

THE NORDIC MARKET FOR CIRCULAR ECONOMY

Attitudes, Behaviours & Business Opportunities

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THE ISSUE WE ARE FACING

LINEARITY DOMINATES

According to the Circularity Gap Report 2019, launched at the World Economic Forum in Davos this year, only 9% of the world economy is circular.

Since the 2018 version of the same report was launched last year, the trend is negative, meaning that the level of resource depletion has increased further. Linearity still dominates.

A fulfilment of the Paris Agreement plus the Sustainable Development Goals, and an acceleration towards a circular economy are mutually reinforcing processes. Limiting global warming to 1,5°C above pre-industrial levels demands a circular transition, and spurring circularity demands a low-carbon approach.

In order to unlock the capacity of current resources, reduce waste, and stimulate both ecological, economic and social sustainability through reduced inequalities, a transition from a linear model to a circular one is key.

“ ONLY 9% OF THE WORLD ECONOMY IS CIRCULAR AND ACCORDING TO THE CIRCULARITY GAP REPORT 2019 THE TREND IS NEGATIVE.

PURPOSE

After agreeing on the issues at hand, tangible solutions are needed. The purpose of this report is to help decision-makers in the Nordic Countries to understand the market for circular economy, as well as what needs to be done in order to speed up the transition. This applies both to business actors, policy-makers, NGOs, and other organizations and stakeholders.

By conducting an in-depth quantitative research on the Nordic market and its consumers, this report provides a framework for a circular economy from a Nordic consumer perspective. The report includes e.g. context analysis, circular trends and business cases, expert interviews and insights for further business development. Most importantly, it presents numerous data insights into the attitudes, behaviors and knowledge of Nordic consumers around a circular economy.

01. MAPPING THE CIRCULAR MARKET

The Nordic Market for Circular Economy 2019 is a thorough mapping of the maturity of the consumer market in the Nordic countries. Based on the consumer perspective, and completed with market evaluations from leading experts on the circular economy, the study seeks to examine the current attitudes, knowledge, behaviours and focus areas of consumers in relation to the circular economy. As well as suggest potential market development measures in order to meet or nudge consumer behaviour and adapt and develop the circular business landscape.

THIS REPORT CONSISTS OF THE FOLLOWING PARTS:

- Framework
- The Current State of Circular Economy
- Initiatives & Trends
- The Expert Perspective on The Market for Circular Economy
- The Nordic Consumer Market for Circular Economy
- Key Insights and Business Opportunities

The study was founded in 2017 and is carried out annually in Sweden, Norway, Denmark and Finland.

02. THE CONSUMER STUDY

The data collection for The Nordic Market for Circular Economy 2019 was conducted through a quantitative consumer survey, conducted by SB Insight.

- The target group was defined as follows: The general population – Swedish, Norwegian, Danish and Finnish consumers, from 16 to 70 years old.
- Total number of respondents: 2250
- The quantitative study was conducted via web surveys during January 2019.

03. FINANCING

The Nordic Market for Circular Economy 2019 is financed by Nordea and Carlsberg Sverige. Both parties are passive partners and have not participated in the creation of this report.

A close-up photograph of a green leaf, showing a prominent central vein and smaller branching veins. The leaf is slightly out of focus, with a dark green background. The text '01' is overlaid on the right side of the image.

01

FRAMEWORK

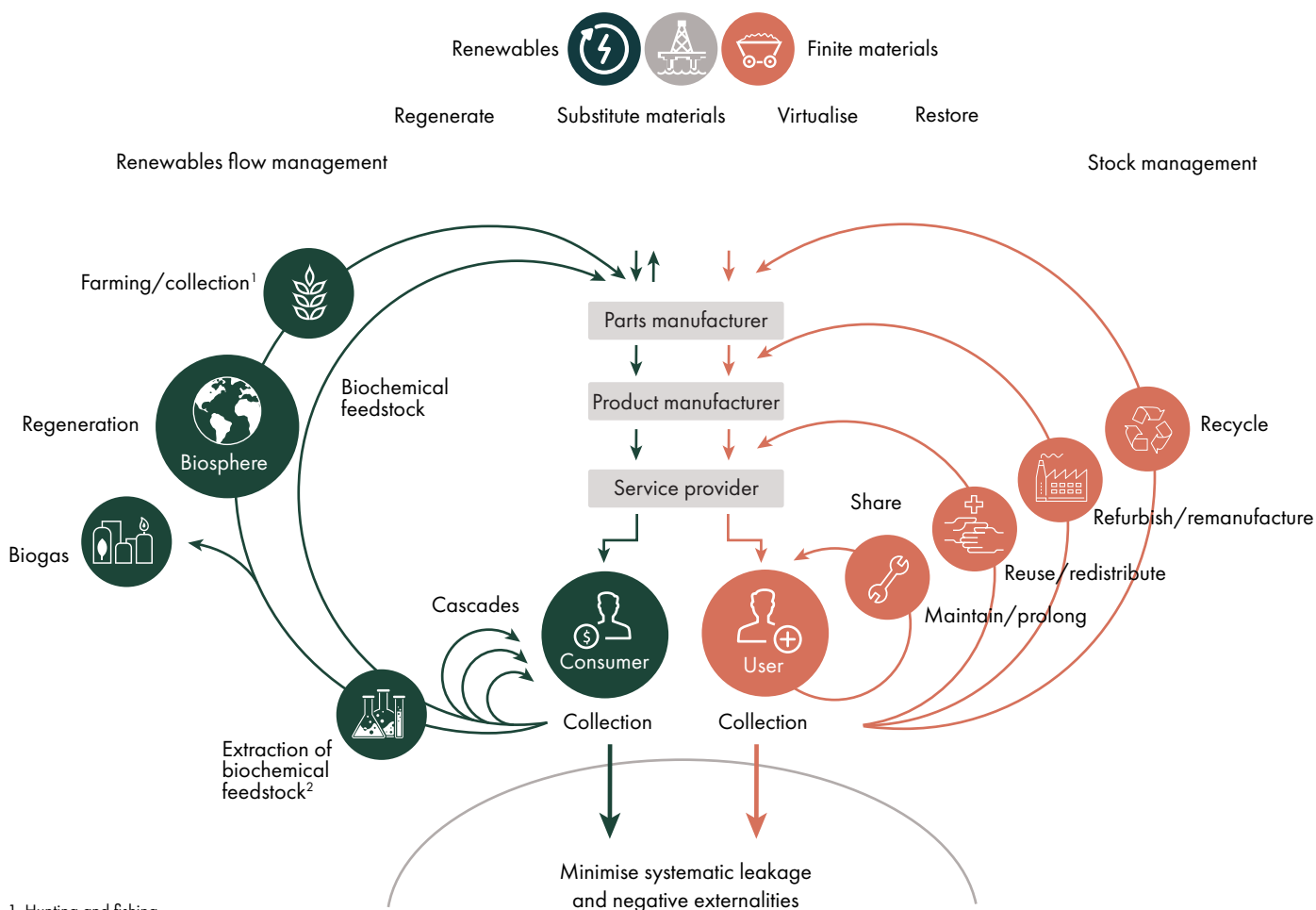
WHAT IS A CIRCULAR ECONOMY?

THE PRINCIPLES OF A CIRCULAR ECONOMY

SB Insight’s analysis is based on the principles of a circular economy stipulated by The Ellen MacArthur Foundation in its report: Towards a Circular Economy: Business Rationale for an Accelerated Transition. According to the report, a circular economy rests on 3 principles:

01. OPTIMISING RESOURCE YIELDS

In a circular economy, there are both biological and technical cycles. The technical cycles manage stocks of finite materials, while the biological cycles manage renewable materials. Optimising resource yields demands the effective circulation of products and materials in both the technical and biological cycles. In a circular economy, material flow as many times as possible in the tighter loops before they enter the outer loops. For example, **reusing a product is more highly valued than recycling when looking at the technical cycles**. Also, the more times a material is circulated within each cycle, the higher its utility. In the biological cycles, products are designed, consumed and decomposed so as to become feedstock in a new cycle and thus create new value in the economy.



1. Hunting and fishing
2. Can take both post-harvest and post-consumer waste as an input

Figure 1

WHAT IS A CIRCULAR ECONOMY?

02. FOSTER SYSTEM EFFECTIVENESS & DESIGNING OUT NEGATIVE EXTERNALITIES

This stage implies minimizing damage on existing systems and control and management for negative externalities. A negative externality corresponds to a situation when an economical transaction does not take the negative effect for a third party into account (as for example with pollution). This means that no one is prepared to pay for the air pollution since no one is directly responsible for the economic transaction that caused it. Therefore, negative externalities causes market failures. Managing for negative externalities can thus mean e.g. designing systems that do not cause as many negative externalities in the first place, or control externalities with means such as taxation.

03. PRESERVING & ENHANCING NATURAL CAPITAL

In a circular economy, resources are selected carefully when needed, and are provided through renewable and resource effective processes and technologies. A circular economy makes sure that the value of natural capital is increased by creating good conditions for regenerative flows.



THE FUNDAMENTAL CHARACTERISTICS OF A CIRCULAR ECONOMY

Under the assumption that the three previous stated conditions are fulfilled, a circular economy means that:

- There is no waste. Biological materials can always be decomposed into new cycles and technical materials are designed in such a way that they can be constantly upgraded in order to retain the value of their resources
- The economy is diverse with different actors benefitting from different scales of business
- All energy is renewable
- The economy is focused on system-thinking and on links between different actors and the consequences of these links
- Prices should reflect the full cost of a product and hence internalize negative externalities

INTERLINKAGES OF THE SDGS AND THE CIRCULAR ECONOMY

Combining economic development with ecological sustainability craves improved resource efficiency. The link between circular economy and the Sustainable Development Goals is thus evident. A circular economy improves resource efficiency and can therefore increase economic growth in a long-term sustainable manner. Therefore, a circular economy is crucial for reaching several of the targets of Agenda 2030 and the Sustainable Development Goals.

The 73rd UN General Assembly and the UN Economic and Social Council (September 2018) identified mainly SDG 6 on energy, 8 on economic growth, 11 on sustainable cities, 12 on sustainable consumption and production, 13 on climate change, 14 on oceans, and 15 on life on land, as crucial for a circular transition.



Although the SDG's 6, 8, 11, 12, 13, 14 & 15 are tightly connected to a transition to a circular economy, applying a truly holistic approach demands an inclusion of all the SDGs.

Dr. Patrick Schröder at the Institute of Development Studies (IDS) has identified key targets amongst the SDGs that are interlinked with the circular economy. On the next page, you can find these identified key targets. This overview can facilitate the understanding of the fact that circular approaches cannot be parted from any part of the development agenda.

THE TOP 10 PRIORITY TARGETS FOR THE CIRCULAR ECONOMY



SUSTAINABLE FOOD PRODUCTION AND RESILIENT AGRICULTURAL PRACTICES

TARGET 2-4

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production.



REDUCE ILLNESSES AND DEATH FROM HAZARDOUS CHEMICALS AND POLLUTION

TARGET 3-9

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE

TARGET 6-3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.



DOUBLE THE IMPROVEMENT IN ENERGY EFFICIENCY

TARGET 7-3

By 2030, double the global rate of improvement in energy efficiency.



IMPROVE RESOURCE EFFICIENCY IN CONSUMPTION AND PRODUCTION

TARGET 8-4

Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on SCP, with developed countries taking the lead.



PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION

TARGET 9-2

Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.



REDUCE THE ENVIRONMENTAL IMPACT OF CITIES

TARGET 11-6

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.



SUSTAINABLE MANAGEMENT AND USE OF NATURAL RESOURCES

TARGET 12-2

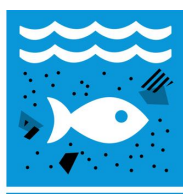
By 2030, achieve the sustainable management and efficient use of natural resource.



SUBSTANTIALLY REDUCE WASTE GENERATION

TARGET 12-5

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



REDUCE MARINE POLLUTION

TARGET 14-1

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

SEVEN STEPS OF THE CIRCULAR PRODUCT VALUE CHAIN

In order to make the concept of Circular Economy tangible and more understandable, SB Insight uses a model consisting of 7 steps that are vital in the circular value chain of a product. This value chain builds on the principles of the Ellen MacArthur definition and the European Commission's model for the circular life cycle of a product. The 7 steps are also presented graphically in the model to the right.

01. RAW MATERIALS

In a circular economy raw materials should be carefully chosen and need to be regenerative by nature, keeping their value for as long as possible.

02. PRODUCT DESIGN

Products should be designed in order to save the maximum amount of resources and energy used. Designing out waste is key.

03. PRODUCTION & MANUFACTURING OF PRODUCTS

The production and manufacturing of products should be made with maximal energy efficiency and all energy sources should be renewable.

04. DISTRIBUTION OF PRODUCTS

Distribution processes refer to e.g. logistics and transportation. Using logistics as an example, actors can create incentives to participate in the circular economy by offering for example pre-paid shipping labels, smart packaging, and innovative take-back mechanisms. This might spur backhauling.

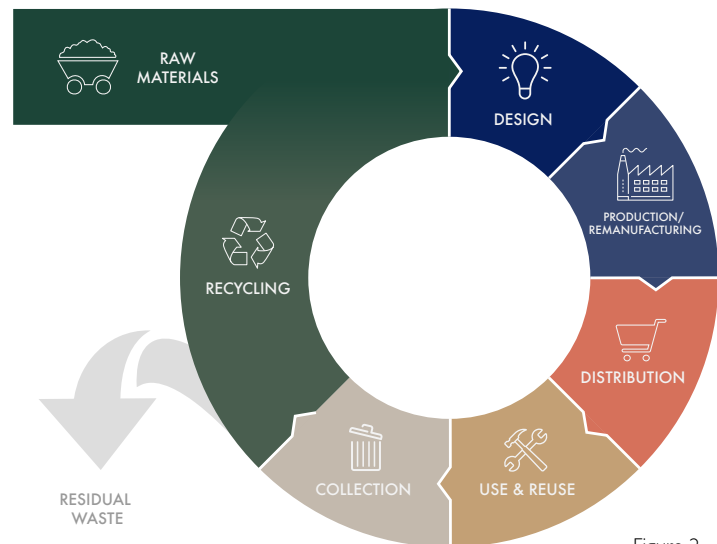


Figure 2

05. USE & REUSE OF PRODUCTS AND THEIR COMPONENT

Short and sweet, this stage refers to the consumption phase of products, including; using, reusing, repairing and sharing principle.

06. COLLECTION OF PRODUCTS AND WASTE

Collection processes are vital in order to prepare for recycling and take advantage of existing resources. The collection phase consists of more than solely providing consumers with containers for separating their plastics from their glass waste. It also means finding innovative methods to get people to collect their resources and provide it to the right actor for recycling. The goal is a stricter separation of waste streams at the source instead of after the collection.

07. RECYCLING

Recycling is the most outer loop in a circular economy. It is preferably the last action, when other options are closed in order to retain the resource and its value through reuse, reparation or remanufacturing.

PRODUCTS, SERVICES & CRADLE TO CRADLE

A CIRCULAR APPROACH TO VALUE CREATION



VALUE PROPOSITIONS OF CIRCULAR PRODUCTS & SERVICES

Building on the seven steps of the circular economy, one realises that the business opportunities for circular innovation are many and can stem from every step in the value chain. To further investigate this, two basic concepts for creating value from products and services are brought up, namely *Cradle to Cradle* and *Product as a Service*.

PRODUCTS & CRADLE TO CRADLE

Cradle to Cradle is a design principle for products and systems that seeks to copy organic systems, where material and resources are used effectively and cyclically instead of being consumed from *Cradle to Grave*. *Cradle to Cradle* is the vision that patterns of consumption and production create positive effects for the economy, people and society. All material are eco-friendly and can be looped within biological or technical cycles. This means that material should either be degradable into biological nutrients or be recycled into new products as technical nutrients.

“**THE CIRCULAR ECONOMY IS
ECO-EFFECTIVE INSTEAD OF
ECO-EFFICIENT.**”

A key difference between the linear economy and the circular economy is the fact that the circular economy is eco-effective instead of eco-efficient. This means that instead of a linear flow of materials in industrial systems (which enhances long-term downcycling of material quality) there is a transformation of material flows that generates upcycling of materials i.e. a state where material inherent their status as resources and gain intelligence in a long-term perspective. This creates a positive correlation between the economy and the ecology.

PRODUCT AS A SERVICE

Product as a service implies selling the services a product can provide instead of the product itself. With the emergence of Internet of things (IoT), Product as a Service-concepts have increased as suppliers realize the capacity to boost the profitability of their products. Product as a Service is a circular business model since products can be shared amongst many people, and is an alternative to traditional ownership models.



02

THE CURRENT STATE OF
CIRCULAR ECONOMY

INITIATIVES & TRENDS

MACRO NEWS AFFECTING THE CIRCULAR ECONOMY

THE TRADE WAR BETWEEN CHINA & THE US

In early 2018, Trump acted on previous threats and imposed tariffs on Chinese solar panels and washing machines. In March, Trump raised import taxes on steel and aluminium. In April, China and Xi Jinping answered with tariffs on American products. Since then, the trade conflict increased with more tariffs and threats of tariffs from Trump. However, Trump is not only operating trade restrictions on China. He also withdrew from the Trans-Pacific Partnership trade pact (TPP) and also started imposing fees on steel and aluminium from the EU, Mexico and Canada. The International Monetary Fund estimated that an escalation of these tariffs could eliminate 0,5% of global growth until 2020. Despite the pause in the trade conflict that was announced on December 1st 2018, and the negotiations to strike an agreement are ongoing, the trade relationship between the US and China has been changed forever, and the future is still vague.

CIRCULARITY EFFECTS

First, trade insecurities do not only mean increased costs, but also higher risks – both when it comes to macro security and investments. Thus, it disturbs global climate finance, for example when the US vetoed a Green Climate Fund loan for green development for Shandong in China.

Also, the trade war between China and the US has had several other implications for sustainability and circularity. For example, tariffs have been imposed on recyclable waste and certain raw materials, on goods that promote sustainable mobility as electric bicycles and on certain agricultural products such as soybeans. This has led to many farmers favouring corn instead of soybeans. Since soybeans have the capacity to absorb certain harmful material from the soil, this has led to increased water pollution.

BREXIT AND FRAGMENTED COOPERATION

EU criticism has been prevalent for a long time, but Brexit has been posing new challenges for the entire institutional structure. The effects of a hard Brexit will be deep and affect both the labour market and companies' value chains. The UK is a large export market for all the Nordic countries, and British businesses are still waiting to see what Brexit will mean for trade and relationships. This situation poses large challenges for Nordic actors with close relations to British companies. Actors need to get prepared and spend resources on an unknown process of which they do not know whether it will be finalized, revised, or remain still.

CIRCULARITY EFFECTS

Implementing sustainability policies is difficult even in secure situations, and Brexit poses a enormous insecurity to the system. Even fundamental aspects of procurement will be challenged, and EU-based companies active on both markets will need to make evaluations based on a bunch of factors such as; hiring employees, working with suppliers in the UK and monitoring the supply chain in general. Also, no one still knows whether e.g. environmental clauses stipulated by the EU will be adopted by the UK or take a more independent national course. All in all, it will be harder to guarantee circular practices along the supply chain. Circularity and sustainability demand successful cooperation and; for a transition to a circular economy and for industrial symbioses practices to work, we need cooperation. This is something that is made harder, especially in the case of a hard Brexit. Thus, defending and promoting existing and potential partnerships that are possible despite Brexit is even more important in order to maintain circular processes.



EU & THE CIRCULAR ECONOMY

EU ACTION PLAN FOR THE CIRCULAR ECONOMY

The EU action plan for the Circular Economy was adopted in 2015 and had the purpose to hasten the European transition towards a circular economy, including the generation of new jobs and increased global competitiveness. The action plan sets a concrete action plan from production to consumption and waste management and is meant to close the loop of a product's value chain.

2018 CIRCULAR ECONOMY PACKAGE

The Circular Economy Package from 2018 aims at fulfilling the Circular Economy Action Plan described above. It contains a set of actions, such as:

1. A European EU Strategy for Plastics in the Circular Economy
 - In 2030, all plastics packaging should be recyclable.
 - Increase the quality of plastics recycling by e.g. driving investments and innovation.
2. Communication about how to deal with the interlinkages between chemical, product and waste legislation.
3. A monitoring Framework on the progress of the transition towards circularity, both on the EU level and on a national level.
4. A report on critical Raw materials.

RECENT PROGRESS

In March 2019, the European Commission and European Economic and Social Committee hosted a Circular Economy Stakeholder Conference aiming to facilitate policy dialogue amongst stakeholders and disseminate best practise and activities relating to circularity.



OVERVIEW – GOVERNMENT LEVEL

Here, you find an overview of important government initiatives aimed at promoting and developing the circular economy within the Nordic countries.

SWEDEN

The 1st of January 2017, VAT reliefs on repairs of bicycles, clothing, textiles and leather goods was reduced from 25% to 12%.

The state's investigation regarding circular economy was summarized in March 2017. The suggestions were a delegation for circular economy. It also suggested e.g. further tax relief on renting-, second hand- and repairing services and increased availability of car pools. The government agreed about the delegation for circular economy and they approved 5 million a year for this mission. The delegation was constituted the 12th of April, 2018 and its mission is to advice the government and set up a strategy for the transition to circular and bio based economy. Åsa Domeij, the sustainability manager of Axfood, holds the presidency of the delegation.

UPDATE 2018/2019

Within the frames of the new so called *January agreement* amongst four of the Swedish Parliament Parties, in order to be able to create a government, many of the agreement bullets are related to the environment. One of these measures is to strengthen the circular economy through e.g. a pawn on more items, a "hyper deduction" on rented items, and a demand on the recycling of textiles.

NORWAY

In 2017, the government presented a white paper on waste policies in a circular economy, aiming to increase reuse and recycling. The paper also contained a strategy to strengthen the international commitment to combat marine litter by cooperating with the Nordics, the EU and through the mechanisms of the UN.

UPDATE 2018/2019

In February 2018, the Parliament asked the Government to, amongst other things, create a national strategy for circular economy, and to promote suggestions for a food waste law that would affect the food industry. The law would include donating all edible surplus food for charitable purposes and secondary to animal feed. Also worth mentioning is the request for the government to phase out unnecessary use of single-use plastics as well as coming up with a scheme to make it free to deliver marine litter to the ports for fishermen and others.

In 2017, the government also signed an agreement to reduce food waste by 50% by 2030. In 2017, the government furthermore launched a strategy for green competitiveness and green growth.

UPDATE 2018/2019

In May 2018, Norway became a part of the EU circular economy package. The changes in the packaging directive provides new and higher targets for the proportion of packaging waste to be recycled by 2025 and 2030. It also stresses that Norway should implement measures that promote increased sales of reusable packaging and re-use of packaging.

DENMARK

In 2016, a white paper on the circular economy was launched by the Ministry of Environment and Food, aiming to exemplify and inspire to new innovative business models.

The advisory board for a circular economy was set up in October 2016 in order to provide recommendations to the Danish government on how it can support the business transformation into circular economy. In June 2017, the advisory board came with it 27 recommendations aiming to promote a Danish transformation into a circular economy. A few examples of the recommendation are; incorporating circular economy into the entire education system, promoting surplus capacity through sharing economy business models, promoting reparation and reuse through changes in the VAT scheme, and introducing an expanded circular producer responsibility scheme for waste of electronic products.

UPDATE 2018/2019

In September 2018, the Danish government presented its strategy for a circular economy. The strategy divides 16 million euro between 15 activities, e.g. strengthening companies and motivating them to improve circularity, supporting the circular economy through data and digitalisation and generate more value from buildings and biomass.

FINLAND

First and foremost, in 2016 the road map for circular economy between 2016-2025 was launched. It is the world's first roadmap on circular economy and it was prepared jointly by Sitra, and relevant ministries and stakeholders. The roadmap outlines the road ahead for a successful implementation of the circular economy. Sitra furthermore constructed an action plan for the circular economy. The main priorities of the action plan are platforms for testing the circular economy, sustainable and innovative public procurement and support for new products and service innovations.

Two key project of the transition towards a circular economy is the Strategy for Finnish Bio economy and clean solutions i.e. cleantech. The strategy for the Finnish bio economy was set up in 2014 by three Finnish Ministries and it aims to increase economic growth and new jobs from a growth in the bio economy business. Also, it means to create a competitive operating environment for the bio economy, with a strong bio economy competence-base. The cleantech initiative strives to promote sustainable use of natural resources and reduce environmental emissions by cleantech products, services and processes.

UPDATE 2018/2019

In November, Finland published information on a Plastics Roadmap that will be launched in spring 2019. The Roadmap includes measures on a variety of areas related to plastics; such as helping consumers recycle, improve plastics recovery, recycling and product design, stimulating investments and innovations in the circular economy, etc.

CIRCULAR INITIATIVES

SHEDDING LIGHT ON FOUR CURRENT AND EXCITING CIRCULAR INITIATIVES

THE CIRCULARS 2019

The Circulars is the World's foremost circular economy award program. Behind the initiative is the World Economic Forum, the Forum of Young Global Leaders and Accenture Strategy. The Circulars award contains awards to various stakeholders that improved circularity within both private and public sector.

In this year's price ceremony, one of the prizes for the Public Sector went to the European Commission for its Circular Economy Action Plan that contributed to various new national economy strategies within member states. A few other winners were Impax Asset Management for leading a transition for circular investments, Winnov for driving change within the food service sector through technology, and TriCiclos for their model for waste management and recycling.

WORLD CIRCULAR ECONOMY FORUM IN JAPAN 2018

The Second World Circular Economy Forum was held the 22-24 of October 2018. The Finnish Innovation Fund Sitra is the actor behind the global initiative that brings together over 1000 stakeholders with expertise on the circular economy. The primary outcomes of this year's session was the following:

1. **The world lacks a shared vision of the circular economy**
2. **The circular economy improves business, trade and job creation**
3. **There is an urgent need for stronger leadership and cooperation**



THE CIRCULARITY GAP REPORT 2019

For the second year in a row, the Circularity Gap Report was launched by the social enterprise Circle Economy. The report was inspired by the UN Emissions Gap Report, and it aims to bring information about the gap between the recent state of the economy and an actual circular economy. As stated in the beginning of this report, the world economy is only 9% circular, which shows the major circularity gap that exists. A gap that has actually increased since last year's study. Closing the gap is needed to fulfil the Sustainable Development Goals as well as the Paris Agreement. Bringing data like this forward is needed to bring knowledge about the relevance of circular initiatives.

THE NORDIC CASE: THE ROADMAP FOR INCREASED UPTAKE OF INDUSTRIAL SYMBIOSIS IN SWEDEN

A roadmap for increasing the industrial symbiosis in Sweden was launched in late October 2018 by IVL Swedish Environmental Research institute, Linköping University, Risa and Hifab. Industrial symbiosis is a method to increase the efficiency of material- and energy flows and develop circularity by allowing industries to use other actors' waste as their own resources. Today, industrial symbiosis is limited by the fact that competences and structures are often local. The roadmap entails five areas, and the most emphasized suggestion is creating a national center connected to 3-5 regional centers with responsibility for promoting the issue at hand. Also, mechanisms for coordination, facilitation, stimulating demand, and political guidelines are suggested as solutions, included in the roadmap.

CIRCULAR ECONOMY TRENDS AFFECTING THE BUSINESS LANDSCAPE

WHAT CIRCULAR TRENDS AND CASES AFFECT THE LANDSCAPE FOR NORDIC COMPANIES, ORGANIZATIONS AND OTHER RELEVANT STAKEHOLDERS?

BUSINESS TAKES ACTION ON INCENTIVIZING RETURNS

Lately it has become increasingly mainstream for businesses to go beyond traditional recycling mechanisms and instead spur circular mechanisms in order to incentivize people to send back items to producers, manufacturers and/or resellers. These items can be both return products and waste related to those products, such as packaging. This is of course growing in parallel tracks with the increasing growth in e-commerce. Now these backhauling initiatives are finally starting to be scaled up. For example, the zero-waste platform Loop will pilot a new initiative this year in New York and Paris. For products from for example Tide detergent, Crest mouthwash or Häagen Dazs ice cream, consumers will be able to collect packaging in their homes where Loop will pick them up and take them back for cleansing and sterilization so they can be refilled and used again.

Another case is the Swedish food service company Mathem.se which is an online grocery store. Mathem.se also teamed up with a number of online stores e.g. retail giant Zalando in order to offer efficient returns. Thus, the return of a product does not demand unnecessary transports. Also, it facilitate the return process for the customer, making it less attractive to keep products that you are not happy with. Whether it is the return of products or return of packaging for reuse, the processes of various business models are starting to be questioned for real. And it seems like facilitating and making things easy for the customers is key.

PLASTIC POLLUTION AWARENESS HAS BECOME MAINSTREAM – NOW WHAT?

2018 was really the year for plastic pollution outrages to become more mainstream. The public awareness of the subject grew and we saw multiple solutions to limit single-use plastics, both from countries, cities and businesses. For example, beer giant Carlsberg decided to remove the plastics holding together its six-packs of beer cans and replaced it with biodegradable glue. Another example is IKEA, committing to phase out all single-use plastics from stores and restaurants by 2020. Multiple actors stated their commitment in phasing out plastic straws. The Norwegian Cruise Line Holdings is only one of the Norwegian actors eliminating single-use plastic straws in its operations. In October 2018, 275 large stakeholders from various sectors announced a shared vision to close the loop on plastic pollution by signing the New Plastics Economy Global Commitment, led by Ellen MacArthur Foundation and UN Environment.

To sum it up, 2018 brought plastic pollution from being a niched interest to a mainstream concern. This fact radically transform the way to be innovative and communicate about plastics. Providing an action plan on plastic waste is now a demand by Nordic customers, not a factor that makes you stand out. Every actor must now be able to clearly state their strategy on plastic waste, both to consumers and other stakeholders, and it is expected rather than innovative to address plastic waste. However, new innovations related to reducing plastic waste is still a desirable tweak in communication agendas.



FOOD, CITIES & TECH MERGES

The Ellen MacArthur Foundation launched its report *Cities And Circular Economy For Food* at the World Economy Forum 2019 in Davos. The report is the basis for the third trend in this report i.e. a merge between food, cities and technology.

The Ellen MacArthur report outlines the primary problems with a linear food system and promotes a regenerative circular food system. Since 80% of all food is expected to be consumed by cities in 2050, cities have large opportunities for driving change. Circular food systems and circular cities are thus connected. The report shows three areas where cities can contribute to circularity, namely through the source of food (regenerative & locally grown) promoting healthier food alternatives and to making efficient use of the food resources we already have (e.g. limiting food waste).

SINCE 80% OF ALL FOOD IS EXPECTED TO BE CONSUMED BY CITIES IN 2050, CITIES HAVE LARGE OPPORTUNITIES FOR DRIVING CHANGE

Technology is a strong enabler for making this shift into circular food systems. Amongst other things, technology is trending as a tool for innovation in plant-based alternatives to meat. Second, new technological solutions, like blockchain, are opening up for new solutions to facilitate transparency in food value chains. Third, AI support a circular food transition to provide farmers with information technology and automatization. It can also help emerging economies to avoid the failure in food systems that remains from old industrialization processes. All of these issues from the Ellen MacArthur report build onto the development we have seen in the Nordic countries lately. Namely a development to a more thorough integration and a clearer trajectory of food systems, cities and technology.



A well-known Nordic example pioneering on this trend is Plantagon, a company specialising in urban agritechture. This means, Plantagon develops urban agriculture solutions in order to minimize the use of land, water, energy and pesticides for urban food production, i.e. merging food, cities & tech for circularity.

Another Nordic case is the VTT Technical Research Centre of Finland who are working on vending machines that can 3D-print healthy snacks. This is a solution where tech meets food integrated in the modern city image. VTT has started tested 3D-printing material based on starch and cellulose as well as different proteins. However, there is quite a process left in order to implement this solution on an industrial-scale production.

03

THE EXPERT PERSPECTIVE ON THE MARKET FOR CIRCULAR ECONOMY



FOUR EXPERTS SPEAK THEIR MIND ABOUT CIRCULARITY

ALEXANDRE
LEMILLE



For a full comprehension of circular markets, we need to supplement the consumer perspective with strategic expertise. Therefore, we have let four experts speak their mind about market developments, policy initiatives, innovation, as well as strategic business advices, perceived obstacles, solutions and cases in relation to the circular economy. Two of the experts contribute with a Nordic perspective, and two other experts bring a European perspective on the circular economy.

Thus, this chapter helps you broaden your understanding of the Nordic market for circular economy. Also, it can help you to map your company or organization and its position in the circular market, and first and foremost – it can give you inspiration for future strategic development measures.

MARIJANA
NOVAK

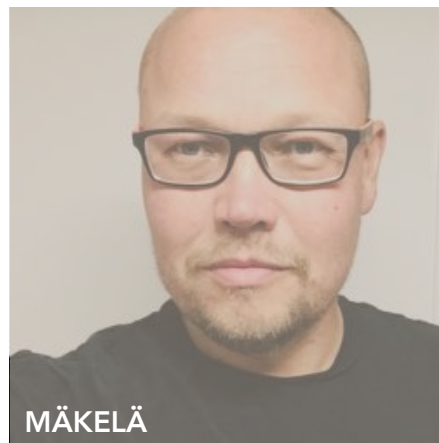


MARIJANA
NOVAK

INGELA
WICKMAN BOIS



JUHA
MÄKELÄ



ALEXANDRE LEMILLE

HUMAN-CENTERED CIRCULAR ECONOMY
EXPERT AND UNIVERSITY LECTURER



Alexandre has been involved in the circular economy since 2011, as part of the initial partnership between Cisco Systems and the Ellen MacArthur Foundation. He then launched his own consulting firm, Wizeimpact, focused on economic resilience strategies, disruptive innovations and impact valuation.

In 2014, he proposed to design an inclusive model of social externalities that would use the circular thinking approach to design an economic model for all. Thanks to this suggestion, he was recognized by the World Economic Forum as "highly recommended" in the category "Leadership in the circular economy" in 2016. That same year, he was a member of the working group on the circular economy (Young Global Leaders).

In 2017, he suggested inserting a circular human sphere to identify new human roles to invent and proposed a method for optimizing circular value creation. The independent think tank The Chatham House UK has emphasized its work as ensuring that we meet the needs of people through material circularity. In 2018, ChangeHackers ranked him in the list of "25 Most Innovative People" for his project to insert the Circular Human Sphere. Alexandre is a lecturer at Sciences Po Paris (France) and at the University of Cape Town (South Africa). He has an MBA (MA, USA) with electives in social innovations.

1. YOU HAVE TALKED ABOUT INCLUDING EQUALITY AS A DIMENSION WITHIN THE CIRCULAR TRANSITION. CAN YOU EXPAND SHORTLY ON WHY?

Equality is as important as circularity according to the latest predictive model: the Nasa-funded HANDY (post-Meadows' Limits to Growth) model. In a nutshell, it indicates that our societies will have to be genuinely socially equitable and genuinely environmentally circular should we wish to see humanity flourish on our dear planet. This means that an economy that increases the circularity of the way we manage resources and energies is great but not enough. An equitable circular economy – often referred to as the "Circular Economy 2.0" – is not only preferred, but according to Nasa, it is a must.

In this period we have this amazing window of opportunity where we can redesign our economic model. And, for once, any individual can take part of the rebuilding of a more human, more respectful model, not only to and with Nature, but also to and with the people. So why not see this challenge as an amazing opportunity to reinvent ourselves beyond just this economic-environmental relationship?

Linearity is not just about resources being scarce. There are so many scarcities everywhere from a single-currency world, to the way our organisations function to the inability of access of our economic system to the last billion people on the planet. Do we really want to just build a 'circular' world for 'users' and 'consumers', or given the challenges ahead, shouldn't we also be part of the equation?

Today we know businesses perform better in markets that are highly equitable. You know better in Nordic countries. So let us redesign a model which is both 'circular' aligning ourselves with Nature's best innovation, and 'equitable' designing a framework accessible to all. The challenges of this planet can only be solved if you embed the people and respond to their needs. And guess what, there is nothing more versatile and flexible as a service-based economy!

2. IN YOUR EXPERIENCE, ARE THERE ANY CHARACTERISTICS OF THE CIRCULAR TRANSITION THAT DIFFERS BETWEEN THE NORDIC AND THE EUROPEAN LEVEL? IN THAT CASE WHY?

National circular road maps drive the policy and business landscapes in each and every country. The beauty of the Circular Economy is that it has to be customised for each country depending on their stock of resources and flows of energies that can be captured within one's geography. For Finland, priorities are on the food system, the careful management of sustainable forests, transports/logistics and common actions (legislation, research, citizens). While some topics could be common to several countries, like food system, transports and common actions, others are very specific: management of sustainable forests in the top two of the country priorities. So it could be difficult to compare regions or even countries, yet this is good news.

In general, the European Union makes great moves towards building up the foundations while countries are adopting new laws enabling more circularity (VAT taxes drop on repair activities, ban of single-use plastics, ban of toxic chemicals in agriculture). Yet, it is never fast enough given the projections and the challenges we face.

3. WHAT TRENDS RELATED TO BUSINESS MODELS AND BEST PRACTICES DO YOU SEE/ EXPECT IN THE CLOSE FUTURE?

I expect to see a shift from the past years that were mainly based on press releases and marketing exercises into a trend of pilot projects and genuine business cases on circularity. We need to move away from the circular economy narrow-minded perspective – where it is often compared with advanced recycling processes – into seriously move towards transformative innovation.

Best practices in my view are those that move away from recycling: in reduce, repair or remanufacturing loops. Recycling is a linear activity which will feed itself for decades to come. There is and there will be enough waste to recycle still. Show-casing real circular solutions where all resources have specific functions in a regenerative symbiotic model is a definite best practice we want to see more.

So two trends to me would be the change in the way businesses talk about the circular economy and real pilots with proper investments being show cased.

4. WHICH ARE THE PRIMARY OBSTACLES/ BARRIERS FOR COMPANIES IN ORDER TO READJUST AND BECOME CIRCULAR TODAY?

Well, there are many barriers. They are financial, legal, logistical, human, fiscal, cultural and so on. Everything has to change at the micro, the meso and the macro levels. Businesses need the support of their governments, and vice-versa.

The most difficult issue here in my view is leadership. Piloting circular projects in a world where costs and prices are in the wrong places is a very difficult convincing exercise. Collaboration becomes key here as one entity cannot succeed alone. Riversimple is an amazing example when it comes to create a public-private ecosystem of enablers that – together – overcome regulatory barriers, lower investments with performance contracts building a mobility service based on what the consumers have been asking for.

Being a leader in those times is what we need, but it ain't easy until such time we have proper frameworks to succeed. And as we say, to every barrier there is an opportunity waiting...



BEST PRACTICES IN MY VIEW ARE THOSE THAT MOVE AWAY FROM RECYCLING: IN REDUCE, REPAIR OR REMANUFACTURING LOOPS. RECYCLING IS A LINEAR ACTIVITY WHICH WILL FEED ITSELF FOR DECADES TO COME. THERE IS AND THERE WILL BE ENOUGH WASTE TO RECYCLE STILL. SHOW-CASING REAL CIRCULAR SOLUTIONS WHERE ALL RESOURCES HAVE SPECIFIC FUNCTIONS IN A REGENERATIVE SYMBIOTIC MODEL IS A DEFINITE BEST PRACTICE WE WANT TO SEE MORE.

5. WHICH ARE THE PRIMARY INCENTIVES FROM THE COMPANY PERSPECTIVE IN ORDER TO READJUST AND BECOME CIRCULAR?

Reputation and goodwill. We know from the past that companies genuinely walking the sustainability talk have always performed better, so that the same will apply now with the circular economy. And it does not always mean changing your entire structure, at least to start with. Take the example of Bundles with Miele. The versatility of a start-up was key here to bring Miele in the circular economy space under controlled investments. Now that they have tested the market, gaining experience at low risk, they could gradually invest into next steps, be it the washing machine redesign or the additional services around the machine ecosystem.

Another way to test the circular opportunity is to look at creating take-back loops, offering to collect a product or repair it in-store or via a repair partner. This is a low hanging-fruit opportunity that could help you engage with your customers and understand what they expect from such a service. Knowing better your customers by increasing their in-store visits can only be a win-win for all: you save the environment by avoiding the product to be landfilled, you get to know better your customers and reasons why they come to have their product repaired instead of just throwing it away, you have the opportunity to investigate how to ease their life further while with you.

Small changes like such new offering could lead to customer behavioral change and in-house innovation coming from your employees, if not more. Providing training on the topic of the circular economy to your employees and inviting them to identify low-hanging fruit opportunities is also a simple and easy way to spur innovation and surely increase employees' loyalty. Knowledge is the best strategy to increase your resilience!

6. WHICH POLICY INITIATIVES ARE YOU MOST EAGER TO SEE AT THE EUROPEAN LEVEL?

Any initiative that would see us move away from the European Union relying on more recycling into leading us to being less reliant on it would be great. Recycling is a linear economy concept since it relies on waste creation to survive. Policy makers have to focus their work now on enabling businesses to redesign projects so that they use less material and access energy differently, to build a culture of repair and to invest heavily in the remanufacturing space. This would lead to factories coming back to Europe, not to feed the world, but ourselves, locally at human scale.

Repairing, reusing, redistributing, refurbishing and remanufacturing rely far more on human employment than recycling activities. They should be preferred as they create local virtuous loops. And - as advocated in a Circular Economy 2.0 where equality is critical too - new kinds of genuine jobs are needed within our societies. New tax regimes such as Ex-Tax* are a response to rebuilding economies where we are part of the equation for success.

*A tax systems where natural resources are increasingly taxed and labour is decreasingly taxed.

INGELA WICKMAN BOIS

CIRCULAR ECONOMY PROFESSIONAL
AND SUSTAINABILITY STRATEGIST



Ingela holds an MBA from Stockholm University, and will, in 2019 finalize the Master programme 'Enterprise, Innovation and Circular Economy', at University of Bradford hosted by Ellen MacArthur Foundation (UK). Ingela has a broad experience from strategic roles covering sustainability, product development, process design and marketing in large corps within the FMCG, food and energy industry (Unilever, Colgate, ArlaFoods, Vattenfall). Works as specialized management consultant helping organisations to identify and optimize value in circular business cases, highlighting circular market opportunities and challenges, financial/non-financial benefits, and reverse logistics, using CE guiding tools.

1. WHAT ARE THE CHARACTERISTICS OF THE CIRCULAR TRANSITION FROM A NORDIC PERSPECTIVE, COMPARED TO THE EUROPEAN LEVEL?

Internationally, the concept of a circular economy has gone from relative obscurity to the corporate boardroom in just a few years. Senior executives from large corporations in Europe and around the world are familiar with the concept and one third have a circular strategy, adopting targets to make their products, processes or business models more circular in the coming five years. Large corps play a powerful role as engines in the transition, while SMEs, often suppliers to large corps, are the fuel.

The Nordic area is historically characterized by high environmental awareness and in the forefront of technical innovation (Sweden and Finland), which theoretically should pave the way for new paradigms. Some large corps in the Nordics (H&M, IKEA) are, together with other multinationals, taking on bold visions for the circular economy. However, when it comes to supporting legislation, policies and incentivizing actions from governments, the Nordics, with the exception of Finland, are lagging behind somewhat compared to other European countries (the Netherlands, France).

2. CAN YOU NAME ANY SPECIFIC ACTOR OR SOLUTION ON THE NORDIC LEVEL THAT IS EXTRA BOLD WHEN IT COMES TO THE CIRCULAR ECONOMY?

Finland took the bold decision to introduce a top-down strategy at country-level, which is well aligned, and plays out at all levels and in all parts of Finnish society. In Sweden two large corps stands out; IKEA, which has implemented circular initiatives of reuse and sharing, and H&M, which has taken on the trailblazing vision of 100% circularity in 2030.

In Denmark there are the two successful examples of Lego Group reinventing its plastics strategy, and Lendager Group specializing in promoting circular economy within future cities and buildings.

Several startups can be mentioned, such as Hygglo, Karma, LoopRocks and PlantagonCityFarm. Norway has presented a White Paper outlining a strategy to strengthen measures to combat marine litter including microplastics.

3. IN YOUR EXPERIENCE, WHICH ARE THE KEY SOCIAL AND/OR SOCIETAL BENEFITS OF A CIRCULAR ECONOMY?

The circular economy's central aim is to extend the life of all the goods and materials being bought, sold, used and discarded daily, throughout our societies, in order to curb extraction, pollution and waste. As such, it has come to be seen as a vital tool in the fight against environmental crises such as climate change, biodiversity loss, resource scarcity and pollution.

The social and societal benefits, described in the Performance Economy, one of the schools of thought, as increased resilience, creation of jobs, distribution of wealth through more equal flows, remains to be seen. These outcomes depend on other systemic factors, as global supply chains, and technological innovations e. g. industry automation and AI, all in synchronization, however, beyond circular influence.

4. IN YOUR OPINION, WHO LEADS THE CIRCULAR TRANSFORMATION WITHIN THE NORDICS?

There are fruitful discussions on all levels in industries, municipalities and regions. In the Nordics, Finland can be regarded as the leader. There are ongoing vivid discussions around a circular framework and stakeholder recommendations have been presented to the parliament, as well as to the municipalities on procurement policies.

The Nordic Council of Ministers has in parallel presented a proposal for a Nordic sustainable public procurement policy. The government in Sweden has recently appointed a Delegation for the Circular Economy to investigate and put forward policy recommendations.

5. WHAT IS THE FIRST STEP FOR A COMPANY WANTING TO INITIATE THEIR CIRCULAR TRANSFORMATION?

Circularity is more than just an add-on to CSR or sustainability strategies. It requires a complete product and business model rethink, starting with the choice of material through to how products are designed, made, used - and disposed of. The transition to a circular economy often translates into access to new markets, improved competitiveness, enhanced image and higher revenues among the leading benefits.

In my experience from Lean-management, I would describe circularity as a tangible approach to resource efficiency that companies can “wrap their arms around” as a first step - one with benefits which go beyond meeting sustainability goals. Lack of know-how, technology and partners have in earlier research been identified as the main challenges.

To get it right, companies need to bring in strategic circular competences in order to identify circular value creation opportunities and to align challenges. Remember to reflect on the risk of remaining in the linear model!

The initial steps involve scenario analysis and the use of several strategic and circular tools to identify the arbitrage opportunities, stakeholders, ICT, risks and challenges along the value chain. Do the maths - circular business models spell profitability...which is often overlooked. Later on, collaboration in-house is key - especially with procurement, design and commercial teams—and throughout the supply chain. This opens the door for new “circular enablers” who can facilitate exchanges, build coalitions, and fill gaps in technology, services and know-how. Start small, take baby-steps in a pilot, to evaluate viability and scalability.

6. WHICH ARE THE PRIMARY OBSTACLES/ BARRIERS FOR NORDIC COMPANIES IN ORDER TO READJUST AND BECOME CIRCULAR?

The barriers differ on the industry level, however, where the major barrier is the cost of reverse flows (reverse logistics), in the manufacturing phase, and the lack of aligned legislation and/or updated standards in general.

The original EMF report highlighted not only the economic and business case for the circular economy but also the many barriers limiting take-up and scaling. These include economic, market failure, regulatory and social barriers.



DO THE MATHS - CIRCULAR BUSINESS MODELS SPELL PROFITABILITY.

Some examples of areas where regulatory reform or new regulations will be potentially influential include: better implementation and enforcement of related existing legislation (e.g. on waste, product policy, etc.); revisions to relevant legislation including that which acts as a barrier to a circular economy (e.g. definitions in EU waste legislation) and that which can better integrate circular concepts (e.g. eco-design, extended producer responsibility), related legislation, requirements on packaging and packaging waste, labelling, reporting and accounting, new measures or regulations such as new targets (e.g. on food waste), the issue of intentional obsolescence, ban on landfill of plastics... and more.

7. WHICH POLITICAL INITIATIVES ARE YOU EAGER TO SEE WITHIN THE NORDIC COUNTRIES?

If policy and action are to be effective, they need to address this systemic and systems-level focus. This means that a circular economy goes beyond the pursuit of waste prevention and waste reduction, to inspire technological, organisational and social innovation across and within value chains. There are many barriers, untapped opportunities and obstacles to be addressed.

The main policy objective would be to create conditions for the development of a circular economy by addressing barriers and enabling the development of new markets and business models, bringing in economic, social, and environmental benefits resulting from optimized use of resources in particular, the creation of jobs and economic value and to slow down resource depletion.

A “low-hanging fruit” would be public procurement policy, kick-starting the supply and demand of secondary materials, creating new markets, and enabling scalability and profitability of circular business models. Decreasing tax on renewable resources (such as labor) and increasing it on non-renewable resources (finite resources) would be another suggestion.

8. WHEN CONSULTING COMPANIES, WHAT INCENTIVES TOWARDS CIRCULAR INITIATIVES DO YOU MEET MOST OFTEN?

The idea of leasing/renting, to sell function instead of product, is one initiative, using ICT and digital platforms. In manufacturing, the ambition often starts in tweaking the linear value chain at end of pipe i.e. focus is on recycling. However, this is one of the misconceptions about the CE, that it is about recycling, collection and sorting. However, the circular idea covers so much more.

Actually, everything starts with design of the product, to enable the following prioritized strategies and business models;

REduce. Using design and manufacturing technology to lower material, energy and waste footprints.

REuse. Offering subscription, leasing or sharing models, rather than basing business on one-off sales.

REmake. Designing products that can be more easily repaired or “remanufactured” into new products.

REcover. Turning by-products into new products or adding recycled content to products and packaging.

REnew. Substituting renewable for finite materials and focusing more on sustainable sourcing.

9. YOU HAVE EXPERIENCE WHEN IT COMES TO PRODUCT DEVELOPMENT. CAN YOU SHARE THE “DUMMY” GUIDE I.E. 3 EASY STEPS ON WHERE TO START WHEN AIMING TO DESIGN OUT WASTE IN THE PRODUCT DEVELOPMENT PHASE?

Firstly, evaluate the value proposition to the customer through the lens of circularity. Then (re)design.

1. Consumer goods (FMCG) e.g. food - packaging materials are in focus, and the whole supply chain. Don't mix materials. If available, choose alternatives to plastics, if not, choose plastics of high value that can be recycled.

2. Technical products - design for disassembly – making it reusable, repairable, recyclable/cascadable. This requires high-quality and non-toxic materials. Bring in the notion of selling function (the PSS model) offering access rather than ownership. Assess the opportunities of using secondary instead of virgin materials.

3. Use materials that can be separated i.e. not glued. Inseparable materials end up being incinerated end of life, which represents lost value, so-called “downcycling” - a major issue for circularity.

10. WHAT TRENDS REGARDING BUSINESS MODELS AND BEST PRACTICES DO YOU SEE/EXPECT IN THE CLOSE FUTURE?

End of ownership Product as a service (PSS), ‘servitization’ – the alternative ownership models is a force that companies need to embrace, involving business-model considerations and a choice between partnerships, in-house development, or Mergers & Acquisitions.

Transparency. We will see an increase in audits of suppliers, in use of blockchain to disclose transactions in the chain, and more rigorous reporting of social and environmental impact.

Digital platforming for the use in collaborative models, e-commerce, and RFID techniques supporting tracing of products and looping materials.

Consumer awareness is on the rise. However, consumers cannot disrupt the systemic shift, by sorting and/or consuming less. The change has to start with the (100) global (linear) companies, in collaboration with policy makers.

The systemic view and the nexus of resources for optimized flows will start to have an impact, influencing best practices.

11. COOPERATION OVER THE ENTIRE VALUE CHAIN IS KEY IN ORDER TO DEVELOP CIRCULARITY. CAN YOU GIVE AN EXAMPLE OF A COOPERATION BETWEEN ACTORS THAT STIMULATED THE CIRCULAR TRANSITION?

Still early days, however, the circular frameworks for cities, being in the forefront of transition (e.g. Milan, Scotland, Phoenix), illustrate the cross-over collaborative ambitions amongst partners along the complex resource flows of a city. DESSO and Rolls Royce are good examples of companies that have managed to implement a fully closed loop strategy through partnerships and cooperation across the value chain.

JUHA MÄKELÄ

PRODUCT & CONCEPT DESIGNER



Juha is a Finnish product and concept designer that holds a Masters of Art from the Interior Architecture and Furniture Design at the Industrial Arts of Helsinki. He is the former co-owner of MattaDesign Office, inventor and co-founder of Original RePack and co-founder of RePack Design. Juha is specialized on innovative and sustainable design. RePack is a reusable and returnable delivery packaging that can be used a minimum of 20 cycles and which is designed specifically for apparel. RePack was awarded with the Nordic Council Environment Prize in 2017.

1. CAN YOU SHORTLY MENTION 2 OF THE PRODUCT DESIGNS YOU WORKED WITH THAT HAVE A CLEAR CIRCULAR VALUE?

- RePack, reusable and returnable packaging service for e-commerce is our biggest project so far. It is first in the world, super simple solution to a single use waste problem. Packages are very durable and can reduce CO2 emissions by 80%.
- At the moment we are designing reusable packages for industry. Transport packages and packaging work is often the most sub-optimal part of the industrial quality chain. Packaging needs to be designed not just for transportation, but for people who are using them.

Our solutions help reach cost savings, operational efficiency and environmental sustainability. We want to lead the whole packaging industry towards a people-centered circular economy. As an example, last project we made for a meeting pod manufacturer, we could reduce disposable components to zero and packaging time from 4 hours to half hour. Users were also very happy about ergonomics.

2. WITH REPACK, THE PRODUCT AS A SERVICE DIMENSION IS VERY CLEAR. IS THIS ALWAYS A NATURAL PART OF YOUR DESIGN PROCESS? CAN YOU EXPAND A BIT ON INTEGRATING THIS PERSPECTIVE WITHIN THE DESIGN PROCESS?

In a very old model disposed products ended up as landfill. There were very little service then, only the trashcan availability and truck ride to dumping ground. In circular models, products and materials are taken back and cycled further as products or materials and someone has to do that. So a circular model is very much user-oriented service design. From the design perspective it is motivating not just to design a product but also to design its life cycle.

3. WHICH ARE THE PRIMARY OBSTACLES/ BARRIERS FOR AN SME IN ORDER TO READJUST AND BECOME CIRCULAR?

I think the biggest issue is old-school attitude and lack of ambition.

4. WHICH ARE THE PRIMARY INCENTIVES FOR AN SME TO INCLUDE CIRCULARITY WITHIN ITS BUSINESS MODEL?

Today every CEO who has the time to think about the company future, has to be very aware about the sustainability and environmental development. You are part of the development or you are soon out of business.

5. WHAT TRENDS REGARDING CIRCULAR/ SUSTAINABLE DESIGN DO YOU SEE/EXPECT WITHIN THE NEXT 5 YEARS?

- Food design will be big business. Alternative protein sources to replace meat production is key issue on fighting climate change.
- From product-to-service model. The whole concept of ownership is changing when you don't have to own it to use it.



FROM THE DESIGN PERSPECTIVE IT IS MOTIVATING NOT JUST TO DESIGN A PRODUCT BUT ALSO TO DESIGN ITS LIFE CYCLE.

6. YOU HAVE WORKED A LOT WITH COOPERATION OVER SECTORS. WHAT ARE THE KEY WINS WITH THESE TYPES OF COLLABORATIONS? DO YOU PLACE SUSTAINABILITY DEMANDS ON COLLABORATIVE PARTNERS? DO THEY PLACE THESE DEMANDS ON YOU?

In industrial cases the business model is the key element. When ROI is a year or less, then the project is easy to start. Rethinking the whole packaging process will bring savings and more sustainable packaging in every case. It is important that being sustainable is also good business.

7. WHICH POLITICAL INITIATIVES ARE YOU EAGER TO SEE IN ORDER TO DEVELOP A CIRCULAR APPROACH?

This is a difficult question. Today environmental regulation is more about *stick*, but I would like to see more *carrot*, i.e. positive initiatives to make circularity easy and cost efficient for all.

MARIJANA NOVAK

DATA STRATEGIST



Marijana Novak, Data Strategist at Circle Economy, works to harness and create knowledge that is accessible to the diverse stakeholders of the circular economy. Marijana has a background in Sustainable Finance, Risk Modelling, & Computer Science with a focus on urban environments.

1. IN YOUR OPINION, WHICH ARE THE PRIMARY OBSTACLES/BARRIERS FOR COMPANIES IN ORDER TO READJUST AND BECOME CIRCULAR?

At Circle Economy, simply put, we see that largest obstacle is the cultural obstacle, in terms both of acceptance and/or uptake of circular transformation. Second relates to market issues such as pricing or trying to find the appropriate suppliers. Third is technological barriers.

However, barriers are complex and interrelated. For example: a shift towards a circular business model might require being better able to adopt new innovations arising out of the research department. Redesigning products to have lower material footprints requires the prioritisation of such a requirement at an organizational level, a feasible technical solution and efficient means to roll out that technical solution.

Another example: supply chains have to be re-organized and educated towards a circular economy, for example towards the development of a secondary market for materials. The research, business development and regulatory requirements around valorising waste streams is complex - not only from the perspective of matching supply to demand but also from the perspective of ensuring that the material streams are appropriate and safe to enter into another industrial process.

2. IN YOUR OPINION, WHAT INCENTIVES TOWARDS CIRCULAR INITIATIVES DO YOU FACE THE MOST OFTEN?

In addition to the reduced environmental impact and positive social benefits associated with inherent circular economy principles, incentives for businesses could include (1) the reduction of costs from more efficient processes (2) new revenue streams from valorising waste (3) customer acquisition or improved brand value associated with sustainable behaviour, and (4) risk management with the avoidance of future regulatory penalties. For cities and policymakers we see that the circular economy offers a practical way to attract innovation, create jobs and ensure their cities remain livable, healthy and prosperous.

3. IN SOME SHORT BULLETS, NAME SOME INNOVATIVE WAYS IN WHICH TECHNOLOGY CAN SUPPORT A TRANSITION TO THE CIRCULAR ECONOMY.

1. Through sensors and data analysis, we can monitor and optimise industrial processes for increased material efficiency. At a much larger and more difficult scale, we could do the same for earth systems and natural resources.
2. Asset tracking, distributed databases, micro-transactions and smart contracts can all facilitate extended producer responsibility and product-as-a-service models.
3. Robotics and associated AI methods can accelerate innovation, across sectors, for example in materials science.
4. Digital and additive manufacturing provides opportunities for materially optimal and local production of goods, occasionally from high quality waste streams available in the area.
5. Online marketplaces can facilitate the matching of supply to demand; not only for the circulation of second hand goods, but also to encourage local production and consumption.

6. The establishment of knowledge networks to share and transfer information with almost zero marginal cost allows us to allocate resources for research more efficiently globally i.e. by reducing double efforts and the ability to convert between standardised methods and contextual methods easier.

4. IN YOUR EXPERIENCE, WHICH ARE THE KEY SOCIAL AND/OR SOCIETAL BENEFITS OF A CIRCULAR ECONOMY?

A circular economy is regenerative by design and aims to preserve the health of the planet, consequently all of our urban, agricultural, and natural environments will be suitable not only for human species to thrive, but will also support the biodiversity and natural systems that are necessary for our continued prosperity. This in turn supports the provision of healthier food and energy systems.

A circular economy aims to create positive social externalities by design, and is oriented towards a human-centred collaborative approach. The application of these principles into business processes will result in the provision of services that are more suited and sensitive to the needs of the employee and the customer.

5. IN YOUR OPINION, WHO PRIMARILY LEADS THE CIRCULAR TRANSFORMATION WITHIN EUROPE?

Circular transformation is all about applying a systematic approach. For example, there are diverse bottom-up efforts in order to stimulate the sharing economy such as repair cafes and peer-to-peer movements. This indicates a growth of conscious consumerism. From the business perspective, many actors are prioritizing circular economy innovation in order to increase brand value and environmental efficiency. In all levels of government circular economy is a key priority in order to create long-term resilience and stability, job creation and citizen safety. Also, research groups are aligning in the development of frameworks to assess and monitor circularity. Furthermore, NGO's work closely with these groups to align efforts, guide the transformation and raise awareness.

6. WHAT TRENDS REGARDING BUSINESS MODELS AND BEST PRACTICES DO YOU SEE/EXPECT IN THE CLOSE FUTURE?

We will see plenty of circular value propositions because of the holistic perspective circularity offers in the creation of positive opportunities that extend across society and the entire supply chain.

Accordingly, research indicates that benefits or premiums arising out of sustainable business models are shrinking whilst penalties associated with bad behaviours are growing. Approximately 80% of S&P500-companies, i.e. 500 of the large-cap companies on the American stock exchanges, are already reporting on sustainability. This transparency should lead to a greater awareness and understanding of actions that can be taken and provide clearer opportunities for collaborations.

Data collection and analysis towards science-based targets and research efforts will facilitate the assignment of responsibility and stakeholders along these supply chains.

The combination of digitalisation of businesses and subscription services will significantly alter the ways in which individuals consume household goods. The ability to aggregate bottom-up information about household needs will allow us to study the distribution of these goods and therefore to lower impacts associated with transport, production, and even end-of-life product handling.

7. WHAT ARE THE KEY CHALLENGES AND KEY GAINS WITH PROMOTING/DEVELOPING CIRCULAR CITIES? WHAT THEMATIC AREAS DO YOU THINK TO HAVE THE LARGEST CAPACITIES TO DRIVE CIRCULAR CHANGE?

Circular cities should provide societal needs for their citizens, such as comfort, safety, etc., within planetary boundaries. They should also constantly reinvent themselves towards this double-edged goal. Cities that currently provide comfortable thriving environments for their citizens often do so at a very high environmental cost, and cities that perform better environmentally often fail to deliver adequate services and quality of life for their citizens.

Circle Economy studies the material footprint associated with various societal needs, and then cross references this onto the capacity of the city to adjust the provision of this societal need. Typically, certain supply chains are better placed to act within a given context, and key projects arise out of such a process. The activation of the supply chain towards a given societal need by the city creates an immense opportunity and regulatory space to innovate towards a more positive means of provision of services to citizens, inspired by a collaborative systems approach.



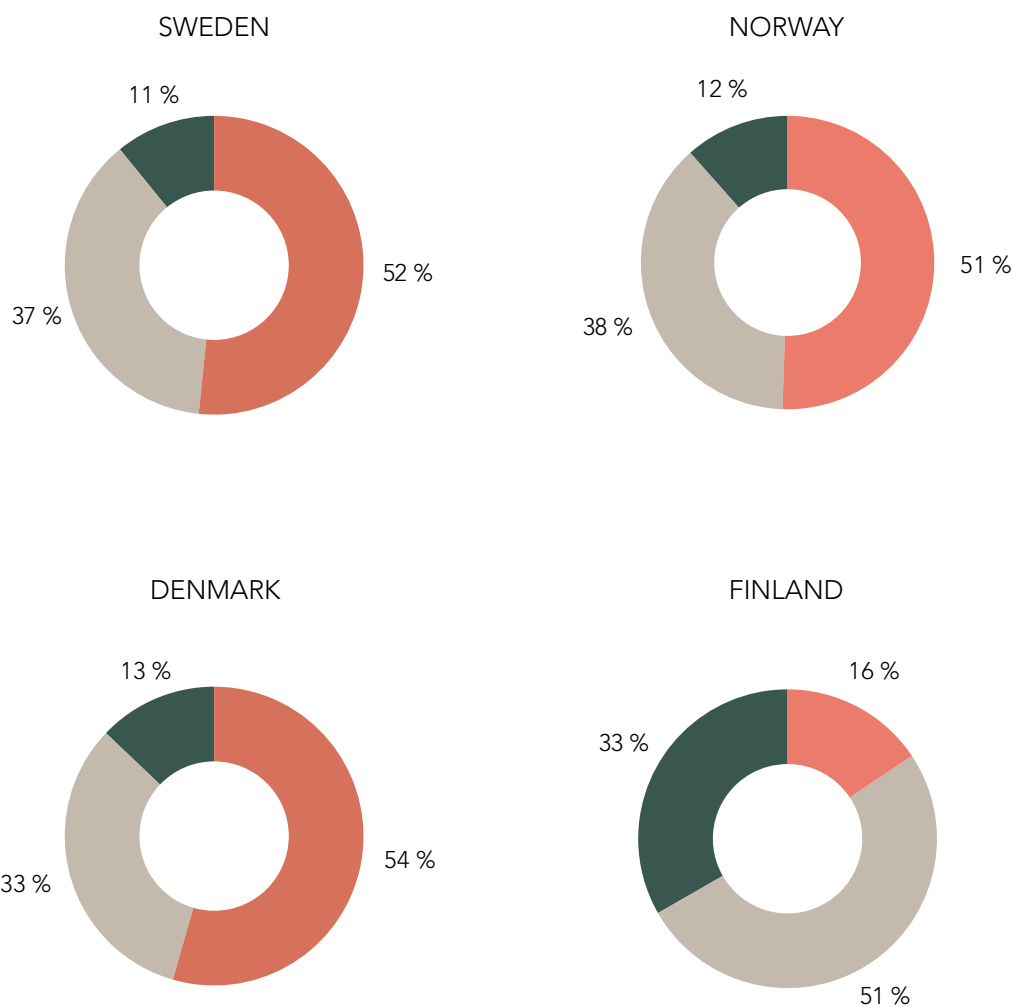
04

THE NORDIC CONSUMER MARKET
FOR CIRCULAR ECONOMY

KNOWLEDGE LEVELS

ARE YOU FAMILIAR WITH THE TERM CIRCULAR ECONOMY (C.E.)?

■ Unaware of the term
 ■ Familiar with the term
 ■ Know the meaning of the term



FINNISH CONSUMERS HAVE HIGHEST KNOWLEDGE

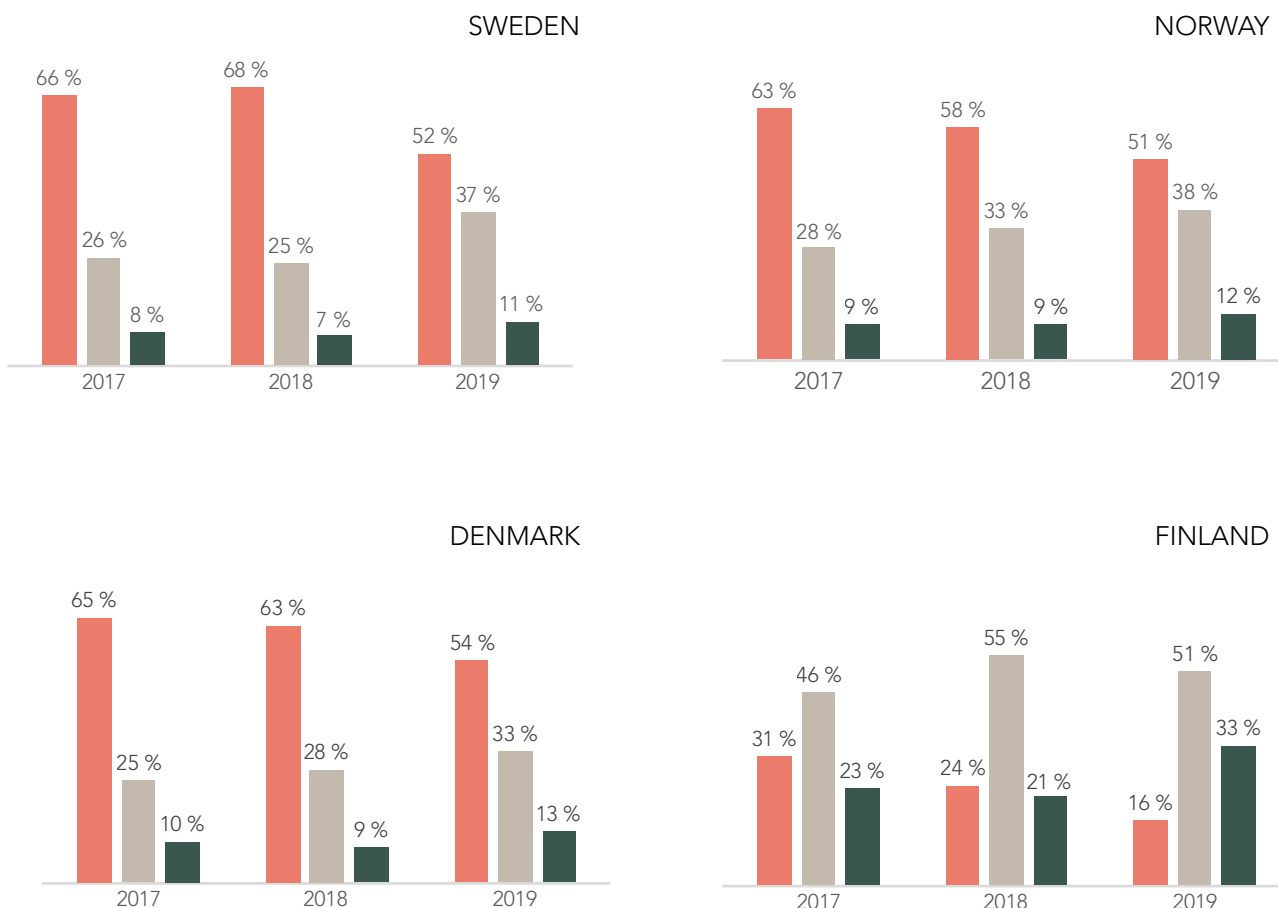
Similar to 2018, Finns still have the highest level knowledge within the Nordics in 2019. While the proportions of those with knowledge about the term circular economy are slightly above 10% in the other Nordic countries, the Finnish equivalent corresponds to 33%. Furthermore, it is evident that the share of consumers that never heard of the term circular economy is remarkably smaller in Finland than in the other Nordic countries.

DEVELOPMENT OF KNOWLEDGE LEVELS

ARE YOU FAMILIAR WITH THE TERM CIRCULAR ECONOMY?

2017-2019

■ Unaware of the term
 ■ Familiar with the term
 ■ Know the meaning of the term



POSITIVE DEVELOPMENT WITHIN THE NORDICS

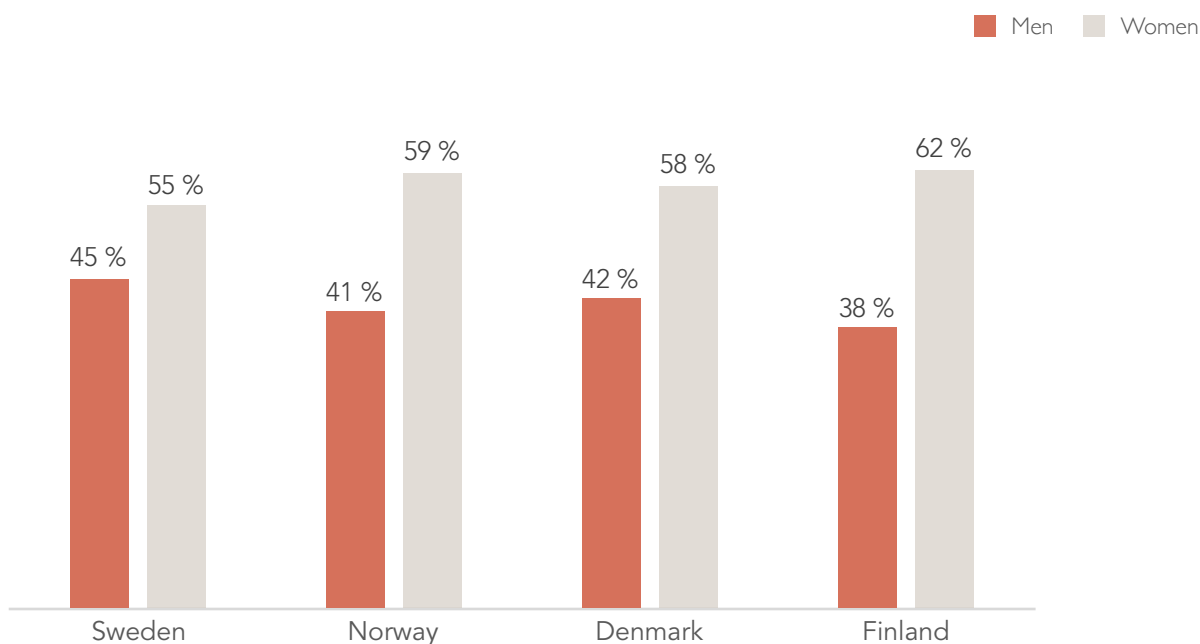
The development from 2017 to 2019 appears similar across the Nordic countries. The awareness of the term circular economy amongst consumers is steadily increasing and the percentage that are unaware of it is decreasing.

Sweden shows the largest decrease of those unaware of the term over the past year, if looking at absolute figures. Furthermore, the numbers in Finland are still high and have not stagnated since previous years. In fact, Finland shows the largest increase in the proportion of consumers that know the meaning of the term from 2018 to 2019. This shows that the Finnish consumers' knowledge about the circular economy is not just a trend, it is a consistent societal development.

KNOWLEDGE LEVELS – DEMOGRAPHICAL DIVERGENCES

ARE YOU FAMILIAR WITH THE TERM CIRCULAR ECONOMY?

GENDER DIVERGENCES



MEN EVALUATE THEIR OWN KNOWLEDGE LEVEL HIGHER THAN WOMEN DO

Examining the gender divergence when it comes to knowledge levels, a pattern emerges. Men evaluate that their knowledge about the term circular economy is higher than the knowledge level that females experience themselves to have. Looking at the proportion of individuals in each country that have stated that they are unaware of the term circular economy, the discrepancies between men's and women's evaluations are clear.

Looking at those who consider themselves to have knowledge about the term circular economy, we can see a similar pattern. Men are overrepresented in all countries. However, since this group constitutes only around 10% in Sweden, Norway, and Denmark, looking at the levels of unaware consumers is more rewarding.

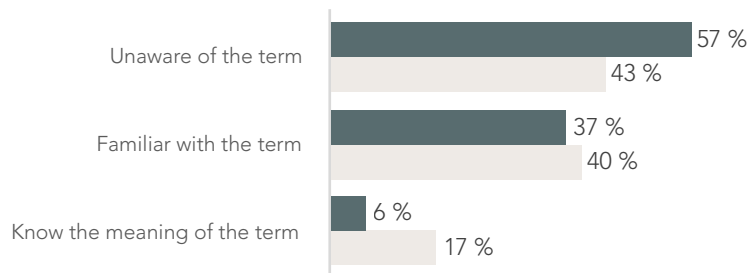
The results originate from the fact that men tend to overestimate the evaluation of their own knowledge and capacity overall in market research related to sustainability, while women tend to degrade the evaluation of their knowledge and capacity in a similar manner.

KNOWLEDGE LEVELS – DEMOGRAPHICAL DIVERGENCES

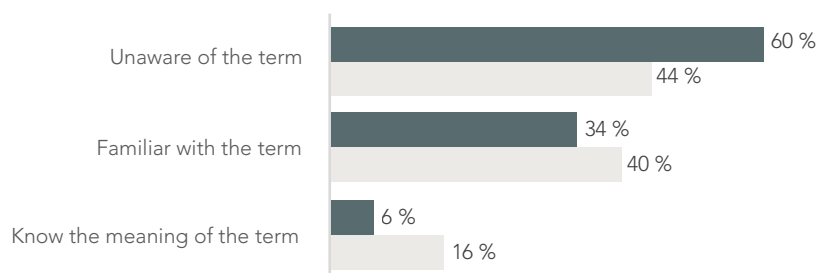
ARE YOU FAMILIAR WITH THE TERM CIRCULAR ECONOMY?

EDUCATION DIVERGENCES

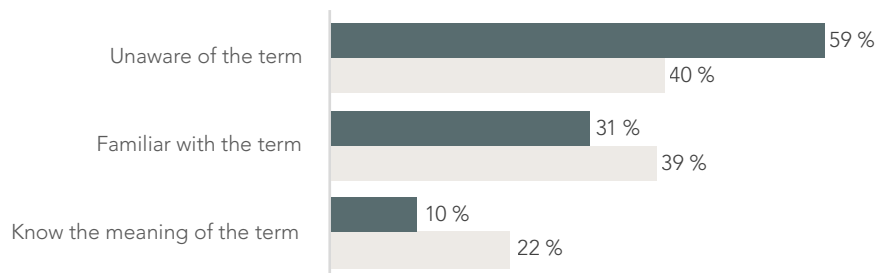
University High school SWEDEN



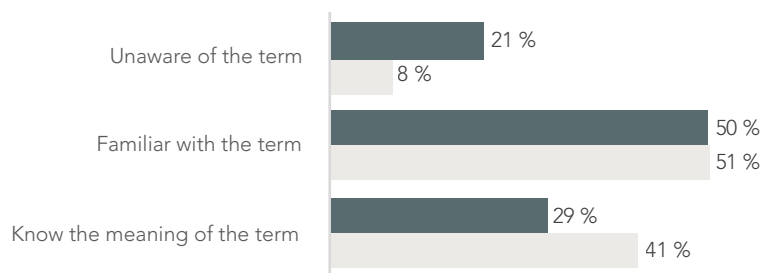
NORWAY



DENMARK



FINLAND



UNIVERSITY BACKGROUND GIVES HIGHER KNOWLEDGE ON CIRCULAR ECONOMY

University students or people with a university background state that they have a higher knowledge of the concept of a circular economy than those with a high school background, both when looking at the proportions that are unaware of the term, and those knowing the meaning of the term.

We can also see a strong correlation when comparing people with a university background with those that have an elementary school background. However, the proportion of those that have attended elementary school as their highest educational instance is shrinking drastically and is also unequally spread amongst different demographics. Despite this, it is clear that educational background affects the awareness of the term circular economy.

KNOWLEDGE LEVELS – DEMOGRAPHICAL DIVERGENCES

ARE YOU FAMILIAR WITH THE TERM CIRCULAR ECONOMY?

AGE DIVERGENCES

SWEDEN	20-29 years	30-44 years	45-59 years	60-70 years
Unaware of the term	31%	53%	59%	62%
Familiar with the term	50%	35%	33%	32%
Know the meaning of the term	19%	12%	8%	7%

NORWAY	20-29 years	30-44 years	45-59 years	60-70 years
Unaware of the term	46%	48%	54%	58%
Familiar with the term	41%	40%	37%	35%
Know the meaning of the term	13%	12%	10%	6%

FINLAND STANDS OUT FROM THE CROWD

In all countries besides Finland, the age groups 20-29 and 30-44 years old have the largest knowledge of the term circular economy. Especially in Sweden, the age group between 20-29 years old have the highest knowledge. In Finland, the age group between 60-70 have the highest knowledge even though there are no vast differences between the age groups there.

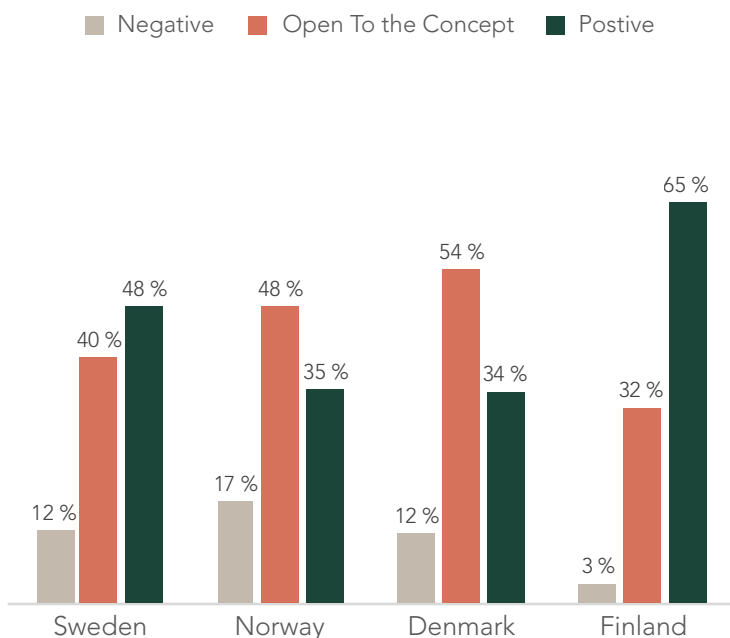
Furthermore, Finland is the only country where the oldest age group shows lower figures for the share that are unaware of the term circular economy than the other age groups. We see the opposite pattern in Sweden, Norway, and Denmark.

DENMARK	20-29 years	30-44 years	45-59 years	60-70 years
Unaware of the term	38%	56%	58%	60%
Familiar with the term	47%	27%	28%	35%
Know the meaning of the term	15%	17%	14%	5%

FINLAND	20-29 years	30-44 years	45-59 years	60-70 years
Unaware of the term	18%	17%	19%	8%
Familiar with the term	49%	52%	49%	59%
Know the meaning of the term	33%	31%	32%	34%

REDUCING CONSUMPTION

WHAT IS YOUR SPONTANEOUS ATTITUDE TO REDUCING YOU OVERALL CONSUMPTION WITHIN THE FIVE COMING YEARS?



POSITIVE DEVELOPMENT APART FROM NORWAY

Finns are more positive towards the idea of reducing their consumption than the other Nordic populations, followed by Sweden. This is the same pattern as we saw in 2018. However, the Finns’ positive attitudes to reduced consumption have also increased more than the levels for the other Nordic populations over the last year.

The proportion of those that are positive to reduced consumption has actually decreased in Norway from 39% in 2018 to 35% in 2019. Also, Norway is the only country in the Nordics that have a larger proportion of consumers that are negative to reduced consumption in 2018 than in 2019, although the decrease is small. This result is interesting keeping in mind that Norway has a higher GDP per capita than the other Nordic countries. In Denmark, the negative representation of reducing consumption has dropped from 21% in 2018 to this year’s 12%.

There are also certain interesting demographical divergences such as the gender divergence. Women are heavily overrepresented amongst those positive to reducing consumption in all countries. In the table below we can see the divergences amongst the men and women that are positive to reduced consumption in each country respectively.

In all Nordic countries we can also note an age pattern. The older the consumer is, the more positive the attitude is to reduce their consumption. The consumers between 20-29 years old are thus the most negative age group, while the oldest group between 60-70 years old are the most positive to reducing their consumption. The exception is the group between 45-59 years old in Sweden and the group 30-44 years old in Norway, which are the most negative to consumption in their country respectively.

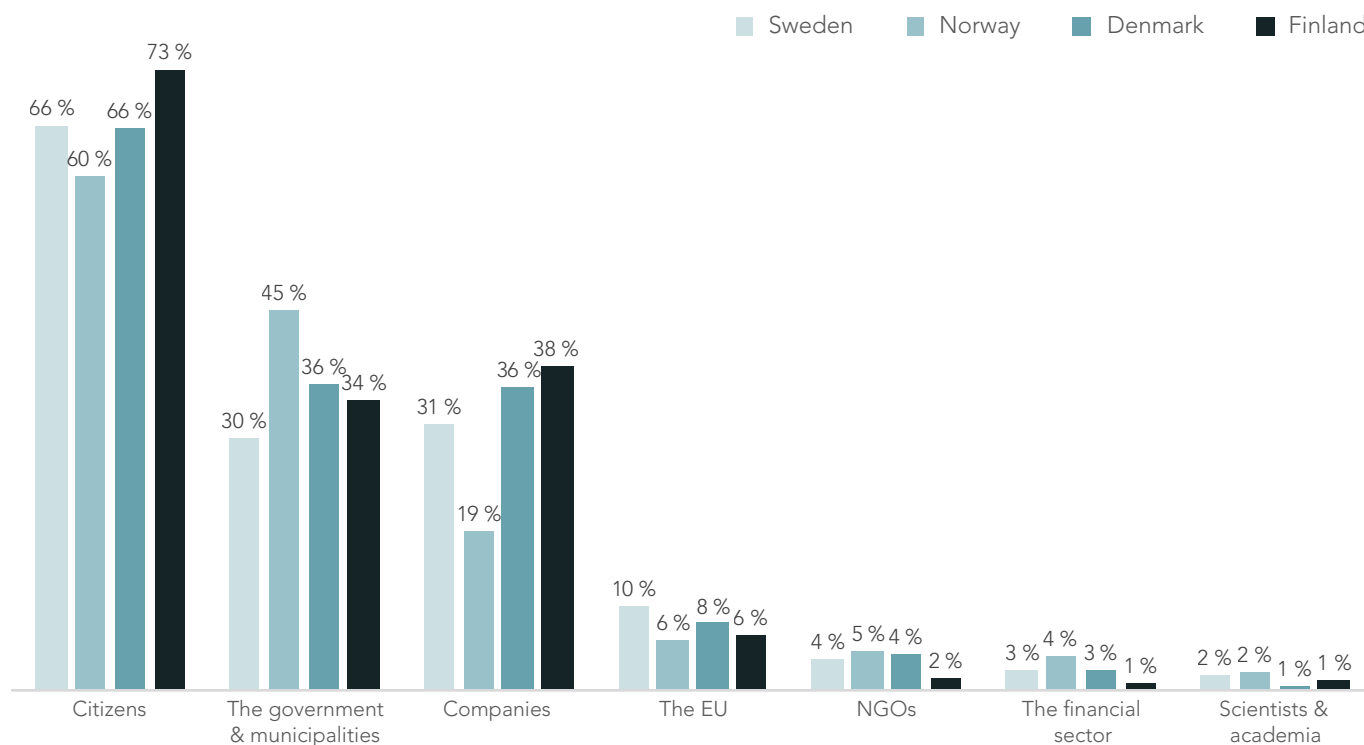
The third factor is the different levels of income. While correlations between income and attitude to reduced consumptions are lacking in Norway and Denmark, the Swedish example shows that the lower the income, the more positive attitude to reducing consumption. In Finland, we see the opposite pattern; the higher the income, the more positive attitude to reducing consumption.

GENDER DIVERGENCES

	Men	Women
Sweden	35%	65%
Norway	48%	52%
Denmark	35%	65%
Finland	38%	62%

RESPONSIBILITY

WHO BEARS THE MAIN RESPONSIBILITY FOR A CIRCULAR TRANSITION?



INCREASED RESPONSIBILITY FOR GOVERNMENT & MUNICIPALITIES

The Nordic consumers think that citizens themselves have the largest responsibility in order to enhance a transition to a circular economy. This is especially clear in Finland. The largest difference amongst the Nordic countries is that Norway puts more responsibility on government and municipalities and less responsibility on companies than the other Nordic countries. This result stems from the large Norwegian public sector which creates a high belief in the state as a problem-solving mechanism. The Norwegian consumer base that thinks that the government is mostly responsible for a circular transition has actually increased from 37% in 2018 to 45% in 2019 which shows that the reliance on the government keeps growing.

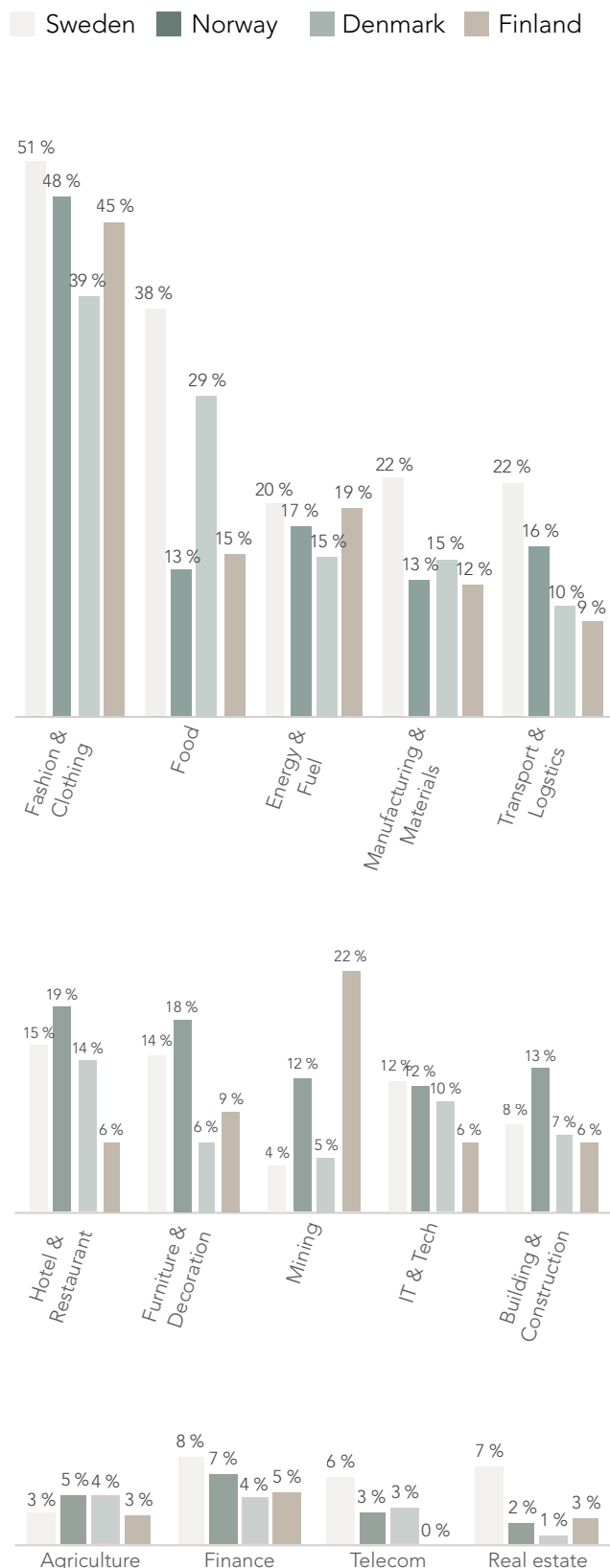
An interesting note, those placing responsibility on government & municipalities have moved past those that place the largest responsibility on companies, last year it was the other way around. Both in Finland and in Denmark the responsibility placed on the state

has increased with more **than 10%-units** compared to last year. An underlying explanation for this is partly that both Finland and Denmark have national elections in 2019, which creates a larger focus on the responsibility of the government in most issues.

Although the levels are low, it is interesting to note that Swedes place the largest responsibility on the EU if comparing with the other Nordic countries. This result originates partly from the fact that it has caught Swedish media attention that many environmental-related policies in Sweden are determined on the EU level, which affected Swedish consumers to see the EU responsibility clearer. Furthermore, almost none of the consumers in the Nordic countries put the main responsibility for the circular transition on NGOs, the financial sector or science & academia. This does not mean that they do not find these actors' roles to be important. It only means that these actors are not perceived as the main responsible actor for a circular transition.

RESOURCE WASTE

WHICH OF THE FOLLOWING INDUSTRIES DO YOU PERCEIVE TO WASTE THE LARGEST AMOUNT OF RESOURCES – BOTH IN THE PRODUCTION AND CONSUMPTION PHASE?



FASHION INDUSTRY MOST WASTEFUL ACCORDING TO CONSUMERS

The consumers in all the Nordic countries perceive the fashion industry to waste the largest amount of resources. This is partly due to the fact that the fashion industry keeps getting examined and getting a lot of media attention e.g. when it comes to burning textiles and clothes. But it also depends on the framing of the question and about fashion and clothing being perceived as unnecessary consumption and thus the industry that “wastes” the largest amount of resources.

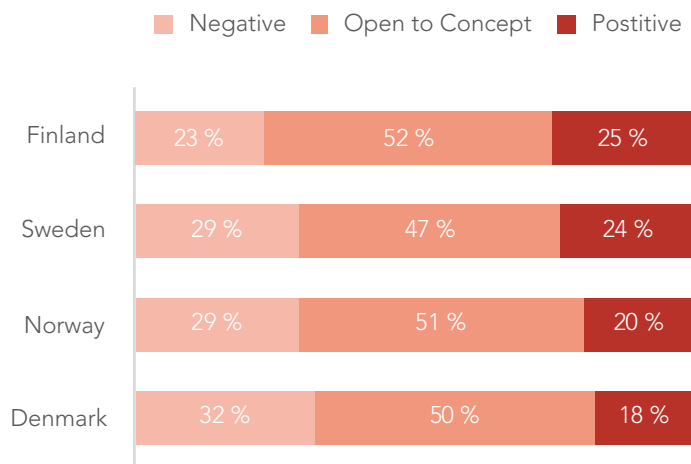
Looking at the food industry is extremely interesting. Swedes and Danes clearly perceive it as more wasteful of resources compared to other countries. This is slightly surprising since e.g. Norway has persistently had a large focus on food waste in recent years, while it just got a frequently debated topic for the general public in Sweden. But this can also explain the result; the trend in food waste in Sweden and Denmark could explain why consumers in these countries see them as more wasteful than Norwegians and Finns. Also, it is interesting with the high scores of the food industry while agriculture scores very low. This shows the difference in connotation between “food waste” and “agricultural waste”, whereas the first is a much more generic term that the consumers are familiar with.

It is highly interesting that building and construction scores very low. Today, construction stands for 36% of the Co2-emissions within the EU and construction and demolition waste is the largest waste stream in the EU. Still, only around 10% of the consumers in each Nordic country consider it the industry that wastes the largest amount of resources. However, the framing of the question also influences this parameter, since people do not consider that the building and construction industry is as “unnecessary” as for example the fashion industry.

There is a clear discrepancy between the Finnish consumers’ perception of mining compared to the other nationalities. It is straightforward that Finland should measure higher on this parameter than Denmark and Norway due to a larger mining sector, but it is slightly surprising that only 4% of Swedes think that mining wastes the largest amount of resources, while 22% of the Finns do. An underlying explanation for this is the large weight of the manufacturing and heavy industry within the Finnish economy and society. Thus, the focus on mining is closer to mind for Finnish consumers than within the other countries.

TAXATION ATTITUDES & CIRCULARITY

HOW WOULD YOU FEEL ABOUT AN INCREASED TAX ON THE CONSUMPTION OF PHYSICAL GOODS AND A CORRESPONDING LOWERED TAX ON INCOME AND/OR SERVICES?



MANY OPEN TO TAX PARADIGM SHIFT

It is rather startling that circa a fourth to a fifth of the consumers in all Nordic countries are positive to a tax paradigm shift into a system where services and labour are decreasingly taxed and where physical goods are increasingly taxed. Also, it is similarly startling that around half of the Nordic consumers in each country are also open to the same concept, while only in between 23% (Finland) and 32% (Denmark) are negative to such a change. Despite the fact that attitudes towards a non-existing tax paradigm shift and an actual implementation of such a system are far apart, it is very interesting to find that the Nordic consumers' attitudes are not entirely inflexible as one might assume, and that the openness to circular tax regulations is rather large.

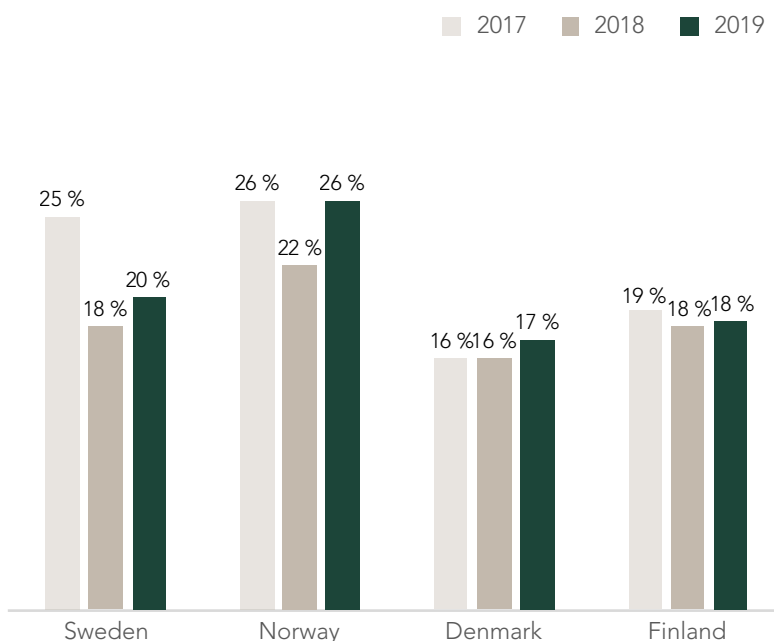
CO-OWNERSHIP

DO YOU CO-OWN ANYTHING TODAY?

CO-OWNERSHIP LEVELS STAY PUT

The Nordic levels of co-ownership have not changed much since last year. The largest development that is notable takes place in Norway, where the consumers that co-own one product or more has increased from 22% to 26% between 2018 and 2019.

However, we can see that that the developments in both Sweden and in Norway were negative between 2017 and 2018 and positive between 2018 and 2019. This development can originate from several sources. Both the access to co-owning platforms and societal trust or distrust levels are possible explanations. Also, in Norway, the co-ownership of holiday houses affect these levels, since going away to holiday cabins are an embedded part of the Norwegian culture.

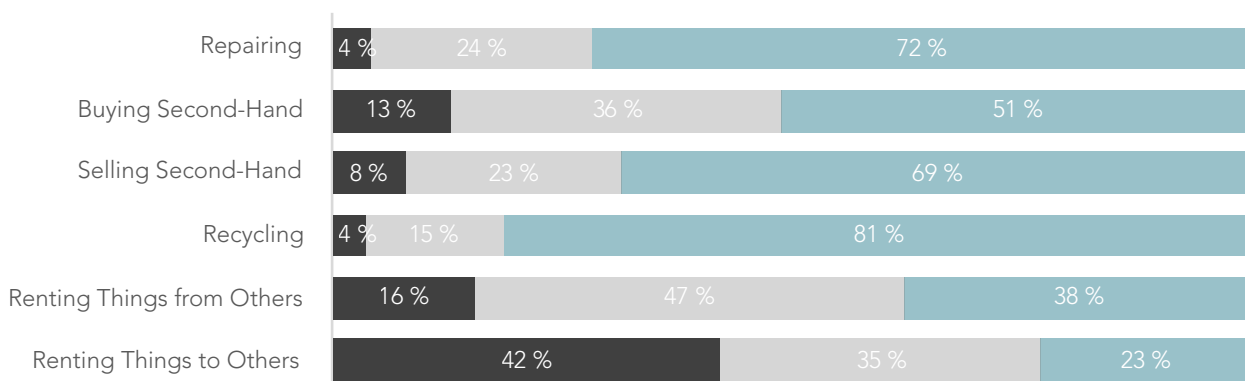


ATTITUDES

WHAT IS YOUR SPONTANEOUS ATTITUDE TO THE FOLLOWING ACTIVITIES?

Negative
 Open to Concept
 Positive

SWEDEN

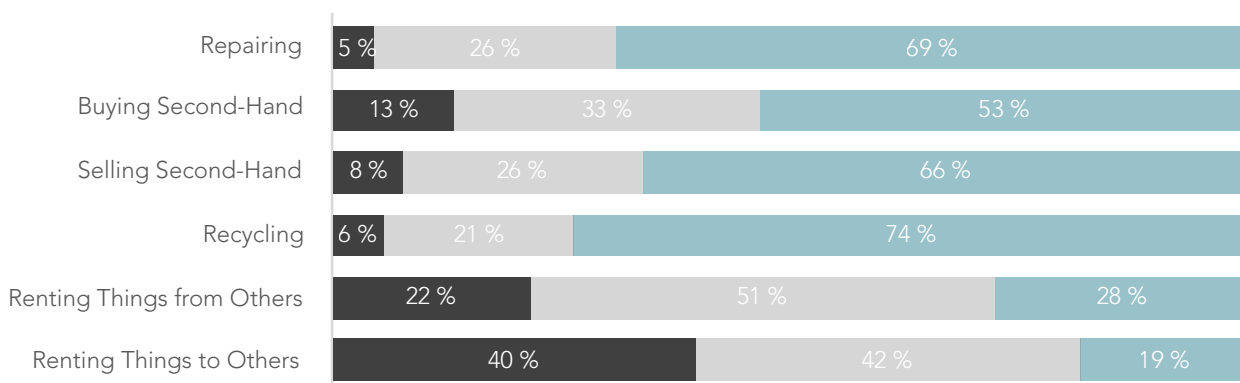


PEOPLE MORE POSITIVE TO BUYING SECOND HAND ITEMS

The overall pattern for the Swedish consumers' attitudes look the same as last year. Consumers are still rather negative to sharing activities; especially to rent items to others. This is prominent in both Sweden and Norway. Furthermore, the groups that are positive about renting things from others have gone down from 46% to 38% in Sweden and 39% to 28% in Norway. The shares of negative consumers for the same activity stay close to last year's result. People are hence increasingly reluctant to rent things from others in Sweden and Norway.

Just like last year, repairing and recycling are with no doubt the most popular activities if looking at attitudes. There are some more developments worth mentioning. First, the shares of consumers that are positive to buying second-hand items have increased in both Sweden and Norway, and fewer people are negative to this activity in Sweden while it stays the same in Norway. When it comes to selling second-hand items, levels are more consistent with last year's result, even though those positive to selling second-hand items in Sweden has increased slightly.

NORWAY

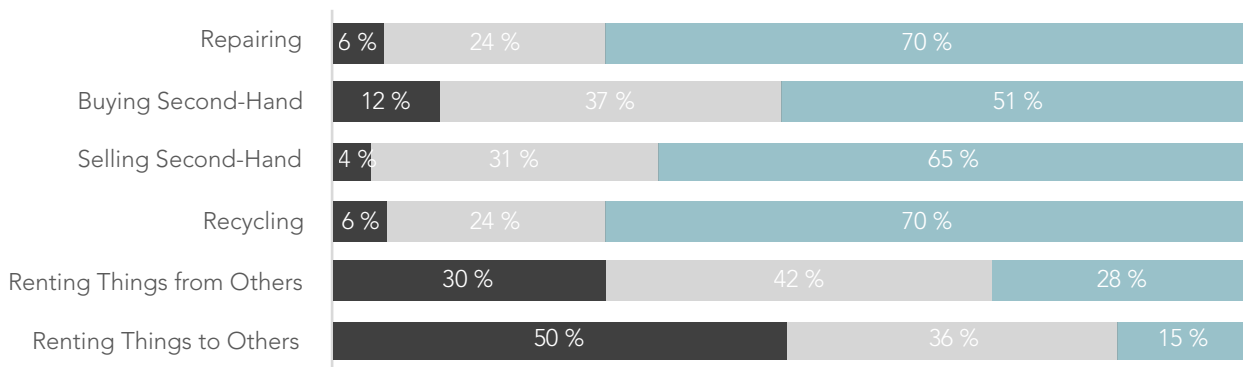


ATTITUDES

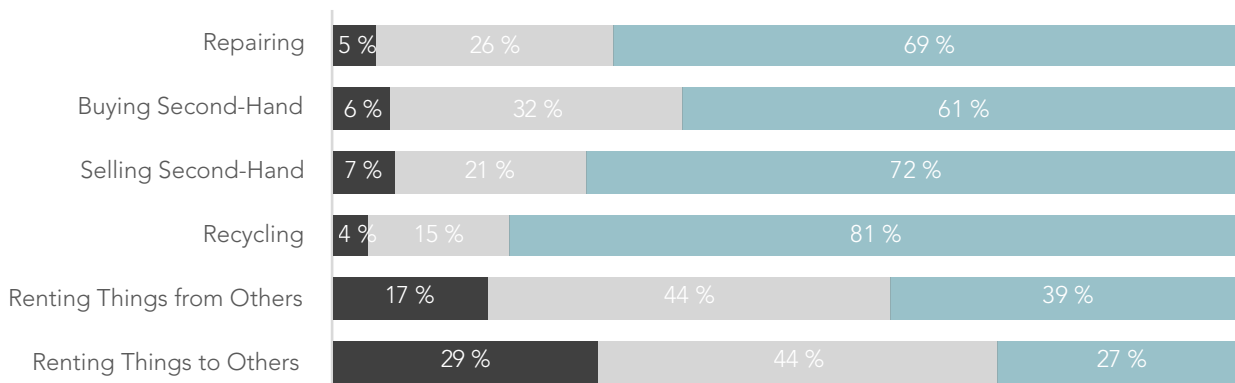
WHAT IS YOUR SPONTANEOUS ATTITUDE TO THE FOLLOWING ACTIVITIES?

■ Negative ■ Open to Concept ■ Positive

DENMARK



FINLAND



FINNS MORE POSITIVE THAN OTHER NORDIC POPULATIONS

Similar to Sweden and in Norway, repairing and recycling activities are the most popular activities in Denmark. In Finland however, consumers are actually more positive to sell second-hand items than repairing them. Also, like in other countries, selling second-hand items are more positively perceived than buying second-hand items. This behaviour originates from the fact that the economic incentive for selling activities is larger than for buying activities since buying activities are still associated with losing money.

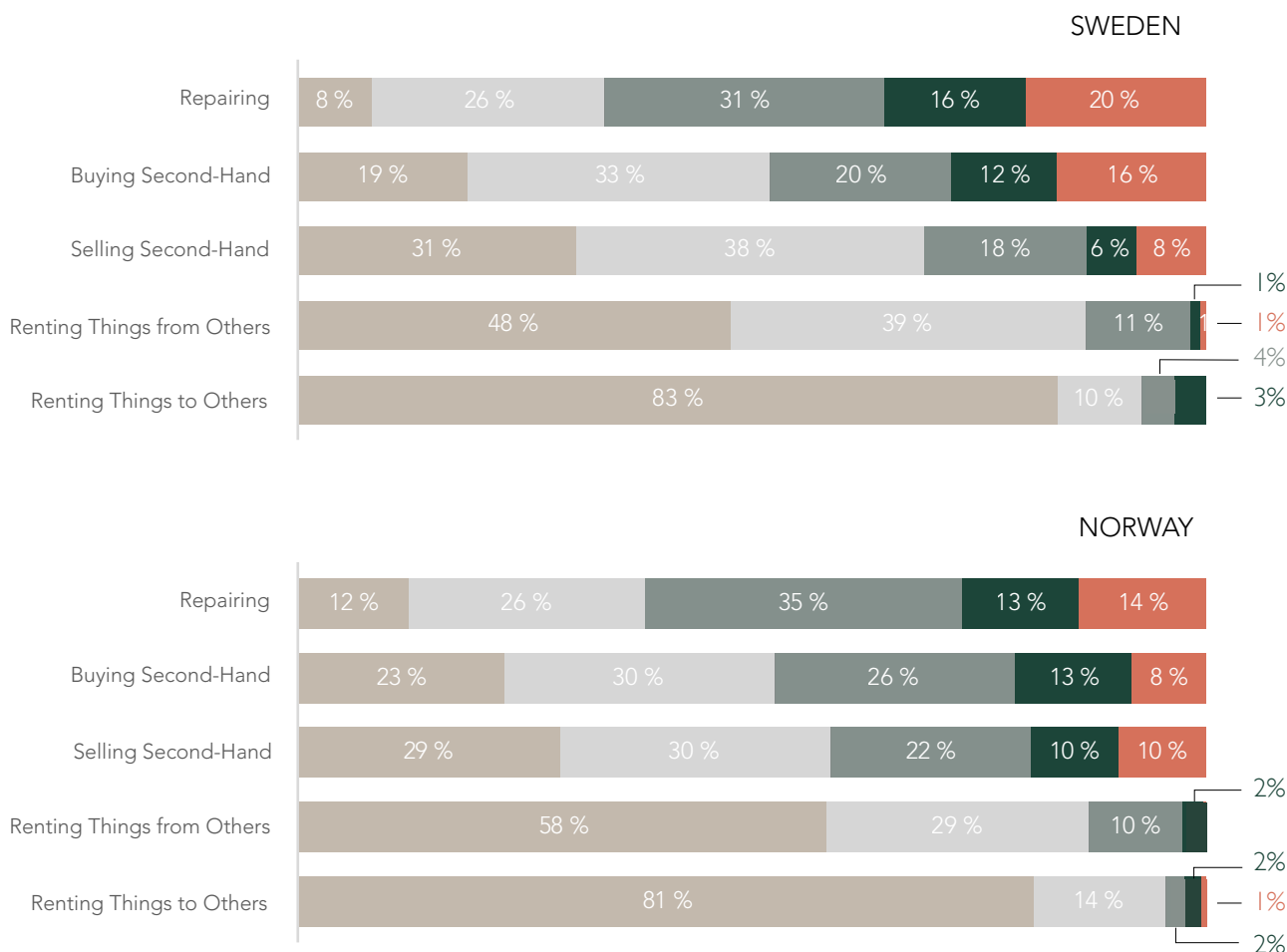
If examining developments from 2018, the largest change in Denmark is the fact that those positive to recycling have decreased from 76% to 70%. Other positive developments in Finland are e.g. that the share of consumers positive to buying second hand has increased from 54% to 61% and those negative to renting things from others have gone down from 26% to 17% since 2018.

It is also evident that people are more positive towards the idea of a sharing economy such as renting items to-and-from others in Finland than in other countries. But they are also less negative and more positive than the other Nordic countries for most of the other "circular" activities presented here. It seems like the Finns are rather more positive than the other Nordic populations when it comes to circular activities. But what else is to expect from what is stated the world's happiest country, that also have higher knowledge about the circular economy than the other Nordic countries?

BEHAVIOURS

IN THE PAST YEAR, HOW MANY TIMES HAVE YOU PERFORMED THE ACTIVITIES BELOW?

Never
 1-2 times
 3-5 times
 6-10 times
 More than 10 times



SIMILAR BEHAVIOURS IN 2019 AS IN 2018

The data shows the same pattern in 2019 as in 2018; reparation activities are performed the most amount of times by both Swedish and Norwegian consumers followed by buying or selling second-hand items. The least popular activity when looking at behaviours is renting things to others. In fact, over 80% of the consumers in both Sweden and Norway have never rented any item to another person in the past year.

There are no vast differences between the Swedish and the Norwegian case more than the fact that the Swedes have performed most activities slightly more often than the Norwegians.

One difference between 2018 to 2019 is that the share of consumers that have never rented things to others has gone down from 87% to 83% in Sweden while it went up from 73% to 81% in Norway. According to the Swedish National Institute of Economic Research and Statistics Norway, the GDP growth per capita in 2018 of both countries was not diverging a lot from each other, so this behavioural divergence should rather be driven by societal trends. Next year, we will know whether the development was a yearly trend-driven result or a long-term change in attitudes.

BEHAVIOURS

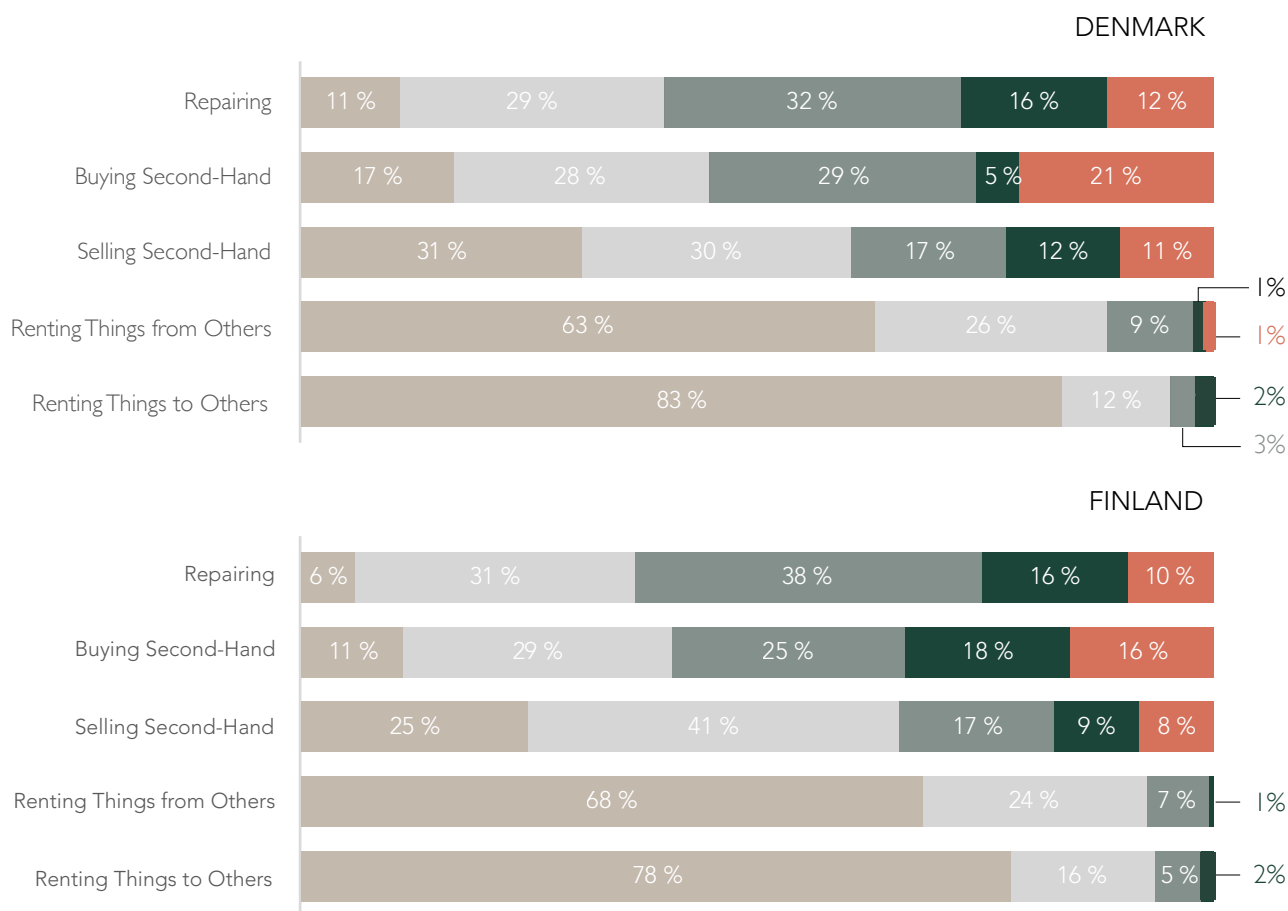
IN THE PAST YEAR, HOW MANY TIMES HAVE YOU PERFORMED THE ACTIVITIES BELOW?



DANES HAVE BOUGHT MORE SECOND HAND THAN OTHERS

One feature standing out in Denmark, is the fact that 21% of the Danish population has bought second hand items more than 10 times in the last year. The same number is 16% in Finland. Hence, while repairing activities are mostly performed in Sweden and Norway, buying second-hand is the behaviour most frequently performed in Denmark and Finland. The fact that the Danish consumers stand out on the parameter is not surprising since second-hand shopping is almost imbedded in the Danish way of life.

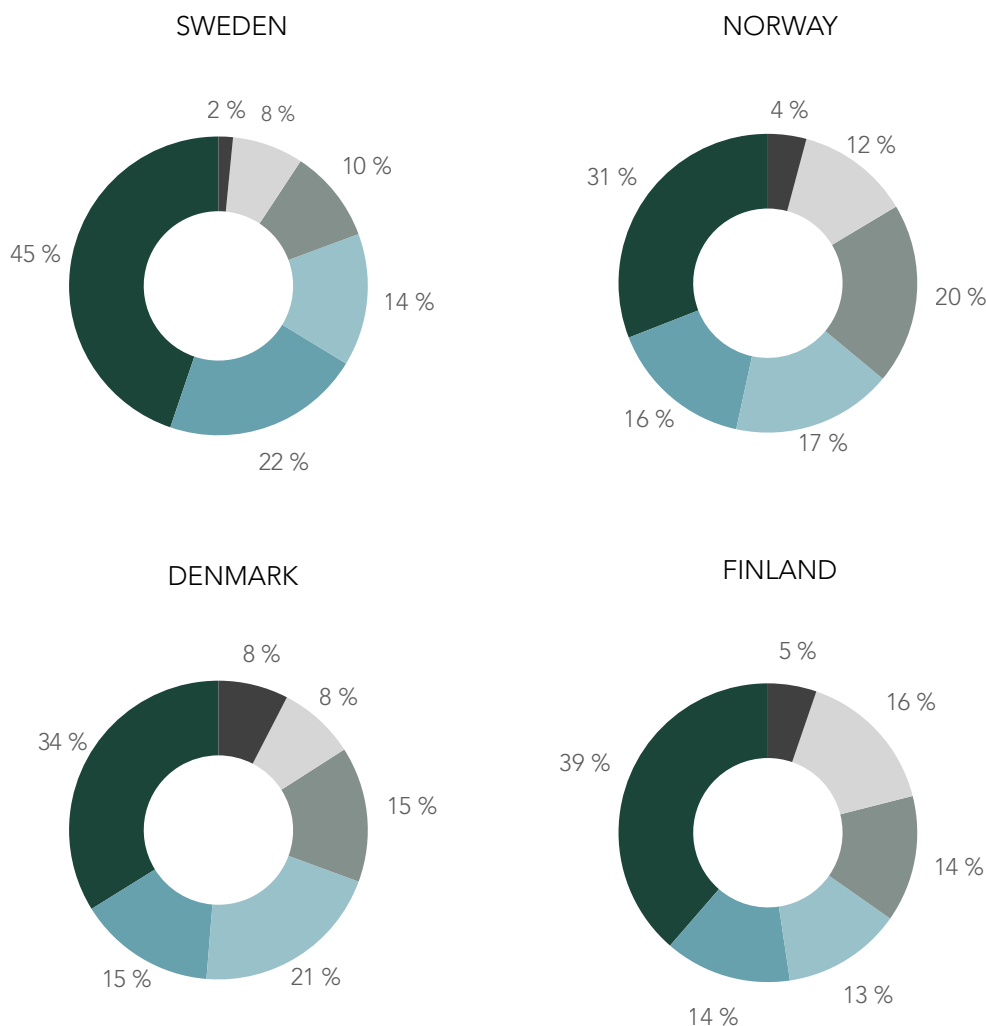
However, just like in Sweden and Norway, renting things to others is the circular activity that is most rarely performed both in Denmark and in Finland.



RECYCLING

IN THE PAST YEAR, HOW MANY TIMES HAVE YOU RECYCLED?

Never
 1-2 times
 3-5 times
 6-10 times
 11-30 times
 More than 30 times



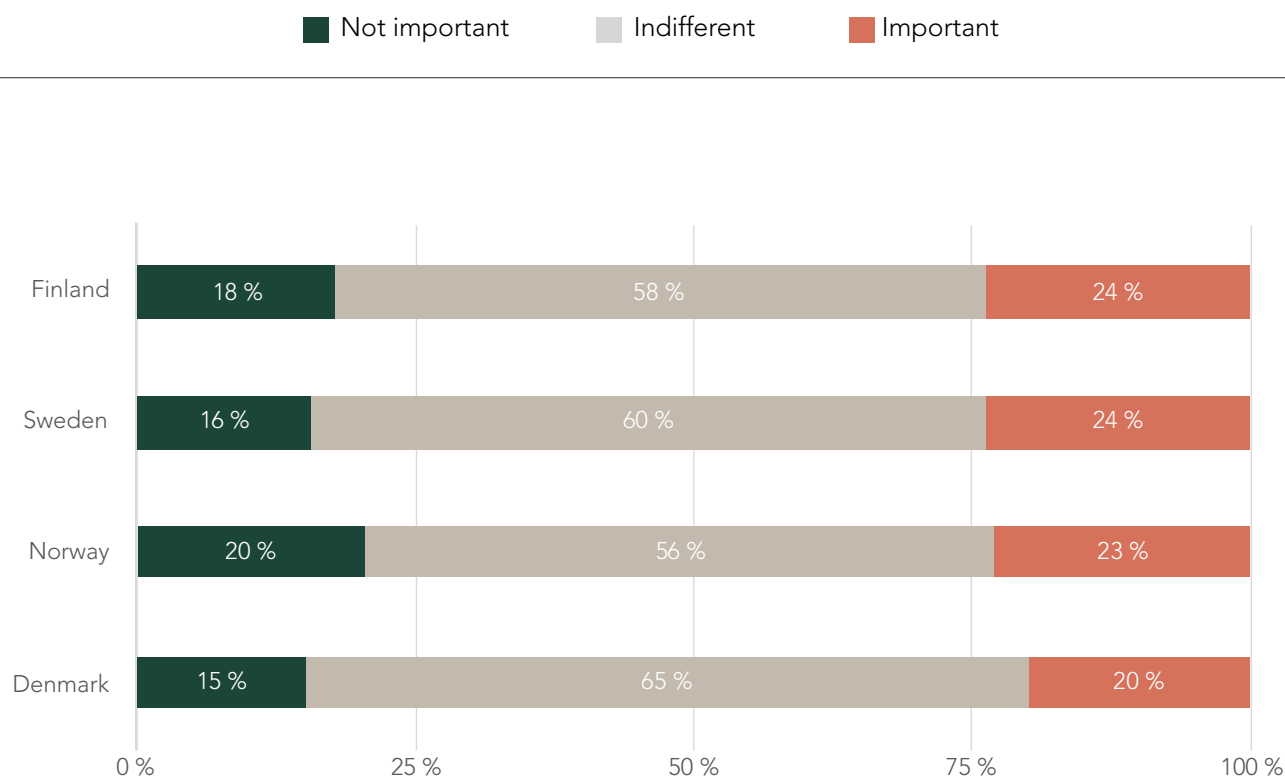
SWEDEN AND FINLAND STRONGEST AT RECYCLING

Zooming in on the behaviour of recycling is not motivated by the fact that recycling deserves more space than other activities for the circular economy as many assume. We know by now that recycling is only the outer loop in the circular economy and is, in fact, a linear activity since it aims at collecting waste. However, recycling is the activity measured that is most often performed by Nordic consumers. Thus, it is interesting to zoom in on the frequency of recycling habits.

Sweden is, just like last year, the country that recycles the most out of the Nordic countries, followed by Finland. In Sweden, 45% of the consumers have recycled more than 30 times in the past year, while the same number is 38% in Finland. In Norway, this figure is 31% which is the lowest out of the Nordic countries. However, if looking at those that never have recycled during the last year, we see the highest figure in Denmark, where 7% have never recycled items in 2018. However, the behavioural norm to recycle is strong in all the Nordic countries, and we expect recycling levels to increase to a further extent year by year.

CONSUMER PRODUCT PACKAGING

HOW IMPORTANT IS IT THAT THE PACKAGING MATERIAL IS MADE FROM RECYCLED MATERIAL?



24% OF FINNISH AND SWEDISH CONSUMERS FIND IT IMPORTANT WITH RECYCLED PACKAGING MATERIAL

Packaging is an increasingly emphasized topic to increase circularity, especially when it comes to goods in consumer markets. But it is interesting to investigate the focus on packaging from the consumer's point of view. Looking into the importance of using recycled material is one way to do this.

In Sweden and Finland, 24% respectively find it important that the packaging material is recycled, while the same figure is 23% in Norway and 20% in Denmark. However it is clear that most consumers in all the Nordic countries are indifferent to recycled material in packaging, which can be translated to the fact that consumers appreciate recycled packaging material, but they do not care enough to pay a lot extra or make an extra effort to find products with recycled material.

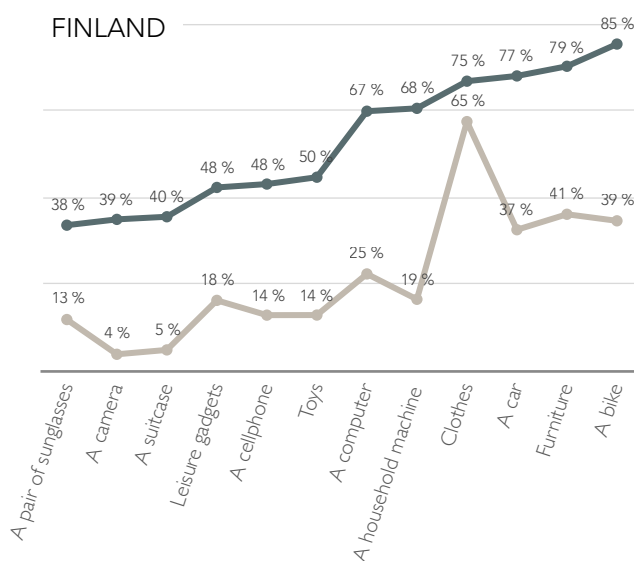
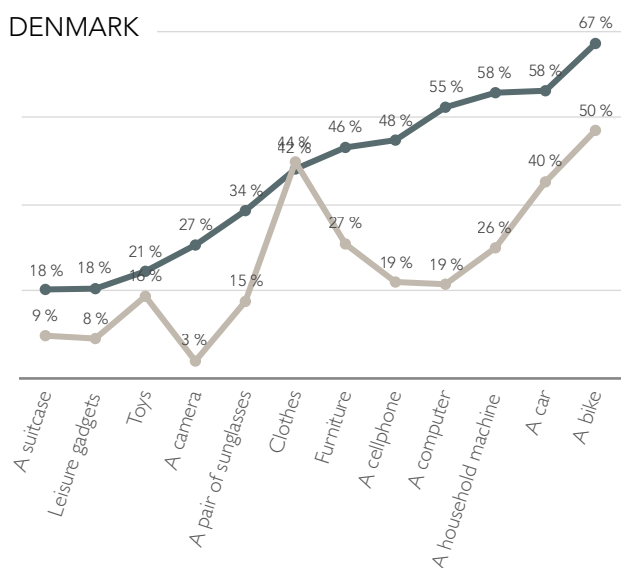
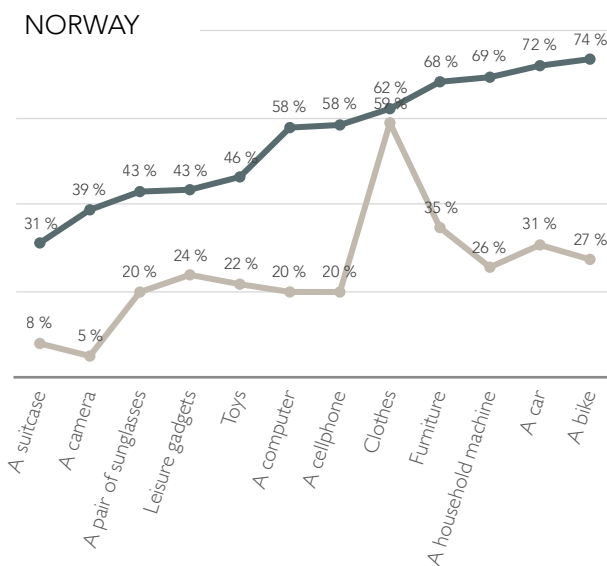
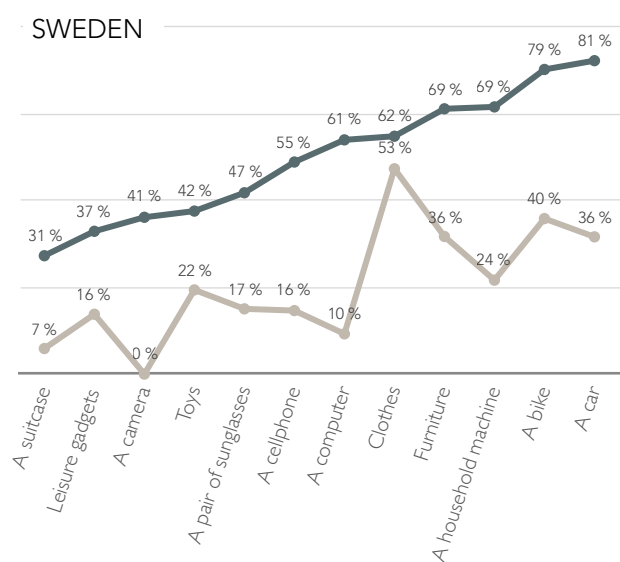
Also, this question does not entail what kind of packaging the consumers imagine when thinking about recycled material. Maybe, the ones that think that recycled material is important to consider a special product, such as a milk carton, while others might consider larger packaging for furniture, or more sophisticated packaging for e.g. beauty- and hygiene products.

It is interesting that in between 15-20% of the consumers depending on the country find that it is not important at all whether the packaging material is recycled or not. These consumers would not actively disregard a product with packaging from recycled material but they would not pay an extra penny for this purpose.

PRODUCT GROUPS & CIRCULAR ACTIVITIES

On the three following pages we will examine three circular activities, namely repairing, renting from others, and recycling, in relation to different product groups. You can find similar data on the relation between other circular activities and product groups in Appendix 2 of this report.

- Positive to Reparation
- Have Repaired in the Last Year



50% OF THE DANISH CONSUMERS HAVE REPAIRED THEIR BIKE OVER THE LAST YEAR

Comparing attitudes to reparation for different product groups with their reparation behaviours in the last year shows some similarities between the Nordic markets. Clothes are clearly the product group that most people have repaired during the past year. Especially in Finland where 65% of the consumers have performed this repairing activity.

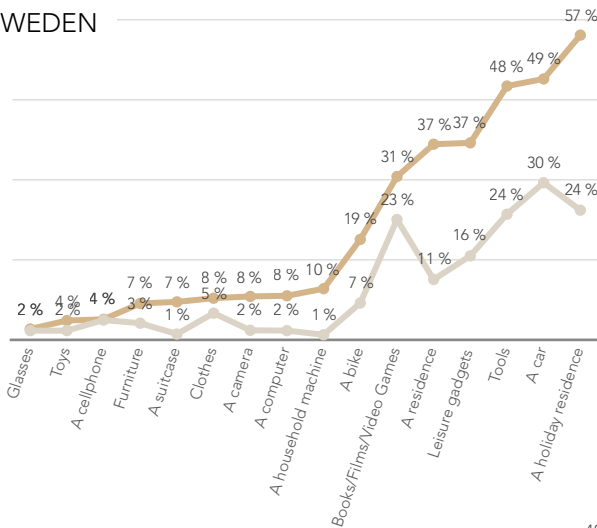
Many consumers are positive about repairing their bikes or cars in all the Nordic countries. This is not surprising since these product groups are amongst the ones that are most costly to purchase new and that consumers, therefore, have larger incentives to repair them.

One interesting country diversion is that, while all the Nordic consumers are positive to repairing their bikes, the Danish consumers stand out a lot for actually having had their bikes repaired in the last year. This is an expected result since Danes, in general, are much more frequent bikers than the other Nordic populations.

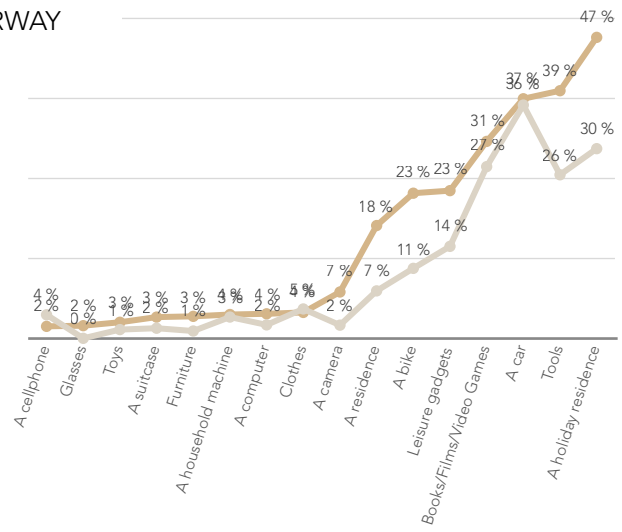
PRODUCT GROUPS & CIRCULAR ACTIVITIES

■ Positive to Renting Items from Others ■ Have Rented items from Others in the Last Year

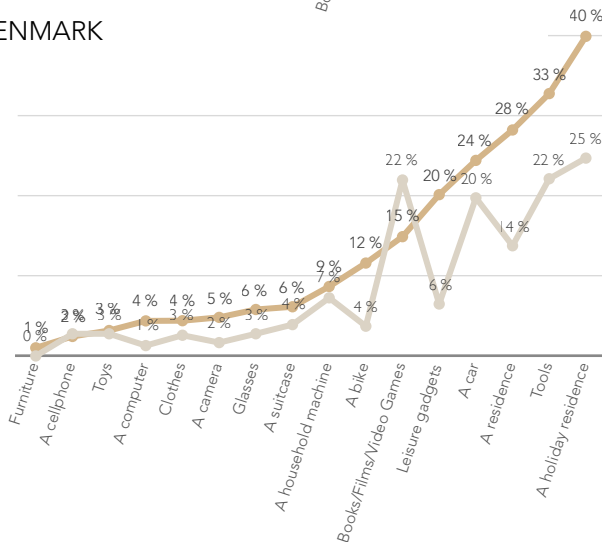
SWEDEN



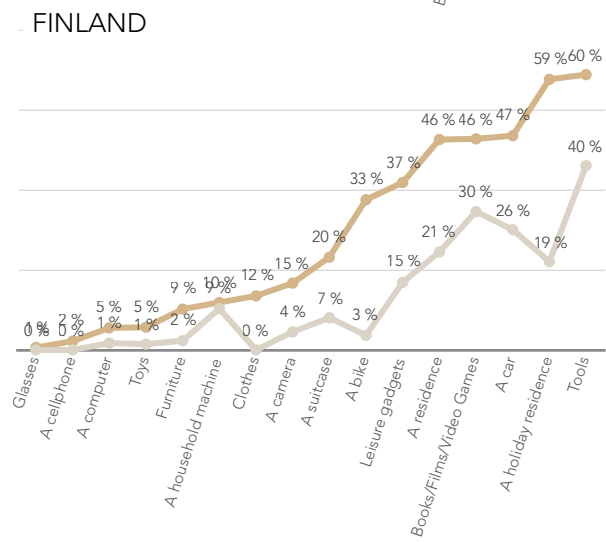
NORWAY



DENMARK



FINLAND



TOOLS & HOLIDAY RESIDENCES ARE POPULAR RENTAL PRODUCTS

Zooming in on the activity renting items from others we can note similarities amongst the Nordic countries. For example, tools and holiday residences are amongst the product groups that consumers are most positive to rent from others in all the Nordic countries. Despite this, only 60% of the Finnish population are positive about renting tools from others even though they are the ones most positive to renting items out of the Nordic populations.

When looking at the behaviour of renting items from others, there is a similar pattern in all countries. Besides tools, the product group books, films and/or video has been popular rental items in the past year.

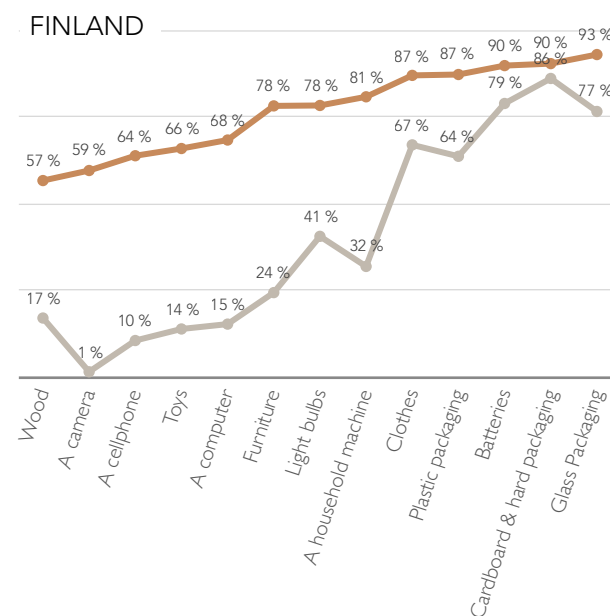
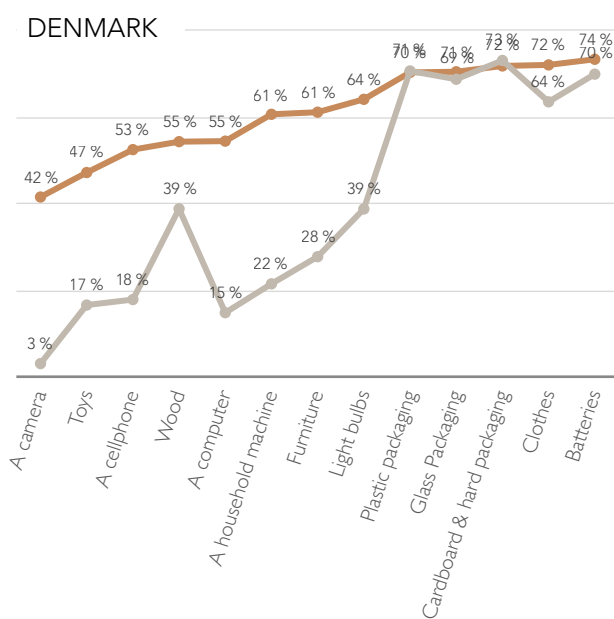
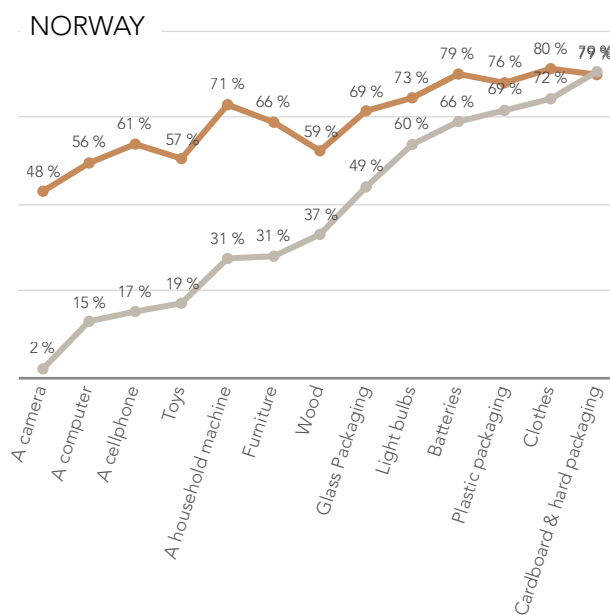
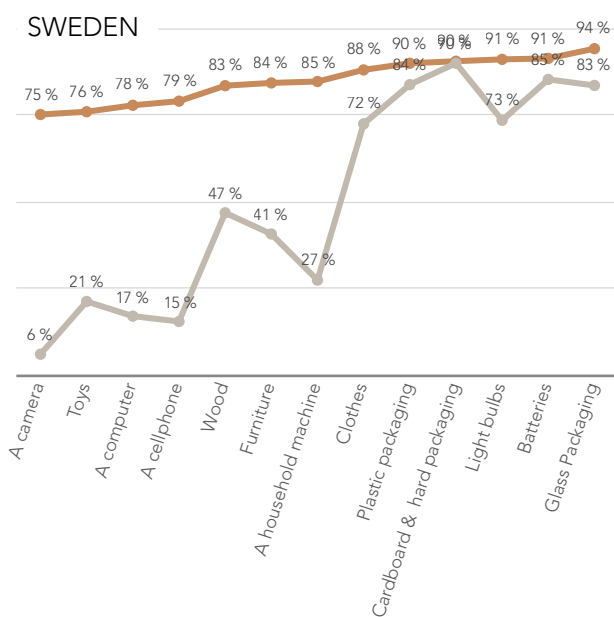
In fact, more Danes have rented books, films or video games in the last year, than the share of consumers that are actually positive to doing so. This implies that some consumers have a bad experience from renting these products, which have made their

attitude more negative. A third similarity between the Nordic countries is the fact that consumers are rather negative to renting most of the product groups. Having the overall attitude and behaviour levels for renting activities fresh in mind from previous slides in this report, this makes sense since Nordic consumers are not very excited to rent items overall.

Norwegian consumers rent holiday residences and cars more often than other Nordic consumers, which depends on the fact that the car rental market is more developed in Norway plus the fact that going to holiday cabins is embedded in the Norwegian culture.

PRODUCT GROUPS & CIRCULAR ACTIVITIES

■ Positive to Recycling ■ Have Recycled in the Last Year



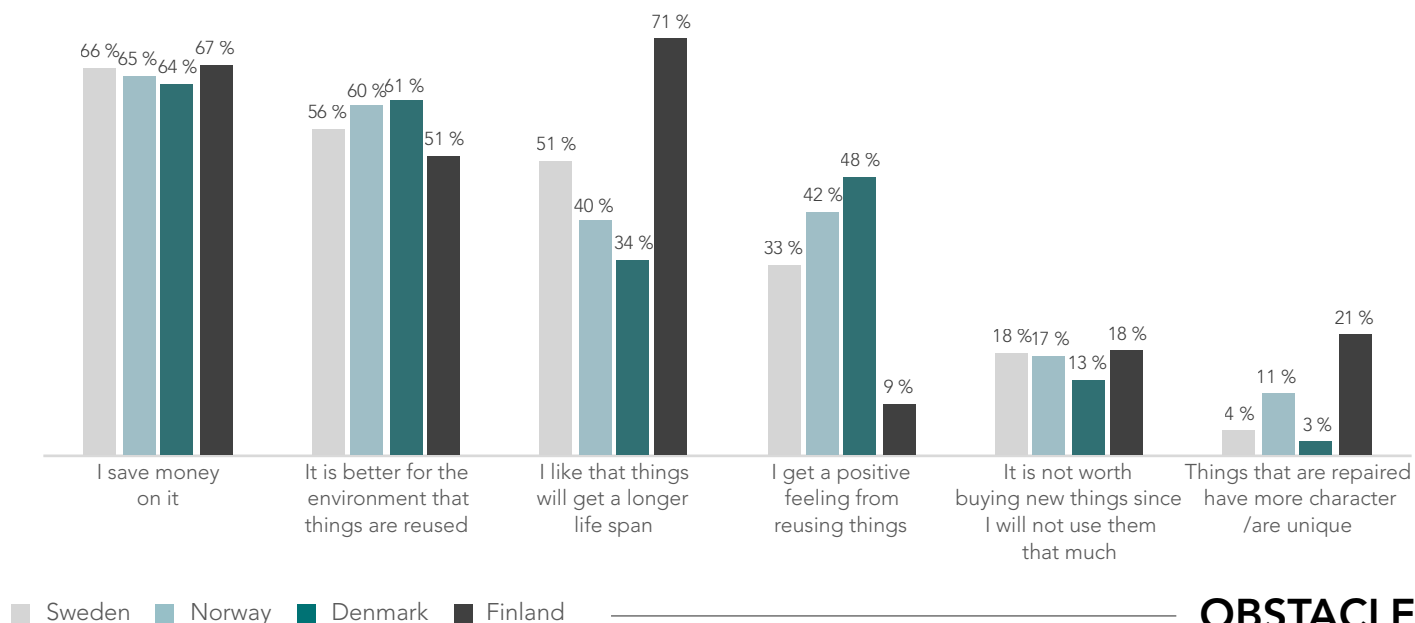
RECYCLING OF CLOTHES BECOMES INCREASINGLY POPULAR

We can see a clear difference between recycling and the other activities presented in this report. The share of consumers that are positive to recycling the different product groups is much larger than e.g. those positive to renting. We can see some differences amongst the nationalities. For example, light bulbs are recycled vastly more in Sweden, than in other countries. Also, wood is recycled much less in Finland than in other countries. However, this data does not entail whether this result depends on the fact that you are disregarding an item less often or if you throw it in the household waste

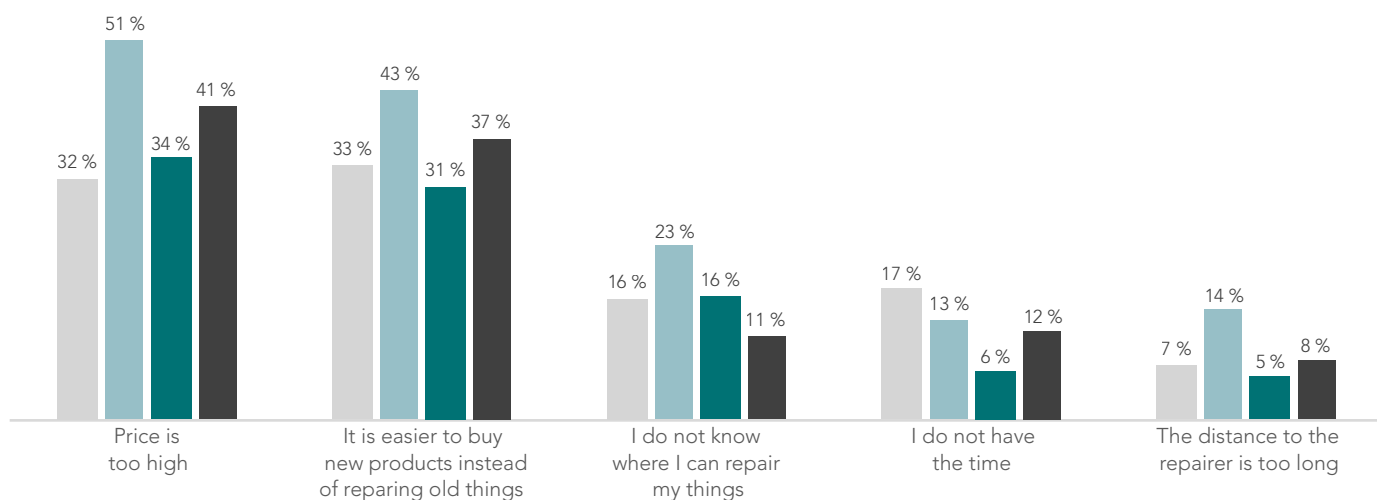
instead of recycling it. Perhaps the Finns just take better care of their wood items so that they do not have to recycle items very often.

We also see many similarities between the Nordic countries. First, they are all good at recycling batteries, cardboard, glass, and plastics. Second, recycling clothes have gotten very common in the Nordic countries, and the levels of those which have recycled clothes have gone up in all the Nordic countries between 2018 and 2019. Third, we see a large gap between attitudes and behaviours when it comes to recycling old electronics such as cellphones, cameras, and computers in all countries.

INCENTIVES



OBSTACLES



51% OF NORWEGIAN CONSUMERS STATE THAT PRICE IS AN OBSTACLE TO REPAIRING ACTIVITIES

The largest incentive for Nordic consumers in order to repair items is saving money followed by the environmental benefit of repairing things. Finnish consumers stand out by being incentivized by the fact that things will get a longer life span. Still, very few of the Nordic consumers state that “it is not worth buying new things since they won’t use the items that much”. This implies that the importance of ownership is still very strong for Nordic consumers.

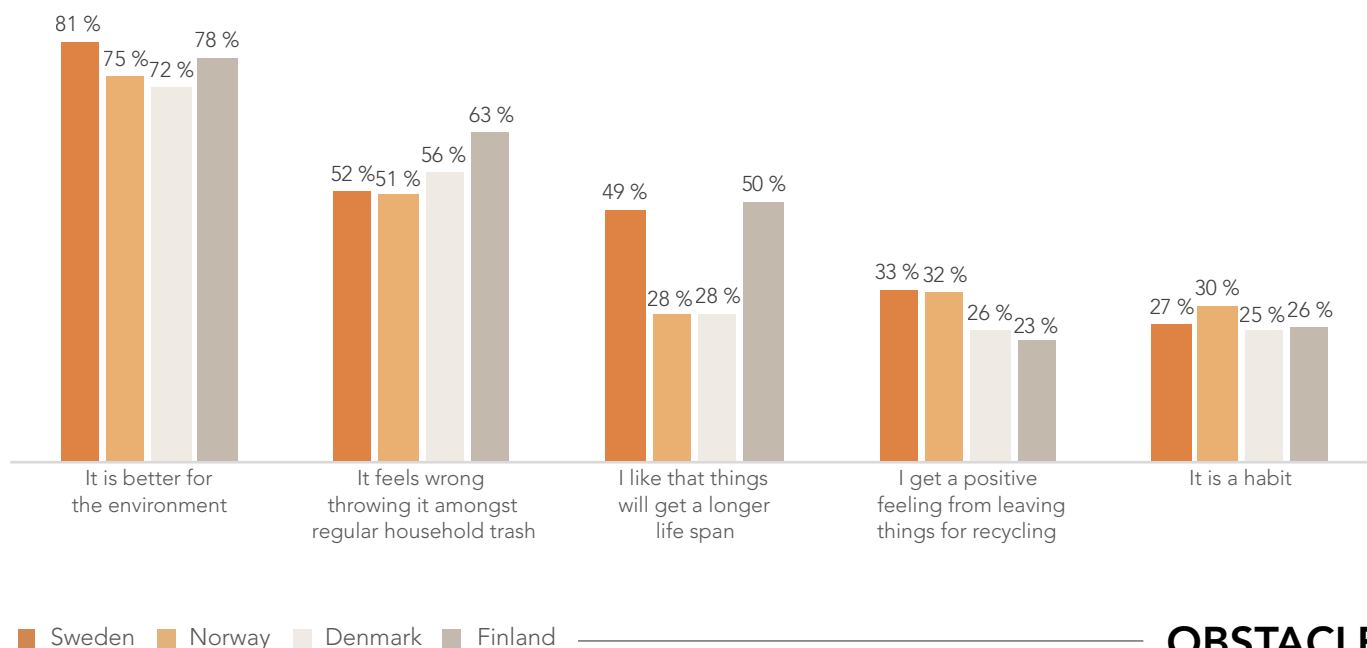
When looking at the obstacles to why you are not repairing things more often, most Nordic consumers state that it is a price issue. Especially in Norway, the price is perceived as a large obstacle, with 51% of the

WHY DO YOU REPAIR ITEMS THAT ARE BROKEN?

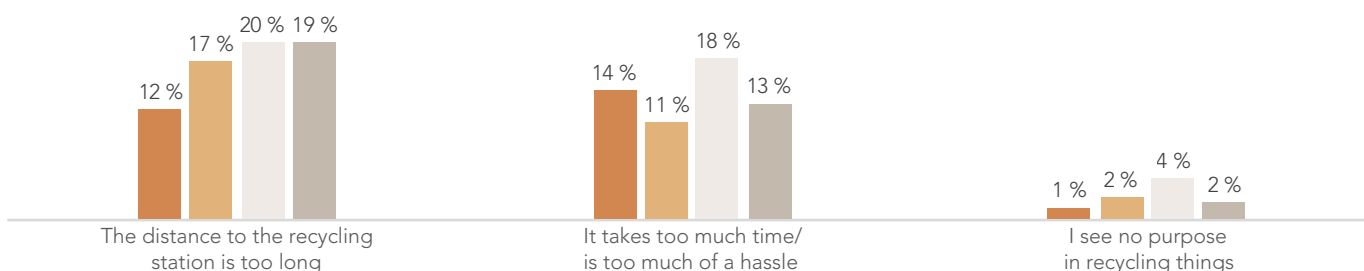
“Primarily because it is things you love and want to live longer. Unfortunately, the industry has become good at producing goods that cannot be repaired! The industry is in change and a 5 year warranty would force them into more durable repairable products.”

consumers stating that repairing items is too costly. Also, a large obstacle for all Nordic consumers is the fact that it is easier to buy new products instead of repairing old things. This result stems both from consumers being too lazy to repair things themselves, but also a lack of platforms and easy opportunities to connect with other people and businesses that can offer reparation services.

INCENTIVES



OBSTACLES

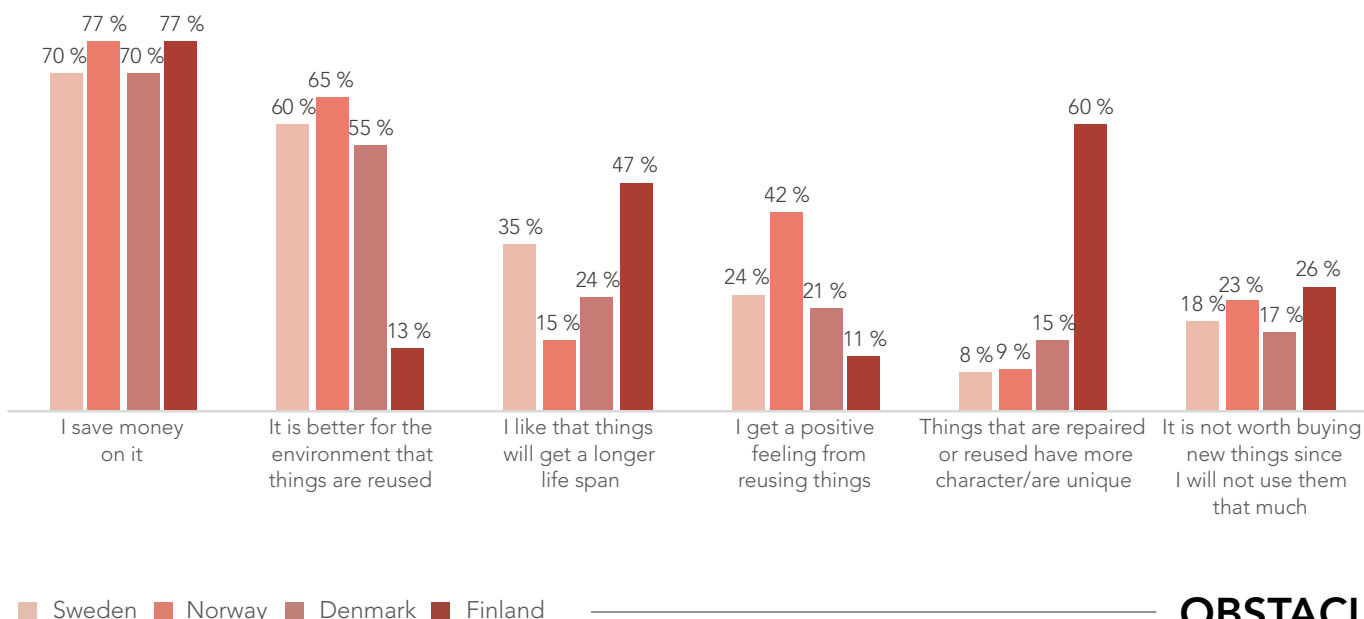


81% OF THE SWEDES RECYCLE DUE TO THE ENVIRONMENTAL BENEFIT

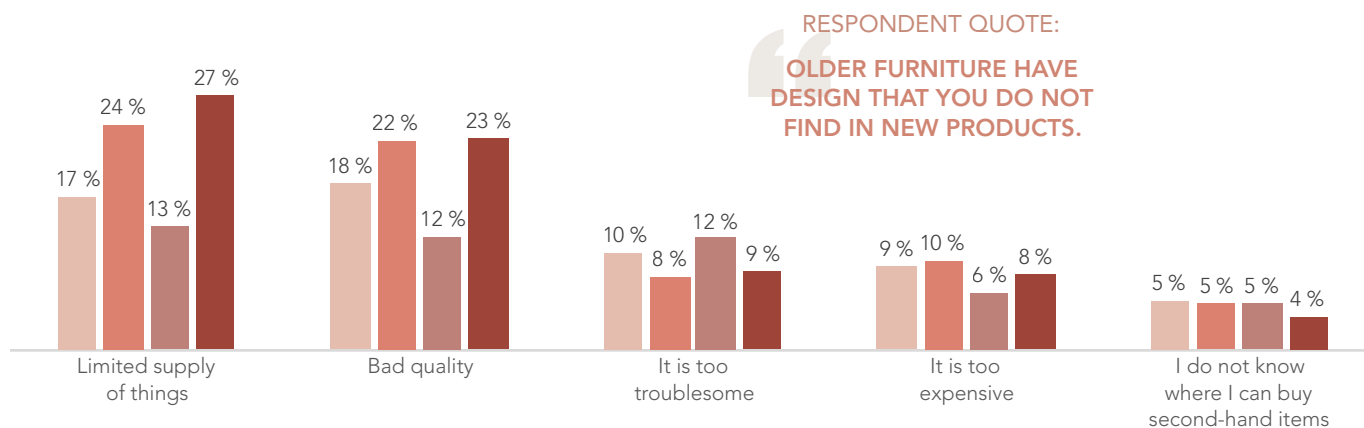
Recycling is an activity that is strongly incentivized by the environmental benefit of this action. In Sweden, which is the Nordic country where consumers recycle the most, 81% actually recycles because it is better for the environment. Related, but not synonym with the environmental benefit of recycling, is the incentive that it feels wrong to throw certain items in your regular household trash. This fact is interesting since it shows the habitual nature of recycling in today's Nordic societies. Recycling is the only one out of the activities presented in this report which is actually considered normative in the Nordics. Around 25-30% of the Nordic consumers in each country actually state clearly that they recycle because of the fact that it is a habit.

Looking at obstacles to recycling, the most frequent one is the distance to the recycling station. In Denmark, 20% of the consumers state that the distance to the recycling station is too long. Also, 18% of the Danes mean that recycling takes too much time or that it is too much of a hassle. However, less than 5% of the consumers in each country state that they see no purpose in recycling things, showing that almost all Nordic consumers are aware of the advantages of recycling.

INCENTIVES



OBSTACLES



RESPONDENT QUOTE:
OLDER FURNITURE HAVE DESIGN THAT YOU DO NOT FIND IN NEW PRODUCTS.

LIMITED SUPPLY AND BAD QUALITY ARE KEY OBSTACLES FOR SHOPPING SECOND-HAND ITEMS

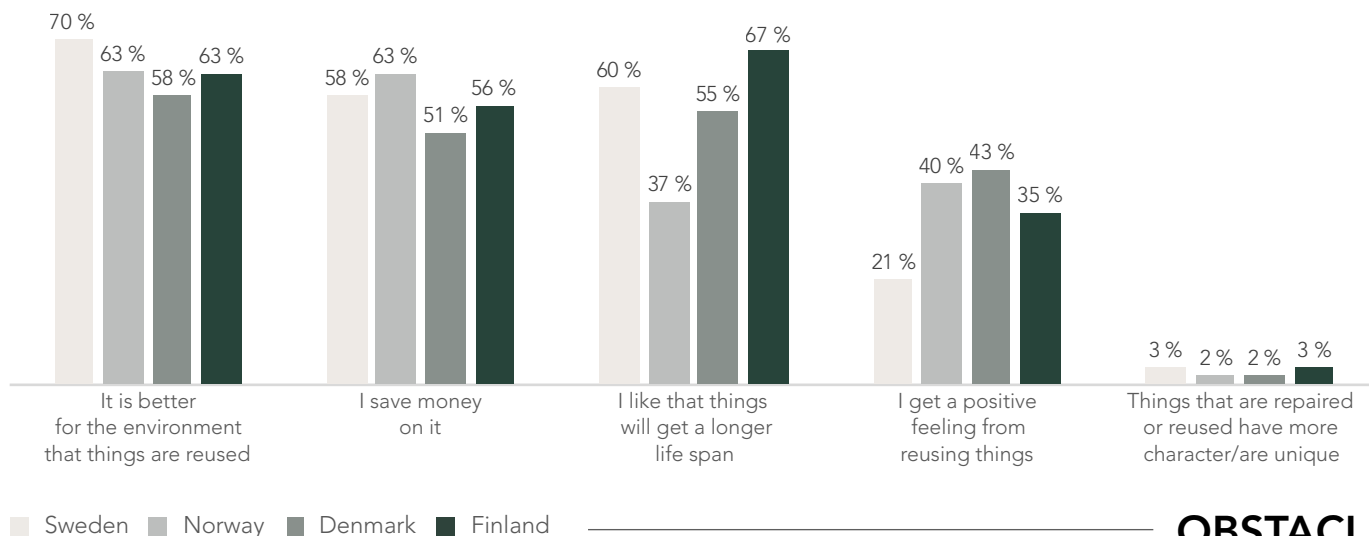
The majority of the Nordic consumers mean that the largest incentive to buying second-hand items is the fact that they save money on it. In fact, 77% of the Norwegian and Finnish consumers emphasize this fact. The environmental benefit of buying second hand is also a large incentive in all Nordic countries. Finland stands out a bit from the other Nordic countries since Finns' puts more focus on the incentive that things will get a longer life span by buying second-hand items and that second-hand goods have more character or are perceived as more unique than new items.

Looking at the obstacles for buying second-hand products, a limited supply is most prominent, meaning that the consumers cannot find what they are looking for. However, this obstacle is less emphasised in Denmark and Sweden than in Finland and Norway. Also, bad quality comes up as a frequent obstacle in order to shop second hand. Analysing the supply of second-hand platforms, we can note that 5% or less of the Nordic consumers in each country respectively state that they do not know where they can find second-hand items, implying that the knowledge about these types of platforms is adequate.

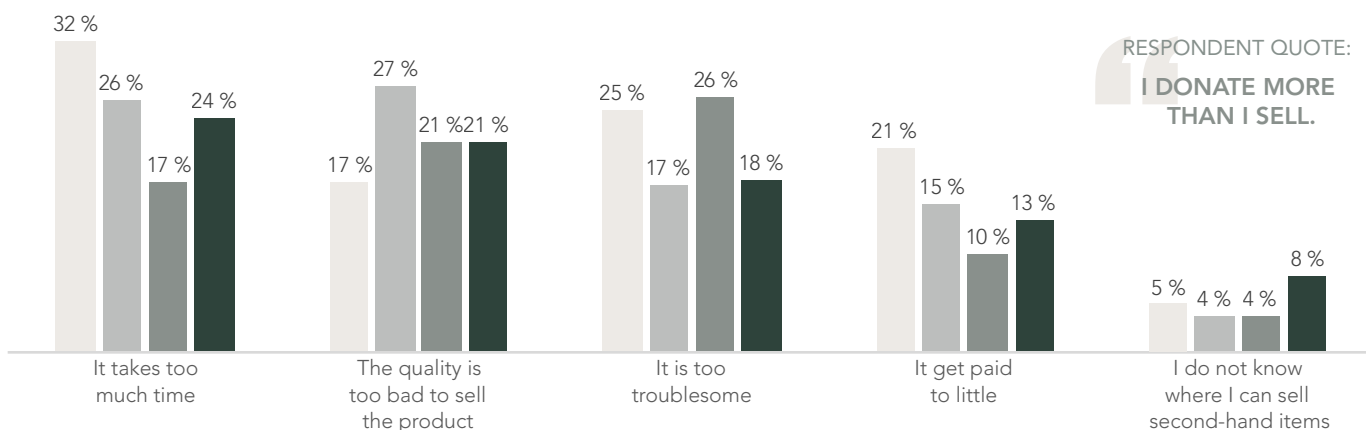
WHY DO YOU BUY SECOND HAND ITEMS?
 "I will not support mainstream clothing, plastics and electronics industries because they do not have proper working conditions and, in addition, burden the environment."

SELLING SECOND-HAND

INCENTIVES



OBSTACLES



RESPONDENT QUOTE:
I DONATE MORE THAN I SELL.

32% OF SWEDES STRESS THAT SELLING SECOND-HAND ITEMS TAKES TOO MUCH TIME

Interestingly enough, while saving money is a larger incentive than the environmental benefit when it comes to buying second-hand items, we see the opposite pattern when examining the incentives to sell second-hand items. In Sweden, 70% of the consumers state that they sell or would sell second-hand products primarily for the sake of the environment. Saving money is also a large incentive however, but just like last year, people do not view being adequately compensated for their old products when selling second-hand items. This is due to the fact that your old things bear sentimental value and thus, you do not evaluate the money transaction for old things to be as much of an incentive to save money as when you buy other people’s old things.

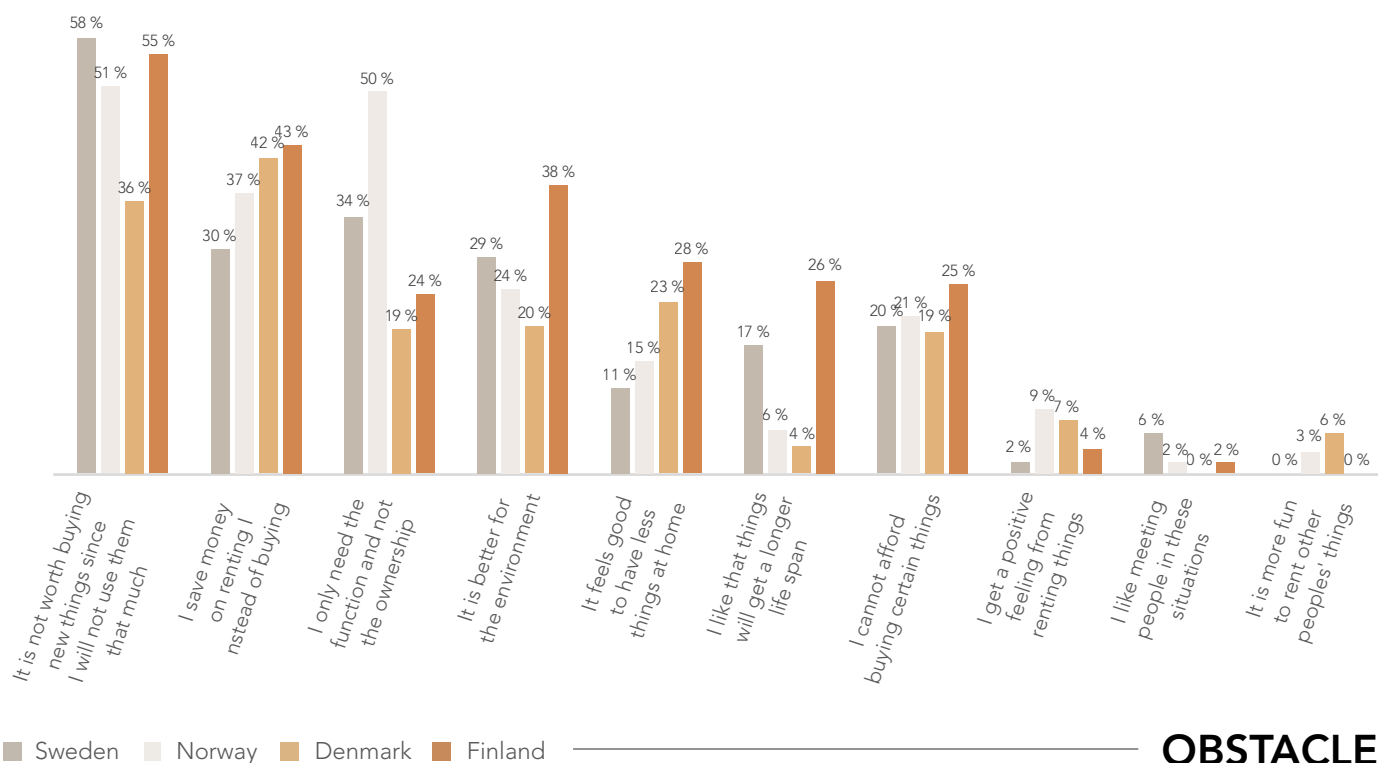
Zooming in on the obstacles to sell items second hand, the most frequently stated obstacle is that it simply takes too much time. This is especially emphasized in Sweden, where 32% of the consumers stress this obstacle. Many Nordic consumers also experience that the quality of their products is

too bad to sell or that it is too troublesome and too much of a hassle to sell their things. Going back to the obstacle of experiencing that your products’ quality is too bad to sell them is interesting. This implies that consumers that experience that they have the time and access to platforms to sell their things, do not want to do so due to the state of their products. It could, therefore, limit the number of transactions between themselves and people that would like to buy the items, only because of the sellers’ mindset. It is worth mentioning that the qualitative answers of these questions showed that many consumers stated that an obstacle for them selling second-hand items was the fact that they donated things instead.

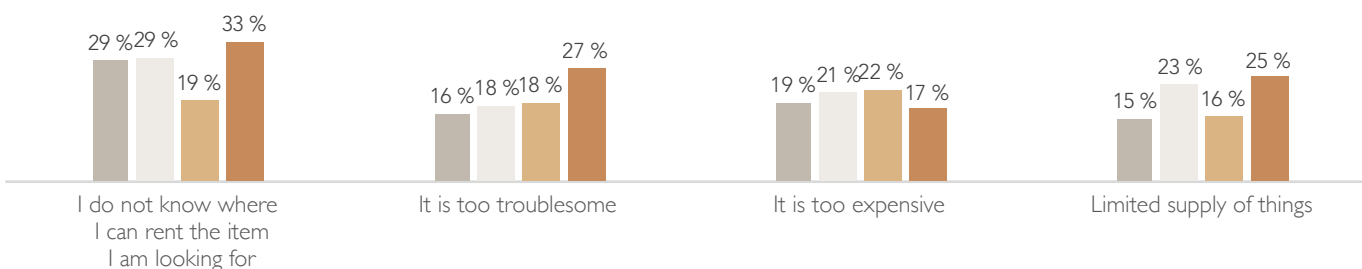
RESPONDENT QUOTE:
OTHERS CAN BENEFIT FROM WHAT I CAN'T USE ANYMORE.

RENTING THINGS FROM OTHERS

INCENTIVES



OBSTACLES



50% OF NORWEGIANS STATE THAT THEY NEED ONLY THE FUNCTION AND NOT THE OWNERSHIP

The largest incentive to rent things from others is saving money followed by the fact that it is not worth buying things when you will not need them that much. This is prominent in all countries except Denmark. Norwegian consumers stand out when it comes to only needing the function and not the ownership, which partly depends on the fact that Norwegians rent cars more than the other Nordic populations which in turn depend on the high car prices in Norway and thus a bigger market for rental cars.

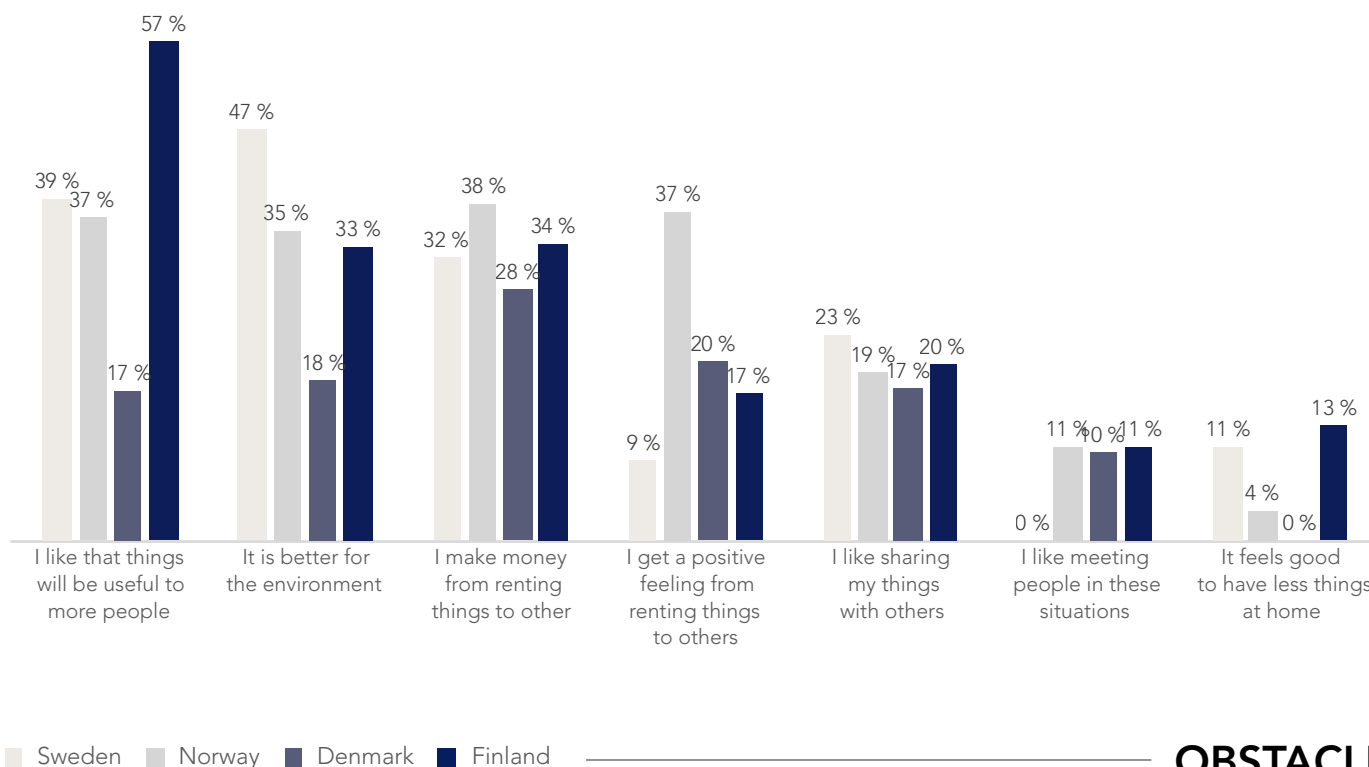
RESPONDENT QUOTE:

“THE THINGS I RENT ARE DISPROPORTIONATELY EXPENSIVE TO PURCHASE COMPARED TO HOW LITTLE I USE THEM. IT IS ALSO VERY BIG THINGS THAT WOULD FILL TOO MUCH TO HAVE STANDING.”

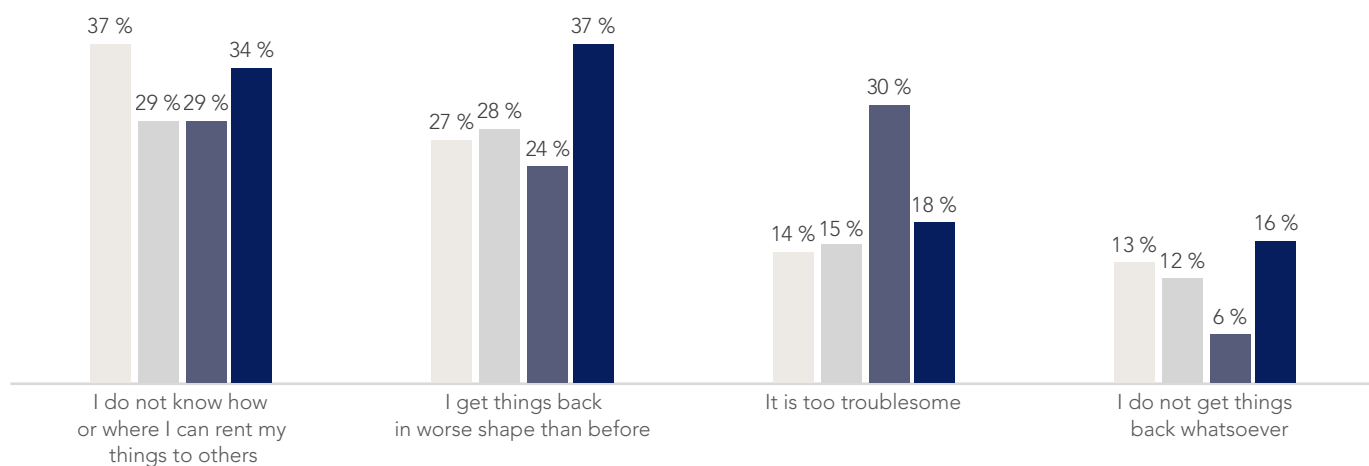
The largest obstacle in order to rent is not knowing where you can rent an item that you are looking for, showing that there is a platform issue when it comes to renting. Also, many consumers state that it is too troublesome to rent items, especially amongst the Finnish consumers. This could also be connected to the platform issue. Either it is too hard to find a relevant platform, or the process of renting things on that platform is too much of a hassle.

RENTING THINGS TO OTHERS

INCENTIVES



OBSTACLES



37% OF THE FINNISH CONSUMERS STATE THAT THEY GET THINGS BACK IN WORSE SHAPE THAN BEFORE

It is interesting that the largest incentive for renting things to others is that it will be useful to more people. However, Finland is overrepresented here as shown above. Most Swedes state that they rent items to others due to the environmental benefit of doing so, while most Norwegians and Danes do it to make money.

In similarity with the obstacles presented in relation to the renting-from-others-activity, the largest obstacle to renting items to others is not knowing where or how you can do this. Also, many of the Nordic consumers experience that they get their things back in worse shape than it was before. For example, 37% of Finnish

consumers mean that they do not want to rent their things to others since there is a risk of getting things back in worse shape. Just like we have seen related to many of the other "circular" activities, Danish consumers are overrepresented amongst the ones who think that the trouble of carrying out the activity is too burdensome.

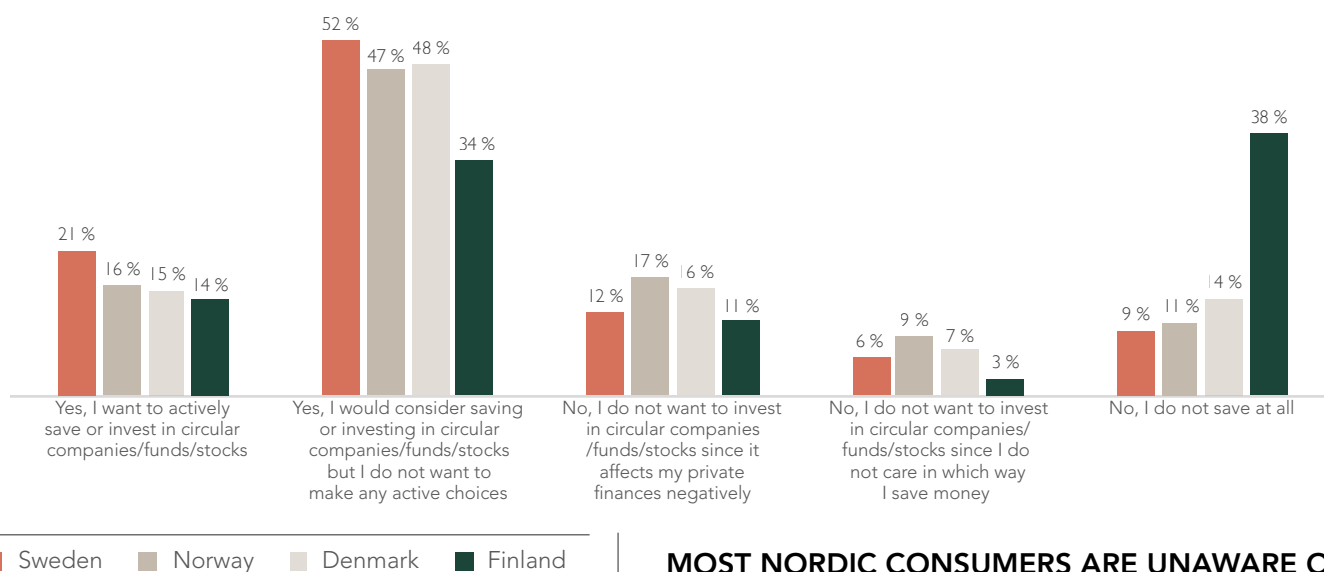
CIRCULAR FINANCE

21% OF SWEDISH CONSUMERS WANT TO ACTIVELY INVEST IN CIRCULAR COMPANIES

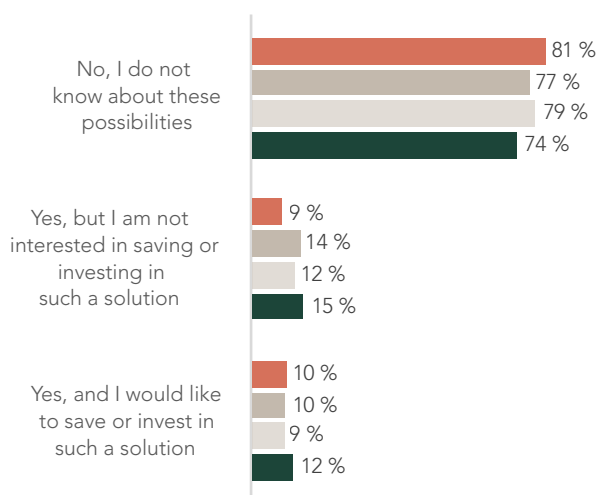
The importance of finance to support and stimulate circular processes and businesses is vast. This data shows that around half of the consumers in Sweden, Norway, and Denmark would consider saving or investing in circular companies, funds or stocks but that they do not want to make any active choices on their own. The same figure is 34% in Finland. Also, 20% of the Swedish consumers actually want to actively save or invest in circular companies, funds or stocks. Finnish consumers stand out for not wanting to save at all. This is not a justified image of private savings in Finland, but rather represents the Finnish consumer's behaviour when answering questions about private finances.

An interesting fact is also that e.g. 17% of the Norwegian consumers, and 16% of the Danish consumer state that they do not want to invest in circular stocks, companies or funds due to the fact that they experience that these types of savings or investments are worse for their private finances, which means that there is a strong prejudice about circular financial products or more correctly, there is a prejudice about financial products that are not constituted based on the traditional linear economic models.

COMPANY WORKING ACTIVELY WITH CIRCULAR ECONOMY HAS A FOCUS ON E.G. OPTIMIZING AND PRESERVING RESOURCES AND REDUCING WASTE. WOULD YOU HAVE ANY INTEREST IN SAVING OR INVESTING IN A COMPANY WORKING WITH THE CIRCULAR ECONOMY?



DO YOU KNOW WHAT POSSIBILITIES ARE AVAILABLE IN ORDER TO SAVE OR INVEST IN COMPANY (FUNDS OR STOCKS) THAT WORKS WITH CIRCULAR ECONOMY?

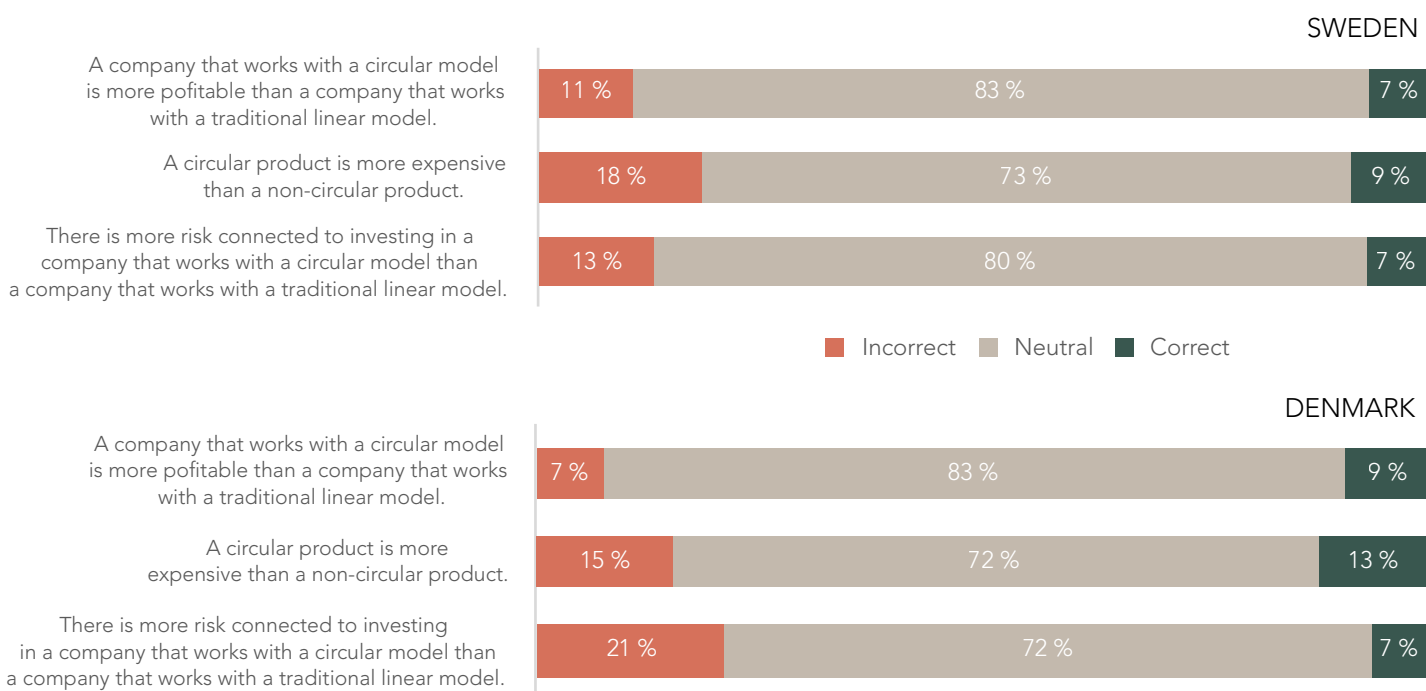


MOST NORDIC CONSUMERS ARE UNAWARE OF POSSIBILITIES TO INVEST IN CIRCULAR COMPANIES

It is evident that most Nordic consumers, regardless of interest in circular forms of saving or investing, do not know about the possibilities to save or invest circularly. Around 10% in each Nordic country do however know about the possibilities to invest circularly while slightly more than that state that they do know about such possibilities but that they are not at all interested in them. This result shows that 81% of the Swedes, 77% of the Norwegians, 79% of the Danes, and 74% of the Finns could be better informed about circular possibilities. And adding to the result from above, implying that 34% in Finland, 47% in Norway, 48% in Denmark and 52% in Sweden want to save or invest in circular stocks, funds or companies but do not want to actively do so, there are great opportunities for financial actors to inform consumers about the content and benefit of circular investments.

PROFIT AND RISK OF CIRCULAR BUSINESS MODELS

A COMPANY WORKING ACTIVELY WITH CIRCULAR ECONOMY HAS A FOCUS ON E.G. OPTIMIZING AND PRESERVING RESOURCES AND REDUCING WASTE. WHICH OF THE FOLLOWING STATEMENTS DO YOU PERCEIVE ARE CORRECT?



21% OF DANISH CONSUMERS THINK THERE IS LESS RISK CONNECTED TO CIRCULAR INVESTMENTS

The charts on this slide show three different statements for two different countries, i.e. Sweden and Denmark.* Note that the Norwegian example is more similar to the Swedish one while the Finnish example is more similar to the Danish one. The first thing to note is that most consumers are neutral to all the presented statements. This is simply a matter of knowledge and understanding about circularity in general, and about these statements in particular. However, we can still find interesting hints and patterns related to the perception of business models.

First, 11% of the Swedes and 7% of the Danes consider that it is incorrect that a company working actively with a circular economy is more profitable than a company working with a traditional economic model. For the same statement, 7% of the Swedes think it is correct, while the figure for Denmark is 9%. The Danes are thus slightly more convinced that this statement is true and those "circular companies" are more profitable.

Second, 18% of the Swedes think that it is incorrect that a circular product is more expensive than a non-circular product. A circular product is here defined as a product where the material is renewable and can be recycled, which is a definition constituted in order to gain understanding amongst consumers. 9% of the

Swedes find this to be correct. In Denmark, 15% think that the statement is incorrect, while 13% think it is correct. This means that both in Sweden and in Denmark, the share of consumers that think that a circular product is more expensive is smaller than the share that thinks that the statement is incorrect. This result is exciting. Although most consumers are neutral, more people think that a product with renewable material and/or could be recycled does not automatically imply a higher cost.

Third, in Sweden, 13% of consumers think it is incorrect that there is a higher risk connected to investing in a company working with a circular model than with a linear one, while 7% think that this statement is true. In Denmark, 7% think this statement is true while 21% think that it is false. Hence, Danes are more convinced that an investment in a circular economy might limit the risk rather than causing the risk. At least to a larger extent than the Swedish consumers.

*Results for Norway and Finland are presented in Appendix 2 of this report.



05

KEY INSIGHTS AND
BUSINESS OPPORTUNITIES

KEY INSIGHTS FROM REPORT

KNOWLEDGE LEVELS ARE INCREASING OVERALL AND FINLAND LEADS BY EXAMPLE

We have seen that knowledge levels are still much higher in Finland than in the other Nordic countries. This result is expected due to the Finnish National Roadmap for a circular economy and the following impact on circularity that this top-down approach has gotten on both policymaking and business. It is clear that knowledge is needed in order to implement systematic circular solutions. But it is also clear that a holistic approach and mindset is needed in order to create knowledge. Furthermore, we saw a large increase in knowledge levels in Finland from 2018 to 2019, which shows that the knowledge about the circular economy keeps on evolving in Finnish society; it is not a stagnant concept which is only known by a certain group in society or a trend, but it is rather constantly spreading to the broader public. We also saw increases in knowledge levels in the other Nordic countries, so now the question is how fast this development could be and how it could be stimulated by regulatory involvement and innovations within a business.

GENDER IS STILL HEAVILY MEANINGFUL

Women are overrepresented amongst those that are more positive to most of the circular activities presented in this report, including reducing overall consumption. Also, they have performed most circular activities that are measured more often than men. Gender is thus still a key factor when it comes to the attitudes and behaviours of the consumer.

BOOST BEHAVIOURS BY FACILITATION

When examining overall incentives and obstacles to circular activities, it is clear that the perceived hassle to perform certain activities is a huge obstacle. Especially in Denmark. In order to boost circular behaviour, a business must create and promote facilitating solutions that are hassle-free for the consumer. For example, integrating circular solutions in already existing flows or mechanisms is key. This could refer to e.g. optimizing transports in the circular city in order to reduce emissions and waste.

OPENNESS TO REVISED POLICIES GIVES ROOM TO BE BOLD

People in the Nordic societies are not as inflexible when it comes to old tax paradigms as assumed. In fact, more than 65% of the consumers in all Nordic countries are either positive or open to the concept of a shift in tax paradigm in the shape of increased taxation on physical goods, and a corresponding lowered tax on services and/or labour. Discovering this flexibility to controversial policies is interesting since it opens up for political change. Politicians must be more daring to drive change and it is valuable to note that consumers are not as inflexible as one might think.



HOOKING THE YOUNGER GENERATIONS ON CIRCULARITY

Advocating circular solutions in educational systems is important in order to increase knowledge and circular innovation. Looking at Generation Z and Millennials, the interest and knowledge about the environment and climate change are vast. Also, as learned from this report, the youngest age group presented here (20-29 years old) are amongst the ones with the highest knowledge about the term circular economy in all countries except for Finland, where knowledge is equally distributed amongst age groups. Environmental influencers such as Greta Thunberg and Boyan Slat, who is the founder of the Ocean Cleanup, are also meaningful in order to spread knowledge and inspiration to young people. We also know that purposeful working venues are very important especially to younger generations, which shows the importance of value beyond monetary value for these generations. Furthermore, while the discourse used to focus on emphasising the challenge of climate change, today's young generations are growing up with a more developed discourse that is more focused on problem-solving and solutions related to environmental challenges. Such as transforming the traditional economic system into a circular one. Thus, it is needed to increase educational initiatives connected to circularity in order for tomorrow's innovative circular solutions to blossom. This report also shows that knowledge about the term circular economy correlates with higher education, which confirms the importance of education once again.

KEY INSIGHTS FROM REPORT

NEW FORMS OF ENGAGING IN FINANCE

This report shows that many consumers are interested in actively or passively investing in circular financial products. However, the majority of consumers do not know about the possibility to invest in such solutions. It is not only about communicating guidelines for consumers about circular investments but also finding new forms of engaging consumers in finance in order to learn about it. As this report tells us, the interest is already there if looking at the Nordics. Although actions like crowdfunding might not be the long-term goal in order to stimulate circular investment flows, such campaigns can be valuable for increasing engagement. Mobilising consumers with interest for circular investments is therefore just as much about ways of engaging the consumers to take in information.

BUILDING & CONSTRUCTION – REALITY VERSUS PERCEPTION

Looking at the perception of wasteful industries amongst consumers, we see that only around 10% of the consumers in each Nordic country consider the building & construction sector to be the industry that wastes the largest amount of resources. In reality, construction stands for 36% of the Co2-emissions within the EU, and construction and demolition waste is the largest waste stream in the EU. Building and construction are considered more of a societal necessity than e.g. fashion by logic, but the gap between the perception of material efficiency and waste in the construction industry and the real level of waste streams from this industry limits the capacity of posing consumer demands within the construction industry. It can also create a consumer focus that is mistargeted.

CONSUMERS THINK THAT CONSUMER-CLOSE INDUSTRIES ARE MOST WASTEFUL

Fashion, food, and energy & fuel are the industries that are perceived as wasting the largest amount of resources when looking at the overall Nordics. On the contrary, industries that seem complex or far away from the consumption phase for consumers such as agriculture, finance and telecom are perceived as the least wasteful industries. This also goes in line with the consumer perception of the fact that citizens themselves bear the largest responsibility in order to hasten the circular transition. The industries where consumers can see actions affect their own waste are thus perceived as overall most wasteful.

NORWAY STANDS OUT WHICH PUTS FOCUS ON VAT ISSUES

The Norwegian rental market stands out from the other countries. Not in general, but when it comes to certain product categories, namely cars and holiday residences. If focusing on rental cars, we find that the Norwegian rental car market is bigger than in the other Nordic countries. This depends on the fact that car prices are higher in Norway, due to the fact that they are outside the EU. Therefore, initiatives such as Nabobil.no (rental car platform) have gotten a stronger market penetration than other Nordic equivalents. Following the remark that prices are higher in Norway, it is interesting to see that Norwegians stand out from the other countries by stating more strongly that the price obstacle of repairing items is affecting their behaviour. Thus, the issue of VAT regulatory practices on circular activities becomes an interesting topic of focus. To expand on this, Sweden, which introduced these types of VAT reliefs a couple of years ago, are underrepresented amongst the consumers that state the price to be an obstacle, although the Danes are not far behind. More VAT reliefs on e.g. repairing services are needed in order to further nudge these behaviours.

LACK OF PLATFORMS AND QUALITY LIMITS TRANSACTIONS

Bad quality is a key obstacle for both the sellers and buyers of second-hand consumer markets. Also, platforms e.g. for rental items are still lacking. For example, many of the Nordic consumers state that they do not know where to find the rental items that they are looking for. An increase and facilitation of platforms are thus consistently and heavily needed.

RECYCLED PACKAGING IS NOT YET A HYGIENE FACTOR

If being engaged within circular economy theory or practices, one might think that packaging that is designed from recycled material is already a hygiene factor in consumer markets. But in fact, this is not the case. Consumers are overall positive to the concept of recycled packaging but still, only 20-24% of the consumers in each country find it important that the packaging material of a product is in fact made from recycled material.

KEY INSIGHTS FROM REPORT

NORDIC HISTORY BENEFICIAL FOR CIRCULAR ECONOMY

As the expert, Alexandre Lemille states, circularity is not only about resources being scarce; social equity is just as important. The Nordic societies have a long political heritage of social equality policies that have made them amongst the most economically equal nations in the world. Thus, there are certain preconditions existing in the Nordic countries that are conditional for full implementation for the circular economy, though it is important to add the immense amount of work left to do.

EMPLOYEE ENGAGEMENT

Just as in all sustainability-related areas, employee engagement is crucial in order to get support for internal changes and to drive change. Without the true commitment of the staff, it is impossible to change the mindset and culture of the entire operations, which is needed to truly stimulate circular innovation.

HOUSEHOLD DATA AND E-COMMERCE

Data strategist Marijana Novak emphasized the combination of digitalisation and subscription services and how these developments will support each other and alter household consumption patterns and the ability to aggregate bottom-up data on household behaviour. And thus to develop solutions according to these behaviours. For example, the development of e-commerce and food subscription services could provide us with more detailed information on the Nordic populations and their food consumption habits and thus e.g. limit the amount of food waste.

BUSINESS DEVELOPMENT INSIGHTS

FOR BUSINESSES, ORGANIZATIONS AND AGENCIES



TECHNOLOGY AND IoT CAN BOOST ACCESS OVER OWNERSHIP

With the development- and the decreasing cost of technological solutions and the Internet-of-Things (IoT), consumers could develop stronger incentives to interact more in the consumption phase. As seen in the report, people are not excited to interact with other people which limits the sharing economy heavily. In fact, social interaction often involves trust-issues, is considered to be a hassle, and often is a reason for consumers not to move past the idea of ownership.

Making use of IoT-technologies could take a lot of those worries away. Products can be tracked, secured, and people can pay-per-use. This means, more people could get access to the same item, without the aspect of 'social interaction', and people pay for the access or use, without necessarily needing to be part of a social sharing economy platform.

These solutions can limit the so-called free-loading risk of common assets, i.e. the situation where one user creates increased costs for other users. Thus, the social disruptive elements of the sharing economy are limited, and the sharing activity becomes more transparent. Pay-per-usage solutions simply allow people to interact more smoothly in the consumption phase, which is needed in order to be able to reap the fruits of sharing practices.

Whether your company or organization has the possibility to be innovative when it comes to IoT-solutions, the outcome here is getting consumers to interact, and prevent social conflicts in sharing activities instead of having to solve these conflicts afterward with statutory frameworks.



IN-STORE SHOPS – CIRCULARITY AND CONSUMER ENGAGEMENT IN ONE

For those actors having physical stores, in-store departments with repairation, rental or second-hand items can be extremely valuable. Besides the evident benefit of improving circularity, the in-store shops have the potential to increase the engagement of their customers. It can increase brand value, especially for those consumers that find it hard to find platforms for these activities. As a result of this report shows, many consumers do not know where they can rent or repair certain items. Also, there is clear value in getting to know the consumer and its behaviours in the store – what are their incentives to e.g. repairing things and what could increase their usage of your service?

Note that this solution goes beyond repairation of apparel. It could just as well be rental home electronics, second-hand sports gear, repairing transportation, etc.

Also, hubs are still an untapped resource that would bring benefits to a lot of actors. To be more clear, providing hubs would mean providing the possibility to perform several circular activities for several circular product groups and/or services in the same physical location.

BUSINESS DEVELOPMENT INSIGHTS

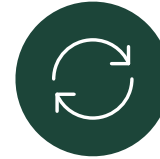
FOR BUSINESSES, ORGANIZATIONS AND AGENCIES



MAKE SERVICES INCREASINGLY LUXURIOUS

The prevailing way of talking about circularity and engaging in the sharing economy and servitization from the business perspective often means talking about it as a sacrifice. By that, businesses appeal to the 6-8 % that we call Dedicated consumers, i.e. consumers that have strong values related to sustainability and prioritise sustainability over other values. To appeal to a broader audience, there is a clear value of changing mindset and communicate about circular services as something that adds value to your life beyond the environmental goodwill. Making the services more luxurious could make people consider the ownership to be more of a responsibility, and that the service is a relief from that responsibility. Simply put, build in mechanisms in the service that makes it more exclusive! For example, a clothing rental service could go from a service that feels less exclusive than ownership to an alternative that feels more exclusive than ownership by adding e.g. a personal shopper to the experience. Also, a car rental service could be promoted as an option that gives you relief from the responsibility of the ownership of a car, as well as being able to choose different cars once a month, etc., instead of stating the value of a shared carpool only for environmental or social benefits.

This market making insight also relates to the fact that in Finland, people with higher incomes are more positive to reducing consumption, while in Sweden, people with lower incomes are more positive to reducing their consumption. By making services more luxurious we can move towards a system where an increase in the marginal income does not automatically imply a similar increase in the consumption of natural resources.



MOVE AWAY FROM RECYCLING

With increasing levels of awareness within the Nordics, the discussions about the circular transition will become more complex. For a long time, circularity has been thought of as a synonym to recycling, but since recycling is only the outer loop of the circular economy, more and more businesses and initiatives should/will focus on the inner loops of the circular economy. We can see this development already by the fact that businesses start to add reparation services or equivalents instead of only focusing on recycling concepts.

More cases and best practices are also needed to show by example that circular business models are needed for long-term profitability and that it is not only recycling material for good-will that creates success stories or increases brand value.

BUSINESS DEVELOPMENT INSIGHTS

FOR BUSINESSES, ORGANIZATIONS AND AGENCIES



THE BUSINESS LOGIC BECOMES CLEARER WITH INCREASED AWARENESS

By investigating the attitudes to circular business models earlier (see p.57), this report shows that many consumers cannot speak their mind about more complex circular concepts, due to lacking awareness. However, looking at the people who are able to have an opinion about this, we saw that more consumers understand that circular business models do not necessarily mean more risk than linear ones and that a circular product is not per se more expensive than a linear one. This means, that there is a clear business logic of circular businesses amongst those consumers that are aware enough to state their opinion on the matter.

With rising awareness levels we expect this understanding of circular business models to increase. Thus, there is a clear business rationale for the future circular businesses within the Nordics.



MEMBERSHIPS AND BONUS PROGRAMS FOR CIRCULAR SERVICES

There are plenty of possibilities to create stronger incentives for consumers to use circular products and services more frequently. One of them is uniting under a common membership- and/or bonus program where consumers can collect scores and benefits. This might be especially beneficial for smaller businesses that do not have their own scope for large action. It is hard for a single start-up or an SME to maintain a bonus program on their own, but uniting with other small circular businesses could create possibilities to incentivize customers to use both your service and other circular services. Also, these cooperations might lead to finding other synergies as well. Adding from the interview with designer Juha Mäkelä, he requested more policies that were more carrot rather than stick, and these types of programmes could be exactly that.



THE POSITIVE ASPECTS OF OWNERSHIP

We expect markets to move away from a model very focused on ownership to a market where usage is more valued. However, moving from ownership to per-usage models is not ideal by nature. In Sweden, we have recently seen examples of people mistreating the city scooters, i.e. smaller shared electric scooters that are placed around the city and can be rented through an app, by simply throwing them on the streets or even in the water. This is a behaviour that you would probably not have if you had ownership of the scooter. Especially in wealthy countries like the Nordics, the city scooters – if lingering on that example - are also probably most often an addition to other ways of private transportation than actually replacing other transportation. Note that we recognize the value of sharing mechanisms as well as the value of a decline in ownership, but that it is not always automatically ideal on its own.

Thus, the positive aspects of ownership, i.e. that you might take care of assets better than you would do if you shared ownership, must be stimulated with communication and policy regulations on taking care of assets by e.g. repairation. Also, incentives that are increasing the urge to take care of common assets must be emphasized, whether it's done by regulatory measures or more incentivizing measures such as the bonus programmes just mentioned on this page.

BUSINESS DEVELOPMENT INSIGHTS

FOR BUSINESSES, ORGANIZATIONS AND AGENCIES



TAP INTO THE SOCIAL IMPACT OF A CIRCULAR ECONOMY

Yet again, drawing from the expertise of Alexandre Lemille, activities in the circular spectra such as repairing, remanufacturing, etc. , rely much more on employment than recycling practices, and can thus generate genuine job creation in virtuous loops. Also, Marijana Novak emphasised that in all levels of government, a circular economy is a key priority in order to create long-term resilience and stability, job creation and citizen safety. This could be emphasized when choosing focus areas for implementation and communication measures for the circular economy. Although municipalities and government institutions have enormous incentives to focus also on circularity from an environmental perspective, they can stand out by focusing on the social aspect of for example job creation, since this is not as common, and also is closely connected to the core values of government. As we have seen within the data section of this report, the Nordic people put more focus on the government than last year in order to take responsibility for the circular transition. Hence, it becomes even more important for all branches of government to address the circular transition, since expectations are increasing. But also other actors have a lot to gain by opening the door and tapping into the social impact of a circular economy.



06

APPENDIX 1
ABOUT & SOURCES

ABOUT SB INSIGHT

SB Insight is the founder of Sustainable Brand Index™.

We are an insight agency on a mission to create sustainable brands.

We provide knowledge and understanding of how sustainability affects branding, communication and business development.

Our insights come in different forms and are used for strategic decision-making. Everything is based in our expertise within branding & communications, sustainability, behavioural science and market research.

OUR BUSINESS AREAS



SB Academy
we share



SB Leaders
we connect



SB Reports
we analyse



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SB INSIGHT

EXTERNAL SOURCES

- https://www.ellenmacarthurfoundation.org/assets/downloads/TCE_Ellen-MacArthur-Foundation-9-Dec-2015.pdf http://www3.weforum.org/docs/White_Paper_Collaboration_in_Cities_report_2017.pdf
- <https://www.originalrepack.com/success-stories/>
- <https://www.fastcompany.com/90296956/a-coalition-of-giant-brands-is-about-to-change-how-we-shop-forever-with-a-new-zero-waste-platform>
- <http://www.ids.ac.uk/opinion/what-is-the-link-between-productivity-circular-economy-and-the-sdgs>
- http://ec.europa.eu/environment/circular-economy/implementation_report.pdf
- https://ec.europa.eu/commissioners/2014-2019/vella/announcements/separate-waste-collection-context-circular-economy-europe_en
- https://www.recyclingnet.se/article/view/546811/kina_stopp_ar_avfallimport
- <https://resource-recycling.com/plastics/2017/03/01/arrests-delays-mark-first-weeks-second-green-fence/>
- <http://www.waste360.com/recycling/china-notifies-wto-intent-ban-24-types-solid-waste-imports>
- <https://www.theguardian.com/environment/2018/jan/02/rubbish-already-building-up-at-uk-recycling-plants-due-to-china-import-ban>
- http://www.ym.fi/en-US/The_environment/Circular_economy
- <https://www.sitra.fi/en/projects/leading-the-cycle-finnish-road-map-to-a-circular-economy-2016-2025/#what-is-it-about>
- http://biotalous.fi/wp-content/uploads/2014/08/The_Finnish_Bioeconomy_Strategy_110620141.pdf
- <http://tem.fi/en/bioeconomy-and-cleantech>
- <https://www.ivl.se/toppmeny/pressrum/pressmeddelanden/pressmeddelande---arkiv/2018-10-24-fardplan- visar-hur-industriell-symbios-kan-vaxa-i-sverige.html>
- <https://www.regjeringen.no/en/aktuelt/the-government-forwards-a-strategy-for-green-competitiveness/id2575358/>
- <https://www.regjeringen.no/en/aktuelt/agreement-to-reduce-food-waste/id2558931/>
- <https://www.regjeringen.no/en/aktuelt/the-norwegian-government-steps-up-the-efforts-to-turn-waste-into-resources-and-reduce-marine-litter/id2558322/>
- <https://www.avfallnorge.no/avfalls-og-gjenninningspolitikk/veikart-for-sirkul%C3%A6r-%C3%B8konomi>
- http://en.mfv.dk/fileadmin/user_upload/MFVM/Miljoe/Cirkulaer_oekonomi/Advisory-Board-for-Circular-Economy-Report-2017-Content_Single_pages_WEB.pdf
- <https://www.sitra.fi/en/publications/world-circular-economy-forum-2018-report/>
- <http://en.mfv.dk/focus-on/circular-economy/>
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- <http://eng.mst.dk/sustainability/sustainable-consumption-and-production/sustainable-procurement/partnership-for-green-public-procurement/>
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- <http://www.regeringen.se/artiklar/2017/09/tydlig-miljoprofil-i-budgeten-for-ar-2018/>
- <http://www.regeringen.se/artiklar/2017/03/utredning-foreslar-mer-cirkular-ekonomi-och-mindre-avfall/>
- <http://www.recycling.se/nyheter-media/nyheter/budget-2017>
- https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en
- http://europa.eu/rapid/press-release_IP-18-5_en.htm
- http://www3.weforum.org/docs/White_Paper_Collaboration_in_Cities_report_2017.pdf
- <https://www.aktuellhallbarhet.se/ikeas-hallbarhetschef-att-bli-cirkulara-ar-var-viktiga-utmaning/>
- <https://www.circle-economy.com/the-circularity-gap-report-our-world-is-only-9-circular/#.Wo1K8IPOXDc>
- <http://creativity-online.com/work/houdini-the-houdini-menu/51672>
- <http://www.wbcsd.org/Clusters/Circular-Economy-Factor10/News/launching-Factor10>
- <https://www.theguardian.com/environment/2018/jan/23/new-fountains-and-bottle-refill-points-to-tackle-londons-plastic-waste> <https://zenrobotics.com/>
- <https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/#latest> <https://www.sitra.fi/en/>
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- <http://www.purecsr.no/> <https://transformatordesign.se/>
- "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias."; Daniel Kahneman, Jack L. Knetsch, Richard H. Thaler; *The Journal of Economic Perspectives*, 5(1), pp. 193-206; 1991
- "The Circular Economy – A new sustainability paradigm?"; Martin Geissdoerfer, Paulo Savaget, Nancy M.P. Bocken, Erik Jan Hultink; *Journal of Cleaner Production* Volume 143, pp. 757-768; 2017
- http://www.un.org/en/ga/second/73/jm_conceptnote.pdf
- <https://www.eppm.com/materials/wef-2019-circulars-awards-announce-in-davos/>
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- <https://stateofgreen.com/en/partners/state-of-green/news/new-national-danish-strategy-for-circular-economy/>
- <https://www.aktuellhallbarhet.se/en-ny-miljopolitik-ar-har/>
- <https://www.greenbiz.com/article/these-3-big-circular-economy-stories-2018-offer-hope-2019>
- <http://www.climateaction.org/climate-leader-papers/environmental-implications-of-the-us-china-trade-war>
- <https://stateofgreen.com/files/download/10574>
- <https://www.ellenmacarthurfoundation.org/case-studies/denmark-public-procurement-as-a-circular-economy-enabler>
- <https://www.telegraph.co.uk/travel/maps-and-graphics/mapped-the-cheapest-and-most-expensive-countries-to-live-in/>
- <https://www.konj.se/publikationer/konjunkturlaget/konjunkturlaget/2018-10-10-konjunkturen-toppa-i-ar---omvarlden-fortsatter-att-dra-nasta-ar.html>
- <https://www.ssb.no/nasjonalregnskap-og-konjunkturer/statistikker/knr>



07

APPENDIX 2 DATA ADDITIONS

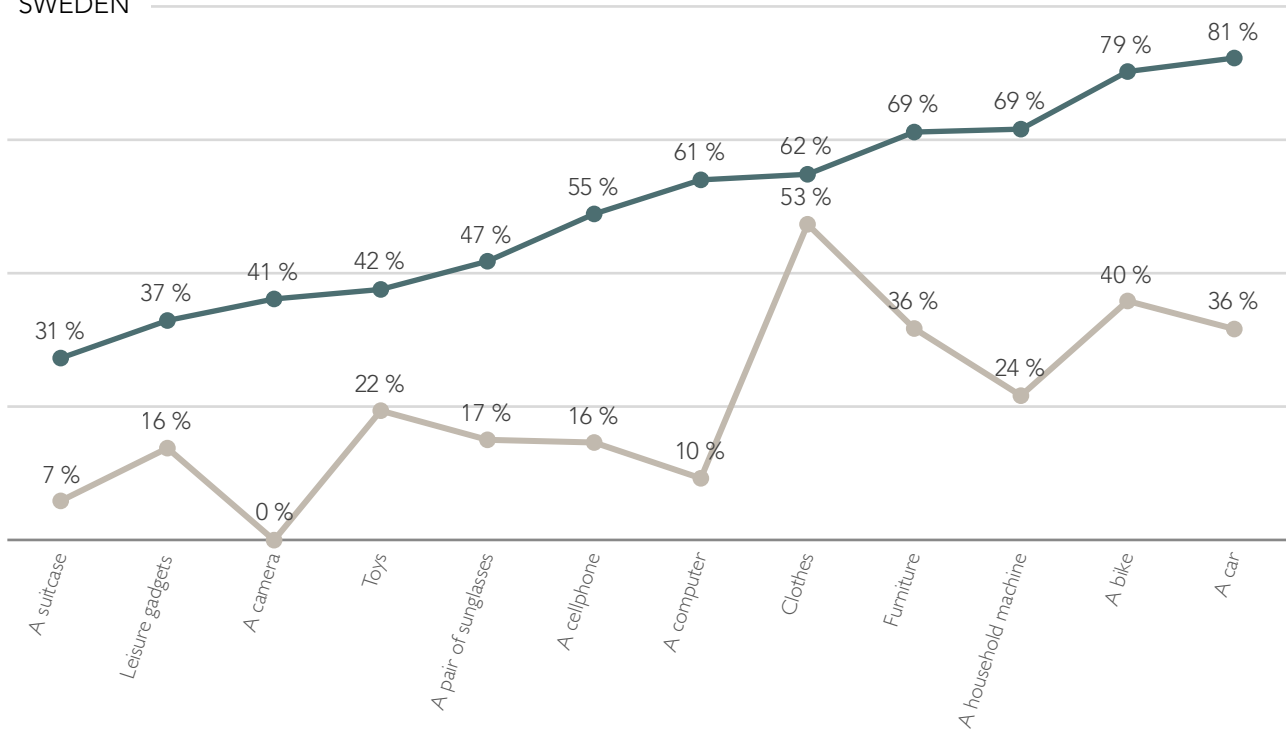
On the following pages, you will find a collection of data that was not included in the report, but that can be valuable for more detailed analysis of a certain market, a certain industry or a certain brand

PRODUCT GROUPS & CIRCULAR ACTIVITIES

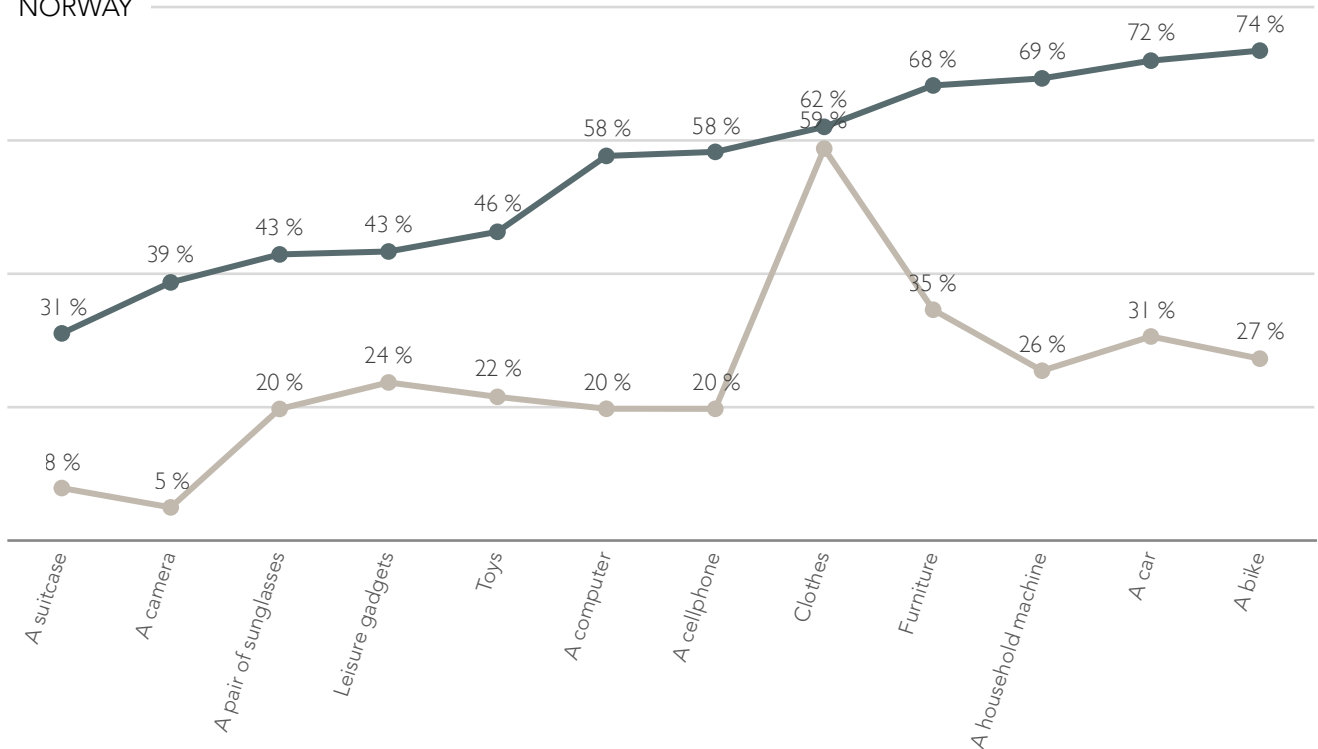
REPARATION

■ Positive to Reparation ■ Have Repaired in the Last Year

SWEDEN



NORWAY

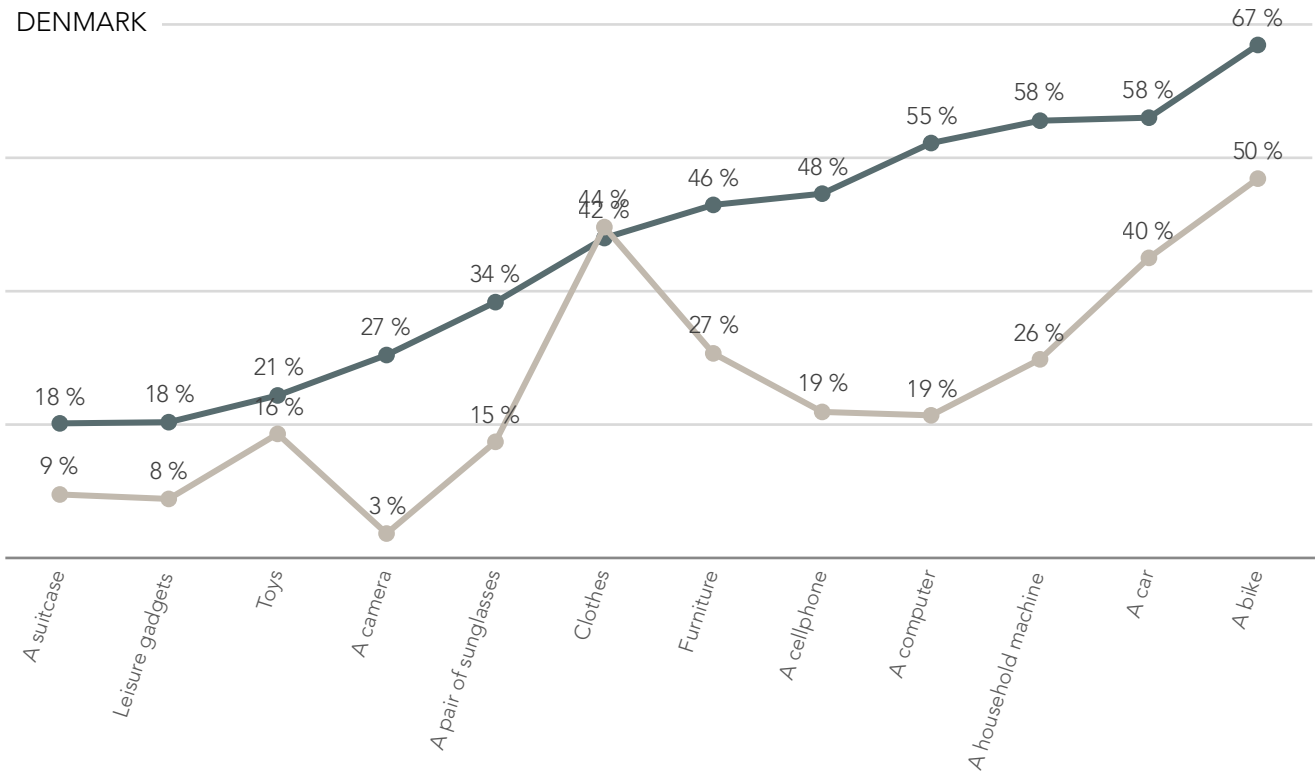


PRODUCT GROUPS & CIRCULAR ACTIVITIES

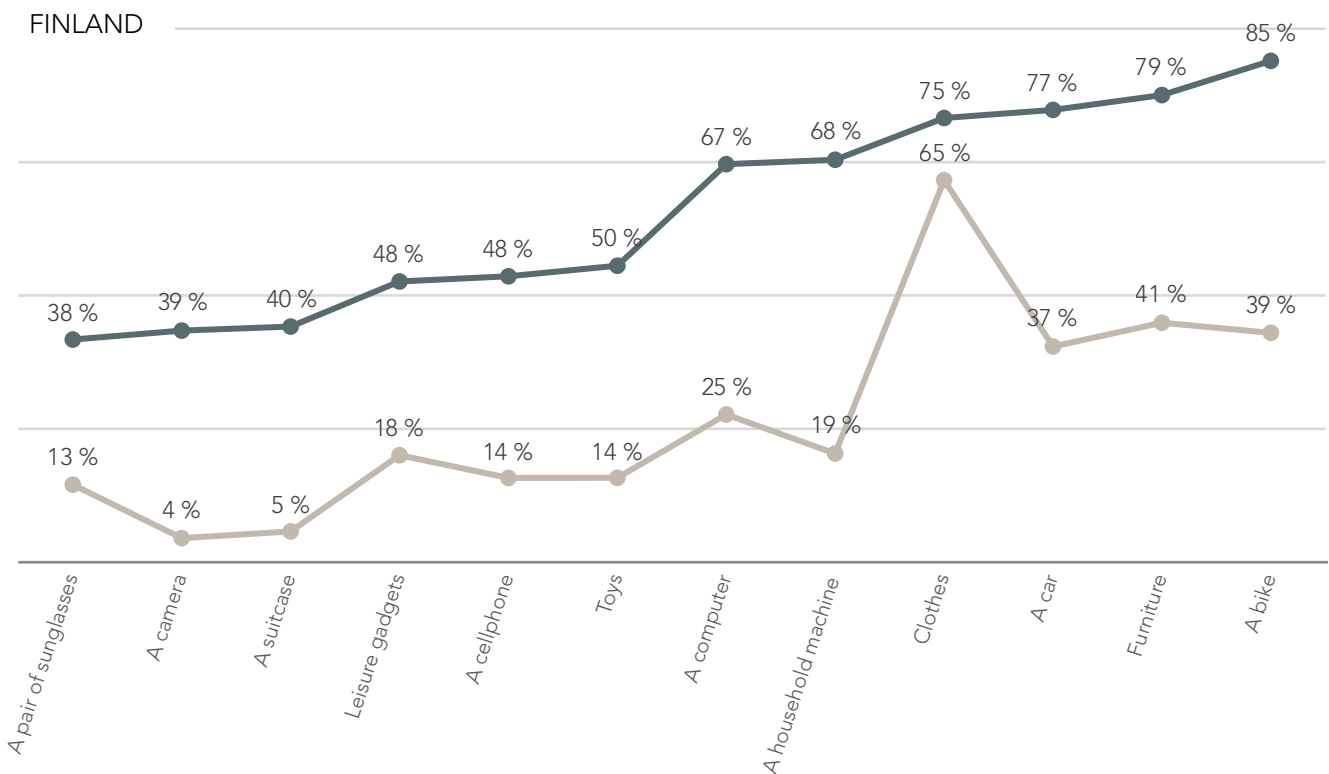
REPARATION

■ Positive to Reparation
 ■ Have Repaired in the Last Year

DENMARK



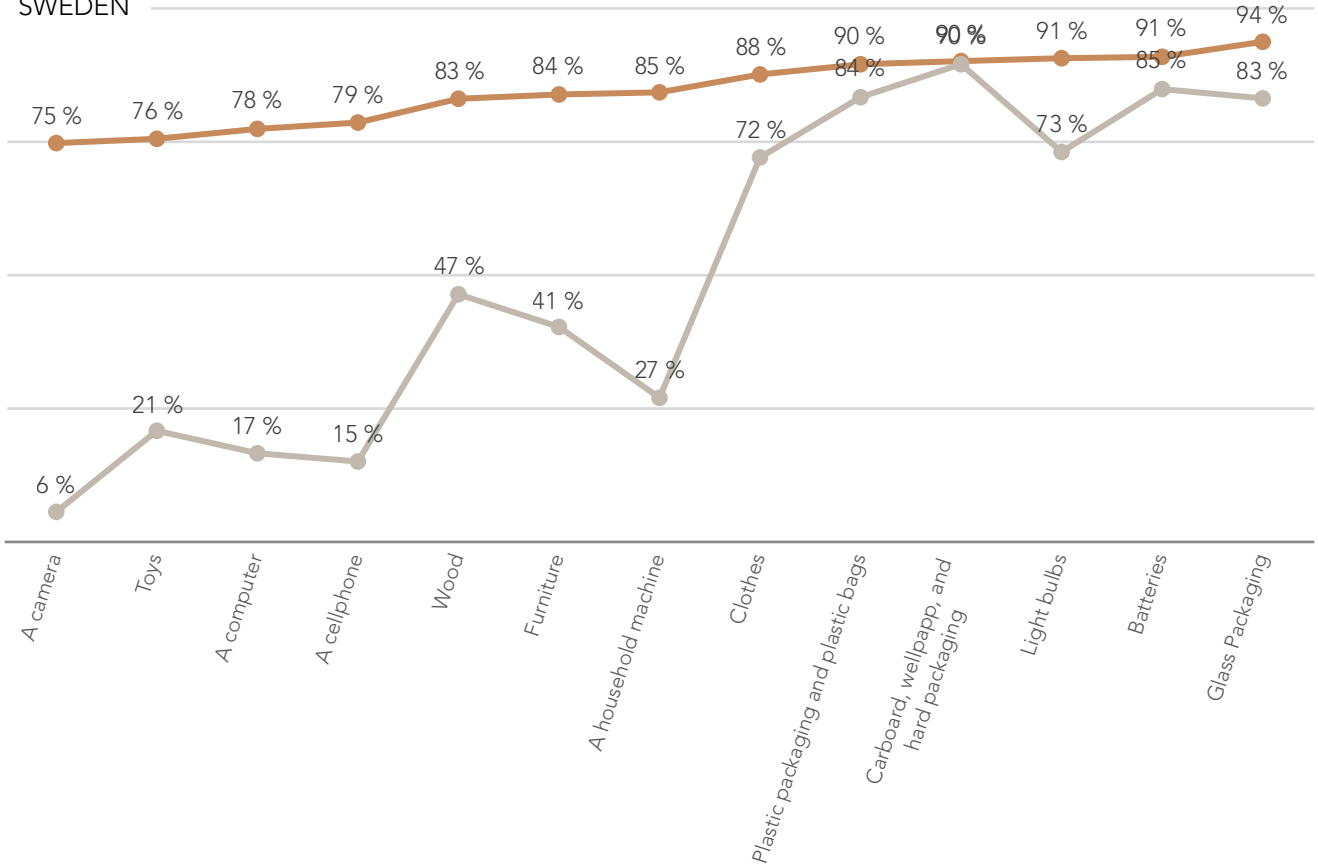
FINLAND



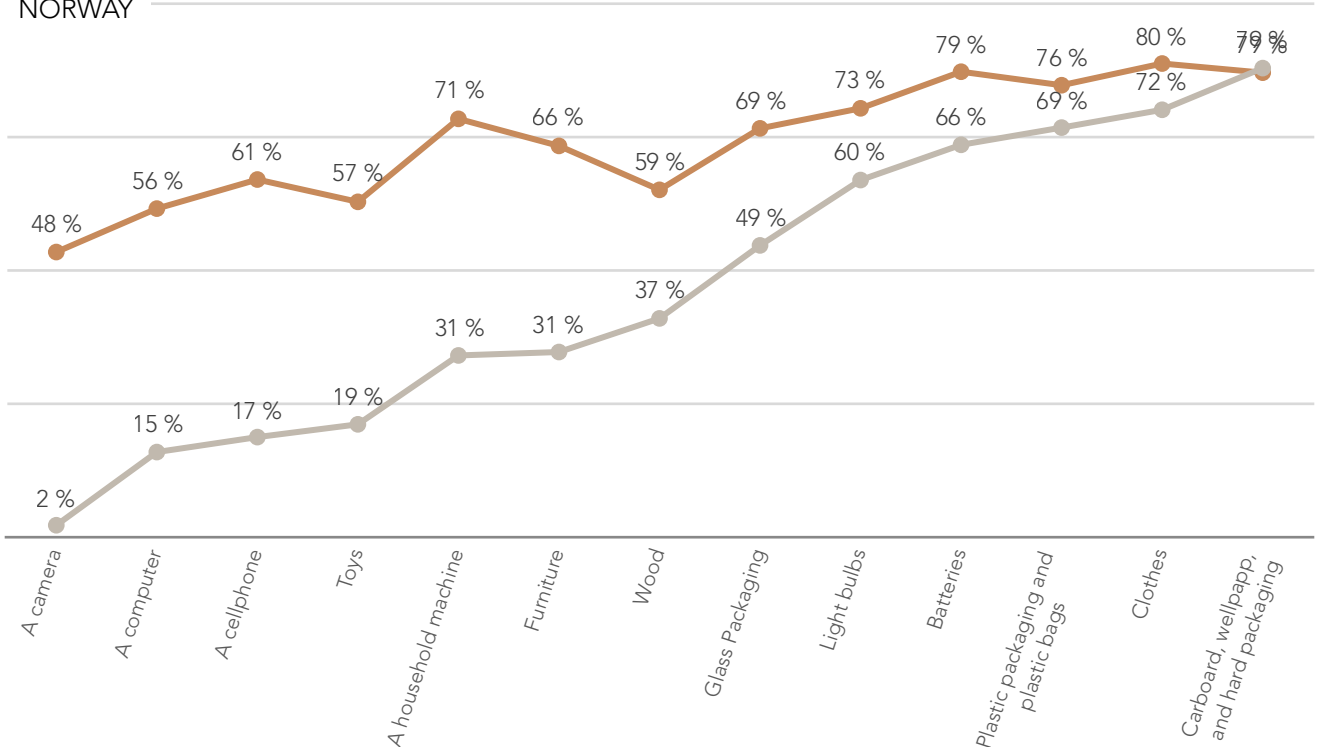
PRODUCT GROUPS & CIRCULAR ACTIVITIES

Positive to Recycling Have Recycled in the Last Year

SWEDEN



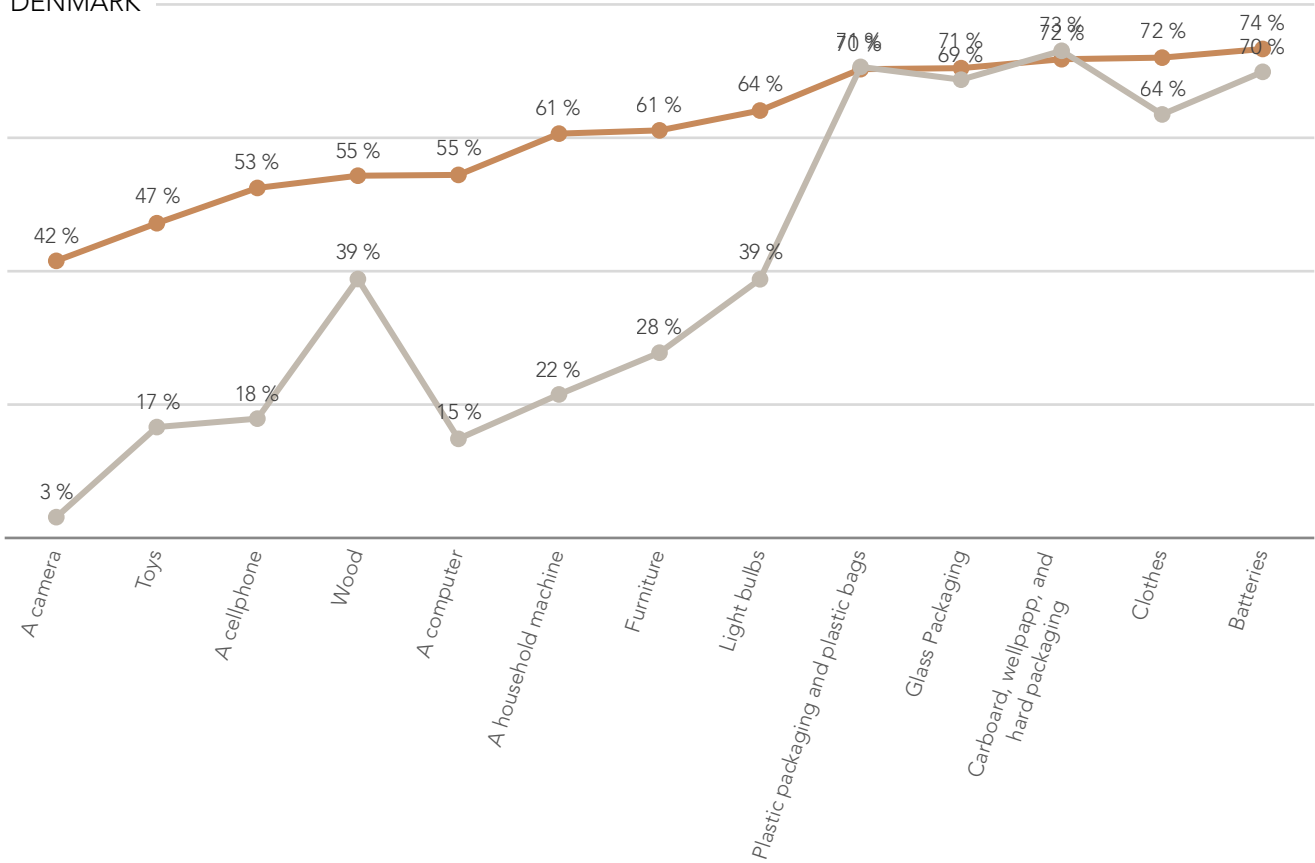
NORWAY



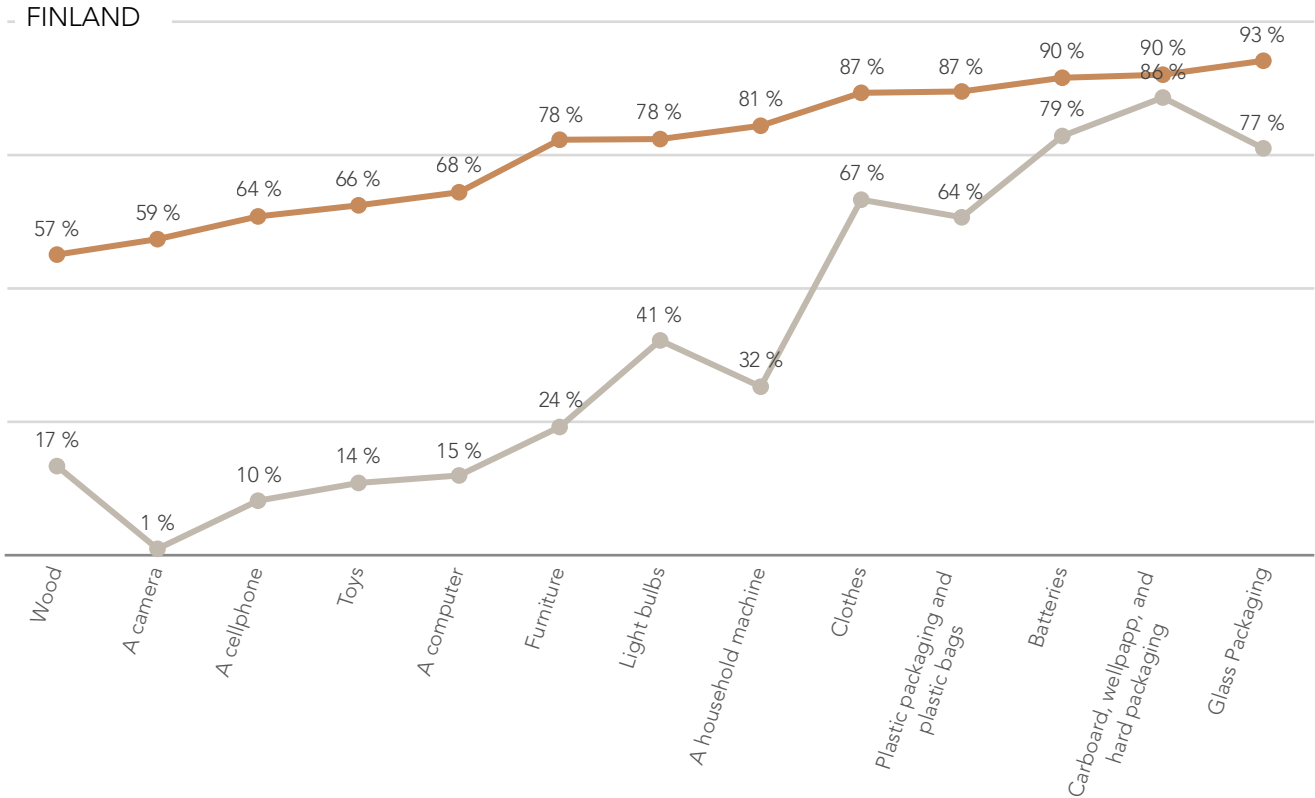
PRODUCT GROUPS & CIRCULAR ACTIVITIES

Positive to Recycling Have Recycled in the Last Year

DENMARK



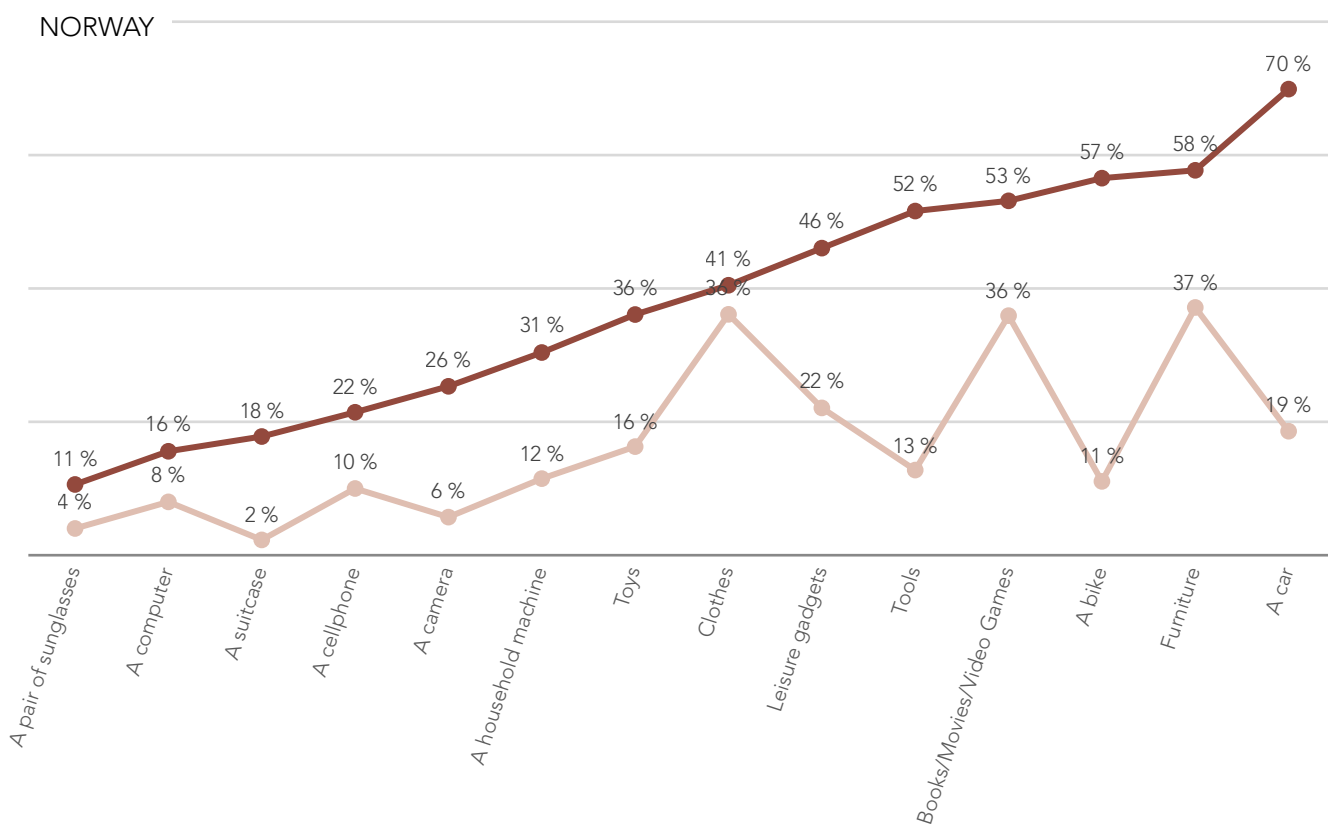
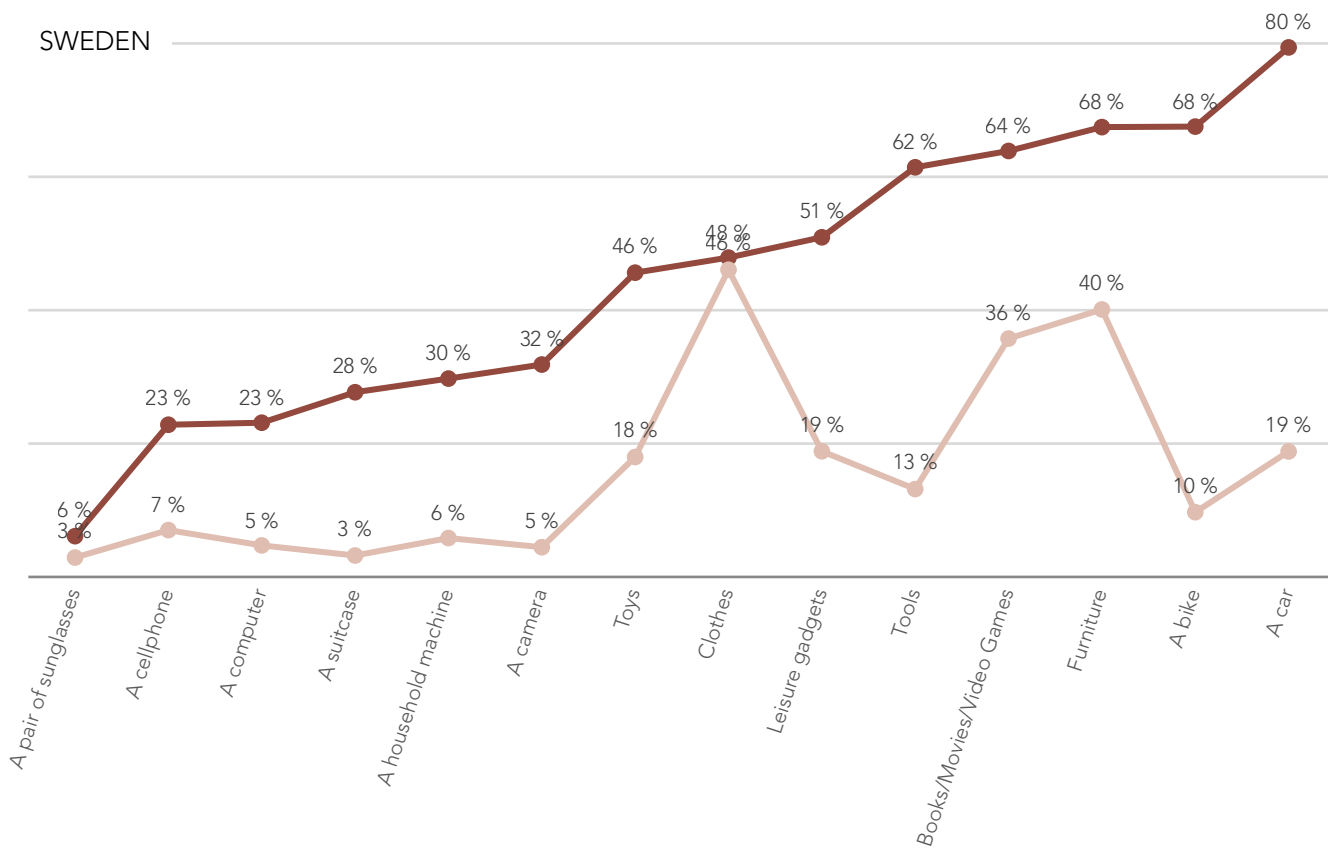
FINLAND



PRODUCT GROUPS & CIRCULAR ACTIVITIES

BUYING SECOND-HAND

■ Positive to Buying Second-Hand Items
 ■ Have Bought Second-Hand Items in the Last Year

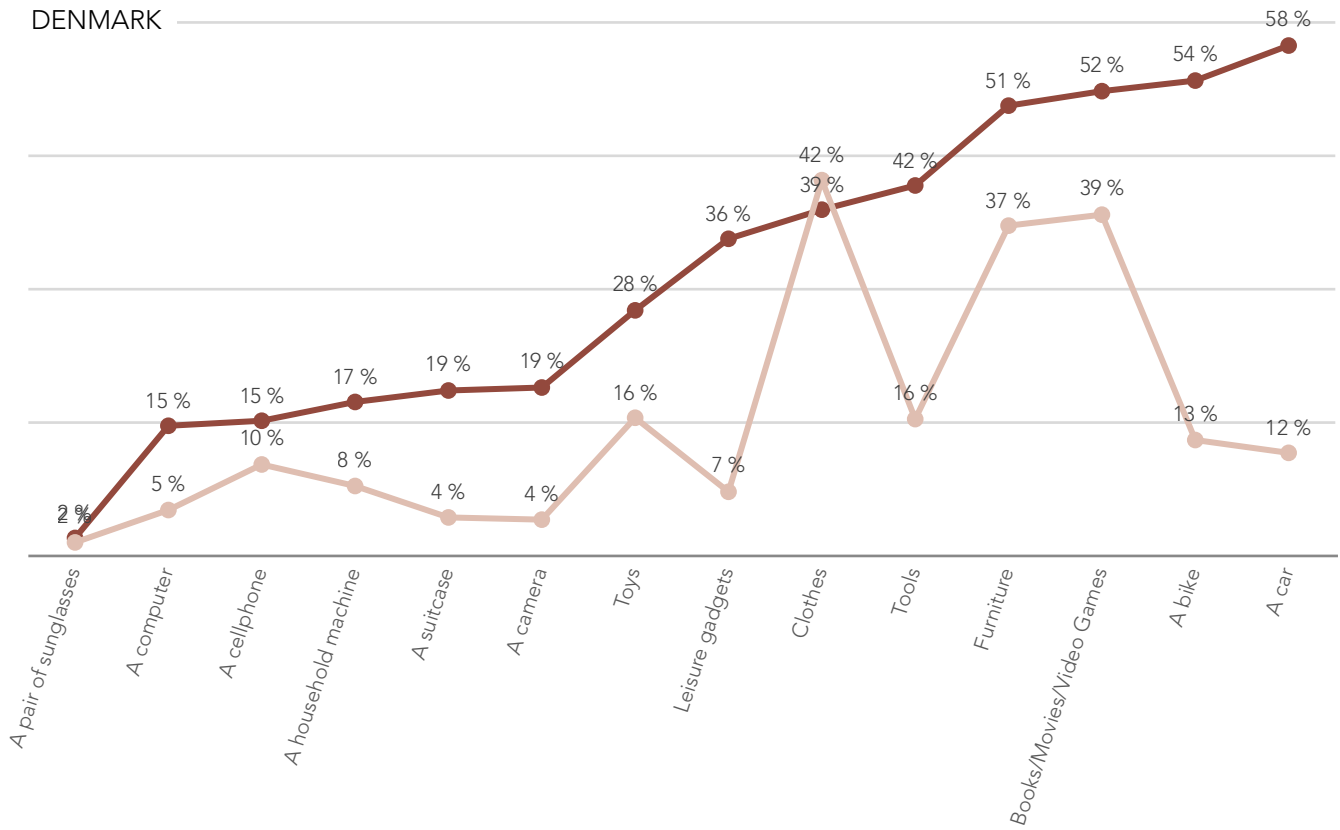


PRODUCT GROUPS & CIRCULAR ACTIVITIES

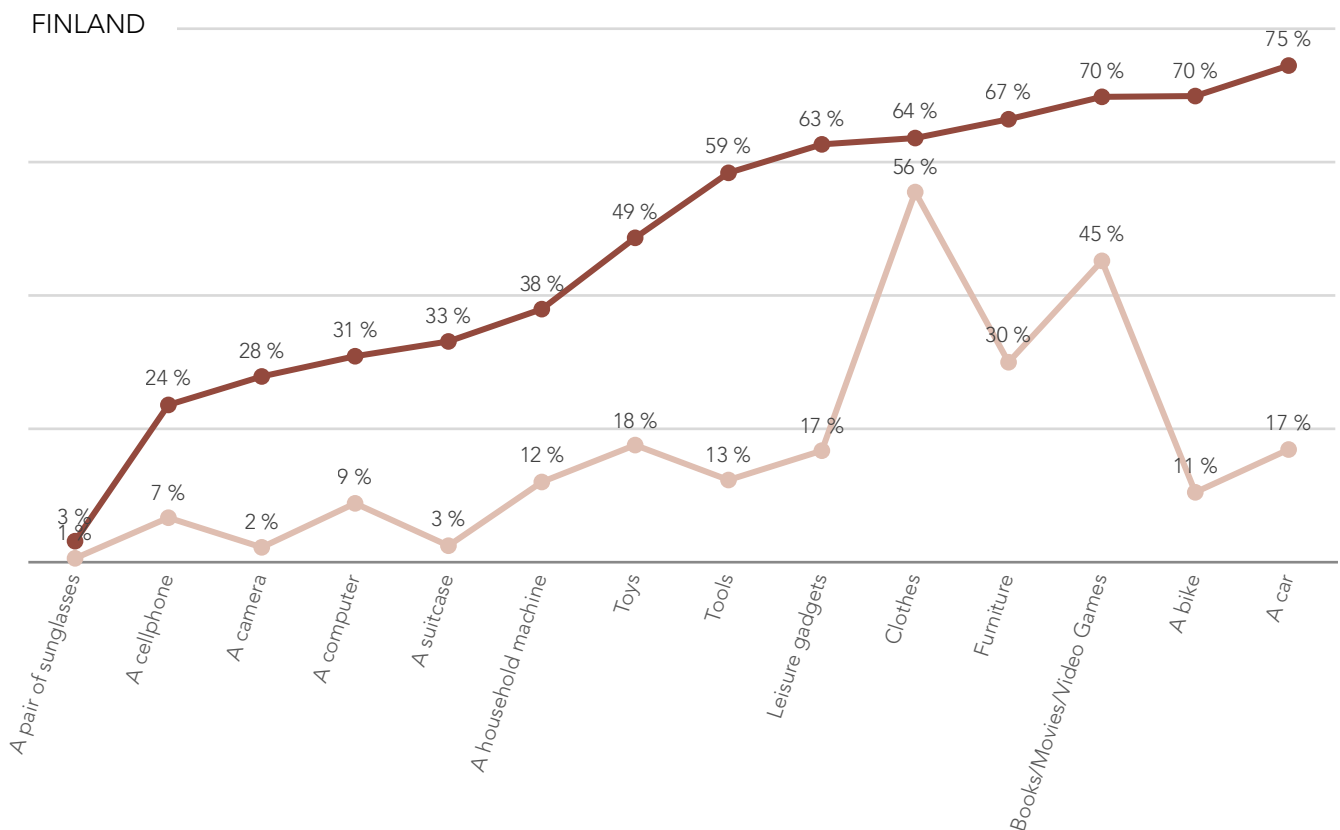
BUYING SECOND-HAND

■ Positive to Buying Second-Hand Items
 ■ Have Bought Second-Hand Items in the Last Year

DENMARK



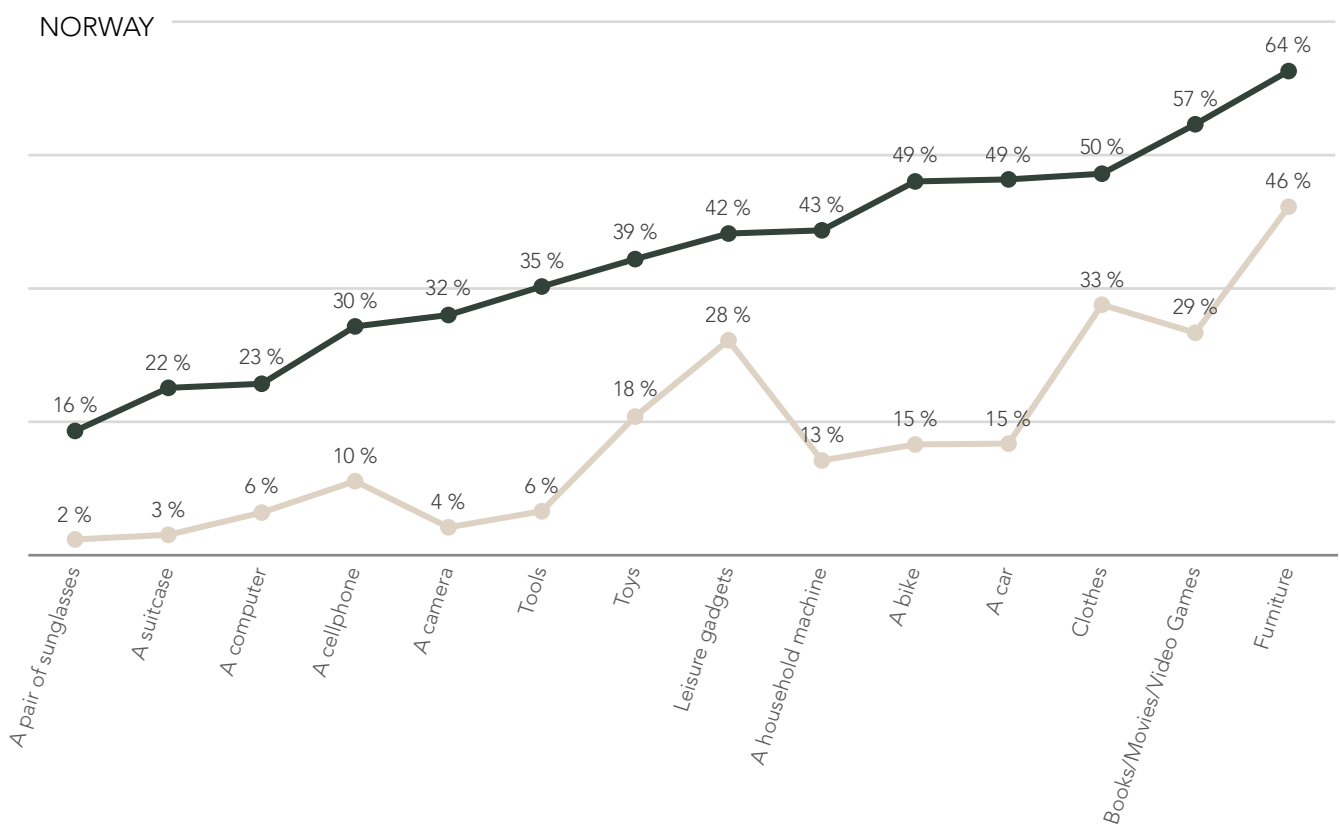
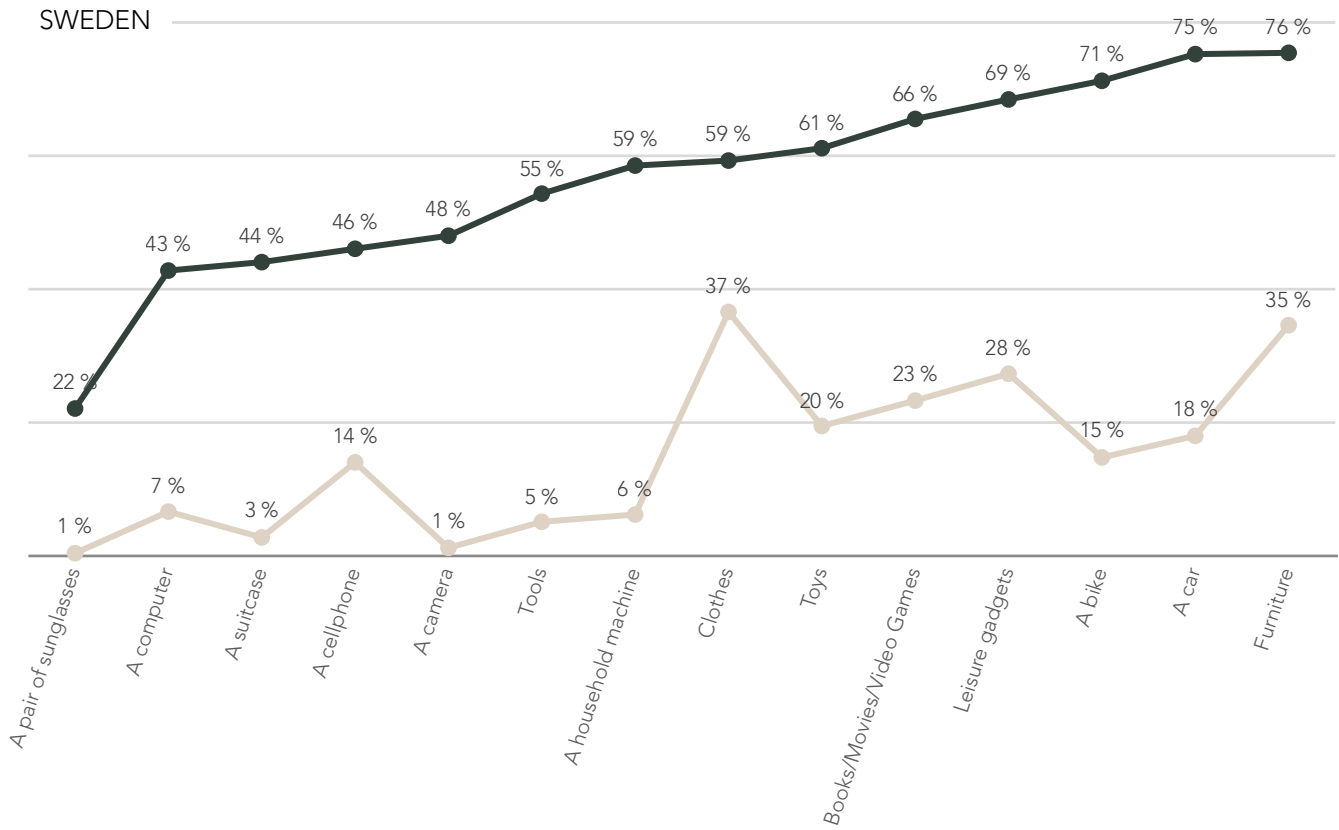
FINLAND



PRODUCT GROUPS & CIRCULAR ACTIVITIES

SELLING SECOND-HAND

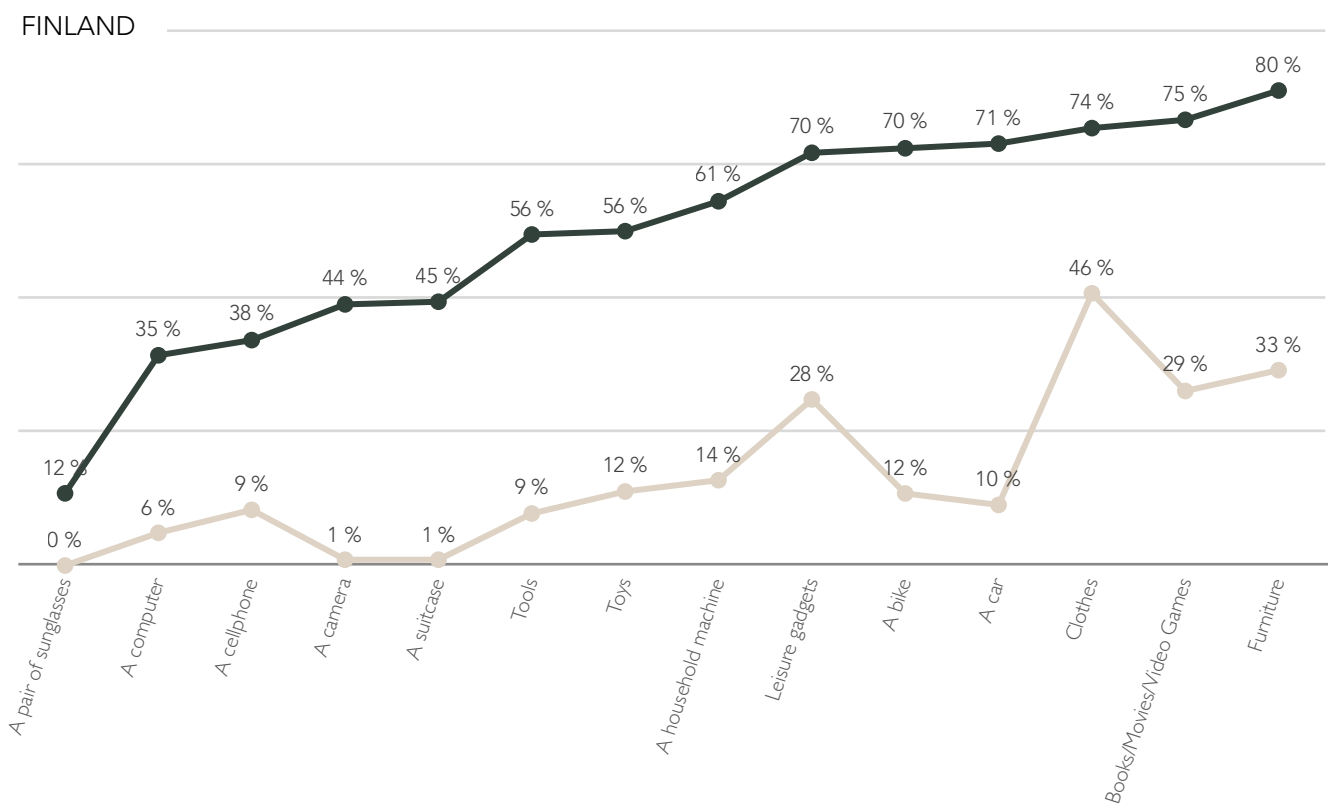
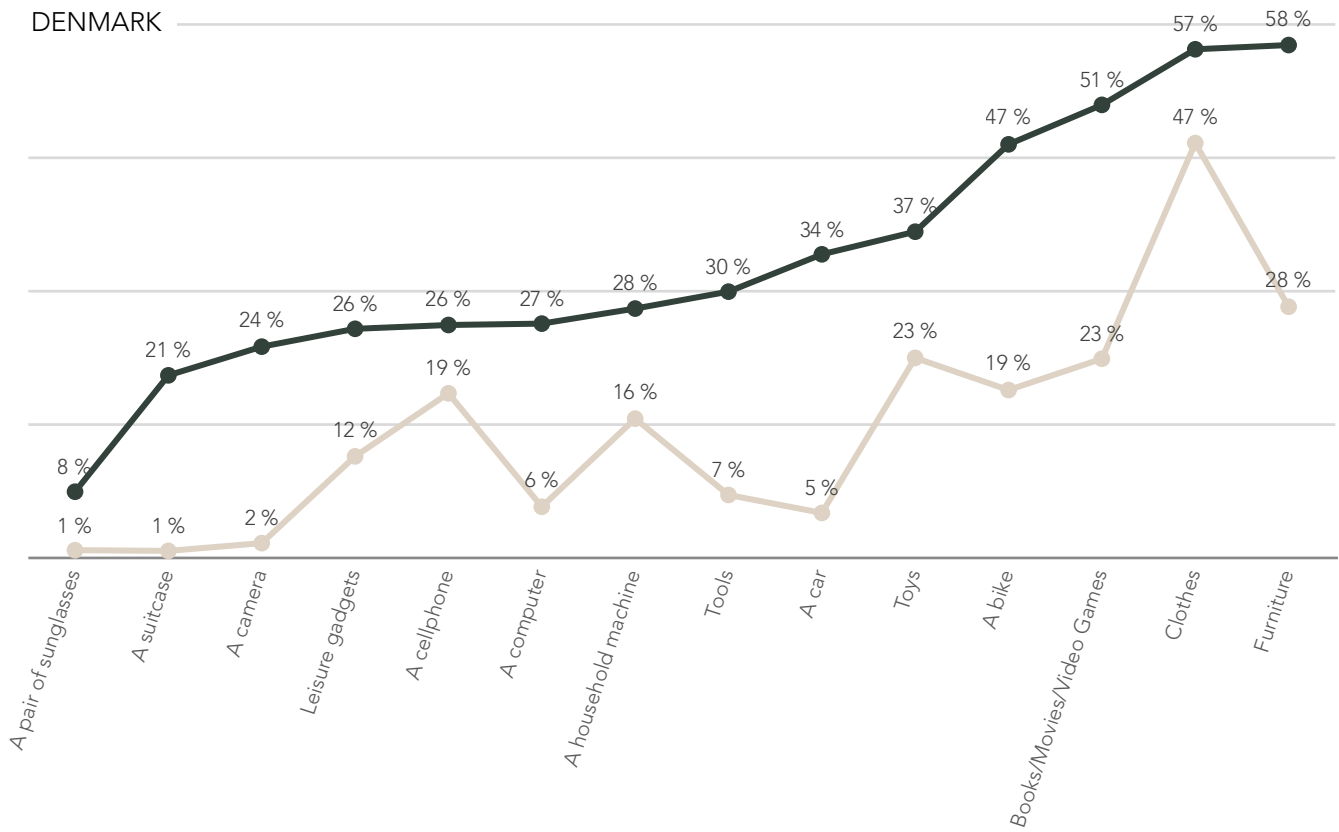
■ Positive to Selling Second-Hand Items
 ■ Have Sold Second-Hand Items in the Last Year



PRODUCT GROUPS & CIRCULAR ACTIVITIES

SELLING SECOND-HAND

■ Positive to Selling Second-Hand Items
 ■ Have Bought Second-Hand Items in the Last Year

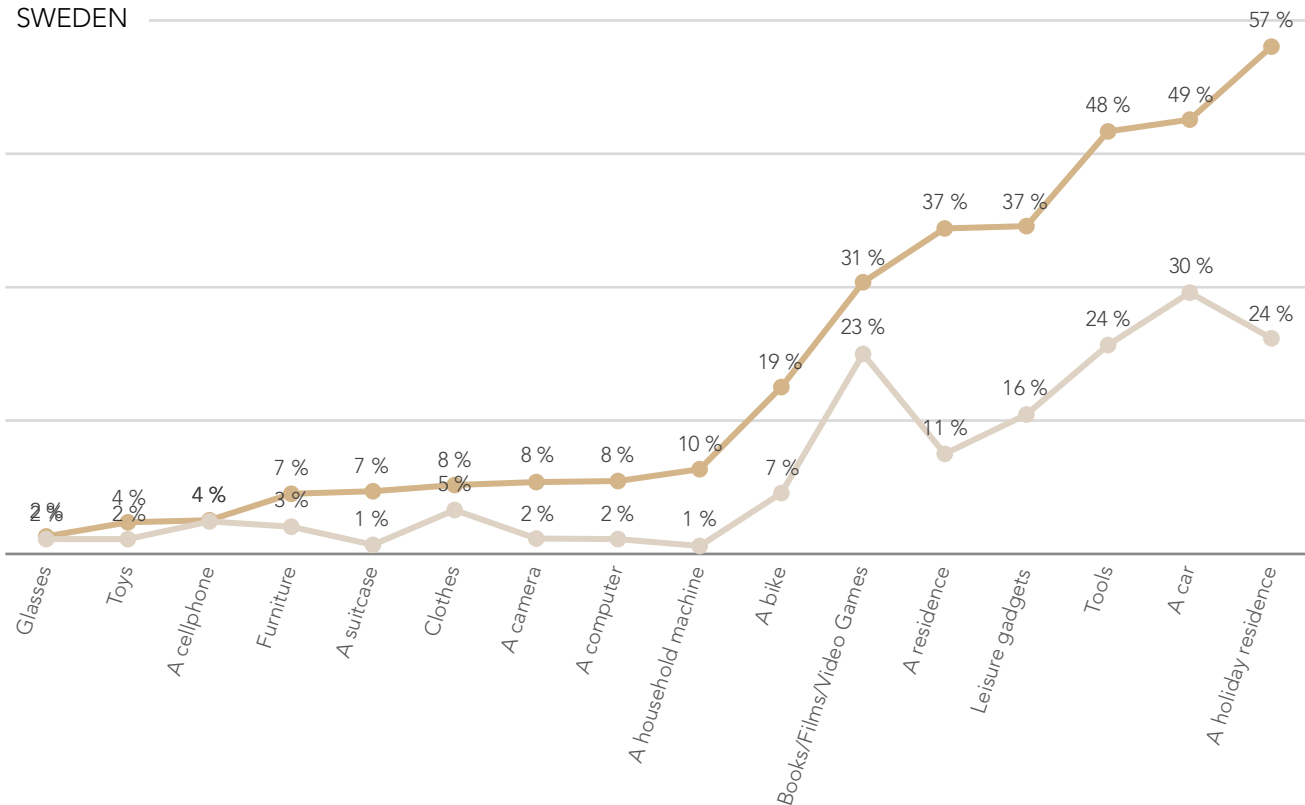


PRODUCT GROUPS & CIRCULAR ACTIVITIES

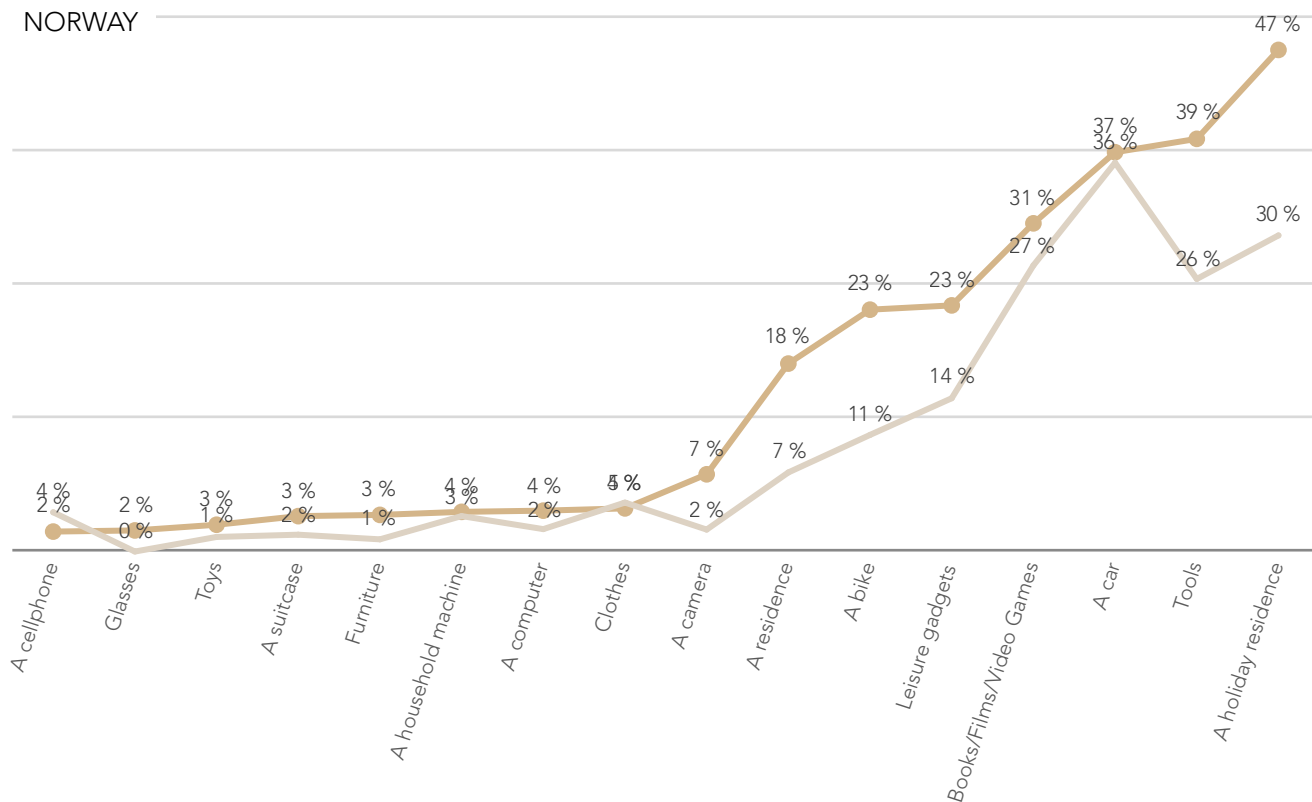
RENTING FROM OTHERS

■ Positive to Renting Items from Others
 ■ Have Rented Items from Others in the Last Year

SWEDEN



NORWAY

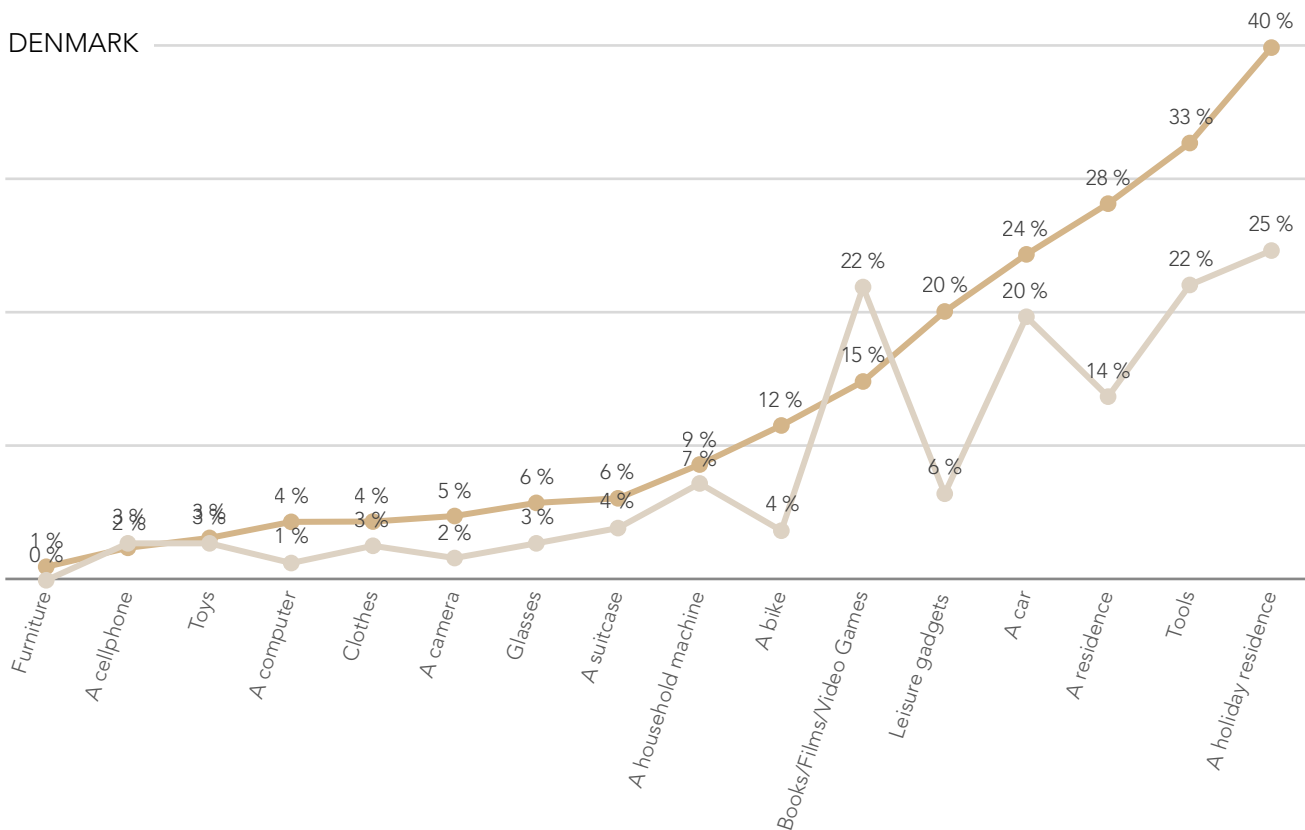


PRODUCT GROUPS & CIRCULAR ACTIVITIES

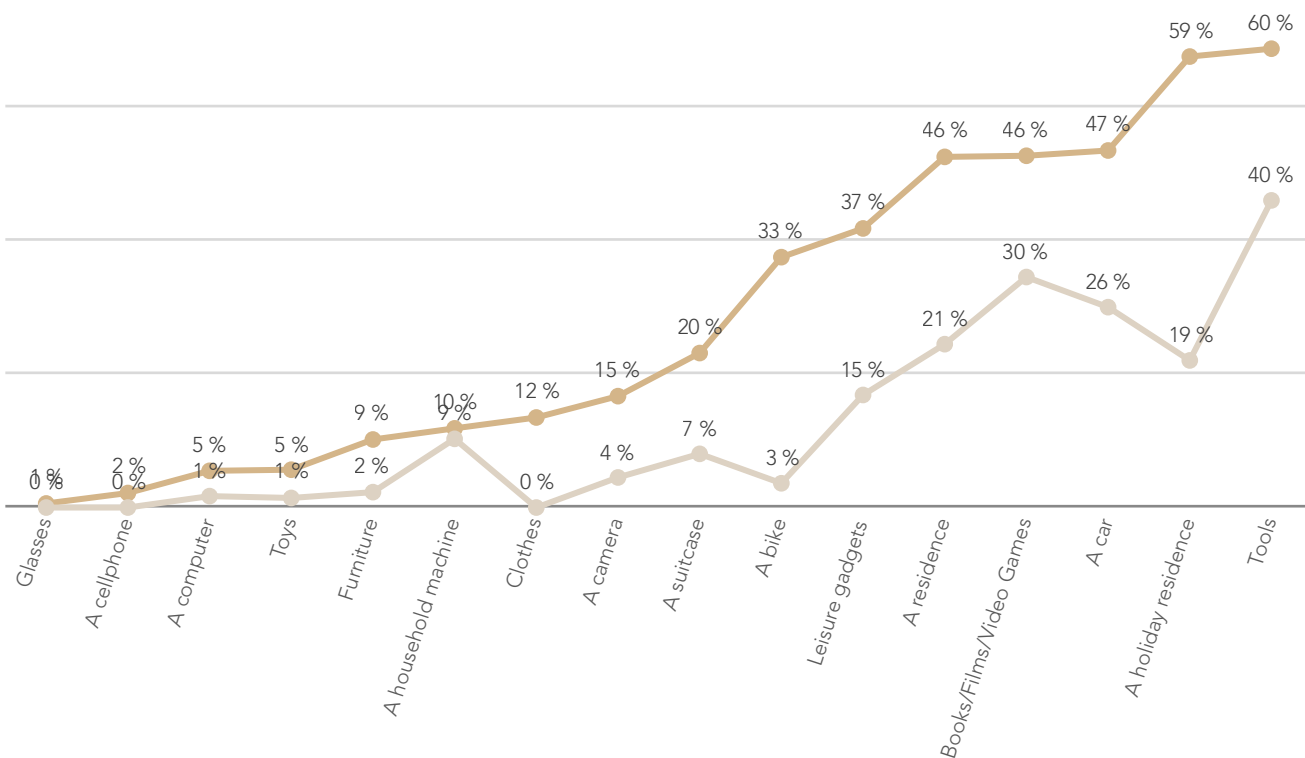
RENTING FROM OTHERS

■ Positive to Renting Items from Others
 ■ Have Rented Items from Others in the Last Year

DENMARK



FINLAND

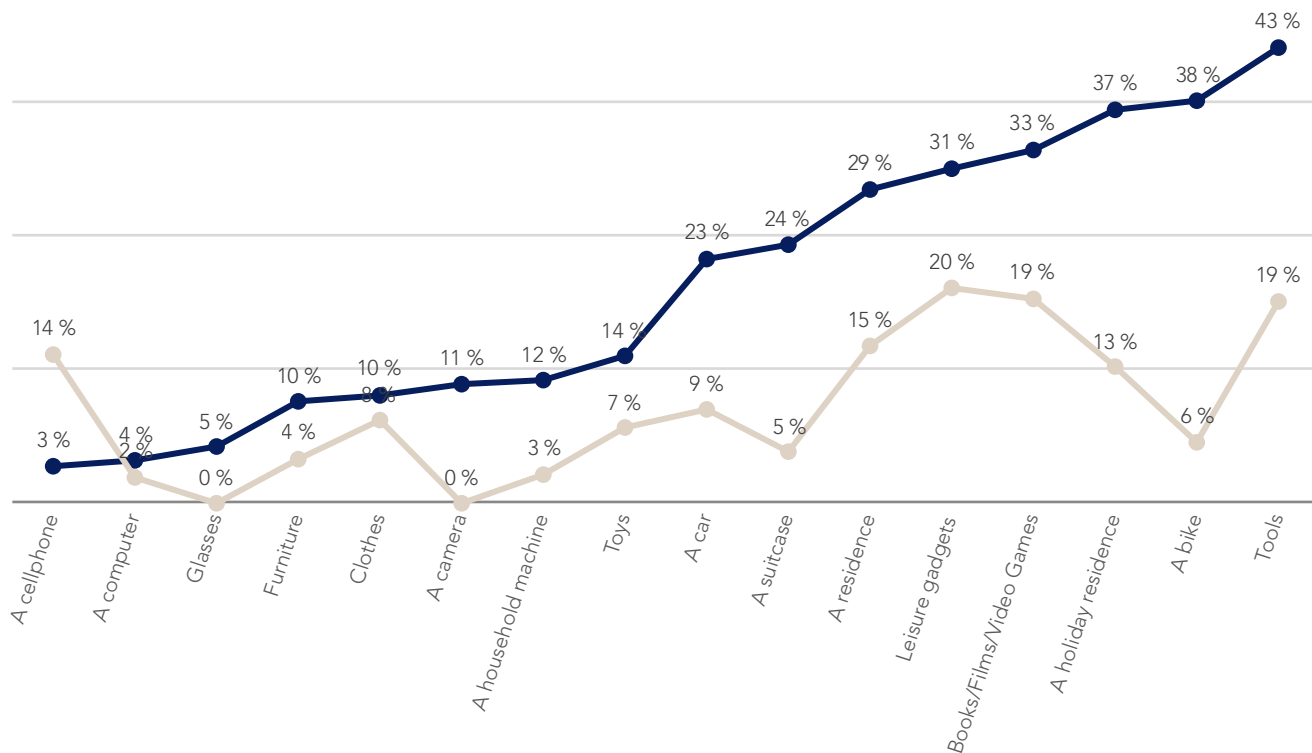


PRODUCT GROUPS & CIRCULAR ACTIVITIES

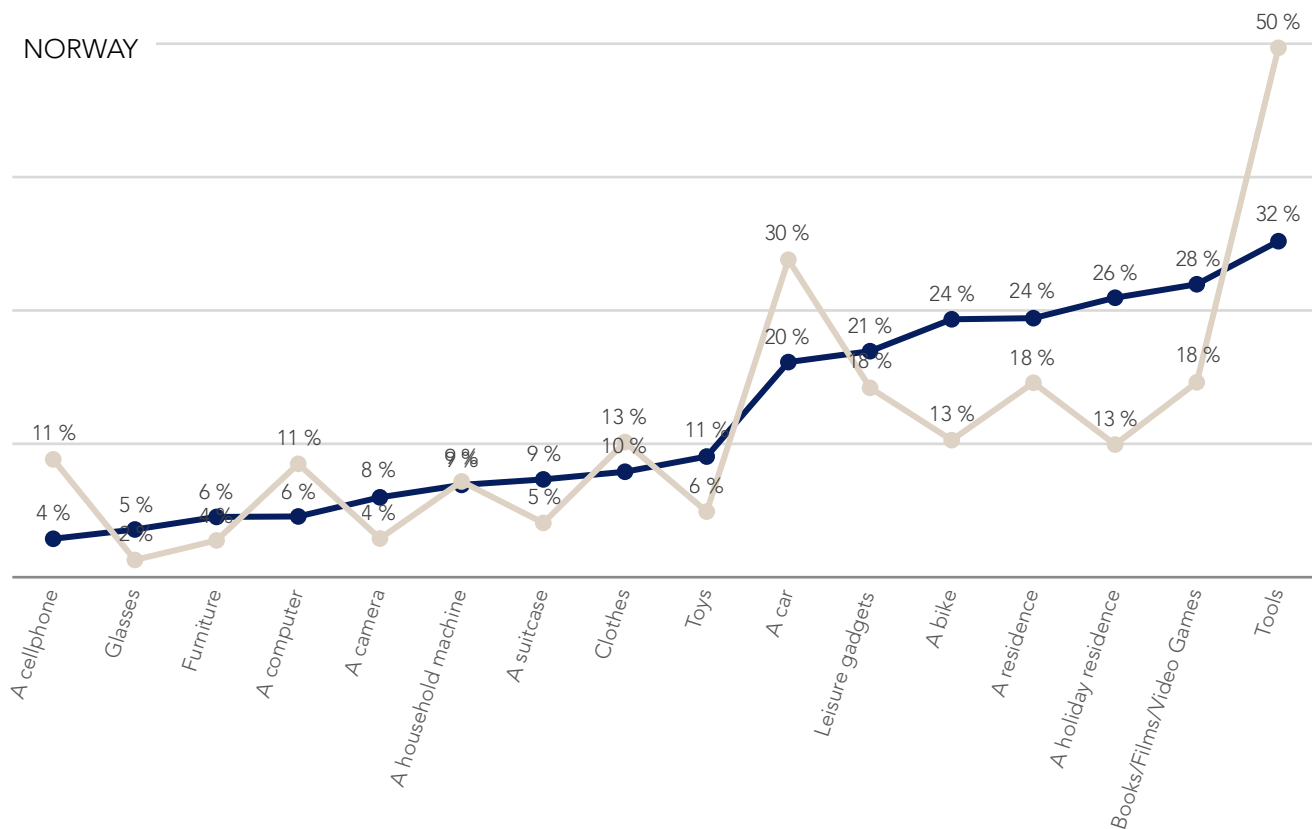
RENTING TO OTHERS

■ Positive to Renting Items to Others
 ■ Have Rented Items to Others in the Last Year

SWEDEN



NORWAY

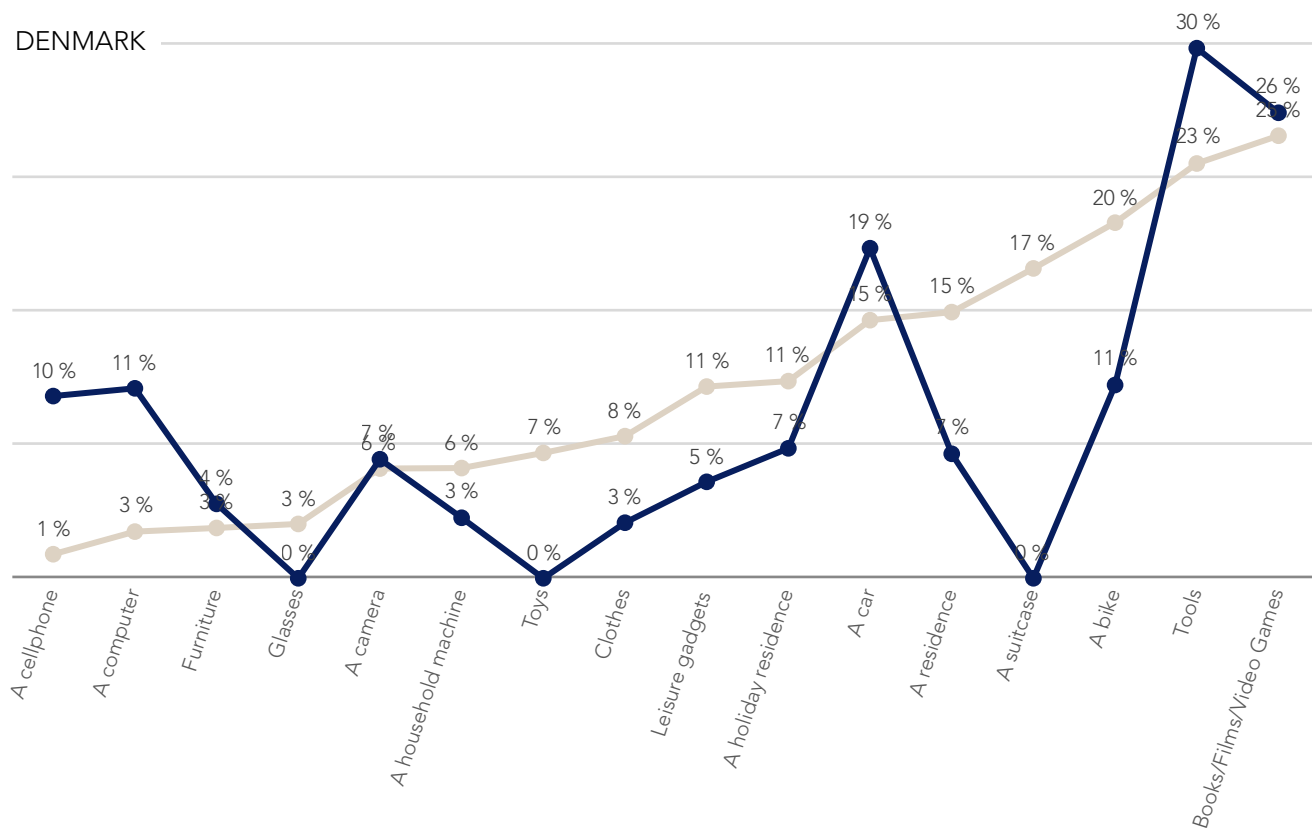


PRODUCT GROUPS & CIRCULAR ACTIVITIES

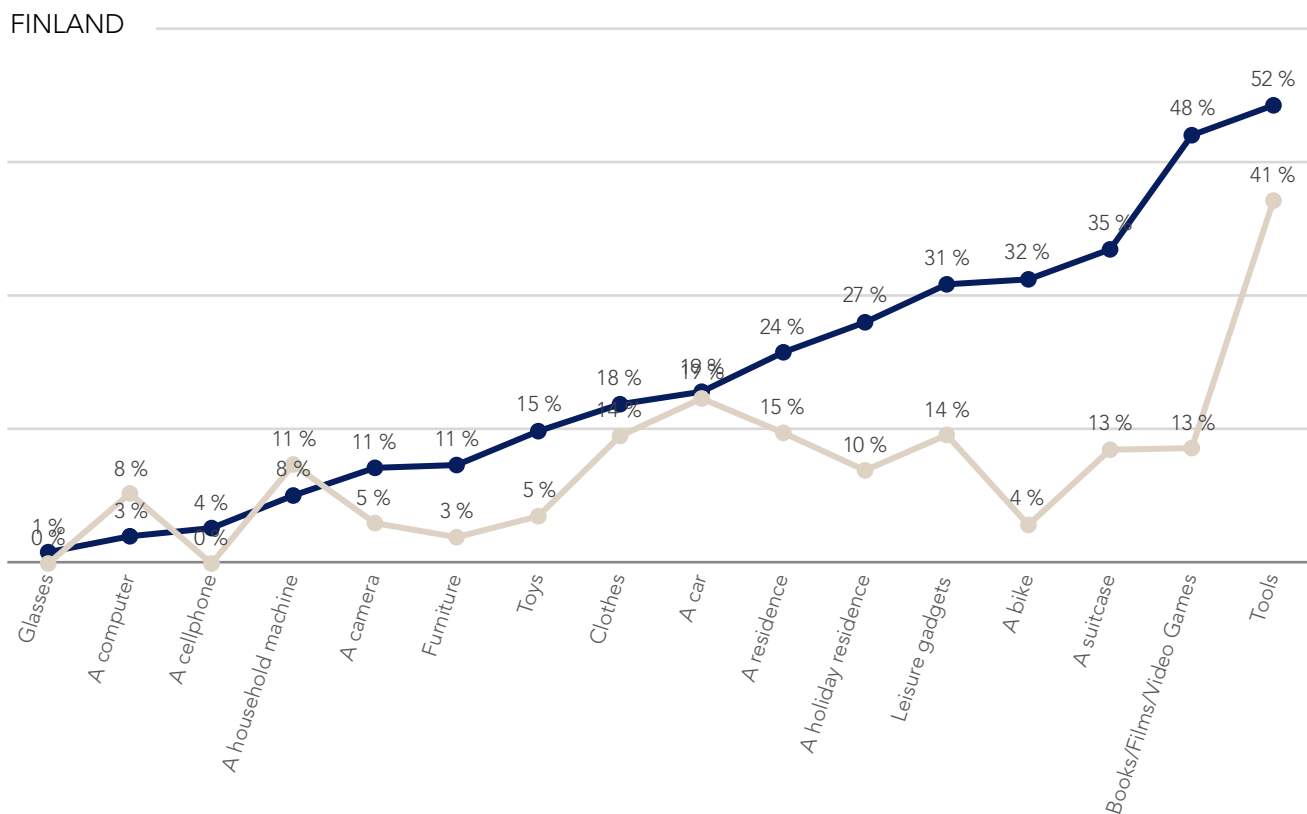
RENTING TO OTHERS

■ Positive to Renting Items to Others
 ■ Have Rented Items to Others in the Last Year

DENMARK



FINLAND

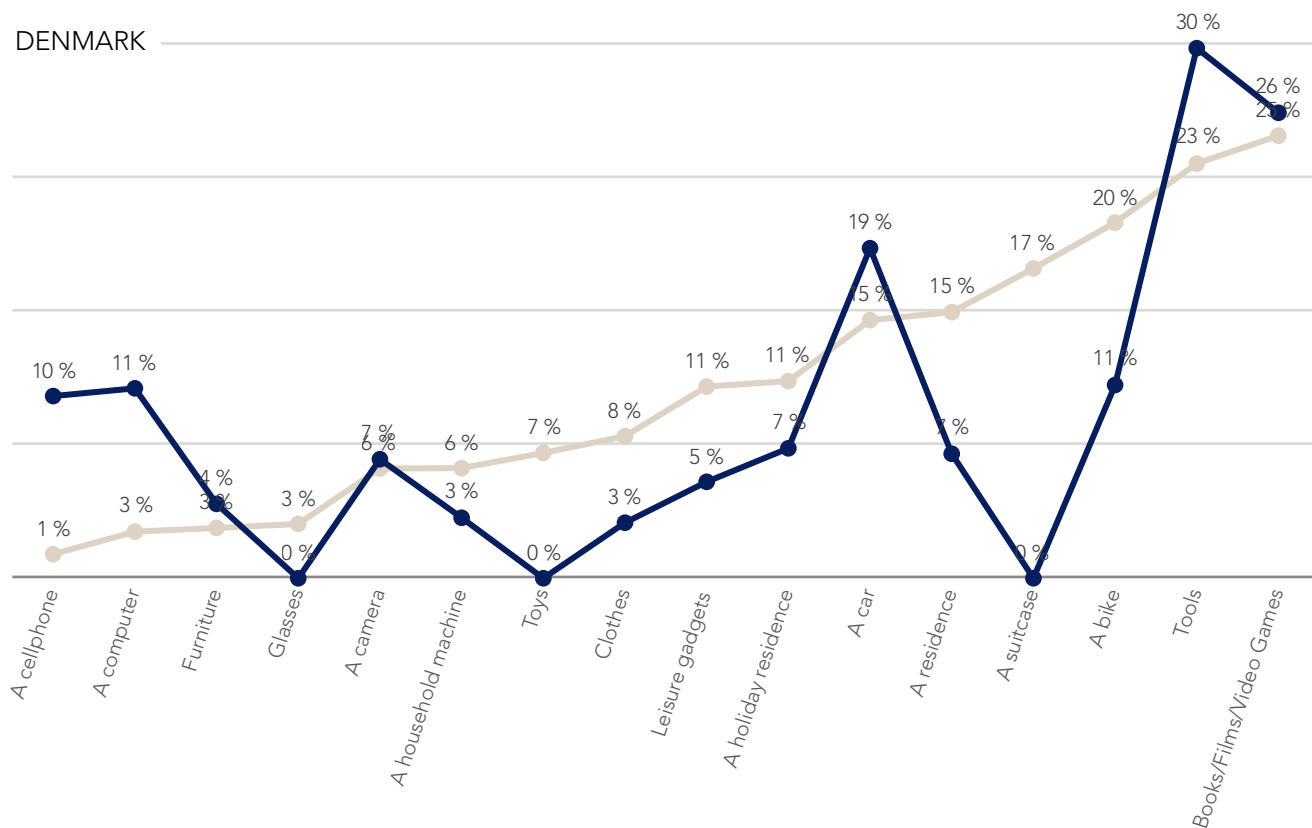


PRODUCT GROUPS & CIRCULAR ACTIVITIES

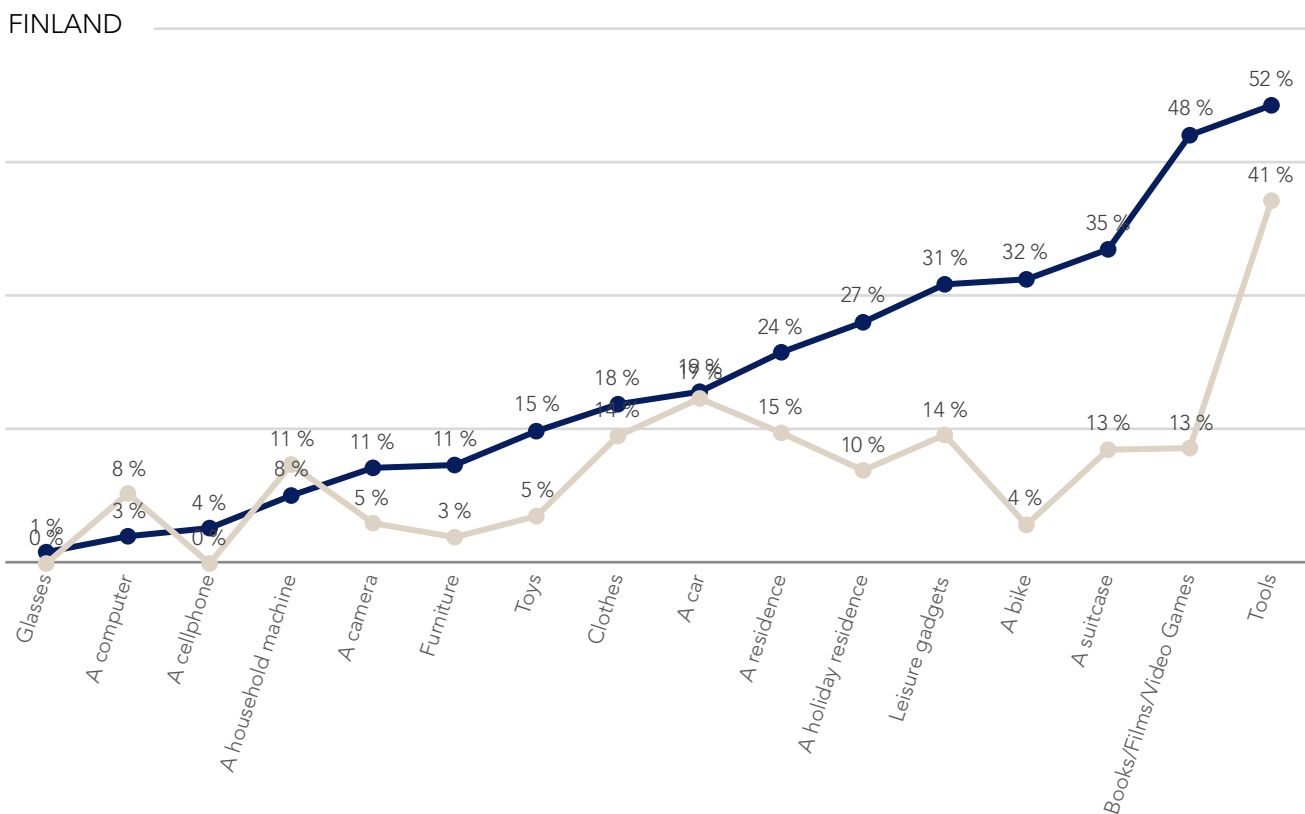
RENTING TO OTHERS

■ Positive to Renting Items to Others
 ■ Have Rented Items to Others in the Last Year

DENMARK



FINLAND



PROFIT AND RISK OF CIRCULAR BUSINESS MODELS

A COMPANY WORKING ACTIVELY WITH CIRCULAR ECONOMY HAS A FOCUS ON E.G. OPTIMIZING AND PRESERVING RESOURCES AND REDUCING WASTE. WHICH OF THE FOLLOWING STATEMENTS DO YOU PERCEIVE ARE CORRECT?

