished furniture. Gati, could inform us that of important finished furniture suppliers they use Langlo Wardrobe, providing for example mirrors and closets, and Måndalen Wooden goods, with wooden tables. Other local suppliers can be found in Sykkylven and Åndalsnes. Slettvoll also have many suppliers for components and textiles used in their production, both nationally and international. Several of them are located locally, and some also have great focus on sustainability. One of their textile suppliers, Innvik AS, are working hard on being sustainable and establish a climate neutral production line. Currently they are working on moving their steam production over to bioenergy, with the goal being to become climate neutral on all energy and firing (Innvik, 2020e). In 2020 the company was also certified with ISO 14001, due to a long-time environmental commitment in their production processes and routines (Innvik, 2020c). In addition, their yarn and production processes met the environmental requirements of the EU flower, achieving the EU ecolabel certificate (Innvik, 2020a). Innvik also figured out a way to better handle fabric leftovers. Earlier they would send this to incineration, but in 2008 they started sending this to Denmark and the company Really, that uses the textiles in their production. Really now wants to make partners with the furniture industry as well (Engås, 2018).

Key activities

The activities that the company needs to perform in order to achieve revenue and deliver its value proposition (Chaffey and Ellis - Chadwich, 2019, p. 77).

There are many activities to focus on for Slettvoll to achieve its high standards when delivering their value proposition. At their headquarters in Ålesund, motivated and competent employees are working on different activities, such as concept development, brand building, marketing, supply chain and quality control, sustainable development, store displays, chain monitoring and product development. For example, Slettvoll does their own marketing, including making films and photographing their products. Gati could inform us, that the marketing department had recently been in Italy and borrowed a beautiful mansion, which they decorated in Slettvoll furniture and interior. They took photos to be used in articles, their catalogue and website.

Due to marketing, Slettvoll is not like many other retail stores. They do not mass market their products, nor do they market on price. In fact, discounts are rear in their business, only in January do they have a small sale. While other companies have campaigns nearly on a weekly basis, this is not how Slettvoll operates, and the company saves a lot of money on being restrictive on discounting. As vik commented in the Retail magazine interview, "*volume means little without a margin*". (Vanebo, 2019) Slettvoll markets their products within newspapers like "Finansavisen", "Dagens Næringsliv" and "Aftenposten", papers that hits their target group. In addition, all the stores host customer evenings, where both new and old customers can look through the stores and all their beautiful products, while they enjoy food and drinks, as well as music entertainment. (Vanebo, 2019) These events are great ways in showing off new exclusive design products with thoroughly thought out displays. As well it is a good way to build the brand name and deliver their value propositions. According to Gati, all the different departments work close together, and are familiar with each other's work. This is very good in that they can help each other coming up with ideas or solutions for different projects. However, it can be challenging when it is not always clear who is working on what.

Key resources

Resources are people and processes needed to complete activities and deliver the value proposition (Chaffey and Ellis - Chadwich, 2019, p. 77).

Slettvoll has over the last nearly 70 years established their own signature style and developed quite the strong brand name, of which their customers associate with high quality design furniture, interior and exceptional customer service. Slettvoll is invested in keeping the relationship with their customers strong. Employees with their creative competence are constantly developing and growing within the company. Having their own distribution, a lot of their production and delivery processes inhouse, as well as an overall good control over their value chain, they can deliver their products and services to their customers professionally and timely. With this impressive work Slettvoll has over the years achieved great customer loyalty. These resources are essential in performing key activities and value propositions deliverance.

Cost structure

The cost elements should be checked against the activities and resources and are usually broken down into fixed and variable costs (Chaffey and Ellis - Chadwich, 2019, p. 77). Slettvoll has several costs related to their activities and resources. There are costs in operating their stores,

warehouse, and factory. Finished goods costs, concept development, HQ salary and indirect costs, for example marketing and electricity. All necessary to keep the wheels rolling.

Revenue stream

Revenue stream are how the company derives its income (Chaffey and Ellis - Chadwich, 2019, p. 77).

There are several ways in which Slettvoll achieves their income. From their franchise store they earn a fee. Also, they earn from their own stores, production, and finished goods.

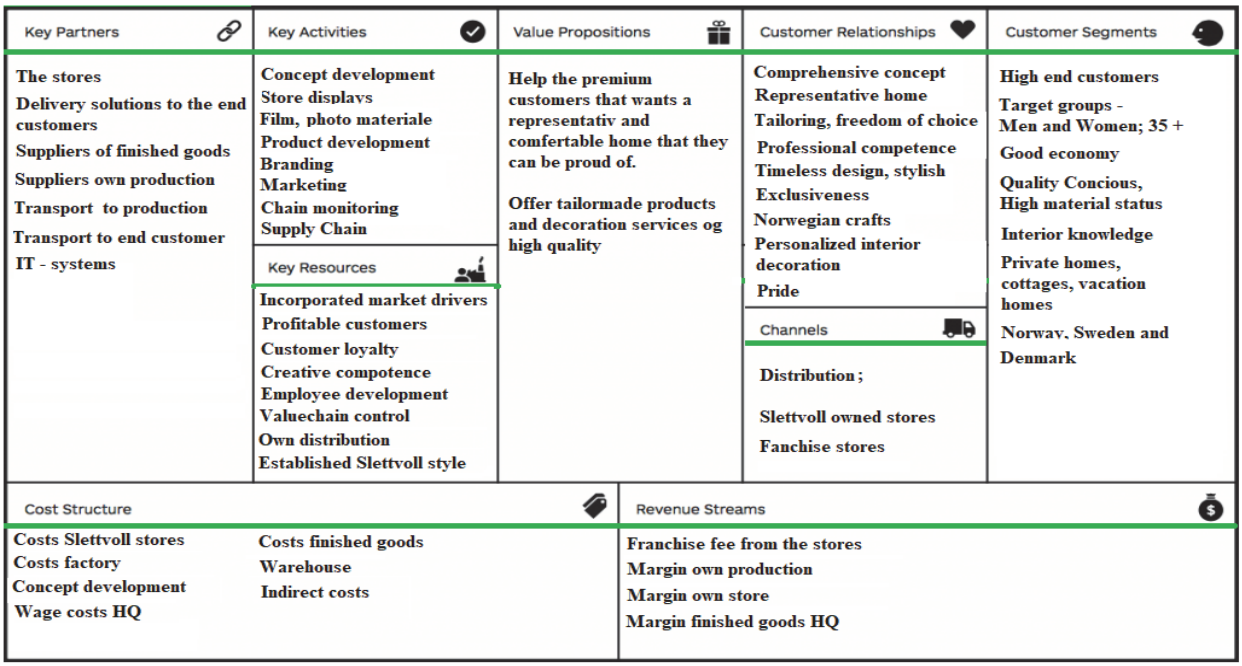


Figure 12: Current business model of Slettvoll. made for this thesis.

9.2 Positive and negative externalities

The net effect of sustainability, figure 16, shows the amount of shadow and light a company casts from its operations, illustrating the positive and negative externalities McDonough and Braungart, (2010, as quoted in Jørgensen and Pedersen, 2018b, p. 32). The vertical axis represents the 100 percent that is negative and the 100 percent that is positive. However, it is not realistic for any company to end up in either of the extremes. The bars shown in the graph depict the shadow side and the sunny side of the company. If they have a large sunny side, and a small shadow side, they would be placed in the far right of the graph, and the opposite if there is a large shadow side, and a small sunny side. The dotted lines show the direction of which a company wants to go, casting less shadow and shedding more light, contributing to a more sustainable business. Reducing the shadow side means doing as little bad as possible, moving towards zero footprint. Increasing the sunny side is more of an endless opportunity in doing good, with the potential for a great positive impact. Some companies may achieve short term profitability without having to think about this, however, long term profitability is closely connected to social and environmental performance.

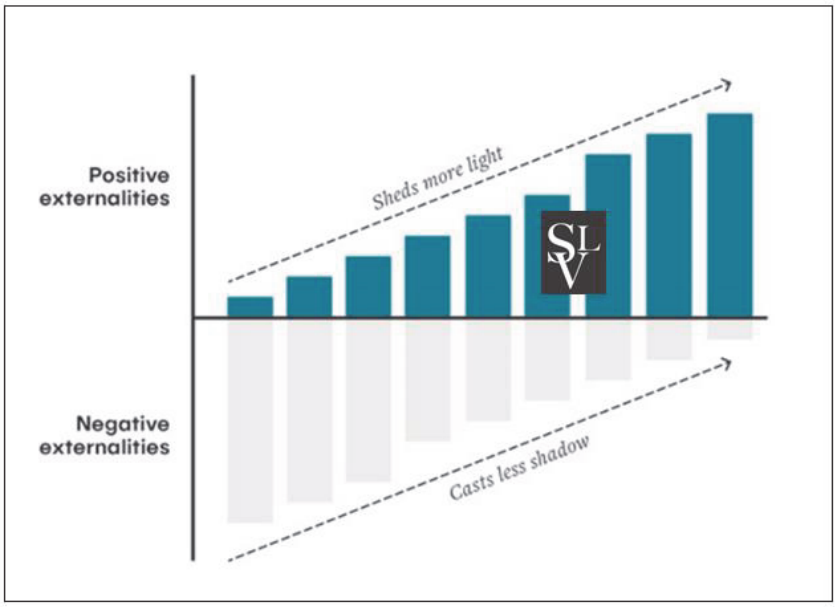


Figure 13: The net effect of sustainability efforts based on McDonough and Braungart, (2010, as quoted in Jørgensen and Pedersen, 2018b, p. 32) Slettvoll logo; (Slettvoll, n.d-b)

As figure 13 shows, Slettvoll have been placed between bar six and seven, meaning they shed more light then they cast shadow. This is based on the information gained from this thesis process. Slettvoll does shed a lot of light, and as chapter 11 will show, the company is well on their way moving up the bars both by casting less shadow and shedding more light. At this time Slettvoll have many local suppliers, something they will continue to have. As Gati mentioned in the interview they source locally, and short distance were this is possible, this creates local jobs and gives a lower CO2 imprint with short distance transport. With regards to jobs, they are focused on their factory at Stranda, and not outsource production but rather insource were possible. Due to this, they also have less

CO2 imprint with regards to transport. Many of Slettvoll`s local suppliers are also working on developing more sustainable practices. Slettvoll are currently working on getting more information from all their suppliers regarding sustainability, which will be discussed further in chapter 11. The fact that they produce and sell high-quality furniture, combined with excellent service result in a higher product lifetime, which also contributes to less consumption. Slettvoll is also already Grønt Punkt certified (Greein point certified), which means they recycle their packaging according to the requirements of the government (Grønt Punkt Norge, 2019).

However, all businesses will have some shadow sides. Slettvoll have potential in moving towards a more circular business model, slowing, narrowing, or closing resource loops, see chapter 6, (6.2.2) (Bocken *et al.*, 2014). Currently they have ways of slowing the resource loop, prolonging the utilization period by offering high quality furniture. However, Gati explained at the interview, that upholstering old furniture for customers for example, might become expensive, the price being close to 70 percent of the price of a new furniture. In addition, they do not upholster the furniture but sow the upholstery. This because they do not have the capacity at the factory to be performing this sort of job. Upholstering is very time consuming, and it would not pay off economically or in the terms of time spent offering this at the factory, she explains. Slettvoll then sows the upholstery to the furniture, and the customer would contact an upholsterer from their own choosing to upholster it. Thus, this is something that the company can work on. Finding ways of possible offering repairs and upholstering to customers, at a smaller cost, so that it pays off for the customer, increases the utilization of the furniture and slow down the use of resources.

Regarding, closing the resource loops, Slettvoll is currently working on establishing cooperation with other companies that can make use of their surplus resources, as well as looking at possible new ways of selling their products moving from a linear to a more circular flow or resources, this will be further elaborated on in chapter 11. However, currently, these resources go to waste. Slettvoll also use the tropical Teak wood, a highly controversy resource. Even though Slettvoll use FSC certified wood, Regnskogfondet (Rain Forest Fond) recommends people to avoid this kind of tropical wood altogether. This because the extensive use of it is one of the reasons that rain forests are destroyed (Regnskogfondet, n.d). Finally, the company can work more on narrowing the resource loops, become more resource effective and use less resources per product if possible.

10. On the way to a RESTART - Interview

Associate professor at NHH, leader of centre for sustainable business and co-author of the book RESTART, *7 ways to sustainable business,* Lars Jacob Tynes Pedersen, was interviewed due to his competence and expertise around sustainable development and how sustainability can be integrated in the company business model.

Suggestions on operationalising the Sustainability goals into the business model leading to more responsible production and consumption.

Pedersen explains that this is one of the things they are working on the most. It is something that many companies have in common, either having decided on it themselves or been told by the board or owners that these SDGs must be taken seriously. But what does that mean concretely?

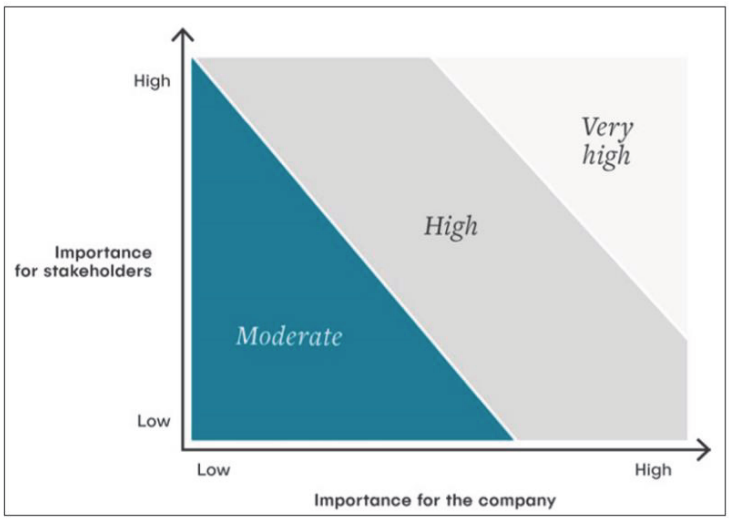


Figure 14: Materiality assessment (Jørgensen and Pedersen, 2018c, p. 142)

There is a chapter in the RESTART book, called *Results*, where the *materiality assessment* is presented. This is something that more and more businesses use to prioritize their sustainability issues, see figure 14. For example, if you speak to a fish farmer company like Lerøy or Marine Harvest, then salmon lice, salmon escapes or medicine use would typically be issues high up to the right. Along the lower axis, what is important for the business, regardless of what others might think, then salmon lice for example, would be a problem for a salmon farmer regardless of the customers or the authorities seeing this as a problem. Then there are some problems that are not that important to you but might matter very much to the customers. For example, when Sophie Elise, a known Norwegian influencer with many followers, blogged about the palm oil in the Easter eggs a few years back, then the companies did not really care that much that much about the palm oil in these chocolate eggs. However, suddenly after Sophie Elsie blogged about it, many customers started to care, and stopped buying the products. Then it also became important for the company as well because they see that now the customers are

starting to boycott the products. So that is something that would lie high up to the left in this axis. Thus, more and more companies use these kinds of framework. Pedersen is on the board of the wine monopoly, and he explained that they had just made a materiality assessment. In making this, they started by looking at the sustainability goals, and what is important for the Wine Monopoly? The CO2 imprint is important, considering the transport of wine from all the world corners to Norway. Water consumption in the production, which there is a lot of making wine or beer for example, would also lie up to the right in this sort of analysis. Thus, this is a way that can be used by any other business, trying to identify what is important and of such a character that it can influence the company. For a fish farmer salmon escapes are a big problem, for Tine dairy (Tine Meierier), safe food is a priority and so on. When a company wants to operationalize, they cannot operationalize everything, and so the first thing they need to do is to choose some things that really influences us. Ikea for example, has woodwork as a priority up in the corner, and also CO2 in transport, and then if operationalizing this then the questions will be how to measure it, where does the tree come from? and where could it alternatively come from? how is the furniture transported from a to b? and how could it alternatively be transported? Norgesgruppen for example, would probably say that one of the most important things they have done these last years, is moving over to more electronic vehicles in their transport, which is a way of operationalizing the CO2 imprint for transport at the Norgesgruppen, and this would be the same for Ikea as well, Pedersen explains.

Measuring and tracking progress of the sustainable solutions

There is a lot that might have started in the wrong end regarding this, Pedersen says. Many companies are reporting on these types of things through sustainability reports for example, however there is a potential danger in this having been widespread before becoming aware of how it is to be operationalized and what to prioritize. Ending up with many companies using the same reporting tools and reporting on the same things. In some ways this is a good thing, but if you are interested in the sustainability imprint from the fish farmer companies for example, then primarily you are not that concerned with how many km their trucks are driving, because that is not the most important thing there, what is going on in the fish cages is, and this is the same for other industries. Thus, the prioritizing questions and tools are very important, and it is where a company should start. When it comes to measuring tools, there are developed quite sophisticated ways of doing this, and these reporting standards has in a way been part of developing them. For example, for CO2 and water consumption, there are probably more generic ways of measuring, which can be used for all kinds of businesses, Pedersen explains.

However, there will be certain things that are more specialized, where companies need to develop their own ways of measuring.

Making sustainability profitable

There was not a lot of talk about sustainability 10 to 15 years ago, there was talk about social responsibility. At that time, the companies that did something with regards to this, mostly did the same thing, regardless of what kind of business they were. A lot of it involving donating to good causes, like paying the football jerseys for kids' soccer. Great causes but has little to do with the company operations. Slowly but surely the companies have become more strategic on these matters. Fish farmers starts working on fixing the Salmon lice situations for example, and at the same time many of the companies continued doing what they did before, supporting good cases. The materiality assessment and prioritizing are often about identifying the things that needs to be done to succeed. At Harvard there was a research study where they used this kind of analysis to compare businesses that prioritize quite strictly. The researcher discovered that the companies that are good at strategically making prioritizations, will better succeed in translating these measures into profitability. However, companies that are working a little in every direction, doing many things that are good, but not really zooming in at the core of the company, might not do as well. Thus, those who use their sustainability budget up in the right corner of the Materiality assessment, and not on every small thing laying lower down, will have a better chance of success. If for example a company would use a lot of their time and money on solving all the things that are far down to the left, then theory will suggest that they to a smaller degree would be capable of transitioning it to profitability then if using the money on the prioritizations up to the right. Pedersen explained that if you talked to the larger companies like Kongsberg, Telenor or Tine, they then they will have dedicated employees that are working on these questions, on what measurers they need to start working on. What do they need to do to become better, so that customers do not stop buying these Easter chocolate eggs because of the palm oil, or that regulating authorities shuts down fish farming because of too much salmon lice or salmon escapes, the company has to handle this because the business depends on it.

Differences between small and large companies and their willingness to change now versus earlier.

Pedersen has been following this development very closely along with his co-workers. About 15 years ago when he started working on this, you would not get a director to talk about this for more than a minute before they ran for the door, because they did not find it interesting,

Pedersen explained. There are many reasons that this have changed, customers and regulatory authorities for example. The signals on how important this is, has made the companies take this much more seriously. One of the things that has happened is that there is more resources, budgets, and positions set off for sustainable development. At NHH many of the students educated in this, ends up with positions concerning sustainability, such as sustainability managers or directors, positions there were only a handful of 15 to 20 years ago. The second thing is that there is a lot of strategical awareness around this now, and companies are less insecure about it and makes more prioritizing. Pedersen made an example of a time a while back when Henning Olsen, (Henning Olsen Is As) called him at his office. He was thinking about hiring a CSR (Corporate social responsibility) manager and was working on writing the text for advertising the position, however he was not sure what to write in this. The reason for this being that is that they did not really know what this person would be doing. If you call Henning Olsen today, however, he could probably tell you that they have a sustainability manager, and explain what he or she is doing, and that it is important for the business model and so on. Which is connected to the third thing that has happened, that sustainability to a much larger extent has been connected to the company business models.

An example on this, provided by Pedersen, is that they had been working a lot with Orkla, especially the part that handles soap, like Zalo, Jif and Klar. They started with plastic reduction, a thing that is high up to the right in the materiality assessment for many in these kinds of industries. They understood that plastic is something that they had to do something about. They therefore started recycling the plastic, like Klar for example is made of recycled plastic. Next, they started to think about how they could sell things in another way, using refill solutions, either going back to the store to fill up, or get it home delivered through Kolinal.no for example. In that way the packaging can be used again and again. Thus, what they are doing now is connecting the sustainability challenges to the business model. How do we sell our products or services? How do we really make money? And what does sustainability have to do with it? This has changed a lot and is probably the one of the three changes that has altered the most according to Pedersen. 15 years ago, there was hardly anyone who saw these two things in context. Now, if companies are to embrace the SDGS, then what does that mean for the way they are doing business? how can they change their business model in a way that makes it easier to reach these goals?

When it comes to the differences on small and large companies, Pedersen says that the big companies in general works in a more dedicated, systematic, and comprehensive ways, because they can do so. At NHH, Eldar Sætre, CEO of Equinor, held a presentation, and a woman talked

about human rights issues. This is just a small area of social sustainability work, however, Equinor had their entire human rights team present at the presentation, and they filled up two whole rows in the lecture hall, approximately 20 people. Thus, a large company like Equinor, probably have 20 people working in human rights, and then maybe 50 people working on CO2 emissions, and of course then they have the opportunity to work on it more systematically, having bigger muckles in that way. This you can also see in them having very large measuring packages, reports both in their annual report and separate ones. The same you can see from companies like, Telenor, Kongsberg group and Hydro. Small companies that does not have these kinds of resources, will stand a little freer to make changes more easily. Pedersen explains that it would be easier for Slettvoll for example to go from physical sales, to online sales, then it would be for Equinor to move from oil to offshore wind. The same with Orkla, being such a large and established company, it would take a lot of time to turn that ship, with many leaders and a lot of changes to do. But, as a smaller company, you can move faster, and maybe easier be able to connect the sustainability questions to the business model questions. Thus, with regards to sustainability work, small and large companies have each their strengths, the big one being good at working systematically, setting goals, reaching those goals, report on it, and show their investors and regulating authorities that they are on their way. The small companies can be quicker on their legs, making changes and innovate.

Business hub for sustainability – BH4S

Pedersen thinks that it can be a to great help for companies to have these kind of business hubs, helping them get started. However, he says that when working with companies he is cautious about using one size fits all kind of solutions. Because there will typically be differences in how far people have come and how willing they are to change. Some have already tools they like to work with, and will not apply anything new. Thus, Pedersen feels that there should always be room for customizing considering that businesses can be very different, even though they look like each other. But it is certainly very important for companies to have these trigger points to get started. Pedersen recalls, having Slettvoll over for a sustainability course, where they challenged the participants to write a simple sentence on what their business model was. What are we selling? And why do we think that the customers come to us? This is where they usually start when working with companies, because what they find that there can be substantial differences, even internally within a leader group on what they feel they are good at. Another example is that if you talk to different professors at NHH, then there will probably be many

differences in why they think students come to study at NHH, and why they think people come to work there? Getting these things smoked out first, Pedersen thinks can be quite useful, and so they have seen in many contexts. Pedersen continued, about Slettvoll, the sessions with them was fun, and they took this task seriously and worked on it. Doing these things, talking about them, what is it that makes us in Slettvoll this great? Why are people coming to us? For example, starting there, and then the next question might be what does sustainability have to do with how we are producing? Having these stepwise ways of working, Pedersen thinks can be very useful.

The financial industry's impact on businesses

Finance have already been very important in accelerating the sustainable development. Having worked on this for the last 15 year, Pedersen found it interesting how much faster things started to happen when finance tagged along. The big financial institutions, such as Storebrand was early in doing this, setting demands and putting the spotlight on it. However, later many smaller financial institutions also joined, like the private equity industry. Companies that maybe buys up a third or 25 % of a company and takes ownership, and then they go in and pushes the company to improve. Thus, the private equity business has really gone in and fired up on this the last three to five years, Pedersen explains. He has worked with a couple of private equity investors, that have really put this on the agenda, and made things happen fast. There are several reasons why finance is important, one thing is that the investors are owners in the companies, and can set demands, and the second thing is that investors sets demand for documentation and reporting. That the company for example not only talks about it on their home page, but that they can show it, how much better they are at cutting CO2 then others in their line of business, or how much better they are at handling human rights risks, or corruption risks. The investors want numbers and therefore asks these very concrete demands, and when they do, the companies must respond. Earlier, financial institutions would demand financial numbers such as depth or equity, and now, they demand the same with sustainability.

Creating new sustainable jobs

Growth and sustainability have in a way a quarrelsome relationship, and some feels that the two are not compatible. However, there are some types of growth and jobs that are greener than others. Pedersen explains that he is involved in a project in Bergen, where a big oil service industry, have asked themselves the question, with this green restructuring we are in now, is it possible to create new jobs? Building on the same competence as they have on the sea and underwater operations, however green jobs. Either working on green energy, or on aquaculture, that has nothing to do with oil or gas, but fish farming for example. So, there is a massive

reorganization project going on, and there will be a lot of jobs connected to this circular economy, where resources are reused to a much higher extent.

Pedersen explained that about five years ago it was found that an enormous number of mobile phones ended up in people's drawers, or as toys for the kids to play with. In these phones there are valuable resources, and the companies wanted to get them back. They discovered that this had something to do with the business model, and therefore several companies like Apple or Telia, starting to sell services in order to get the phones back (Apple Trade in, Telia Svitsj). In addition, they could start to design the phones in a way that makes them easy to disassemble, and the resources can be used again. Pedersen, thinks that maybe by 2030 possible five times as many as today, will be working on returning resources. Because someone must do this, somebody needs to collect the old phones or it being old cars, and then rebuild them into something new. Another example, Pedersen provided is that he visited the Paris Renault factory in 2000, which he found very fascinating, at the time they were building new robots. However, now it is even more fascinating, and they call it the circular factory, and it is built out with a steel smelting plant. On the one side of the factory old Renaults came in, taken into the loop, and newly build Renaults comes out the other side. Which means that probably 20-30 % of the people working there is retrieving old Renaults and rebuilding them into new ones, jobs that was not there before.

Circular economy and service logic, is Norway ready? What about the risks?

There is risk in beginning with this, Pedersen explains. For example, beds, you might not want to use beds that others have used before you, which is sort of a customer behaviour problem. This might be the same for couches as well. However, there is a parallel there, Airbnb for example, was very foreign for people when it first got started. But things have changed very quickly, and the same might happen for couches as well. However, there is off course a great risk in investing in these kinds of solutions, maybe the customers do not want it. There is also a financial dimension in it, tying up capital, owning all your couches for example, only receiving income from rentals. Thus, you are taking a big capital risk when you do it in this way, Pedersen explains. However, he thinks this sharing economy development, Uber and Airbnb for example, we will be used to in a few years, because so many will have switched over to this model. One of the first products that brought this up, was the drill, because somebody found out that this drill that just about everybody owns, maybe was used about 13 minutes in the course of a lifetime, which was surprising. Thus, why do you own a drill? It should be easy to make a sharing model for it, and the same with cars, a lot of people do not

care about owning a car, however, the bed might be pushing it. Another example, that illustrates this development is the outdoor clothing for kids, (Parkedressen.no). People that have children in kindergarten are familiar with how fast a child grows out of their clothes, and often faster than what they can wear out. Therefore, a model was made where you can pay for access to these clothes. Some might feel that this would be weird, that their kids should own their own clothes, but at the same time it is very practical, and Pedersen thinks that a lot of people would be fine with this. He thinks that this is happening now in so many businesses, that slowly but surely, this will be the way we live. That it would be great not having to own that drill, but rather just have quick access to it. However, he states that he would not have liked to own 90 % of Slettvoll, for example, and be told that now we are going to be gambling a bit with your business. Because it is a huge risk in moving fast into this way of selling. Pedersen thinks that there is reason for why the business to business market have come further along on this. One of the reasons is the customer behaviour, that it would feel a bit strange renting a coach. The other thing is that it is much safer in the business market. There is a much more extensive degree of contracts. In the book *RESTART*, they have an example of the company Interface, that have rented out carpets for a very long time. It works in a way that a procurer at the Hilton hotel chain for example, wants 50 000 km of carpet. Then there will be written a very detailed contract, and you then know exactly what will happen, if the company do not own up to the contract. However, if a private customer spills red wine all over the couch, and do not want to pay, it will be much more complex offering this to all sorts of customers. For example, If Slettvoll delivered 400 coaches to the offices of DNB around the country, then off course these can be rented out, Pedersen explains. If a coach gets broken at the Hamar office of DNB, then there will be contractual matter that will make it easy to figure out. Thus, it is less complex then renting out to one and one family, or student collectives, and so on.

Can the brand name be affected by these new circular or service logic solutions?

There is a risk for it, Pedersen explains. There is a development in the fashion industry. In the USA there is a company called Rent the runway, where they are renting out dresses that you might not would be able to afford or prioritize to buy. Pedersen had also been reading about these fashion houses in Paris, Hermès for example, who did not want to follow this trend, selling in this way. However, he thinks that most will eventually give in, seeing that there are very fast changes on the customer area. But they will probably find a way of differentiating it. They may have products that they do not want to lease, the most expensive ones for example. Thus,

Pedersen thinks there is a risk that they are aware of, especially the more luxurious high-end companies, it might be a downside, but it seems they are starting to embrace it.

Transferability of resources – specifically the furniture industry

Informing Pedersen on how Slettvoll, might cooperate with a Danish company, Really, sending left over textiles, that can be used in something new. He was not surprised that it was a Danish company, considering they are very good at these sorts of things. At a seminar at the business school in Copenhagen, there was a man that retrieved old designer furniture, and upgraded them into new furniture. They had a circular vision, giving new life to furniture. Another example, is an architect in Bergen, that specializes in making facades out of old facades, and he was inspired by an architect company in Copenhagen, that would tear down old buildings, and made facade plates out of them. Thus, there are certain transferability's like this, and one thing is furniture, but there is a movement within design in general. Either designing buildings, furniture, or clothes, and Pedersen thinks that in the textile business there should be a lot of transferability. He would recommend Slettvoll to look both directions here, what is moving in real estates, property and this design bit, and what is in the textile and clothing industries, because there would be transferability both ways.

The EU circular action plan versus the expected Norwegian circular strategy

When asked about what he expects from the new circular strategy which is to come in Norway, if it would be similar to the EU action plan, Pedersen said that he hoped it would. In a document the government presented a couple of years ago, he recalls several of his friends in business that are working on circularity, like Virke and Norwegian recycling, being very disappointed. It was a sort of action plan that showed very clearly that Norway had not come farther then talking about circular economy with regards to recycling. It is easy to agree that most of what is around us does not get recycled, however the circular economy as EU presents it, is about so much more than just that, Pedersen explains. How to get the flow of resources to be used again? It includes circular cities for example, what happens if we move this business from there to here, shortening the distances, and so on. Thus, he hopes the Norwegian strategy has moved more in this direction, but at the very least it will address these business model questions, like access-based consumption. The Norwegian Research sustainability council for example wants more research to be done on business models that can provide increased resource utilization, like access-based models. Resulting in that we would not need to make as many things as we have, because we could rather get access to the same things.

Three words on the sustainable future

The first word Pedersen brings up is, **circular economy**. It is coming, but he thinks the extent of it will still surprise us.

"When I grew up, we did not have car belts in the backseat, which if you think about it now, it was completely insane, and it is not even that many years ago. I think this is the way we will look back and think about this pre circular time, the linear time, the utilization of surplus resources for example, things with high value being burned by renovation companies, things like this, will soon feel very old fashioned."

Lars Jacob Tynes Pedersen.

Next, he thinks that these ownership models will fall, however not sure how fast it will happen. Those who can make good **access-based models**, which have already come in certain type of industries, and products, Pedersen thinks can win greatly. Companies that can find solutions like Airbnb did for example, unlocking this door in other kinds of retail industries might get them a real homerun if they succeed.

The third thing, which also is connected to the other two, is that there to a much larger extent will be **clusters, ecosystems, or mergers of several companies**, that have business models on cross of each other. For Renault to get their cars back, or in order to use severed fish heads for omega 3, all the things that we are doing now, that we did not do before, demands that there is a good relationship between the organisations. The individual organization cannot do it by itself. Apple is a company that is large enough, having one unit that picks the phones apart, another unit that brushes the parts, and another one that puts it back together, but Apple is a gigantic company, and most companies would not be able to work like this. Say if, Slettvoll for example, was to start building modular furniture, which can be remodelled, repaired, and rented out and taken back and refurbished, they will probably have to work with someone else as well, like logistics players, repair players, and so on, Pedersen explains. He thinks that we are going to see a lot of progress on this, that goes across organizational boundaries, of different kinds.

11. Slettvoll`s RESTART

In chapter 5 several different tools, models and frameworks was presented. For this thesis however, Pedersen and Jørgensen's RESTART framework was chosen to make an example due to Slettvoll and how they are working on sustainable development. Slettvoll is quite familiar with this framework, and with regards to the interview with one of the authors in the previous chapter, it was best suited for this case. The information gained form our interview with Slettvoll, Sustainability and strategic project manager, Karoline Fløtre Gati, will be presented in this chapter as well.

Slettvoll is currently working on a new sustainable business model. In using the RESTART model there are several questions a company should ask themselves. These have been used in our results presented within each part below. In addition, Information gained from our interviews, along with possibilities, challenges and other business examples identified during this thesis process will be presented.

However, before getting started on each of the seven ways to a sustainable business, Slettvolls start in working on sustainability and their process in choosing what SDGs to focus on will be explained.

Slettvoll`s workshop

Slettvoll chose sustainability as its strategic topic for 2020, and started with an internal workshop, where they went through all the 17 sustainability goals.

"*In all we were 15 internal participants. The participants were divided in groups, and they worked on the different goals and decided upon what specific they thought that Slettvoll should focus on. We ended up with several goals that we went through and looked at which of the goals we were already doing well, and we decided then not to focus on these. For example, when it comes to gender equality, Slettvoll is already well on their way with a female management, as well as having a good weighting of the genders within the factory."*

Karoline Fløtre Gati, 2020.

As mentioned earlier in this thesis they eventually decided to work on the specific SDG: 8 (Decent work and economic growth), 12 (Responsible consumption and production), 13 (Climate action) and 15 (Life on land). They found these goals important for the company, and areas of which they think they can make a real difference, specifically with regards to the

environment and its surrounding. How Slettvoll intends to work on these goals will also be elaborated on within the steps below.

With the "recognize face" being presented in chapter 9, the next step is the "rethink face" which involves, circulation, service logic, alliances, results and three - dimensional (START). Starting with the "STA", part of the Restart framework. In these steps a company should ask themselves; *How they can create, deliver and capture value in new ways by thinking in a circular way, developing services and finding partners that can fulfill them, contributing with new resources and enabling new value – adding activities? (Jørgensen and Pedersen, 2018a, p. 18)*. Next, is Slettvoll`s results and three- dimensionality (RT), where results describe how the company should prioritize, and three – dimensionality is about how this can be integrated into the new business model *(Jørgensen and Pedersen, 2018a, p. 18)*. Experimentation and redesign (RE) are the "reinvent face", and it is recommended that the company experiment before redesigning the new business model. Finally, the last step will be discussed at the end which is "reorganization" *(Jørgensen and Pedersen, 2018a, pp. 34,44)*.

11.1 Service logic

Do we have products that can be turned into services? How can changing consumer practices reduce the footprint of our products? Can we provide additional services that reduce the footprint of our products? (Jørgensen and Pedersen, 2017, p. 158)

There are several ways a furniture company like Slettvoll can move from product to services. During our interviews with Gati she expressed some of her thoughts on how they can make changes. She explained that they have investigated different solutions for example, leasing, offering services to maintain products, and a CRM system.

Gati explained that they started looking at leasing solutions a couple of years ago, at an executive program at NHH on sustainable business models, a course were Lars Jacob Tynes Pedersen was one of the lecturers. They were three colleges from Slettvoll that attended, and together they shaped a canvas that included new ways of selling their products. However, at that time they did not feel that the marked was quite ready for this kind of leasing solution. But, now two years later, the marked might be more ready. Thus, based on the information gained from the interview with Gati, and on the fact that the circular economy is an area of great focus, leasing has been placed as a possibility in the mapping out of this new sustainable business model.

However, as have been discussed with all the interview subjects for this thesis, a solution like leasing, does not go without risk or challenges. Gati explained, that after being in touch with a financing bank, they learned that there are certain steps a furniture company would have to take for this to work. For example, with leasing in the car business the cars have registration numbers which is connected to the leasing agreement. This is important for the financing bank to make sure they can get the car back, say if a customer go personally bankrupt. In fact, the vehicle card 2 is kept by the financing bank. Thus, for a furniture company to be able to lease out its furniture, it would need to be marked with a registration number or a QR – code for example. But even with those changes the banks are reluctant in offering these kinds of products to private customers. Both regarding that the risks are higher with private customers, as well as the fact that the products are not as lasting as new cars for example. This Information was also supported by Saltvedt because the risk with regards to the private market is too high, resulting in the leasing agreement becoming too expensive for it to pay off for the customers. However, Saltvedt explained that this is something they need to work on. Finding good solutions, for example by allocating the risk (see appendix 14.3 for the interview with Thina Saltvedt). Nevertheless, leasing furniture to companies is a service that is further on its way, considering the risk is not as high. As Pedersen stated in his interview (chapter 10), there are two reasons for this, one being that there is a much more extensive degree of contracting within the business market, and the other reason is the customer behaviour, maybe renting a coach would feel a bit strange.

A possibility within a leasing solution is to have a service agreement as a part of it. Gati states, if they were to start with leasing, they would also have additional services as a part of it. For example, they would go home to the customer maybe 1 – 2 times a year, and based on what is needed, they would perform services like oiling, cleansing and have furniture impregnated. This to ensure that the customers treat the furniture well, and that it is being maintained as it should. Making it so that it is possible to sell it in a good condition later. The service agreement can be an obligatory part of a leasing agreement. In addition, it is also possible for it to be an optional service for customers that buys rather than lease the furniture as well.

Another thing that contributes to the customers prolonging the products lifetime, is to make sure they are well informed on how to tend to the products. If they are well taken care of, they will last much longer. Slettvoll are already giving their customers maintenance brochures with their furniture purchase, as well as a free bottle of oil for the furniture that needs it. They will also be giving more information about sustainability to their employees going forward, so that

they would be able to relay this information to the customers. However, the company home page will be the focus in communicating this sort of information. More information is to come on their website with regards to sustainability. In addition, there is already a lot of information on the website with regards to how to maintain the products, and the possibilities in spare parts if needed (Slettvoll, n.d-a).

Slettvoll have also considered making a CRM system where the customers would have their own portal with their purchases and specifications gathered. In addition, they could be reminded on when it is time to oil the furniture for example. Also, a video function would make it easier to handle questions, complaints or just giving interior advice (Futuretalks, n.d).

11.2 The Circular

Does our business model generate waste or excess resources that can be reduced or eliminated? How can we redesign our products and services to prevent negative externalities? How can we facilitate consumption that utilize surplus capacity in existing products and services? (Jørgensen and Pedersen, 2017, p. 156)

Circular business models contribute to slowing, closing, or narrowing the resource loops, see chapter 6 (6.2.2).

Slettvoll is working on optimizing their resource utilization. Gati mentioned that they are planning to collaborate with another company with regards to reducing the waste of textiles. However, due to the corona situation, they have not been able to get this started just yet. But the plan is to send the excess textiles to a Danish company called Really. Really takes in surplus textile materials, meaning they upcycle textiles that would normally go to waste. They then make new fabrics out of the textile residue and resell it (Really, n.d). Innvik AS is a textile business in Stryn and a big supplier to Slettvoll. They are partly owned by Kvadrat, and Really is a subsidiary of Kvadrat (Engås, 2018) .

According to Gati, this process will start by Slettvoll putting a big box in the factory, and every time they have some excess textiles of the type that qualifies to Really`s demands, they will place it in the box. For example, the textiles need to be pure, like wool, and the coloring will be sorted after light and dark textiles. These will then be sent to their supplier of textiles, Innvik AS, who then will further send them to Really together with their excess textiles. Rom and Tonik, a company based at Vigra, just outside of Ålesund, manufacturers sound attenuating products (Rom & Tonik, n.d). They are a customer of Really and uses their upcycled fabrics in their products. This means that the residue textiles from Slettvoll eventually can end up as

products for Rom and Tonik. Today, Slettvoll is paying to get rid of their waste, thus solutions like this, finding others that can make use of their waste, will lower their costs as well optimizing the utilization of resources.

In Reducing waste and surplus resources Slettvoll are working on reducing and changing to a more environmentally friendly packaging. They have started mapping out the packaging of plastic and cardboards. Their cardboard packaging already uses 50 % recycled cardboard. In addition, they have replaced the bubble wraps with clear plastic, reducing their use of plastic with almost 50%, because a bubble wrap demands more than clear plastic. Thus, this have reduced both Slettvoll`s costs and their use of plastic. In addition, they have a project they are working on where they want to take some of the packaging in return. For example, thick cardboard corners and cardboard edges on the furniture, as well as some inner plastic and cardboard boxes. These can be placed on pallets, collected, and sent back to the factory. They have defined five different cardboard boxes, edges, and corner protectors, that they want to get in return. According to Gati, they might also mark these boxes with "reusable boxes", as a way in communicating their sustainability efforts to their customers. This is a solution that might result in cost savings as well as reducing emissions and waste towards the environment.

This would also have to be in a collaboration with their transporter VD Transport, who they hope will return the packaging either for free or very cheap when having available capacity on their trucks. They transport products from Stranda to the east side of the country, and to the rest of the country, and the trucks must eventually go back to their terminal. Thus, there are more products going one way then the other, so in between they will transport by air, and that is space that Slettvoll wants to take advantage of.

The company is also working on environmental smart packaging**.** Slettvoll is planning to make a furniture pram package. Gati thinks this is a very exciting project, developing a whole new kind of packaging that can be used again and again. It would make it easier for the people that delivers the furniture, and the HSE with regards to them. In addition, the reuse will result in less waste of resources. Another positive in this, is that the company most likely will be able to produce the pram packaging themselves, using free capacity in the factory.

"*What I am thinking about, is a sort of packing, that can look like the pram packaging of a stroller. There will be wheels, straps, and a thick textile material, that can be wrapped around the furniture to pack it, and in that way save both card boards and plastic. We can also use recycled textiles to produce it." Karolie Fløtre Gati, 2020*.

Gati also explained that they were inspired by a company called Looping, that develops environmentally friendly transport packaging for barracks. Slettvoll uses about 1,6 million on cardboard and plastics a year, and this solution might help reduce these costs. Gati explained, that in the beginning there will be an investment cost, which will gradually go down after several years, and with a great use of it. In this case they are also depended on an agreement with their transport agency, that they will only transport this back to them when they have free capacity on the car. Because it would not be sustainable only to transport the packaging back to the factory.

With regards to redesigning products and services to prevent negative impacts on externalities, Slettvoll have taken a course and become certified in measuring EPDs. Calculating an EPD, means calculating all components to a product, measuring transport, what types of components are used and what environment- and CO2 imprint all these components have, and then calculate the total CO2 imprint from that furniture, including energy consumption in the factory and whether there is long- or short distance transport to gather all the components. Slettvoll has made a couple of EPDs now, and the way it works is that they send them to EPD Norway, who then go through them and gives Slettvoll a certification. They are planning to calculate more EPDs in the future and use them to make changes to their components. Gati explains that, what they get out of these EPDs, is a mapping out of their components, and which components makes the biggest CO2 imprint and causes the most pollution. They can then find out what components that can be replaced to become more environmentally friendly. For example, make use of more recycled materials, like recycled plastic and wood. When they have calculated EPDs over several years, they will be able to customize their new products to use less CO2 and reduce their environmental footprint.

Figure 5, chapter 5 gave an illustration of five ways of upcycling; Rent, refurbish and fix, reuse and resell, rebuild, renew, and recycle. As mentioned in Service Logic, Slettvoll have investigated the leasing possibility as a solution in transitioning to a more sustainable business. But there would be far more to it. Gati explained, that if they were to offer leasing, they would also want to sell the furniture afterwards. The logistics they have in place at this time would make this possible. The factory could reupholster the furniture if there has been a lot of damage to it. They also have the possibility to buy new components, so that they could replace for example a tabletop but keep the chasses. In addition, they have upholsterers that can make bigger repairs to the furniture, and stores that can retrieve the products and sell them again from the store or a show room for example.

Another possibility might be to have an outlet store on the company website. The furniture company Bolia offers this already, however not for used furniture, but for exhibitions or products with small defects for example. On their website the customers can filter the outlet furniture based on color, condition, where they are located, the product category and price. This makes it very easy for customers to find what they are looking for, as well as for the company to sell them (Bolia, n.d).

11.3 Alliances

Which partners and alliances can help us reach our goals? Do we have existing partners where there is potential for symbiosis? Can new constellations of cooperation enable us to solve new problems, or to reduce our footprint?

As mentioned in the circulation part, Slettvoll has started looking into possible alliances that can make use of some of their excess resources, which Really is an example of. However, as more businesses work on sustainability and transitioning their business models, more possibilities of these kind of alliances will probably appear. As Saltvedt said, companies do not really have a choice. They will experience being influenced by their stakeholders, customers, financial institutions, and the government for example, who will release a new circular strategy in December of 2020. They have also proposed to allocate 100 Million NOK to promote a more circular economy and a better utilization of resources, see chapter 8 (point 8.2).

Slettvolls work in reducing their resources and waste, as mentioned in the earlier parts, will need for them to gain a further collaborative solution with their transporting partners. This with regards to returning the furniture pram packaging, used cardboard parts, or for the excess textiles to be delivered to Innvik AS for example.

With regards to a potential leasing solution, Slettvoll would also need to start a collaboration with a financial institution, which as discussed in the Service logic part, might become challenging, at least if they were to offer it to private customers. Gati, also mentioned that they would probably need to collaborate with upholsterers for it to work. In which case they would possibly hire them as a supplier and introduce them to how they do things at Slettvoll. Gati stated, that they would want a structured network that can be distributed out to the stores. Another thing they would need is an IT Partner, assisting in developing the necessary solution for their system and cash registry.

Slettvoll also collaborates and are on the board with Møbelkaraft, which is a corporation that is owned by players in the furniture industry, as well as the public sector. Møre and Romsdal county is the largest shareholder, and Møbelkraft have a strong anchoring regionally. Their goal is to: *Develop services and activities that provide inspiration and skills development within the Norwegian furniture and supplier industry* (Møbelkraft, n.d). Among other things they have developed 3D knitting that the collaborating businesses can take part in. Another project that they are working on now, is mapping out the environment and quality documentations that is needed when developing new products. It's about gathering all the standards and make a matrix that the furniture businesses can take advantage of, to see what standards are needed in producing for example a chair, a sofa or storage furniture. This is something that they have received funds from Innovation Norway to initiate.

In addition, Gati explained that they have found that Nork Industri (Norwegian Industry), the largest national association in the Confederation of Norwegian enterprises, NHO (Norsk Industri, n.d), has put together a furniture collaboration. They will collaborate with the furniture businesses, with regards to EPDs for example, and gather different standards at Møbellaboratoriet (furniture lab) at Sykkylven, Riss Testlab AS. They offer companies help in shortening the time of developing new products, by documenting that they meet the international standards and requirements for quality, safety and durability (Riss Testlab, n.d). By getting standards placed on the testing reports, the businesses do not have to buy each individual standard. A standard is a written document that says that a furniture needs to endure so and so much weight when it is knocked from a certain angle for example. Thus, there are many standards, and each costs a couple of thousand. Therefore, they want the furniture lab (Riss Testlab) to own all the standards. In that way the furniture companies can go to them and use them as a kind of lookup service and expert center. Gati explains, that this is just another project that is going on within the furniture clusters, and a good example on why being in a cluster gives competitive advantage and benefits.

11.4 Results

Are we doing the right things? How to prioritize de most materiality sustainable conditions? And how to communicate our sustainable presentations to our stakeholders? (Jørgensen and Pedersen, 2017, p. 162)

Based on the recommendations from the interview with Pedersen (chapter 10), a Materiality assessment was made. A materiality assessment is about*: uncovering relevant, social and*

environmental issues that the company is facing, and prioritizing them according to their importance from an economic, social and environmental point of view. (Jørgensen and Pedersen, 2017, p. 116)

This is based on the information gained from the Slettvoll interview and how they work on sustainability, se figure 15. However, it was not made in cooperation with Slettvoll themselves or the stakeholders, thus it is simply being portrayed as an example in this thesis. It also includes the SDGs to illustrate how these goals can be used in the process of developing a more sustainable business model. The coloured dots in the model shows what SDGs they represent.

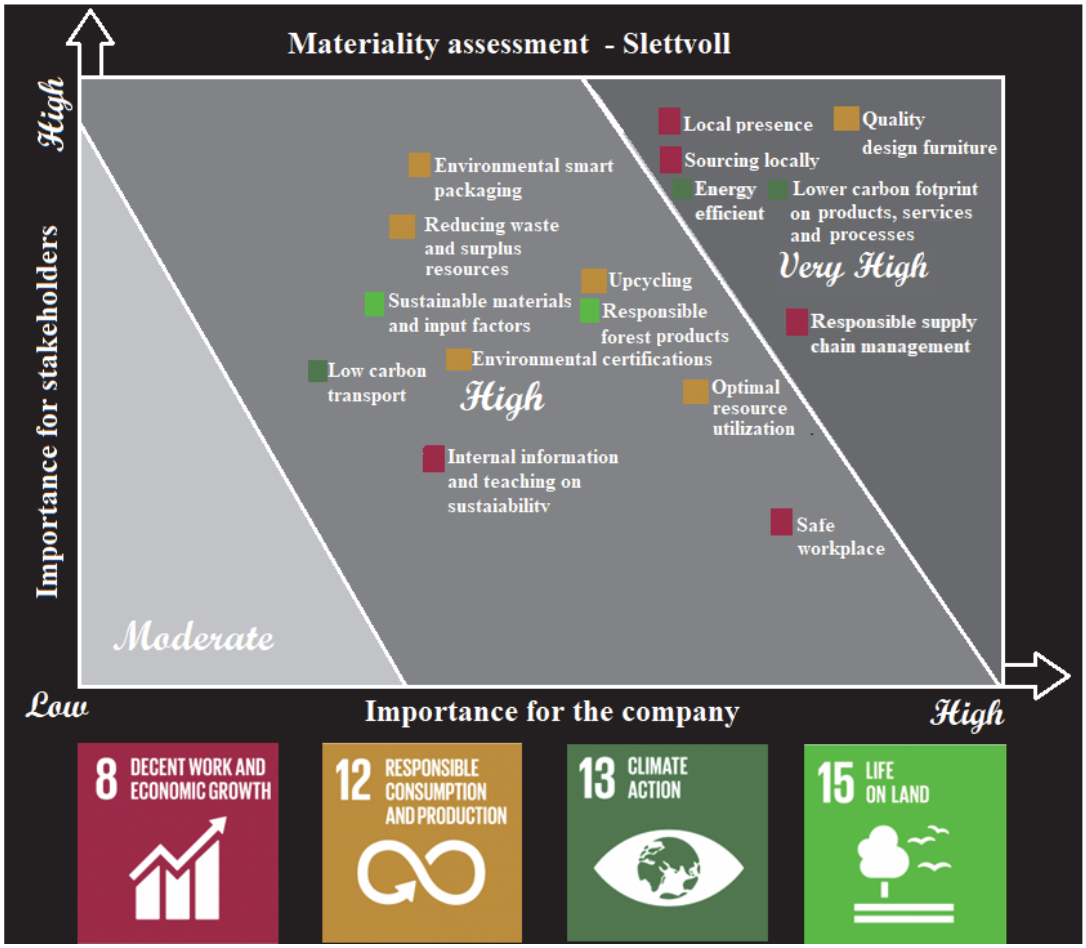


Figure 15: Materiality assessment – Slettvoll, made as an example for this thesis.

Slettvoll – Prioritizations

On SDG nr 8, decent work and economic growth. Slettvoll have chosen to focus more on their suppliers. They have five very close suppliers that produces some of their designs, specifically finished goods and storage, such as tables, dressers and sideboards, and Slettvoll have very good control on every component on the materials that they produce. Thus, they know for example that they work within the REACH regulations. *REACH is an EU regulation*

and it stands for; "Registration, Evaluation, Authorisation and Restriction of Chemicals" (Miljø Direktoratet, n.d). Slettvoll makes sure that the fabric they use have been cleared through REACH. Chemicals used in the production of their products needs to be regulated, and Slettvoll and their suppliers are responsible in documenting that there has been a safe use of the chemicals before the products can be marketed. This is a very important regulation and has direct effect on the SDG 3 (Good health and well – being), protecting humans and the environment from dangerous and harmful chemicals. However, it also has to do with **responsible supply chain management** and ensuring good working conditions. By REACH the information on companies' properties of dangerous chemicals (substances, mixtures and fixed products), is available for everyone, and it is a good information base for the authorities in regulating the dangerous substances. (Miljø Direktoratet, n.d)

Slettvoll have developed a code of conduct, which they already had in place in 2015, were they asked all their suppliers to sign. They then promise Fairtrade, no use of child labour, no dangerous chemicals, to certify were it is possible for them, and to operate within their country's regulations. Gati explained in the interview, that they could not demand all suppliers to operate after Norwegian rules, but that they follow their own countries rules. In addition, Slettvoll have started to gather documentation from all their suppliers in what certifications they use and what all the suppliers does with regards to environmental regulations, environmental work, and the social and economic around this. They have gotten off to a good start and have received much information from their suppliers. Most of these suppliers have certifications, like "Oeko-Tex", with regards to textile, ISO 14001 and "Miljøfyrtårn". Slettvoll gets documentations and a copy of the certifications from the suppliers, with a stamp and the date for renewal. Gati explained that they have suppliers that are very professional and work hard on this, have everything in order and sends the information without any questioning. Others that do not work so much on this, might just send a short text about what they do in the factory's and the waste sorting they have, and that is it. Thus, there can be very big differences. For example, one of their supplier of lime foam who delivers foam for their sofas, are actively working on storing CO2 in the air cushions of the foam. This will reduce the CO2 footprint by putting the CO2 back into the product. It is not certain that it will be launched, but it is an example of a supplier that works very good on research and development, Gati explained. Thus, the work of gathering this information has been very useful for Slettvoll, and Gati said it was the very first thing they got started with.

Thus, in the materiality assessment, **responsible supply chain management** was placed very high up of importance for the company. However, this have also become more and more important for the stakeholders. Financial institutions demand much more from companies, and if it turns out that sustainability rules or policies of the bank are broken, the company have to make urgent changes or risk losing investors, as with the clothing company example that Saltvedt provided and illustrated in appendix 14.3. Customers are also becoming increasingly aware of issues regarding how companies produce their products and what they contain. Bad press from the media about poor working conditions at a factory for example, or as Pedersen mentioned (chapter 10), that an influencer can blog about the Palm oil in Easter eggs, and influence customers to boycott the company or a specific product. Thus, it is very important that the company has insight and know its entire value chain.

Further, Slettvoll have stated that they want to source locally and short - distance were possible, also a point under SDG 8. Gati explains that this means that they choose components that they can buy from Møre and Romsdal and locally, in addition they source minimally form Asia, and this is something they intend to continue with. With regards to jobs, they have it in their strategy that they are to focus on their factory at Stranda. No outsourcing of production, but rather insource back were possible. On finished products Slettvoll have one supplier abroad and four in Norway. With regards to components, they have many small components, for example down pillows, some textiles and skin that comes from suppliers in Europe, they have no component suppliers from Asia, only in Europe. Gati explained that besides the three components, down pillows, textiles and skin, which are important product groups, she feels she can almost say that they source about 95% locally. Textiles comes from many suppliers, and of their main suppliers located in Europe. Also, one of their biggest suppliers, Innvik, is a local supplier. Slettvoll has 300 different textiles, both from small suppliers and bigger suppliers. All velour textiles are from big suppliers in Europe, while wool fabric is provided by Gudbrandsdal Ullvare and Innvik. Thus, at Slettvoll you can find furniture that is sourced 100% locally. For example, the chair called Stella, were the wood is from Øyehaug at Ørsta, and the textile from Innvik in Stryn, and there are more examples of this, were everting is sourced locally, Gati explains. She also states that they have suppliers in Sykkylven, Åndalsnes, Måndalen and Stranda, and they are proud of their local suppliers. **Sourcing locally** and having a **local presence** is therefore expected to be very high up for both stakeholders and Slettvoll in their Materiality assessment. By having local suppliers, it is easier to communicate and establish closer relationship, which

is great in Slettvolls process of mapping out how their suppliers work on sustainable development. In addition, creating jobs for locals is of course important for the stakeholders.

Gati also explains that everything in their factory is HSE controlled (health, security, and environment), making for a **safe workplace**. Even though stakeholder may find it good to know that the employees at Slettvoll works in a safe environment, it is of much higher importance for the company that the employees are and feel safe at their place of work. Thus, this is placed as a high priority for the company and their employees, ensuring for their health and safety. Slettvoll will also work more on **communicating information and teaching their employees on sustainability**. A priority that is considered to be high for both the stakeholders and the company. In fact, Slettvoll are currently working on developing a digital e- learning system, which will not only help with the teaching of the employees and making it more practical. It will also save the company 30 – 40 trips a year, having a direct effect on SDG 13, by reducing their CO2 imprint. However, making sure the employees are well informed on sustainability, is good for the stakeholders and important in that the employees can communicate both specific information about the practicalities around the product, but also how it is produced in a sustainable matter. More and more customers are becoming concerned with this, and it is therefore important that the employee knows this information.

Next, for SDG nr 12, responsible consumption and production, having **quality design furniture** is a prioritizing that is very high up for both stakeholders and the company. The fact that the products are made with such high quality, makes them eligible to be used for a very long time, resulting in less consumption. As mentioned in chapter 10, point 10.3, producing high quality furniture contributes to slowing the resource loop. In addition, as mentioned in the service logic step (12.2.1) and in the circular step (12.2.2), there is a potential for the furniture to be rented out, fixed and refurbished, reused and resold, or rebuild and renewed, also called upcycling, see chapter 5 point. 5.4 circulation. Slettvoll have been looking at some of these solutions, working on finding ways that they can contribute to a more responsible consumption and production, closing the loops. Thus, **upcycling** is a prioritizing that is important and high for the company, as well as the stakeholders. They are also working on **optimizing their resource utilization,** which is placed as a high prioritization for the company, and slightly lower for the stakeholders. As mentioned in the circular step (11.2), they are working on finding others that can make use of their surplus resources.

Environmental smart packaging is also placed as a high priority for the company, as well as for the stakeholders. In fact, it is placed higher for the stakeholders. This is due to the increasing amount of plastic and other waste material, that ends up in nature and at sea. companies are experiencing a lot of pressure from society in reducing this kind of waste. Slettvoll is well on their way in planning solutions to reduce waste, see the circulation step (11.2), the pram package. They are also working on using more recycled material in their packaging.

Reducing waste and surplus resources is also placed as a high priority for both stakeholders and the company, for the same reasons as for environmental smart packaging. As mentioned in the circular step, they have already reduced plastic by replacing the bubble wraps and mapped out different packaging that can be return after delivery for reuse. This is good for the stakeholders, with less waste ending up in nature, as well as for the company reducing their costs both with regards to the procurement costs of the packaging, as well as the costs of waste management.

With regards to **environmental certifications** the factory already has "Grønt punkt" certification and they intend to obtain environmental documentations were this is needed. They have started to look at all the components within the factory, and make sure that all the components are purchased legally, that there are no materials that should not be there. They are also working on what kinds of environmental certifications they want for themself, and they have mapped out ISO 14001, an international environment certification. In addition, they have been looking at "Miljøfyrtårn", which is a national environment certification, chapter 5 (5.1) EMS. Most likely, they will start working on the Miljøfyrtårn certificate, and have a goal to do this within the spring and autumn part of 2020. This is placed as equally and of high importance for both stakeholders and the company. Customers can feel safer purchasing products from a company that have these kinds of certifications, because it is a proof that they are operating sustainable. The company can use it in their communication to their stakeholders promoting their sustainable practices.

For climate action nr 13, climate action, Slettvoll wants to **lower their carbon footprint on products, services and processes** and is measuring the CO2 imprint of the company. This is a priority that is very high for the company and for the stakeholders as well. As mentioned in the circular step, with regards to redesigning products and services to prevent negative impacts on externalities, Slettvoll have started calculating EPDs. This will help the company in reducing their CO2 footprint of the furniture. The EPDs will eventually result in the company being able

to find the components that cause the lowest emissions and then they can use these in the designing of new furniture. Gati explained that in the beginning you cannot use it to become more environmentally friendly, but rather to map out your current position. However, gradually as you calculate and launch more products, you can use it actively to develop products that are more environmentally friendly. For example, developing products that consists of more recycled, or short distance materials will give a better score on the EPD. With regards to the GHG emissions being a great issue in the world society, this is of very high importance to both stakeholders and the company. See, chapter 6, and SDG 13.

Slettvoll is also working with an energy company, that is measuring everything in their factory, wanting to become more **energy efficient.** This is closely related to the point above and is also of very high importance. There are different ways of producing energy, resulting in a greater or lesser impact on the environment. Most of the energy sources used in the world today are unfortunately of the most dangerous and is causing the climate on the planet to change. (Naturvernforbundet, 2019)

Low carbon transport is a high prioritization for both stakeholders and the company, however, for Slettvoll it is not of their highest priorities considering they are already sourcing a lot of their components and resources locally. All the Slettvoll stores have either own trucks that they use for transport, or they use an agency. About ten of their stores have small trucks, according to Gati. When these trucks are to be replaced, they will look at the possibility of going over to electric. So far, the range haven't been good enough, but this is constantly improving, and the new electric trucks will have much better range, Gati explains. They also have the possibility to get support from Enova in replacing them. She thinks, they can receive about 55 000 kr for replacing the biggest trucks. However, when it comes to transport of their larger furniture it needs to be considered by their supplier, meaning VD. Slettvoll will not demand this of them, considering they are a smaller local supplier, they cannot demand of them to take on higher costs than what they have the possibility for. But if they were to start using electric trucks, then off course they would want them to be used in delivering Slettvoll furniture.

For nr 15, life on land, having **responsible forest products** is of high priority for Slettvoll, which is why they make sure that all the wood used in their furniture has an FSC certification (Forest Stewardship Council), for example with regards to their bed frames, sofas and chairs, but also teak that they use for outdoor. It is mostly relevant for teak, because it is a protected product, and has been portrayed in the media to some extent, Gati explains. However, all the

teak they use is FSC certified and there is also another certification for teak that is imported from Indonesia and other parts of Asia, were the countries have decided not to use FSC certification, and Slettvoll can vouch for both certificates, and that is off course important. At the same time, they also look at making changes from the product teak for further launches, because even though they have certified teak, it is still a resource from a three that has grown for eighty years then to be chopped down in order to make these tables. Gati said they have been looking at some of their competitors, and how they relate to teak, and they found that there are many environmentalists that also delivers teak. So, for now they think it is ok, but they do have it on their agenda.

It is also about using more **sustainable materials and input factors,** which is highly important for both Slettvoll and their stakeholders. The textiles they receive from Innvik as for example, are produced in a very sustainable matter. Wanting to establish a climate – neutral production line, they secured renewable heating sources, using clean and renewable hydropower in areas of which they can use electric power. In addition, they are working on transferring steam production to bioenergy, and if this goes through Innvik will be climate neutral on all energy and heating (Innvik, 2020d). Also, with regards to the company yarn and production processes they have met the environmental requirements of the Eu Flower and achieved certificates (Innvik, 2020a). The company has a certification with ISO: 14001 having been thoroughly reviewed for their production processes, routines and environmental work (Innvik, 2020b).

Gati also explained with an example of their candles. It is possible to have "Svanemerket" candles, and the difference between a candle that is Svanemerket and one that is not, is that it contains paraffin and other chemicals. This candle, however, only contains stearin, thus it is more environmentally friendly. Currently they have one kind of cube candle that is "Svanemerket" in their collection, but they have not marketed it, nor communicated this well to the stores. In fact, it was a little bit of a surprise when they were mapping out the documentation from their suppliers. So, the next time they are going to change their collection, they will go for more kinds of "Svanemerket" stearin. However, Gati says suppliers also needs to enter the field more, because they cannot get colored candles that is "Svanemerket", due to the coloring containing chemicals.

11.5 Three - dimensional

How can we rig our organization to promote and follow up on our sustainability presentations? How can we measure and communicate presentations internally and externally? Are we able

to capture the business-related consequences of our sustainability improvements? (Jørgensen and Pedersen, 2017, p. 164)

CapSEM – model

A good model to address at this stage is the CapSEM model, see chapter 5 (5.2). As stated by Jørgensen and Pedersen, it is important to measure and monitor progress (Jørgensen and Pedersen, 2018b, p. 153). The CapSEM model provides a systematically way of doing this, including a toolbox of qualitative and quantitative methods for sustainability improvement across the four levels; Process level improvements, Product level and value chain improvements, Organizational level improvements and System level change (Fet and Knudson, 2019, p. 8). *The four – level model can be regarded as the backbone of many roadmaps and standards for strategic and systematic innovation and implementation, and as a foundation for business decisions at different systems levels (Fet and Knudson, 2019, p. 9)* .

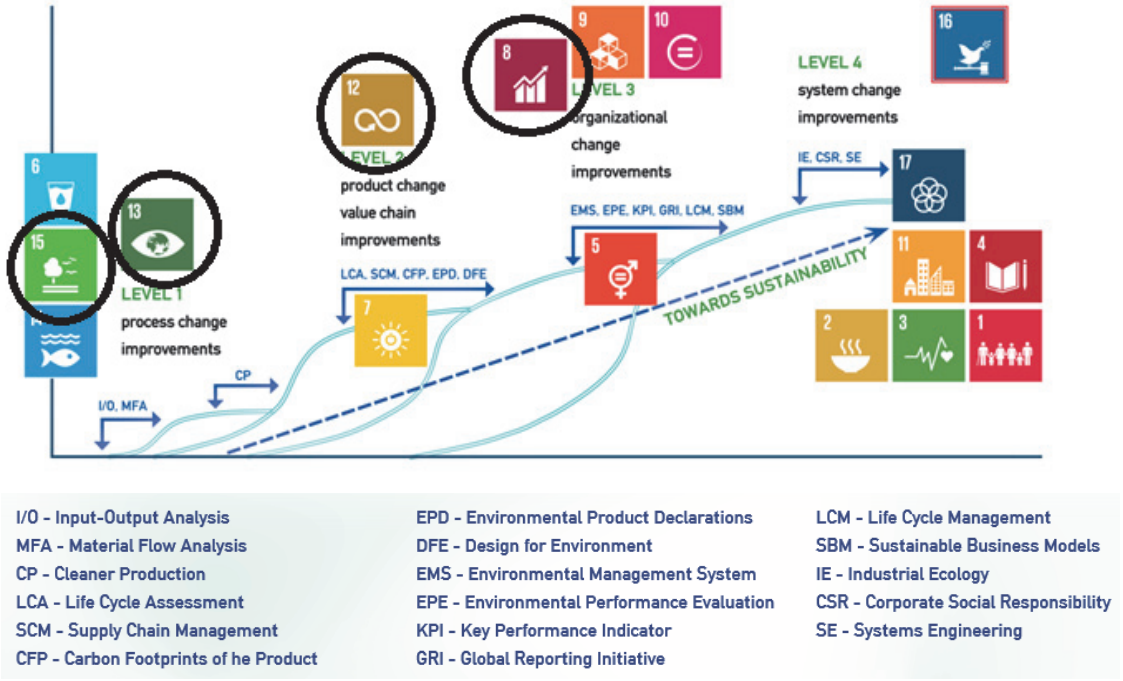


Figure 16: CapSEM- model – illustrating Slettvoll`s stepwise change with the SDGs. (Fet and Knudson, 2019, p. 8; 26)

The goals that Slettvoll focuses on are marked with black circles in figure 16, and they have goals within each of the three first levels. However, it is important to note that the goals placed at the different levels to illustrate areas of improvement, can also be applied to the other levels as well (Fet and Knudson, 2019, p. 27). Below each level will be addressed regarding how slettvoll can use this model and some of the tools to contribute to their sustainable development.

In appendix 14.2 there is a short description of the different tools, and in chapter 5 (5.1) there is an historical review of the development of some of the tools.

Level 1: In the process change level, Slettvoll can use Input/Output analysis, material flow analysis, which are both quantitative tools that will help the company in measuring its progress. The objectives being in relation to the use of resources, energy, the consumption of water, emission and waste (Fet and Knudson, 2019, p. 8). For example, reducing the inputs to and outputs from a process, will contribute in reducing negative impact on soil, nature, water and air, which directly will affect Slettvoll`s SDGs, 13 (climate) and 15 (life on land), as well as the two other biosphere goals SDG 6 (Clean water and sanitation) and 14 (Life below water) (Fet and Knudson, 2019, p. 27). The efforts at this level, are often driven by economic incentives, with better resource efficiency contributing to an economic gain (Fet and Knudson, 2019). The CP principle is about integrating precautionary environmental strategies in processes, products and services (Ometto and Filho, 2007, p. 208). Slettvoll is currently working on reducing waste in their processes for example, having reduced much of their use of plastic and are also working on reducing their use of packaging. CP is basically about source reduction, "getting more from less" (Fet and Knudson, 2019, p. 8).

Level 2: Product change, includes SDG 12 which is about achieving responsible consumption and production, and SDG 7 (affordable and clean energy) (Fet and Knudson, 2019, p. 27). Some of the tools addressed at this level, has as mentioned earlier already been applied by Slettvoll. Specifically, EPDs and Life cycle assessment (LCA) are being used in working on transforming the linear consumption and production models into circular ones (Fet and Knudson, 2019, p. 27). LCA is a tool for mapping out the areas for potential improvement of the sustainability footprint of a product, and it quantifies the material flows from "cradle to grave", the entire life cycle of product. *The results from the analysis are classified into several environmental impact categories, such as global warming potential, acidification potential, and eutrophication potential (Fet and Knudson, 2019, p. 8)*

The LCA can also be applied within Supply chain management (SCM), setting up stream requirements in the supply chain. It can lead to the company becoming more resource and energy efficient, choosing material and components that have less impact on the environment. In addition, the LCA results can be used in documenting the product footprint through EPDs, see appendix 14.4 for some examples of what it contains (Fet and Knudson, 2019, p. 8). For Slettvoll a EPD can for example be used to find components that are more environmentally

friendly. Having gained this knowledge, they can change the component of a furniture to one that causes less impact onto the environment, and in that way achieve a better score on their products EPD. Eventually, they can also use this information in the design of new furniture. If Slettvoll were to publish their EPDs, they may also help businesses in making comparisons and deciding on what furniture they want to buy for their business. Finding the most environmentally friendly furniture for their office space for example.

The LCA can also contribute to quantifying the carbon footprints of the product (CFP) (Fet and Knudson, 2019, p. 8). The CFP measures GHG emissions throughout all company activities, which includes energy used by vehicles, in the buildings, as well as in industrial processes (Awanthi and Navaratne, 2018, p. 730). Finally, the principle of design for the environment (DFE), can be used to create eco – efficient products, with the goal of not having this negatively affect the cost, quality or cause limitations to the schedule (Fiksel and Wapman, 1994, pp. 75-76). This includes designing products with a dismantling principle, and end of life product treatment, separating the material in recycling loops. As in level 1, the tools at this level contributes with quantitative information and an understanding of how to make a shift to more sustainable material and product design (Fet and Knudson, 2019, p. 8).

Level 3: Organizational change**,** SDG 8 (decent work and economic growth) is one of the goals at this level, as well as SDG 9 (industry, innovation and infrastructure), SDG 5 (gender equality) and SDG 10 (reduced inequalitites) *(Fet and Knudson, 2019, p. 27)*. Implementing an Environmental Management System (EMS), is a good way of working on managing the sustainability challenges. Among the common certifications there is the Environmental lighthouse program (Miljøfyrtårn), and ISO 14001 standards. As mentioned earlier Slettvoll have looked at these certifications but are planning to move forward with becoming Miljøfyrtårn certified. This will be discussed further below in a new section. Another possibility is using Environmental Performance Evaluation (EPE), which is used for internal benchmarking (Fet and Knudson, 2019, p. 8). KPI is another quantitative tool that is great to use in measuring and tracking the environmental performance; *Key performance indicators (KPIs) tells management how the organization is performing in their critical success factors and, by monitoring them, management can increase performance dramatically, (Parmenter, 2015, p. 4).* Slettvoll has currently not set specific environmental KPIs, however they are planning to do so soon. Larger companies may use the Global Reporting Initiative (GRI), to have their performance evaluated against international branch standards. Life Cycle Management (LCM) is also an organizational management approach to help the firm's

transformation to a sustainable business model (SBM) (Fet and Knudson, 2019, p. 8). Slettvoll, are actively working on a new sustainable business model (SBM). Also, using the RESTART framework in this thesis provides an example on how to create an SBM. *The transition towards more sustainable solutions and business practices can be achieved by the progression toward sustainable business models through the appropriate application of other Level 1–3 tools, (Fet and Knudson, 2019, p. 27).* These tools within level 3, can make a company become aware of their performance on sustainability, as well as learning how to monitor and present it in accordance to the international systems and standards. (Fet and Knudson, 2019, p. 8)

Level 4: In systematic change, the remaining SDGs are placed. SDG 1, No poverty, SDG 2, Zero hunger, SDG 3, good health and wellbeing and SDG 4, quality education. These are the drivers for systematic change. *Without their fulfilment, systematic change towards sustainability will neither happen or last over time (Fet and Knudson, 2019, p. 27)*. However, the SDGs, 13, 14 and 15 at level 1, would also be applicable at this level, considering they are essential to human existence, representing planetary boundaries and Earth Life support systems. This is also supported by the "wedding cake" model, developed by Johan Rockström and the Stockholm Resilience centre. A model that implies that economic and societies are embedded parts of the biosphere. According to this model all the SDGs are directly or indirectly connected to food, see appendix 14. 11 for an illustration of this model (Stockholm Recilience Centre, 2016),

With the tools at this level facilitating a systematic focus, the tools from level 1- 3 is mainly the environmental aspect of a process, product, value chain or organization. It is in the highest degrees of level 3 and in level 4, that it is important with the incorporation with the stakeholders. Their involvement can be challenging when introducing them to holistic solutions for sustainability, however it is also an essential in achieving sustainable and inclusive growth. The tools at this level is CSR, focusing on the triple bottom line, and is great to use in engaging the stakeholders. In addition, the principles of Industrial Ecology (IE), can be used within system engineering (SE), with a six step methodology: *Identify needs, define requirements, specify performance, analyse and optimize, design, solve and improve, and finally verify and test*. (Fet and Knudson, 2019, p. 9)

Looking at SDG 11 at this level, sustainable city and communities, which includes both living conditions for rural and urban communities, is a great example of the stepwise model. Considering SDG, 6 (Clean water and sanitation), 7 (affordable and clean energy), 8 (decent

work and economic growth) and 9 (Industry, innovation and infrastructure) are all essential for a sustainable city and infrastructure (Fet and Knudson, 2019, p. 27). A good example of this is the United Smart Cities program (Sustainable Development Goals UN, n.d -b). New Ålesund, Giske and Sula is the first region allowed into this program in Norway. Ålesund has been challenged to be the second lab in the development of more sustainable and smart cities. This lab is going to secure smarter and innovative solutions and result in more sustainable life quality for the inhabitants. A smart city/region uses digital technology and innovative methods to obtain more productivity and create better life quality and shared values in the community (nextdigital, n.d). The last goals at the systematic change level, is 17, *partnership of the goals* and 16, *Peace, justice and strong institutions*, are placed at the highest levels, and illustrates that without peace and partnership, *it will be difficult to foster the justice and strong institutions for a sustainable global society (Fet and Knudson, 2019, p. 27)*.

Miljøfyrtårn (Environmental lighthouse program)

With the EPD-s being a way in measuring their product footprint, the Miljøfyrtårn certification, may be a great way in measuring with regards to their overall business. Through this certification businesses gets specific tools to implement environmental improvements that are effective and profitable within areas such as working environment, energy consumption, procurement, and transports. In 2018 a survey conducted by the Environmental Lighthouse Customer Service, revealed that of private companies with the Miljøfyrtårn certification 81% experienced to a large extent environmental improvement. In addition, 52 % experienced reputation improvements, and 40% of the businesses reduced their costs to a large extent (Miljøfyrtårn, n.d-b).

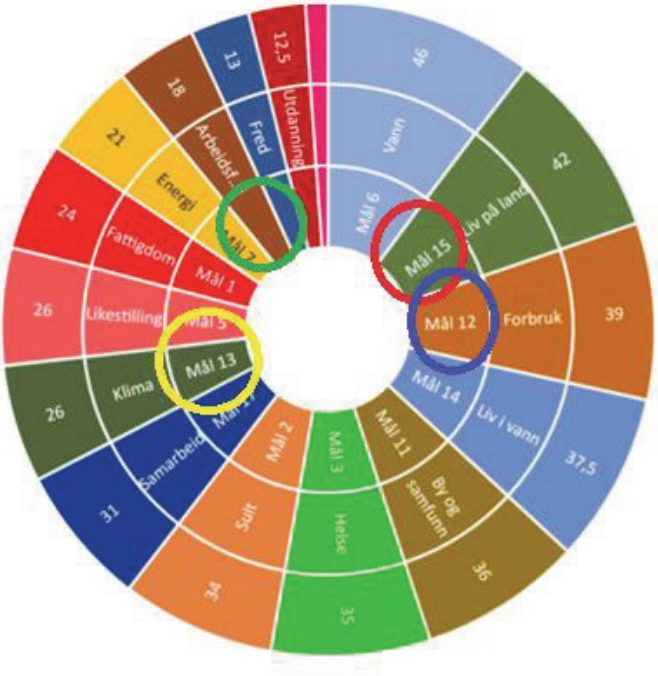


Figure 17: The score for each individual SDG, with a percent goal attainment on a scale from 0 – 100. (Miljøfyrtårn, n.d-d, p. 3)

Miljøfyrtårn had a GAP analysis conducted to see how their certification help build up on the sustainable development goals. The analysis showed that Miljøfyrtårn contributes to all the goals that Slettvoll has chosen to work on, however to different extents. Figure 17 shows the results from the analysis; however, the texting is in Norwegian, thus the different goals have been marked by coloured circles. SDG 15, life on land, marked with a red circle, is a goal which is highly central in this certification. Many of the criteria evolves around different aspects concerning life on land,and helps companies in reducing and preventing negative footprints with regards to their impact on this area, either direct or indirect. SDG 12, responsible consumption and production, marked with the blue circle, comes second after SDG 15 of central areas within this certification. The company needs to implement measures that enhance the environment by addressing water, energy, HSE, consumption, emissions and climate gasses. With the circular economy becoming more and more present, Miljøfyrtårn is working on further developing the certification in according to this direction. SDG 13, Climate action, is represented by the yellow circle. Miljøfyrtårn have tools in place for environmental monitoring, and the companies gets access to their own climate accounts. There are also several criteria's covering the use of natural resources as in SDG 15, like energy and water (Miljøfyrtårn, n.d-b). Finally, SDG 8 in the green circle, decent work and economic growth is one of the goals that Miljøfyrtårn contributes to the least. However, it does concern work environment criteria's which contributes to the decent work park of the SDG. At Miljøfyrtårn you can search for the criteria's within different industries, and in appendix 14.12 the criteria for the furniture industry is presented (Miljøfyrtårn, n.d-c).

Becoming certified with Miljøfyrtårn, is a great way for Slettvoll to measure and see progress of their sustainable initiatives going forward. In addition, when certified they will be making

yearly climate reports, which is a great way of communicating their efforts, both internally and externally. In figure 18, a couple of examples on how the result would be portrayed in a climate report.

Figure 18: Examples from Miljøfyrtårn on how the results can be portrayed. (Miljøfyrtårn, n.d-a)

The climate report can be used to:

- ***Get an overview*** *of the company's environmental performance, CO2 emissions and climate accounting.*
- ***See what effect*** *environmental work has had and whether emissions are reduced.*
- ***Dive into*** *the results and create relevant graphs and reports.*
- ***Find out*** *what works, where the shoe presses, and explore new opportunities for improvement.*
- ***Planning new*** *environmental measures in order to achieve effective environmental improvements and reduced emissions.*
- ***Compare business*** *with the industry - are you better or worse than others?*
- ***Get inspiration*** *for continuous improvement and green growth.*
- ***Showcase the*** *work you do on the website, in the annual report and other relevant channels.*
- ***Increase*** *awareness of the company's environmental impact.*
- ***Engage and motivate*** *colleagues and leadership through common goals.*

(Miljøfyrtårn, n.d-a)

Communication

In January of 2020, Slettvoll held a Theme evening at their store in Ålesund, announcing their commitment to the SDGs, as well as presenting the specific goals they have chosen to work on. This was a good start in their communication out to the public on their work regarding sustainable development. In chapter 3, Slettvoll`s business idea, mission, vision and values are presented. These are an example of something the company can work on as a part in communicating their sustainability efforts. As Saltvedt stated in her interview, a company having a strategy, mission and vision that does not deal with sustainability and how the company affect the environment, will have a problem. Slettvoll are already working hard on their sustainability strategy, with much already being in place, as well as several opportunities. Thus, a great way in communicating this would be to have it implemented in the business idea, mission, vision and values, and further communicate this externally and internally.

Gati explained that a step in their sustainability strategy is to shape a good communication plan. Currently there is little information to be found with regards to Slettvoll and sustainability. However, they want this to be communicated through their homepage, as well as on their furniture. Gati said they have good stories to tell, for example about their suppliers like Innvik, and how they work on sustainability and the use of natural raw materials, like wool and skin. Wool is a natural raw material, and skin is a surplus material from the food industry, which is said to be sustainable, however Gati explained that this is a subject of controversy. They intend to communicate internally and externally and start small projects both in the stores and in the factory, that they will tell about in their marketing. Having a good communication plan is very important for the business. The firm have been mapping the progress they have had to this point and have already found many good things that they can start communicating out to their customers. Internally, Gati states that they have internal channels to the stores. There is a lot of people they need to reach, having 19 stores and about 100 salespeople. They use intranet and SharePoint as communication channels. In addition, they intend to communicate more information about sustainability to their store employees. But mainly, the home page is their focus when communicating this kind of information. With Miljøfyrtårn a company can show their results through the company website, and this is a possibility for Slettvoll if they get certified.

11.6 Experimentation

What features of our business model can we experiment with? How can we implement pilots to make our business model more sustainable? How can we charge in other ways? (Jørgensen and Pedersen, 2017, p. 154)

It is recommended that a company performs controlled experimentations with their business model before having it be rolled out into the market. This to uncover what works, why it works, and to increase the possibility for success. (Jørgensen and Pedersen, 2017, p. 51)

As mentioned earlier one of the possibilities for Slettvoll is the leasing solution, moving them toward a more circular business model. However, this is not a solution without risk, is the marked ready? Are consumers ready to move from owning to leasing, from product to service? what about the financial risks in this?

Thus, if Slettvoll were to go forward with this kind of solution, they need to be strategic in their approach, and not put all the eggs in one basket. To take an example, Slettvoll is not the first furniture company that is looking into these kinds of solutions. Ikea have started their process in transforming into a circular business, offering furniture as a service. According to their 2019 sustainability report they are currently testing these solutions throughout 2020, were they are working towards having even larger scale pilots in the future. Their test markets and focus groups are: the *Netherlands* – Students and their student rooms or small apartments, *Switzerland* – Small businesses for offices, *Poland* – Private landlords, for a small apartment to a single room and finally *Sweden* – also with the focus group being small businesses at an office range. The idea of the concept is for customers to lease the furniture, and if necessary, during the leasing period, they can have the furniture maintained or repaired by the company. When the furniture is returned by the customer it will be made ready for its new home, by having it cleaned and refurbished. The goal is for it to be reused as many times as possible, and when it is gone beyond that point the materials and components will be recycled. (IKEA, 2019, p. 100) In Norway Ikea is currently offering leasing to companies in cooperation with Ikano bank. (Ikea, 2020).

Experimenting in this way does not only reduce the risk, it also gives the company more time to make sure they have everything practical in place, for example storage of the used furniture, and that the logistics works as it should. Starting with small pilots, also makes it easier to go back if something goes wrong and make necessary changes. Considering Ikea is a much larger company then Slettvoll and operating in many countries, Slettvoll cannot perform the exact

same kind of experiment. However, they could do something similar. It is likely they would start by testing out the business market in Norway. It is less risky than the private market, and companies may be more ready for this kind of solution. For the private market however, being within a riskier area, it might be a solution to experiment with pilots in their markets in Sweden or Denmark first. There are three stores in Sweden and one store in Denmark. The risk may also be smaller there, considering customer behaviour towards the circular economy since they are more familiar with the concept.

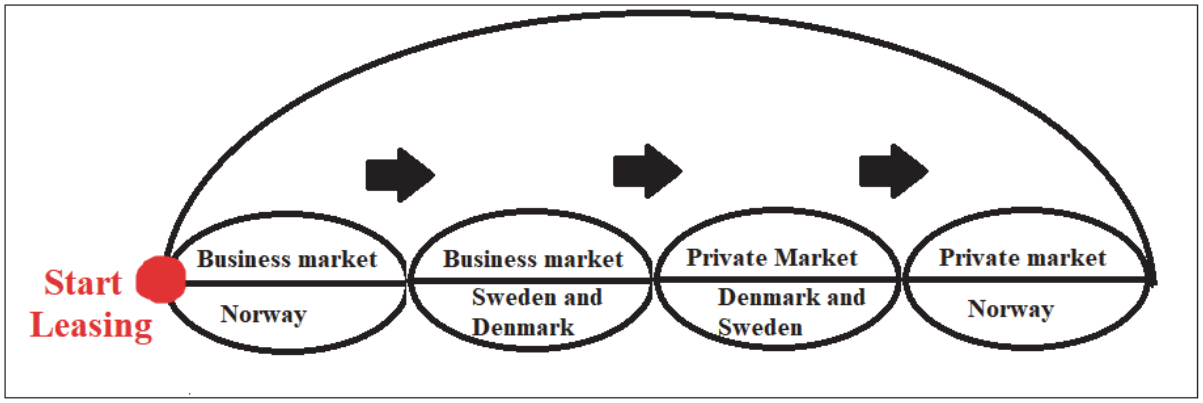


Figure 19: An example on a stepwise experiment process in implementing leasing. Made by the authors of this thesis.

Figure 19 illustrates an example on how Slettvoll can take steps towards fully implementing the leasing solution in all their markets.

Another example based on Slettvoll`s plans for more sustainable practices, is the pram package. This is also something the company should experiment with. Starting by producing a protype and then have it tested for delivery, before producing the necessary amount. Other areas of which the company can experiment is with the service agreement, outlet store, sale of used furniture, CRM system, new partners and so on. As with the leasing example, these are also eligible to be tested out in different markets. A possibility then would be to test the solutions considered to be high risks in their markets in Sweden and Denmark first, while the solutions that are less risky and with more probability for success to be launched first in their biggest market in Norway.

According to Gati, it is also common for companies to test out new things in their flag ship stores. Gina Tricot and H&M for example are both testing out clothes for rent at their stores in Sweden. Gina Tricot is currently experimenting with a pilot with one of their stores in

Gothenburg (Einarsdóttir, 2019), while H&M is testing out the same thing in their flagship store at the Sergels square in Stocholm. However, the idea is for it to be expanded into more stores and countries (Aspeli, 2019). Slettvoll could also do this to test out their new solutions, with their flag ship store being located at Skøyen in Oslo (Slettvoll, 2019). Choosing one store, makes it less comprehensive, easier to evaluate and make changes before further testing it out in new stores and countries.

11.7 Redesign

How can the company integrate sustainability considerations in their value propositions? How can the company deliver its value propositions in a more sustainable way? How can the company charge their customers in other ways? (Jørgensen and Pedersen, 2017, p. 152)

In figure 20, the proposed new sustainable business model for Slettvoll is presented. It is important to point out that this would be an extension of their current business model, chapter 9, figure 12. Having already gone through all the new possibilities and solutions that Slettvoll can have or intend to initiate, this will merely be a summarization on how Slettvoll can create, deliver and capture value in their new sustainable business model.

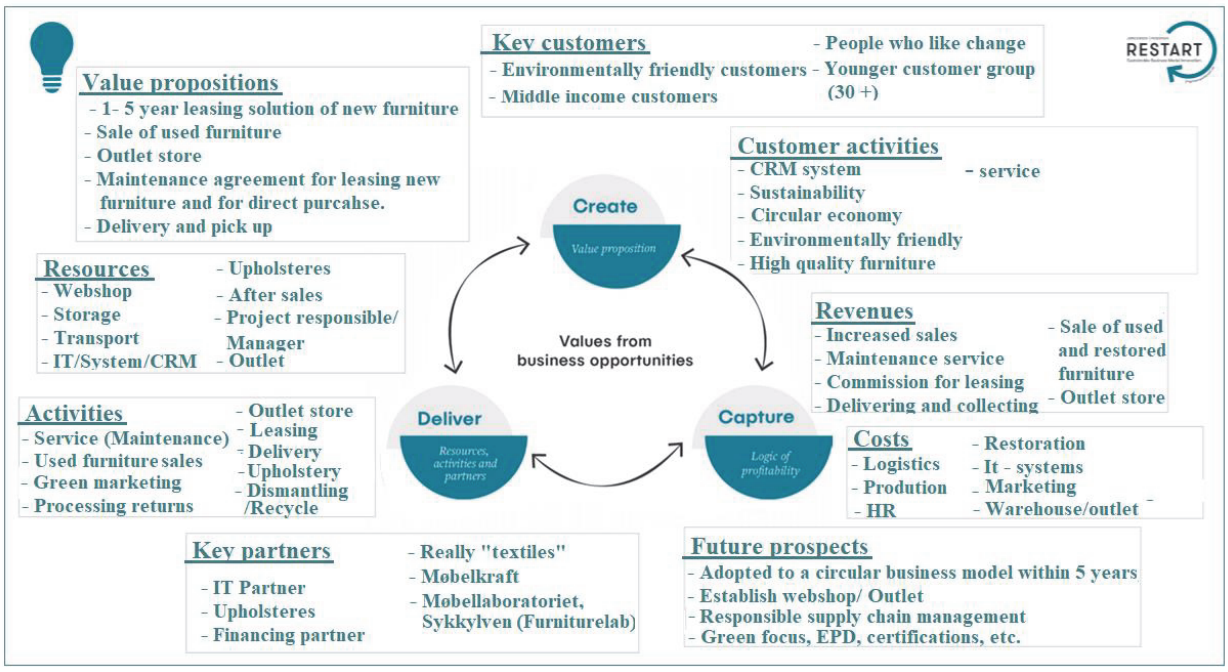


Figure 20: New sustainable business model – made by the authors of this thesis. Canvas from RESTART, (Jørgensen and Pedersen, 2018a, p. 42)

11.7.1 Value creation

For the new value proposition, it is proposed that Slettvoll start leasing out new furniture, experimenting with the business market to start, and working on finding a solution for the private market as well. The furniture that is delivered back to the company after ended leasing time, is then to be sold as used furniture. They may also establish an outlet store that sells used furniture, exhibition furniture or b – goods furniture. In addition, by including a maintenance agreement to the leasing solution, as well for direct purchases, Slettvoll actively prolongs the product lifetime, and makes it more eligible for the furniture to be resold. They would also be offering delivery and pick up for their leasing solutions.

A new Value proposition can be:

At Slettvoll we offer quality design furniture and sustainable and circular leasing solutions for our environmentally friendly customers. Promoting sustainable consumption and production, protecting the environment.

Thus, Slettvoll`s new key customers would be environmentally friendly customers, a customer segment which is growing rapidly. A leasing solution would also make their exclusive furniture more affordable, possibly attracting a younger customer group. If by starting with offering leasing to the business market, it is also likely the company will achieve more B2B customers. Companies purchasing furniture through leasing from Slettvoll, may also add this to their own sustainable marketing of their business, contributing to the circular economy. Finally, this is a solution that may prove to be highly appreciated by the customers that loves to make changes to their homes. People that follow trends and are interested in design, interior and decorations, may now be able to make changes to their homes every 1-5 years, by making use of the leasing solution.

In creating and maintaining the customer relationships they can initiate the CRM system as mentioned in Service logic, 11.1. Connecting more with their customers, giving them tips and notifications on when and how to maintain their furniture, and an overview of their purchasing history. Slettvoll will also work more on communicating their sustainability efforts, something that would be highlighted with a leasing solution, contributing to the circular economy. They also offer furniture that lasts, due to their high quality which contributes to slowing the resource loop. Slettvoll are actively working on reducing waste, using more recycled materials, and becoming more energy efficient. Certifications like Miljøfyrtårn and Grønt Punkt will help them to communicate that they are becoming more environmentally friendly. In addition, next

to offering services like design assistance and tailoring, a new service/maintenance agreement will further contribute to prolonging the lifespan of their furniture. These activities will attract the new key customers through good marketing and information on their company website, promoting their sustainability efforts.

11.7.2 Capturing value

Slettvoll`s new value proposition and key customers may result in the company experiencing increased sales, as well as revenues from their new sustainable services and products. Including the maintenance agreement, commissions from leasing, delivering and collecting, sale of the used furniture, and from their outlet store selling exhibition furniture and b – goods as well.

However, the solutions will also generate costs. With regards to the logistics it will cost more in terms of transport, having to both deliver and return the used furniture. Production may also create costs with regards to an increased sale and the company might need more equipment. In addition, if they are to produce the pram packages there will be an investment cost. In order to deliver on their value proposition they would need more employees within the respected areas, handling leasing, the service agreement, restoring furniture etc, meaning an increased cost within HR. Offering upholstering to customers and restoring used furniture will also generate more costs, as well as the IT systems needed for the leasing solution and the company website. Marketing the new solutions can also become quite costly, and finally costs for a warehouse storing used furniture as well as the outlet store.

For future prospects and considering their possibilities and already started initiatives, Slettvoll should be able to adopt to a circular business model within a 3 -5-year perspective, possibly also earlier than this. This includes their possibilities and plans with regards to leasing, finding new partners, reducing waste, using recycled materials etc. Making changes to their website, establishing a web shop should be done very soon, considering it has become very common for people to shop online. This is something that can be in place within a years' time. The Outlet store however may be established more in parallel with the leasing solution, having the returned furniture offered at their outlet store. Thus, with 1-5-year leasing solutions, the company would be able to resell furniture within a couple of years. Responsible supply chain management would be ongoing, meaning they will collect data from all new suppliers with regards to their sustainability efforts. The same will be applied for their EPDs and certifications, making sure they are constantly working on improvement and measuring their progress.

11.7.3 Delivering value

Slettvoll will also need new partners in delivering their value propositions. They will need to have an IT partner that can help integrate the leasing solution it their systems. Possibly they can establish a cooperation with an upholstering company, rather than hiring it into their own business. They would need a financing partner for the Leasing solution. and as mentioned earlier be forming more partnerships with sustainable businesses like Really, contributing to the circularity of resources. Møbelkraft is already a great partner collaboration for Slettvoll, sharing knowledge and technology like the 3D knitting. Also, a cooperation that shows how companies may experience competitive advantage from being in a furniture cluster, is their possibilities at the furniture lab at Sykkylven. If they can offer standards that all the member companies can take advantage of, the process will be easier and save the individual companies costs.

The new proposed activities that Slettvoll will be delivering are as mentioned earlier service and maintenance, selling used furniture, marketing their green initiatives, processing the returns, operating the outlet store, as a brick and mortar store, as well as online. In addition, offering the leasing solution, delivering and returning furniture, upholstery either implementing it as a section in their factory at Stranda, or as mentioned in key partners, they can form a cooperation with an already established upholstering company. Other important activities will be restoring furniture, as well as dismantling and recycling.

Finally, the resources needed to deliver the value proposition again and again, would be having a web shop, storage/ warehouse, Outlet, transport, IT–systems and CRM. Upholsterers is necessary, as well as employees working on after-sales, handling returns, restoring etc. Considering the complex and comprehensive solutions it would be wise for the company to have specific responsible project managers following and being in control of the processes, making sure everything is going as it should.

11.8 Reorganizing your Business Model

With the new sustainable business model being in place it is time to reorganize and have it implemented in the business. Developing KPIs and incentives, having the different authorities allocated throughout the organization. Basically, making the company ready for a new RESTART. (Jørgensen and Pedersen, 2018a, p. 44)

12. Discussion

This chapter is a summarization and discussion of the findings and results of our overall objective, based on our three research questions. The discussion will start by addressing the findings and results within each individual research question, and how these findings solve our overall research objective. In addition, we will discuss our process and use of literature and methodology. The final section of this discussion will be addressing the strengths and weaknesses of our research.

How to implement and operationalize the SDGs to attain sustainable practices within the industries business models

12.1 Research questions and research objective

The RESTART framework was used in this research to explain how a company can transition their business model to include sustainability, resulting in a Sustainable business model (SBM) (Jørgensen and Pedersen, 2017). The SDGs were then incorporated into this framework because the framework itself does not actually address the SDGs within the different steps. Thus, even though RESTART is a great framework for companies to use in working towards a more sustainable business model, there are also other models and frameworks that can be used in this process. The SDG Compass for example, is great framework that gives an overview in how to integrate the SDGs into the business in five different steps (SDGcompass, 2015). In addition, as shown in chapter 11 (11.5), when companies are to implement their new solutions, they also need to measure their progression. Using the CapSEM model is great way of doing this in as systematic way, presenting the SDGs as well as different quantitative and qualitative tools (Fet and Knudson, 2019) .

Thus, in our discussing we will elaborate more on these different models and frameworks, as well as how they contribute to solving our research questions. However, as Pedersen mentioned in his interview, he is cautious about using the one size fits all kind of solutions. Having studied only one furniture company for this research, using them as an example, their way of doing things might not be the right way for everyone. In addition, there is no rule saying you can only choose one kind of framework or model, different aspects from different models and frameworks can be used to link together the perfect solution for a company to work upon.

Q1 – *How can a company use the SDGs in their transition to a more sustainable practice? How will this influence their business model*?

The first step in the SDG compass, *understanding the SDGs,* is very important (SDGcompass, 2015, p. 6). The company needs to get familiarized with the SDGs and why these are important and beneficial for the company, as well as their stakeholders, see chapter 5, (5.5), step 1. In chapter 6, the four SDGs that Slettvoll focuses on, are presented. This to show why the changes are needed. It is important for the company to know this when working on identifying the areas of which they can find solutions that can contribute to the achievements of the goals.

Slettvoll provided us with a good example on how they worked on this, putting together a workshop with internal participants. They went through all the SDGs and mapped out the company's areas of impact throughout the value chain. An important process, that resulted in the four SDGs they decided to focus on. An especially important thing that Slettvoll did, was to focus on choosing the SDGs where they can make an actual difference, where there is a great potential for improvements. Companies might be tempted to focus on the SDGs of which they are already doing good, however, it is likely that this will not work out in the long run.

As Saltvedt stated in her interview a company would have a major explanation problem in the long run, if they do not take sustainability seriously. The financial institutions are becoming much more demanding, and a company can be sustainable in many ways, however, if they do not deliver on the sustainability goals and polices that the bank requires, then that is a problem. The company may face worse conditions on their finances, as well as losing investors, and in worst case scenario, if there is no change, the company might not make it all. However, Saltvedt explains that as a bank they are quite forthcoming, wanting to help the companies and influence them in making the necessary changes. In a way, you might say that with sustainability even becoming a score calculated by financial institutions and considered in the same way as with credit ratings, there are certain prioritizations that just about every company would need to address. For example, responsible supply chain management. As Gati informed us, it was the very first thing they got started with. Contacting all their suppliers, getting to know more about their sustainability efforts, as well as getting it documented. With responsible supply chain management, a company can avoid situations as with the clothing company of which Saltvedt mentioned in her interview. It is also work that contributes to SDG 8, with regards to, decent work.

The rethink face of the RESTART model, including *service logic, moving from linear to circular,* and *alliances*, are great areas to look at when identifying opportunities to increase their positive impact or reduce their negative impact. After having identified these areas throughout their value chain it is important to decide what areas to prioritize. This is the *Result* step of the RESTART framework (Jørgensen and Pedersen, 2018a, p. 18), it is also the second step in SDG compass, *defining priorities,* (SDGcompass, 2015). Thus, at this stage in the RESTART framework of Slettvoll, we decided to incorporate the SDGs within the materiality assessment of the results, chapter 11 (11.4). Pedersen referred to the Harvard study, indicating that companies making strategically, and strict prioritizations are the most likely to succeed in achieving profitability. The materiality assessment made for Slettvoll is as mentioned earlier not made by or with Slettvoll, however, an example made from the information we gained from the interviews and conversations we made with our contact. It was made to illustrate the connection between the company prioritizations and the goals they have decided to work on. However, as stated in SDG compass (SDGcompass, 2015, p. 13), it is also recommended that the company includes external stakeholders in this process, expressing their views and concerns, which is valuable insight for the company. Slettvoll have as mentioned conducted an internal workshop, however being in an early stage of their work towards a new sustainable business model, evolving the stakeholders might also be in their plans moving forward.

However, as the results presented in chapter 11 shows, there are also several challenges and risks a company may encounter in the process of implementing the solutions. In Slettvoll`s case they have a great starting point, considering that they are already in many ways operating in a sustainable matter. As addressed in chapter 9, having great quality furniture, and with much of their production being in Norway, as well as sourcing great amounts of their components and finished furniture goods from local suppliers. However, they also have areas for improvements. As mentioned within the negative externalities (9.2), there is great potential in moving towards a more circular business model and become more resource - and energy efficient. As discussed in chapter 11, and in our interviews, there are areas of which might be difficult to succeed with. For example, leasing furniture to private customers, with there actually not being any clear solution with financial institutions. In addition, there is the risk of whether customers are even ready for this kind of solutions. Ikea is experimenting with this now, however so far there is no information to be found on their progress. Regardless of these challenges and risks, Slettvoll has, as chapter 9 shows, a good base in moving forward with several of the possible solutions presented in chapter 11. And the changes that they have already initiated are great contributions

to their SDGs, as well as a good start in the process of developing a new sustainable business model.

Thus, new sustainability efforts, their plans going forward, as well as opportunities identified during this thesis process, will influence their business model in a way that can lead to a more circular and sustainable business model. In fact, with the possible solutions identified, in addition to the solutions they have already initiated or are planning to, they will move within several of the five circular business models presented in chapter 6, point 6.2. Also see, appendix 14.9 (Accenture, 2014, pp. 13-14). For example, within *product as a service.* As proposed as a possibility for Slettvoll, leasing, would move from the typical "buy and own" to a "pay for use" solution, shifting from volume to performance. Product as a service can be an opportunity for Slettvoll, possibly resulting in increased revenues and reduced costs (Accenture, 2014, p. 13). This will also create opportunities within *product life extension.* As mentioned in chapter 11, along with a leasing solution, the company could also offer services such as making repairs, upholstering and maintenance agreements, expanding the lifespan of the furniture. In addition, by taking back used furniture from leasing or in other ways, they can clean and make necessary repairs, so that the furniture can be resold again. If not repairable the components can be used as parts or in production of new furniture (Accenture, 2014, p. 14). *Recovery and recycling,* is also a circular business model that Slettvoll can have opportunities in, e.g by the textile solutions with Really, an industrial symbiosis is where one industries waste can be utilized by another (Accenture, 2014, p. 13). As mentioned in chapter 11 (11.3), we expect to see far more opportunities within the years to come due to the circular economy.

These kinds of solutions would also have a significant effect in the achievement of SDG 12, responsible consumption and production, as well as the SGD, 13 and 15 with regards to reducing the use of resources and SDG 8 in contributing to sustainable economic growth.

Q2 - *How to measure and track progress of the environmental performances?*

With the, *defining priorities*, step in the SDG compass, being similar to the *Result* part of the RESTART framework. The next step in the SDG compass, *setting goals*, are in many ways alike the, *Three- dimensionality*, of the RESTART framework. As can be seen by our results in chapter 11 (11,5), the CapSEM model have also been used at this stage to give an strategic overview of a toolbox of quantitative and qualitative methods (Fet and Knudson, 2019, p. 8).

Another and quite new and interesting tool that can be used in this process is the SDG Action manager, see chapter 5 (5.5.1) (UN Global compact, n.d-b).

To start within *three – dimensionality* we also included the CapSEM model to show how Slettvoll can make use of several different tools to measure their progress in four different steps. They are already using some of these tools, for example in level 2, *product change*. To make EPDs they have conducted LCA to use in the input of the EPD. The LCA also quantifies the material flows through the entire life cycle of a product, which also means they are using the MFA as a tool in level 1, *process change*, to some extent as well. Further in level 3, organizational change, they are working on their new sustainable business model, as well as for measuring and tracking progress, they are planning to get certified with Miljøfyrtårn an EMS, which provides several quantifiable ways in measuring their improvements. In addition, making climate reports through Miljøfyrtårn, can also be used to communicate their sustainable progress. Slettvoll has currently not started making environmental KPIs, however this is something they are planning to start with. Thus, to achieve an SBM, Slettvoll are already using or planning to use appropriate tools from level 1-3. These tools also then contributing to the achievement of the four SDGs that they have decided to work on. In level 4, *systematic change*, it is as important to incorporate the stakeholders. A tool the company can make use of by engaging their stakeholders at this level, is the CSR which embraces the triple bottom line (Fet and Knudson, 2019, p. 9). As mentioned in chapter 5 (5.1), CSR has become an integral part of SD, World Business Council for sustainable development (2000, as quoted in Behringer and Szegedi, 2016, pp. 21-22).

The CapSEM model is a great model for companies to use in measuring and tracing the progress of the environmental performance. It is also essential, for the company to be able to communicate their efforts. How to communicate their progress internally and externally is an important aspect of the *three- dimensionalities* in the RESTART framework (Jørgensen and Pedersen, 2017, p. 164). In addition, in the SDG compass, *setting goals*, it is recommended that the company should announce their commitments to the goals, (SDGcompass, 2015, p. 20), and the final step of the SDG compass, *reporting and communicating*, is about complying to the stakeholders demand for information (SDGcompass, 2015). Slettvoll have already announced their commitments to their goals publicly, at their Theme evening in January. However, being at an early stage of the process, they have not gotten far with the measuring of their progress. Besides developing EPDs they still need to get their Miljøfyrtårn certification in place, as well as setting specific environmental KPIs. Thus, at this stage they do not have a lot to communicate

and report, however, they are working hard to get there. Eventually, they can communicate their achievements through their website, formal reports, events, social media, advertising, as well as labelling their products (SDGcompass, 2015, p. 26).

Another tool that can help in measuring the progress on the SDGs, is one that was developed quite recently. After having seen the SDG action manager, through video on their website (UN global compact, n.d-c), we find this to be an excellent tool for companies to use in making stepwise analysis, activities, evaluation, and tracking their improvement on the SDGs (UN Global compact, n.d-b). The tool is basically helping the company through the steps of the SDG compass, and we would recommend Slettvoll and other companies to test this tool.

However, as have been identified in this process, and through all our interviews. The measuring of sustainable progress may be challenging. As Pedersen mentioned in his interview (chapter 10), many companies are starting in the wrong end, using sustainability reports before becoming aware of how to prioritize and operationalize. Ending up with many companies reporting on the same things. In some ways this can be good, however, it does not capture the differences between the industries. Because what is important to measure by a furniture company like Slettvoll, and based on their impact areas, will not be the same as for a fish farmer for example. Thus, even though measuring and reporting on the same things is good, the different industries also needs to look at measuring the areas of which they have the most impact on the environment. Meaning some companies may even have to develop their own ways of measuring. Saltvedt was interviewed from a financial aspect and as a financial institution have other challenges related to this. With regards to making sustainability scores, there is not a fixed way of doing this. A company may get different scores from different credit rating companies, measuring on different things. However, she mentioned the EU taxonomy is in development, a framework that defines what is green and sustainable, and reducing the risk of green washing. There are many ways a company can measure and track progress of their environmental performance. However, it seems that their still might be a struggle for some companies to find the right way of going forward with this. It is important that they become aware of what they need to prioritize, before finding the proper measures. Methods and tools from the CapSEM model and the SDG action manager for example, are highly recommended for the companies to get at a good start in measuring and tracking their progress.

Q3 – *How can the SDGs be operationalized in the company's business model to lead to more responsible production and consumption?*

Our final research questions can be answered by the final phases of the RESTART framework, *reinvent,* which includes the *experimenting* and *redesign* of the new sustainable business model(Jørgensen and Pedersen, 2018a, p. 33), and the final phase, *reorganising your business model (Jørgensen and Pedersen, 2018a, p. 44).* In the SDG compass this would be involve the last steps, 4 *integrating* and 5 *reporting and communicating*. However, how the SDGs can be operationalized in the company`s business model is also partly answered within research question 2 and 1. As Pedersen mentioned a company should start the operationalization process by making prioritizations and further measure their progress. Because it is important to implement measures and track progress when operationalizing the SDGs into the business model, as well as for being able to communicate this progress both internally and externally. Thus, the *result and three-dimensionality* in RESTART, and the CapSEM model is also therefore applicable in the solution to this question.

However, with this being elaborated in Q1 and Q2, this section will discuss the final stages of RESTART and the SDG compass. First, before redesigning the business model, the company should perform controlled experiments with their new business model, before having it rolled out to the market (Jørgensen and Pedersen, 2017, p. 51). As have been identified during this research process, there is a risk in going forward with the more circular and service logic solution like leasing, because we do not really know for sure if the market is even ready for it. Thus, it would be wise to experiment with this before moving forward. As mentioned in chapter 11 (11.6), Ikea is doing this, testing it out in different markets and customers segments. Considering, that Norway are still at the early stages within a circular economy, experimenting would help the company figure out if the market is ready, or if they should wait it out a while longer. Nevertheless, from our research in looking at the progress of circular economy in the EU, chapter 7, and in Norway as well, chapter 8, change is on its way. In Norway it is clear that the government are becoming more focused on the green shift and moving towards a circular economy, with the green deal package presented in June and a circular strategy on its way in December of this year (2020), Thus, we expect to see a lot more solutions like leasing or renting in the near future.

Moving forward after experimenting, the company is ready to redesign their business model, as the example in chapter 11 (11.7), and further *reorganizing the business model (11.8).* In the

SDG compass and the *integrating step*, when the company have established their KPIs for each of their priorities, they need to address their goals by integrating sustainability into the business and implement targets across their functions (SDGcompass, 2015, p. 21). To thoroughly anchor the sustainability into the business it is important that it is well communicated throughout the organization(SDGcompass, 2015, p. 22). Slettvoll for example, are working on this, making sure that their employees are well informed about their new goals for a sustainable business. One thing they can do when moving forward in this process is to embed sustainability, within their business idea, mission, vision, and values. According to SDG compass, it is also beneficial for the company to have the SDG be an integrated part in the company's strategic, financial and operational goals. SDG compass provides two principles to anchoring the goals to the organization, with the first being to make sure the company has a shared understanding in how the goals results in value for the company, and second integrating the goals in performance reviews, remuneration schemes, and using incentives suited for the role an individual has in achieving the goal, see chapter 5 (5.5) (SDGcompass, 2015, p. 22).

Together with the process of using the SDGs to transition into a more sustainable practice (Q1), choosing quantitative and qualitative tools to track and measure progress (Q2) and finally operationalizing the SDGs into the business model, will lead to a more sustainable production and consumption (Q3).

13. Conclusion

This research aimed to identify how to implement and operationalize the SDGs to attain sustainable practices within the industries busines models. The field of study; sustainable development is broad and complex. The growing awareness of environmental, social and economic performance has contributed to several initiatives, activities and actions worldwide. Our findings indicate that the integration of sustainable business models and responsible CSR contributes to a more responsible behaviour and increased sustainability.

We have applied a qualitative approach to solve our research questions. The results of our research process conclude that more competence and knowledge is required within several areas of our research topic. We have been leaning to the RESTART framework as a process tool and a new way of thinking in the transmission to adopt more circular and sustainable business models. If a company is going to implement new solutions, they will also need quantitative models to measure and track progression. A systematically process conducted by applying the CapSEM- model visualises the tools and stepwise process. In our opinion, this model is highly recommendable to use, as we have experienced in our work with the master thesis. Even though we have not been conducting any quantitative analysis, we have identified challenges within the industry in how to measure and track their environmental performance and sustainable progress towards the SDGs. Our recommendation is to apply e.g. the SDG-compass as a process tool in further research within sustainable development.

The field of study is changing rapidly, as we experienced through this semester while conducting the research. It has been an interesting and challenging journey to study and work within the field of sustainability in this master thesis. And we must say that the knowledge and skills to understand the link between our research topic and the tools and models available and related in the process was gained at the very final stage of the research.

14. Appendix

14.1 A historical overview of events within sustainable development

Year	Historical Events
1972	The United Nations Conference on the Human Environment (also known as the Stockholm Conference). Focus: The duties of the states: responsible conduct by individuals, communities and enterprises were referenced. (Sustainable Development Goals UN, n.d-h)
1987	Report of the world Commission on Environment and Development: Our Common Future. UN World Commission on Environment and Development. Focus: Private business responsibility, small and large MNEs. (Environment & Society, n.d)
1992	United Nations Conference on Environment and Development (UNCED), Earth Summit (Rio de Janeiro). Focus: The role of major groups, business and industry, transnational corporations, small and large enterprises role in sustainable development, United Nations Sustainable Development (1992, as quoted in Behringer and Szegedi, 2016, p. 16)
1994	BPOA (1994) - Barbados Programme of Action (Barbados) Focus: The principles and commitments to sustainable development in Agenda 21 was reaffirmed and translated into policies, actions and measures at national, regional and international levels, the Barbados declaration was adopted. (Sustainable Development Goals UN, n.d-a)
1997	General Assembly special session to review implementation of Agenda 21 (New York) Focus: CSR and involvement within large corporations-> promote sustainable technologies and sustainable consumption, United Nations General A., (1997, as quoted in Behringer and Szegedi, 2016, p. 16)
2002	World Summit on Sustainable Development (WSSD), Johannesburg Summit (South Africa) Focus: The conference brought a huge amount of participants, heads of State and Government, leaders and delegates from non-governmental organizations (NGOs), businesses and other large groups together to focus on the world challenges, conservation of the natural resources, a growing population and improvement of people's lives was the overall agenda. (Sustainable Development Goals UN, n.d-i)Focus: Collective responsibility, CSR and the need of accountability. (Sustainable Development Goals UN, n.d-i)
2012	The United Nations Conference on Sustainable Development - or Rio+20 (Rio de Janeiro) Focus: The "Future we want". Focused on a political outcome document with clear and practical measures for implementing the sustainable development and launched a process of developing a set of SDGs. Adoption of green economy policies and strengthening the UNEP program and a high level political forum for sustainable development.(Sustainable Development Goals UN, n.d-g)
2015	United Nations Sustainable Development Summit (New York) *Transforming Our World for People and Planet* Focus: Sustainable development and SDGs achievement -> Contributions of the business sector. (Sustainable Development Goals UN, 2015)
2020	EU Circular Economy Action Plan Focus: A new Circular Economy Action Plan for a cleaner and more competitive Europa. (European Commission, n.d-b)

Figure 21:Historical events in Sustainable Development. Inspired by (Behringer and Szegedi, 2016, p. 16)

14.2 Tools in the CapSEM - model

Tools	Description
I/O	**Input/Output Analysis** An input/ output analysis is a system consistent of linear equations, that describes the allocation of an industry`s product throughout the economy. Miller and Blair (1985, as quoted in Miller and Blair, 2009, p. 1) The information used in an I/O analysis includes the product flow from the individual industrial sector (producers), to each sector (consumers). (Miller and Blair, 2009, p. 2) **LEVEL- 1 CapSEM**
MFA	**Material Flow Analysis** Material Flow analysis is a method that is good to use in assessing the environmental change and sustainable development, specifically regarding making improvements in material flow efficiency. A flow chart of the materials can make assessing sustainable development results; *comprehensive, comparable and verifiable by (1) providing systematic information and indicators for SD assessment, (2) identifying critical pathways, links and key substances in the anthroposphere, and (3) allowing the dynamic interaction between material flow and social, economic and/or environmental processes to be analyzed (Huang et al., 2012, p. 104).* **LEVEL- 1 CapSEM**
CP	**Cleaner production** Cleaner production is a tool used in integrating precautionary environmental strategies in processes, products, and services to reduce risks socially and environmentally. It applies to: *Production processes* – keeping raw material and energy while diminishing harmful/toxic materials and reducing the amount of emissions, waste, and toxics. Secondly, within *products* – having negative impacts reduced through the life cycle of a product, from the extraction of raw materials to the ultimately disposal. Finally, *services* - The environmentally concerns being incorporated in the design and delivery services. (Ometto and Filho, 2007, p. 208) **LEVEL - 1 CapSEM**
LCA	**Life Cycle Assessment** An LCA is an approach for assessing industrial systems by environmental accounting and management. It is a technique that looks at the environmental aspects and the potential impacts with regards to a product, process, or service. The phases of the LCA are: • *appropriately selecting a functional unit* • *clearly defining the goal and scope of the study*

	• compiling an inventory of relevant energy and material inputs and environmental releases • evaluating the potential environmental impacts associated with identified inputs and releases • interpreting the results to help decision makers make a more informed decision (Curran, 2008, pp. 2168 - 2170) **LEVEL - 2 CapSEM**
SCM	**Supply Chain Management** From the point of origin to the point of consumption, SCM covers the movement and storage of raw materials, in process inventory and finished goods. These value chain activities may have impacts on the environment and the social arena. Transport for example, may lead to pollution and congestion. Thus, SCM should move towards more sustainable practises. For example, the impacts can be reduced by thoroughly packing the trucks more compactly. Thus, sustainable practices initiated within SCM, will create a more sustainable supply chain. (Cetinkaya *et al.*, 2011, p. 3) **LEVEL – 2 CapSEM**
CFP	**Carbon Footprints of the Product** CFP can be defined as *"a measurement of the total GHG emissions caused directly and indirectly by an individual, an organization, event or product and is expressed as a carbon dioxide equivalent (CO2e)"* Gao, T., Liu, Q. and Wang, J., 2014, (2014, as qauted in Awanthi and Navaratne, 2018, p. 730). Within an organization the carbon footprint measures GHG emissions throughout all company activities. This includes the energy used by the vehicles of the company, within their buildings and in the industrial processes. In addition to the organizations total GHG impact being quantified using a CFP analysis, it also gives a comprehensive GHG inventory, that the company can use in identifying and to decide on reduction targets from their major emission sources. (Awanthi and Navaratne, 2018, p. 730) **LEVEL – 2 CapSEM**
EPD	**Environmental Product Declaration** EPD is a document that sums up a product, service, or components environmental profile. It is a standardized and concise document, which is used in both Norwegian and International context. ISO standard 14025 Environmental Labels and Declarations Type III consists of the requirements in creating an EPD (epd-norge, n.d). ISO 14025 states the following goals: (1) To communicate information objectively and transparently on the environmental aspects of products according to the life cycle stages of a product (i.e. based on LCA). (2) Allow purchasers and/or users to make a fair comparison of the environmental performance of products within a life cycle perspective. (3) They encourage improvement of environmental performance. According to ISO 14025 an EPD (Type III) needs to include: (1) A description of the product and the manufacturer. (2) Information from the company, the LCA

	practitioner, verifier, program operator and certification body. (3) The environmental performance of the product over the included life cycle stages (Ecomatters, n.d). The purpose of an EPD is to provide the customer with the possibility in comparing environmental profiles and make choices based on the assessments of the environmental declaration. (epd-norge, n.d) **LEVEL 2 – CapSEM**
DFE	**Design For Environment** The DFE goal is to create eco – efficient products without having it negatively affect the cost, quality or causing limitation to the schedule. Eco – efficient products may minimize adverse environmental impacts, as well as maximizing valuable resources throughout their life cycle. In order for DFE to be integrated into a new product development process, the following key elements are required: (1) *Eco-efficiency metrics, driven by fundamental customer needs or corporate goals, to support environmental performance measurement. (2) Eco-efficient design practices, based on in-depth understanding of relevant technologies, implemented during the early stages of development. (3) Eco-efficiency analysis methods to assess proposed designs with respect to the above metrics and to analyse cost and quality trade-offs. (Fiksel and Wapman, 1994, pp. 75-76)* **LEVEL 2 – CapSEM**
EMS	**Environmental Management System** International Organization for Standardization (ISO) defines EMS as that *"part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy"* ISO, (1996, as quoted in Workshop on Environmental Management and Iso, 1999, p. 1). ISO 14001 consists of the requirements needed to be fulfilled by the company to become EMS registered or certified to the standard. (Workshop on Environmental Management and Iso, 1999, p. 1) **LEVEL 3 – CapSEM**
EPE	**Environmental Performance Evaluation** The ISO standard 14031 and the EPE is "*an internal process and management tool designed to provide management with reliable and verifiable information on an ongoing basis to determine whether an organization's environ-mental performance is meeting the criteria set by the management of the organization"*. (Jasch, 2000, p. 79). Having an environmental management system in place, a company may use the EPE in assessing their environmental policies, objectives and targets, as well as other criteria's of environmental performance. Organizations without environmental management systems,

	may rather use the EPE as a tool to identify their environmental aspects, deciding upon which aspects they will treat as important, and then evaluate the environmental performance against these criteria's. (Jasch, 2000, pp. 79-80) **LEVEL 3 – CapSEM**
KPI	**Key Performance Indicators** Key performance indicators provide managers with information on how their company is performing on their critical success factors. The management can increase their performance quite drastically by using the KPIs and monitor their performance. The KPIs are the indicators that are critical for the current and future success of an organization. (Parmenter, 2015, pp. 4-8) KPIs should be non-financial, timely, be frequently measured, acted upon by CEO and the management team, be simple, team based, have a significant impact, and limit the dark side (Parmenter, 2015, p. 12). **LEVEL 3 – CapSEM**
GRI	**Global Reporting Initiative** The Global Reporting Initiative is an international organization that *"helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being" (Globalreporting GRI, n.d)*. Over the past 20 years the GRI have developed reporting standards which have been and are made available as a public good for free. These standards represent best practice in reporting on economic, social and environmental issues. (Globalreporting GRI, n.d) **LEVEL 3 – CapSEM**
LCM	**Life Cycle Management** The LCM is an approach that can be used to improve the sustainability performance in any kind of business. The purpose is to ensure sustainable value chain management, by using targets, organizing, analyzing, and managing information and activities related to the product, making continuing improvements along the product life cycle. Remmen et al. (as quoted in Life Cycle Initiative, n.d). **LEVEL 3 – CapSEM**
SBM	**Sustainable Business Models** Sustainable business models (SBM) incorporates the triple bottom line. (Bocken *et al.*, 2014, p. 42). A SBM is about creating a durable and harmonic interaction between economy, society and the environment (Jørgensen and Pedersen, 2017, p. 20). It drives and implements innovation for sustainability, embeds it in the purpose and processes of the business and can be a key driver in achieving competitive advantage. SBMs takes stakeholders interest in

	consideration, including the environment and society. (Bocken *et al.*, 2014, p. p.42) **Level 3- CapSEM**
IE	**Industrial Ecology** Within Industrial Ecology there are different methods, framework and approaches designed to transform industrial systems to just about closed – loop industrial ecosystems (Li, 2017, p. 11). It is a field of study that also includes Industrial Symbiosis (IS). IE and IS contributes to environmental sustainability. (Li, 2017, p. 2) In the book , *Industrial Ecology and Industry Symbiosis for environmental sustainability*, 2017 Xiaohong Li defines IE as; *Industrial Ecology (IE) is an interdisciplinary study field containing interrelated study areas of industrial ecosystem, industrial symbiosis (IS), industrial metabolism (IM) and legislation and regulations for IE development and applications. IE embraces and develops different approaches, both technical and managerial, to design industrial ecosystems and to transform industrial systems to industrial ecosystems, through mimicking suitable features of biological ecosystems. IE aims to develop nearly closed-loop industrial ecosystems, which are balanced, diverse and gradually changing in feature, in terms of material exchanges and energy cascading. (Li, 2017, pp. 34-35)* **Level 4 - CapSEM**
CSR	**Corporate Social Responsibility** Companies can use Corporate Social Responsibility for philanthropic activities; however, it can also be a tool. The ISO defines CSR as; *"the social responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to sustainable development, including health and the welfare of society; [it] takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behaviour; and is integrated throughout the organization and practiced in its relationships." ISO (2010, as quoted in Braun, 2019, p. 17)* **Level 4 - CapSEM**
SE	**System Engineering** System Engineering is about managing, analysing and building systems such as electrical, biological, chemical or business processes (Boston University, n.d). Sustainable System Engineering considers and looks at the interaction between technical, ecological, social, and economic systems. It is about avoiding moving problems from one area to another (UNSW, n.d). **Level 4 – CapSEM**

Table 4: Tools presented by the CapSEM – model. Short descriptions

14.3 Interview- Financial Aspects, Thina Saltvedt

Chief analyst of sustainable finance at Nordea, Thina Saltvedt, provided us with information on sustainable finance, how their financial institution is working on sustainability and how they intend to influence companies now and in the future. In addition, challenges, and opportunities with regards to sustainable development in companies was addressed.

"In 2014, when the oil price crashed, I worked as an oil analyst and had extremely much to do. And it is exciting be an analyst when there is a lot happening. But last year, I actually had more to do, talking about sustainability and climate risk. This says a little about how the demand for competence building within sustainable development in businesses has gone straight through the roof".

Thina Saltvedt, 2020

Saltvedt informed us that Nordea have been working with sustainable investments for a long time, approximately 10 – 15 years, and they signed the principles for responsible investments already in 2007. This is six principles developed by an international group of investors and offers possible actions in incorporating environmental, social and corporate governance (ESG) issues into the practices for investment (PRI, n.d). However, a couple of years ago they established a new department in Nordea for sustainable finance, of which she was a part of building. They are working on educating companies with regards to sustainability and the climate risk, telling them that this is happening. The financial market is changing, companies will be scored on how they deliver on sustainability, affecting their conditions for access to new loans, or the price of loans for example. A big journey, but incredible exciting, Saltvedt states.

On the importance of companies developing more sustainable practices in their business models for the years to come, she thinks they have no choice. Only in the last couple of years the attention around sustainability have increased, with the impact on climate possible being discussed the most. According to Saltvedt, a company would have a major explanation problem in the long run, if they do not take this inn seriously. A company having a strategy, mission and vision that does not deal with sustainability, or how the company affect the environment, negatively or positively, she thinks will have a problem. People have gone more and more away from saying that if one is to think about sustainability and climate, it is not possible to make money. That myth is just beginning to disappear, she explains, seeing now that one does not actually make money in the long run without thinking about sustainability.

The financial institutions influence on companies becoming more sustainable

Financial institutions are setting stricter and stricter demands, and Saltvedt could inform us that on the investment side, Nordea has a minimum of sustainability goals the companies need to deliver on. Thus, all their portfolios should have a minimum of sustainability rules. In addition, they have policies on specific things like climate or weapons for example. If the policy states that something is not acceptable, then it doesn't matter how sustainable the company is in other ways, the polices must be followed. However, in Nordea they have a strategy of not just selling out from companies in breach of their sustainability standards, but rather working alongside with them. The company would be informed that this is something they need to fix, and typically they then come up with a strategy to change and implement it. Saltvedt gave us an example of a clothing company, that had factories and production in China. After having heard rumours of bad working conditions for the employees at the factory, a person from the investment team in Nordea went to check out the conditions. Discovering that the employees had far too long working hours, little access to water, and having to work in extreme heat. Nordea then gave the company a half year to improve and change these conditions, and when the time was up, they once again went to check the factory, to find it was taken care of. Thus, Nordea thinks it is better to try an influence the companies, either in this way or by casting votes, which as an owner also is a possibility. In these cases, they have funds that they manage, or are investors themselves, and thus can vote at the general assemblies. Having signed a climate initiative, were the focus is on the 100 companies in the world that emits the most CO2, they can attend the General Assemblies and vote for more climate initiatives for example. They think that taking on this active role, is more important than just selling themselves out. However, there is a point, of which the improvements are just not good enough, if the companies do not do enough, or are not willing to change, then they will sell. But initially they try to influence the company to make changes.

On the lending side, they now have a credit team of six people, that have started making analysis of all companies, however starting with the biggest, because these are the ones that counts most. Initially more and more will learn how to make these kinds of evaluations. These companies will then get a score, a sustainability score. When a company needs a loan, they will come to a credit committee, this committee looks at how god their credit is and at the marked. However, now sustainability risk is also considered, this is because they expect that it will have an influence on the company's future income stream. The challenge today, is that there is no fixed way in doing this. But soon an EU taxonomy will help, the taxonomy is currently in the making

and it is a conceptual framework that defines a common term for what is green and sustainable, reducing the risk of green washing. The way things are now, several credit rating companies are coming up with different sustainable measures, possible resulting in a company receiving high ratings from one credit rating company, and then low from another. Thus, at Nordea they have their own team for this, considering they feel they know their customers the best. However, there is a need for this to be more open and transparent, which the EU taxonomy will help with.

Sustainable solutions within the furniture sector

Saltvedt attended a sustainability theme evening at Slettvoll in January 2020, where she had a presentation on circular economy. On her thoughts on how a furniture company can become more sustainable, she finds circular economy to be very exciting. In our interview she explains that this is something Norway have not been quite ready for, and there has not really been any demand for it. In December, however, a new circular strategy for Norway will be presented. In March a circular strategy was released by the EU, where more power is given to the consumer. It should be easier to upgrade things, if wanting new functionalities. The consumers should have a claim to fix things that are broken rather than having to buy a new one, and it should be easier to recycle things. She also thinks that this will be benchmarking for what is to come from the circular economy strategy in Norway. It is big and comprehensive, and the bank and financial institutions are looking at what the solutions are today. Instead of buying, using, and selling, there are different kinds of models like leasing out things. Tyse and Fjong for example, are exiting solutions, renting out clothes, finding new markets. What the financial institutions needs to start thinking about is the risks involved in this. For example, helping a real estate agent in selling a house or a property, the bank will typically give a loan to the person wanting to buy it. But it is not given that this is the right solution if it is to be rented out instead. This has to do with the risk, so how can the bank help the companies that wants to change, because it is an entirely different business renting out things. In the car marked for example, renting out cars versus selling. When a car is sold, then the seller has gotten rid of the asset, while if the car is rented out, there is a chance of it being damaged.

"*How the risk changes between companies that rent out, or the recipient who can be private individuals as buyers, is something we need to think about"* Thina Saltvedt.

With regards to Ikea working on leasing solutions to companies and private customers, Saltvedt was asked about whether financial institutions are willing to take these types of risk, especially with regards to private customers. She responded that it is not something they have not come a

long way with, but solutions must be developed. It is something they need to work on and try to find good solution to get it up and running. However, the challenge today, with regards to circular economy, is that there is not necessarily a second-hand market in selling these products when they are finished. This is also something that is brought up in the EU circular economy action plan, having to build up a market where you can sell the products. See also, point 7.3 chapter 7, for more details around this report. Saltvedt continuous, they must think about how it can be done, because even though leasing is already working for other things, you must look at how expensive it will get with regards to the risk. Thus, the current financing models needs to be looked at to find what can be done, is there other ways of allocating the risk for example. If the risk gets too high, then it will not pay off. When the products move in a loop, then it will have a higher value, then just being discarded, but that value we cannot put a price on today. So, there is a need to find ways in doing this and gaining a better value throughout the whole chain. Saltvedt have been following up on what they are doing in the Netherlands, considering they have come very far on this, but so far there are only some suggestions that is under testing. Ikea is a large company with a good capital buffer and liquidity, and so if by starting small in thinking like this, and doing it in this way, then it probably will not be too challenging. A small company, however, may have a completely different capital buffer, and this will probably vary between the different companies. They must look at how the risk moves, and how to get this risk low enough so that the price of capital do not become too high, developing a leasing solution that pays off.

Other examples in Norway

On areas of sustainable development, Saltvedt finds the construction business to be especially exciting. They have a lot of pressure on them to reduce CO2 emissions, and have great material spills, thus they need to find new ways of doing things. However, there are challenges, and Saltvedt had heard through a webinar from the construction industry, that they figured the easiest way to start is with waste elimination and reducing the use of material. Because if you want to take down a building, it will be a very expensive affair as it is today, so this with reduced material use is easiest in the short term. Also, there is no secondhand market for used concrete for example, something that a building contains a lot of. So how can concrete be reused, it is energy efficient, so there is a lot of energy needed to cut and mix the used concrete with new one. Thus, the circular economy is still at a very early stage, but the construction industry has really started to work on this. The planning needs to start at a much earlier stage, before the

house is designed and the material ordered, in that way reducing the waste with more tailor-made solutions, because when the house is ordered it is too late.

We mentioned the idea of Slettvoll to send textile parts that normally would become waste to a company that can use in their own production instead. Saltvedt found this very interesting that they have already started to find who the next one is in the chain. It may be possibilities in collaborating with those making the material, limiting the amount of extra material. Smart cities are something that Tina thinks is very exciting, making a digital twin, a digital building, where you can better calculate how much material is needed, maybe this would be a possibility in the furniture industry as well.

The willingness of Norwegian companies to invest in sustainable development

Saltvedt explains, that it is not that long ago that especially this with circular economy was brought up. The willingness to spend extra money is probably not her today, and that might be even more challenging with the situation we are in now, with COVID 19, because just about all businesses will be affected by this. However, what she finds to be exciting to see now, is the green package that is coming from the authorities in June. She states that it is completely significant, that the authorities present a good green package, for the development to continue. Because there is developing costs that someone needs to take, someone needs to be willing to pay a little extra. There are businesses with great ideas, and willing to give the extra, but some of the costs are just too great for them, which is understandable. In addition, there are laws and regulations that needs to be changed, for things to work. For example, in the construction business, there are rules today that says they cannot mix in used materials, making it hard to reuse. As a pioneer, this is the kind of challenges you might meet, sometimes experiencing involuntary stops because of outdated regulations. It is therefore very important that the government contributes, she explains. Within shipping for example, there is given help to develop battery technology. Also, the production of ammoniac and other kinds of fuels, is basically very expensive, the same with batteries for ferries. Thus, this is a question of either state enterprises going inn and taking a part of it, or the sate taking parts of the costs through Innovation Norway or Enova. Saltvedt continues, what is important when getting a loan from a bank, or an investor, is to reduce the risks, or it will get to expensive. Because if the risk is very high, and the bank cannot know for sure that things will work, then this will increase the price for the cost of lending money. Thus, if the price gets too high, it would not be profitable to put it into motion. If the state comes inn however, taking 50 % of the risk for example, then the bank will be willing and the price will be reduced, making it larger, and possible to mass

product, reducing the costs and improving the technology. Saltvedt explains that this is what happened with car batteries, where Norway has been a pioneer, reducing the costs and the risk for other car companies. This is the way the government should go in and help to get these markets started, which this green package might contribute with now, see chapter 8 (8.2)H. Saltvedt guesses that it will especially aim at offshore and wind, but at other things as well, and she thinks it will be exciting to see if not the circular economy is a part of it as well.

How to succeed, what should be the main focus?

It is important to pick some sustainability goals that is typical for their line of industry, as Slettvoll has done. But, also looking at the materials for example, maybe not using polyester, or use recycled polyester if needed. Reuse of different parts, woods for example, not taking the teak forest. How far is the transport? Who makes these products? what are they paying? what salaries do they provide? what work conditions do they have? Are the input factors sustainably made? This is just some of the questions that needs to be addressed. There is just more and more demand for companies to understand how their products are made, understand the different links, and document it. In that way, when a company needs a loan, they must show that the whole process is followed up, and that the companies they work with delivers on these things themselves. Meaning they must ask the same questions to their subcontractors as they are asked by the bank. Saltvedt, says that this is the same kind of questions they are asked by their owners, investors, and customers, meaning in all they are helping each other in this.

Competitive advantage on sustainability

In the fishing industry, at a seminary this year, they announced they had changed some parts, making for a better sustainability imprint, and a leader from Norwegian fishery, meant that they had achieved a competitive advantage. Considering their products was made in a more sustainable way, increasing their sales. For example. Marc & Spencer in Great Britain have already started making demands, or Whole food in the USA, saying that the product they sell, and their image is sustainable, then this needs to be delivered. Thus, if you can show that your fish production is more sustainable then the neighbour, which they meant, this made for a greater income. As a bank they can see this very clearly, everything from private customers wanting so save money for their children, putting it in funds, but funds that take care of the globe, that we don't invest in anything climate unfriendly. It has happened extremely much the last years with regards to the demand for sustainability and climate. Saltvedt asked one of the people sitting on stocks in the company on how often their conversation evolved around sustainability with the customers, he had responded that about 80 per cent of the conversation

involved sustainability to some extent. But also, with sustainability being one of Nordea's pillars, they are supposed to talk to all their customers about sustainability, whether they are small or large. Thus, it is a need to develop products, as the Nordea Wallet, were you can get an overlook on how much you use, and an indication of the CO2 that the consumption makes for. Nordea is currently in a collaboration with a British company, were people should be able to look at their funds and see the degree of climate imprint. Saltvedt says that there is clear demand for this kind of information, both companies and private people need to make demands and ask critical questions. It has happened a lot just the last couple of years, everything from green loans, green bonds, sustainable bonds, and this is exciting, that demand are being made on them, and then also on the businesses.

Measuring tools

Saltvedt explains that measuring is quite difficult. The tool they had made with the funds, was in a collaboration with a large company. Thus, the bank does not do the measurements themselves, but makes the inputs on how to set up the different portfolios. So, the bank also needs to collaborate more to make things happen. Another challenge is that credit analytics and the credit ratings companies, often uses the company's homepage to find the information there. This means that you can get a lot of information from the bigger companies that actually have the resources that can be used to work on sustainability, however that can be a challenge for the small or middle sized companies, not being as mature within sustainability yet, how can they start? How to do it? Many at Nordea are in training now to understand sustainability, and how to measure it. Data needs to be collected, and you need timelines historically, something we do not necessarily have yet, especially from the small and middle size companies, but you must start someplace. Then you gather what you have, try to make analysis, and talk with the companies, eventually everything needs to be documented. As a bank they can make real difference by looking at the investment portfolios, and the businesses they lend out money to, the financing portfolios, and this is an enormous job. They must collect all the data from the companies, not being quite sure how to do it, what models to use and standards. Thus, it is a huge job, but it must start somewhere.

14.4 EPD Example

6.5.201

epd-norge.no
The Norwegian EPD Foundation

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025

Owner of the declaration	Helland Møbler AS
Program holder and publisher	The Norwegian EPD Foundation
Declaration number	
Issue date	
Valid to	

HELLAND®

Twin chair.

Product

Helland Møbler AS

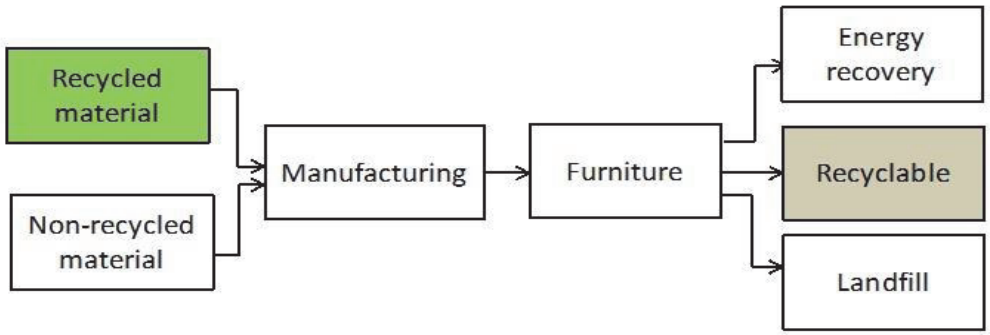
Manufacturer

General information

Product

Owner of the declaration:

Materials			Recycled material in manufactured product		Recyclable material at end of product life	
Unit	kg	%	%	kg	%	kg
Steel	5,89	38 %	100 %	5,89	100 %	5,89
POM	4,00	26 %	50 %	2,00	100 %	4,00
Packaging	2,80	18 %	76 %	2,13	100 %	2,80
Wood	1,90	12 %	0 %	0,00	0 %	0,00
Textiles	0,70	5 %	0 %	0,00	0 %	0,00
Paint	0,15	1 %	0 %	0,00	100 %	0,15
Total	15,44		65 %		83 %	



Key environmental indicators	Unit	Cradle to Gate A1-A3
Global warming	kg CO_2	22
Total energy use	MJ	363
Amount of recycled materials	%	65 %

Figure 22: Example of an EPD Helland Møbler (epd-norge, 2019)

14.5 CapSEM – Model

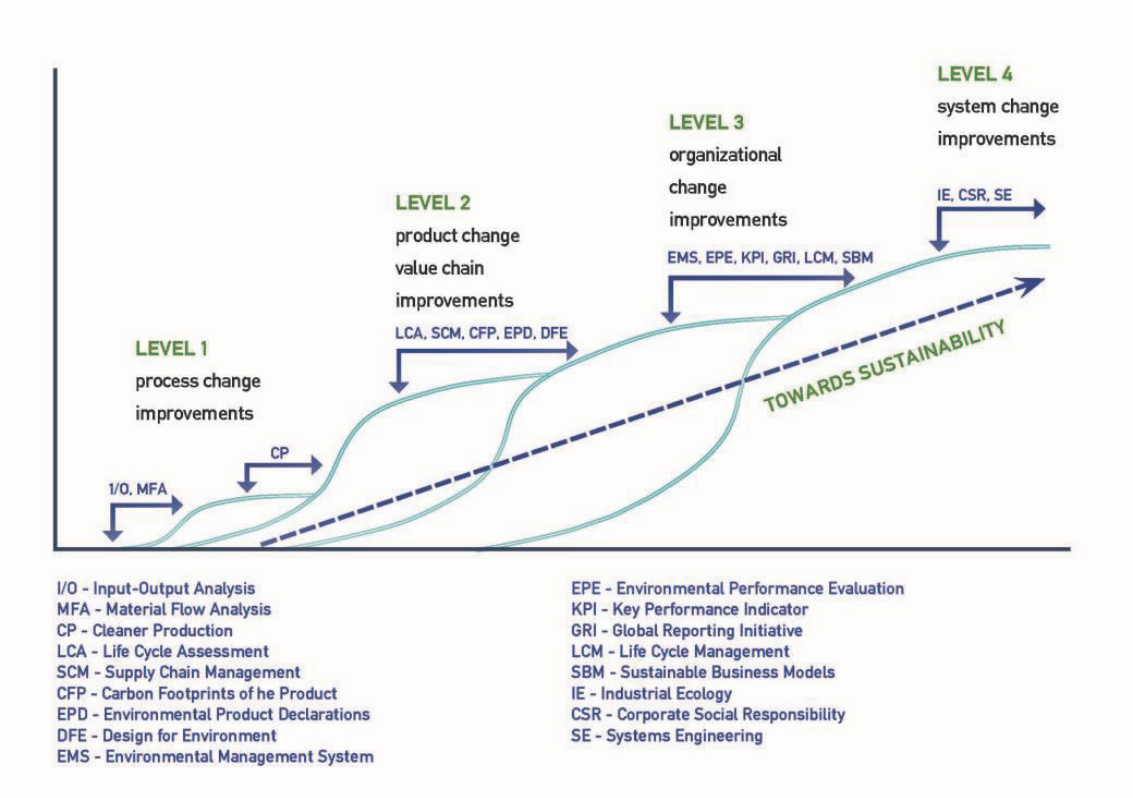


Figure 23: CapSEM – model. Sustaiability toolbox. (Fet and Knudson, 2019, p. 9)

14.6 The Sustainable Development Goals (SDGs)

1. No poverty	**2. Zero Hunger**	**3. Good health and well - being**	**4. Quality education**
End poverty in all its forms everywhere.	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Ensure healthy lives and promote well -being for all at all ages.	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Gender equality	**6. Clean water and Sanitation**	**7. Affordable and Clean energy**	**8. Decent work and economic growth**
Achieve gender equality and empower all women and girls.	Ensure availability and sustainable management of water and sanitation	Ensure access to affordable, reliable, sustainable, and modern energy for all.	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9. Industry Innovation and infrastructure	**10. Reduced inequalities**	**11. Sustainable cities And communities**	**12. Responsible consumption and production**
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	Reduce inequality within and among countries.	Makes cities and human settlement inclusive, safe, resilient and sustainable.	Ensure sustainable consumption and production patterns.
13. Climate action	**14. Life below water**	**15. Life on land**	**16. Peace, justice and strong institutions**
Take urgent action to combat climate change and its impact.	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
17. Partnerships for the goals			
Strengthen the means of implementation and revitalize the global partnership for sustainable development.			

Figure 24: The 17 Sustainable Development Goals. Information collected from SDG Compass (SDGcompass, 2015, p. 7)

14.7 The annual share of renewable energy – power capacity expansion.

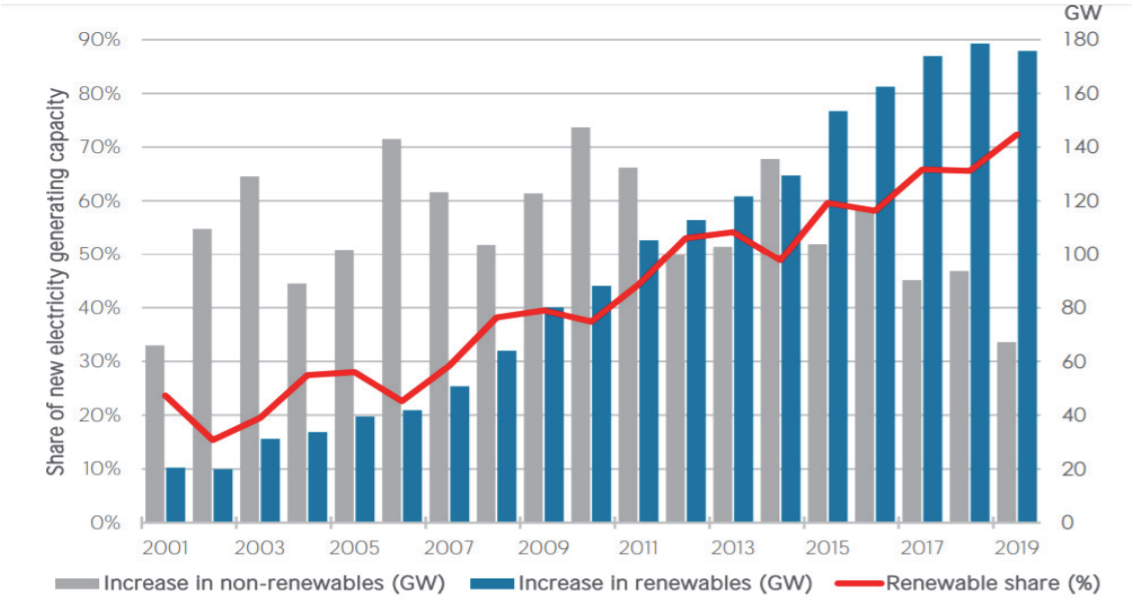


Figure 25:Increase in renewable energy. (IRENA, 2020, p. 3)

14.8 Earth Overshoot Day

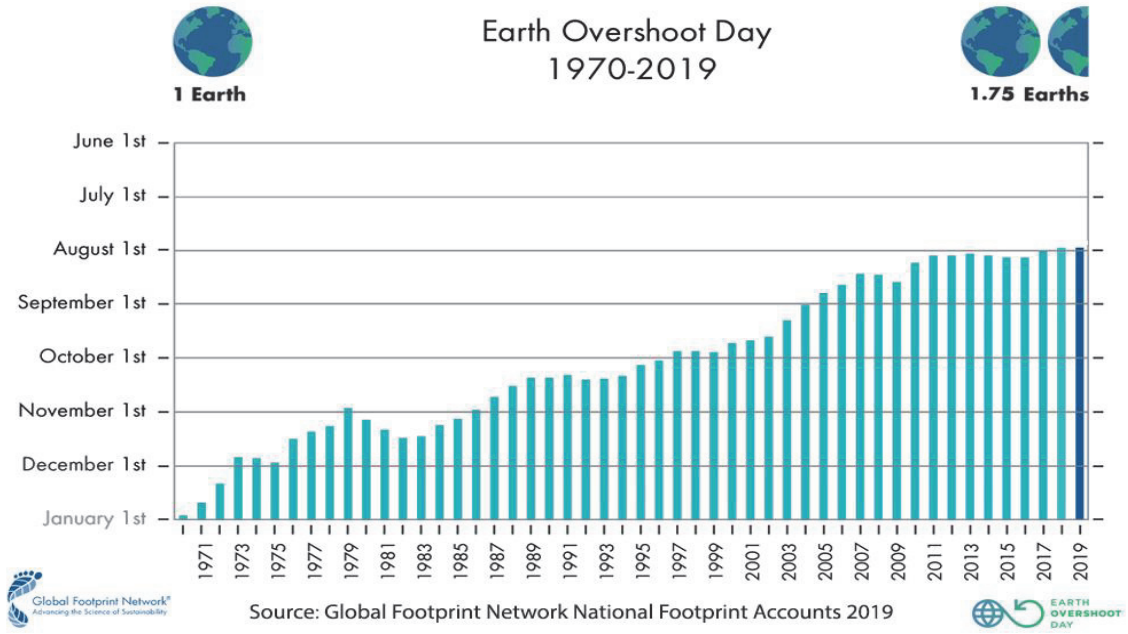


Figure 26: Earth Overshoot Day from 1970 – 2019. (Earth overshoot day and network, 2020b)

14.9 The five Circular Business Models

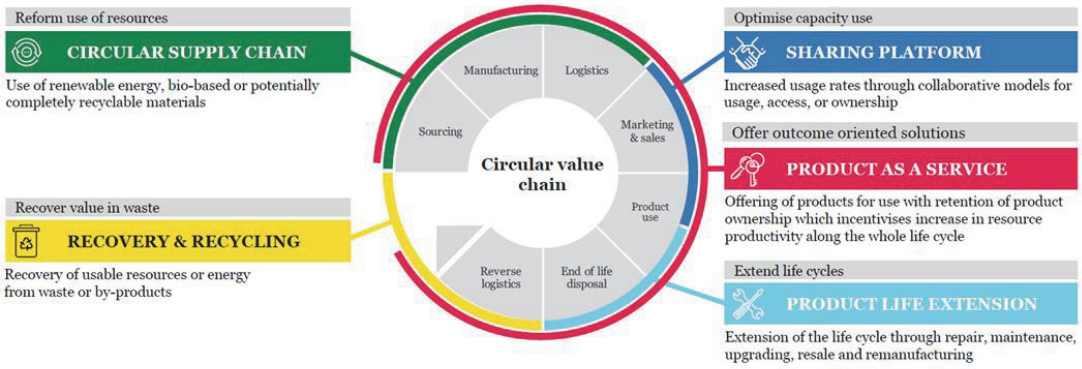


Figure 27: The five Circular Business Models (AccentureSitra and Finland, 2019, p. 18)

14.10 EU - Policy Packages and their estimated potential impacts

Package 1 **-Fully mandatory**	**Package 2** **- Part mandatory**	**Package 3** **- Full Voluntary**
SUPPLY SIDE	**SUPPLY SIDE**	**SUPPLY SIDE**
Mandatory Extended Producer Responsibility (EPR) for take back, with preparing for reuse and recycling targets, and with a modulated fee (that takes account of the different treatment costs and environmental impacts of different products and materials) or an Individual Producer Responsibility (IPR) approach, to encourage better design for repair and recycling. Mandatory eco-design measures on durability, repair and recyclability or a mandatory warranty period of five years to drive durability and reparability. This could be associated with a GFM label approach to reinforce and extend good practice.	Mandatory EPR for take back, with preparing for reuse and recycling targets, and with a modulated fee based upon the 'Green Furniture Mark' (GFM) criteria, or an IPR approach, to encourage better design for repair and recycling. EU-wide GFM approach, with an A to G - rating for furniture, with mandatory labelling but no mandatory eco-design standard.	Voluntary GPP as now, but with reference to a minimum standard under GFM (e.g. B rated). Promotion of the GFM label for which the highest rating class A corresponds to what is also required by the more comprehensive EU Ecolabel scheme.
DEMAND SIDE	**DEMAND SIDE**	**DEMAND SIDE**
Mandatory Green Public Procurement (GPP) to drive demand for reuse and remanufactured items (other aspects taken care of by mandatory **eco-design**)	Mandatory GPP for the public sector, with common criteria to the GFM or a set GFM level required (e.g. B rating).	Voluntary GPP as now, but with reference to a minimum standard under GFM (e.g. B rated). Promotion of the GFM label for which the highest rating class A corresponds to what is also required by the more comprehensive EU Ecolabel scheme.
Package 4 **-Incentives Only**	**Package 5** **-Information Only**	**Package 6** **-Waste Management Only**

SUPPLY SIDE	SUPPLY SIDE	SUPPLY SIDE
EU-wide SME support initiative for CE innovation in the sector, combined with tax incentives, grants and/or low interest loans for CE furniture companies. Deposit-refund incentive for consumers to return furniture for reuse and recycling, i.e. a refundable levy on new furniture, or a modulated 'bulky waste' collection charge – free where the item is reusable.	Mandatory EU harmonized information system from the OEMs to drive repair and remanufacture. Voluntary use of the GFM, but driven by GPP.	EU wide landfill ban on furniture disposal. Clearer regulation/guidance from the EU around end of waste and use of recycled materials.
DEMAND SIDE	**DEMAND SIDE**	
Mandatory labelling of warranty period; to clearly display the 'free' manufacturers/retailer warranty in a large format next to the product. Tax incentives for refurbished/remanufactured items; e.g. lower rates of VAT.	Mandatory labelling of warranty period; to clearly display the 'free' manufacturers/retailer warranty in a large format next to the product. Voluntary GPP as now, but with reference to a minimum standard under GFM (e.g. B rated). Promotion of the GFM label for which the highest rating class A corresponds to what is also required by the more comprehensive EU Ecolabel scheme.	

Table 5: EU - Policy Packages and their estimated potential impacts. (EEB, 2017, p. 35)

Estimated Potential Impacts

POLICY PACKAGE	ADDITIONAL TONNES REUSED	ADDITIONAL TONNES RECYCLED	ESTIMATED NET CARBON IMPACTS FOR SCENARIO, TONNES CO2 eq	ADDITIONAL JOB CREATION
1.FULL MANDATORY	2,097,962	3,670,289	-5,713,542	157,347
2. PART MANDATORY	1,546,538	3,149,566	-4,933,647	115,990
3.a FULL VOLUNTARY SELF REGULATORY	1,069,288	2,392,433	-2,896,593	80,197
3.b FULL VOLUNTARY INDUSTRY-LED	717,278	1,470,269	-2,172,445	53,796

4. INCENTIVES ONLY	440,452	1,470,269	-1,810,371	33,034
5. INFORMATION ONLY	227,187	687,853	-1,448,296	17,039
6. WASTE MANAGEMENT ONLY	168,225	3,185,947	-3,343,633	12,617

Table 6: Estimated potential impact. (EEB, 2017, p. 7)

14.11 The wedding cake (Rockström and Stockholm Stockholm Resilience centre)

Figure 28: A new way of viewing the sustainable Development Goals and how they are all linked to food. Based on one of the iconic figures of the center, the wedding cake, developed by center director Carl Folke and others. Illustration: Azote for Stockholm Resilience center, Stockholm University. (Stockholm Recilience Centre, 2016)

14.12 Miljøfyrtårn - Criteria for a furniture business

Category	ID	Description
System Criteria	2006 LEGAL REQUIREMENTS	The business must have an industry safeguard that is capable of limiting the consequences of adverse events for life, health, the environment and material values.
System Criteria	2007 STATUTORY REQUIREMENTS	The business shall, based on id 1949 in the Common Criteria, ensure that the risk analysis of the external environment contains external environmental aspects such as the storage and storage of hazardous waste and hazardous chemicals, noise, dust, discharges to water (the list is not exhaustive). The risk factors are assessed and, based on the results, the necessary measures shall be taken to reduce any potential contamination hazards.
System criteria	2016	The company shall inform the Environmental Lighthouse in the event of serious deviations from the public regulator related to the working environment and / or the external environment. Report from supervisory authority shall be documented.
Work environment	14 STATUTORY REQUIREMENTS	The business shall have an updated drug directory for hazardous chemicals and biological materials used in the business. The directory should be easily accessible to employees.
Work environment	46 STATUTORY REQUIREMENTS	The business shall have occupational health services in accordance with FOR 2011-12-06 no. 1355: Regulations on organization, management and participation, §13-1. The occupational health service must be approved in accordance with FOR-2011-12-06-1360, Regulations on administrative arrangements in the area of the Labor Inspection Authority (regulation on administrative schemes), Chapter 2.
Work environment	47 STATUTORY REQUIREMENTS	Sufficient personal protective equipment of a suitable type and good quality shall be available in accordance with FOR 2011-12-06 no. 1355: Regulations on organization, management and participation, Chapter 15.
Work environment	48	First aid training for the employees shall be carried out to ensure that there are personnel present in the business at all times who have an updated first aid training course. Rehearsal courses must be held at least every 3 years.
Work environment	49 STATUTORY REQUIREMENTS	Production equipment and work operations that cause noise, dust or degassing shall be incorporated with point extraction, noise shielding, etc.

Work environment	316 STATUTORY REQUIREMENTS	The business must have routines for measuring and controlling the most important physical work environment factors such as noise, vibration, dust, chemicals, gas, and smoke.
Purchasing	304 STATUTORY REQUIREMENTS	The business shall have an overview of its chemical consumption and the chemical use shall be documented regularly (at least annually). The use of environmentally or health hazardous chemicals should be reduced as much as possible. All chemicals / products must be assessed in accordance with the duty of substitution in section 3a of the Product Control Act.
Purchasing	432 STATUTORY REQUIREMENTS	The Company shall not use or market products containing substances that are hazardous to health and the environment listed on REACH's list of restrictions (REACH Annex XVII). Substances that are on the candidate list in REACH (SVHC-Lista) or the Norwegian priority list should not be used or traded if there are less dangerous alternatives. It should be implemented in the business procurement routine
Purchasing	869	Solvent-based contact adhesives shall not be used in ordinary production.
Purchasing	991 STATUTORY REQUIREMENTS	The business shall have membership in an approved packaging company for packaging. Section 7.5 of the Waste Regulations. The company will also use recycled companies that are approved by the Environment Directorate in accordance with Art. the waste regulations and § 7-14.
Waste	871	The company will work systematically to reduce wastage of skin and fabric. This is done with the help of purchasing specifications, quality control and optimization of utilization.

Figure 29: Certification criteria for furniture companies (Miljøfyrtårn, n.d-c)

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