

Circular economy country profile – Sweden



Cover design: EEA
Cover image © Peder Jensen
Layout: ETC CE

Publication Date

EEA activity Circular economy and resource use

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ETC CE coordinator: Vlaamse Instelling voor Technologisch Onderzoek (VITO)

ETC CE partners: Banson Editorial and Communications Ltd, česká informační agentura životního prostředí (CENIA), Collaborating Centre on Sustainable Consumption and Production (CSCP), Istituto Di Ricerca Sulla Crescita Economica Sostenibile, Istituto Superiore per la Protezione e la Ricerca Ambientale, IVL Swedish Environmental Research Institute, PlanMiljø, Università Degli Studi Di Ferrara (SEEDS), German Environment Agency (UBA), Teknologian Tutkimuskeskus VTT oy, Wuppertal Institut für Klima, Umwelt, Energie gGmbH, World Resources Forum Association.

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Introduction

The European Commission requested the EEA to produce EU country profiles that offer an updated view of the following elements:



- circular economy policies being implemented at a national level with a particular focus on elements that go beyond EU mandatory elements; and
- best practice with a focus on policy innovation.

While implementing the EU Circular Economy Action Plan (CEAP 2020), Member States are encouraged to advance circularity at a national level by adopting policies and initiatives that go beyond EU regulations, while preserving the Single Market.

This circular economy country profile is based on information reported by the Eionet network and, in particular, the Eionet Group on Circular Economy and Resource Use in the second quarter of 2022. The information was reviewed and edited by the European Topic Centre on Circular economy and resource use (ETC CE). A selection of Eurostat data was made to further complement this country profile.

The information is current as of 30 September 2022 (final review), when members of Eionet verified the content of this profile.

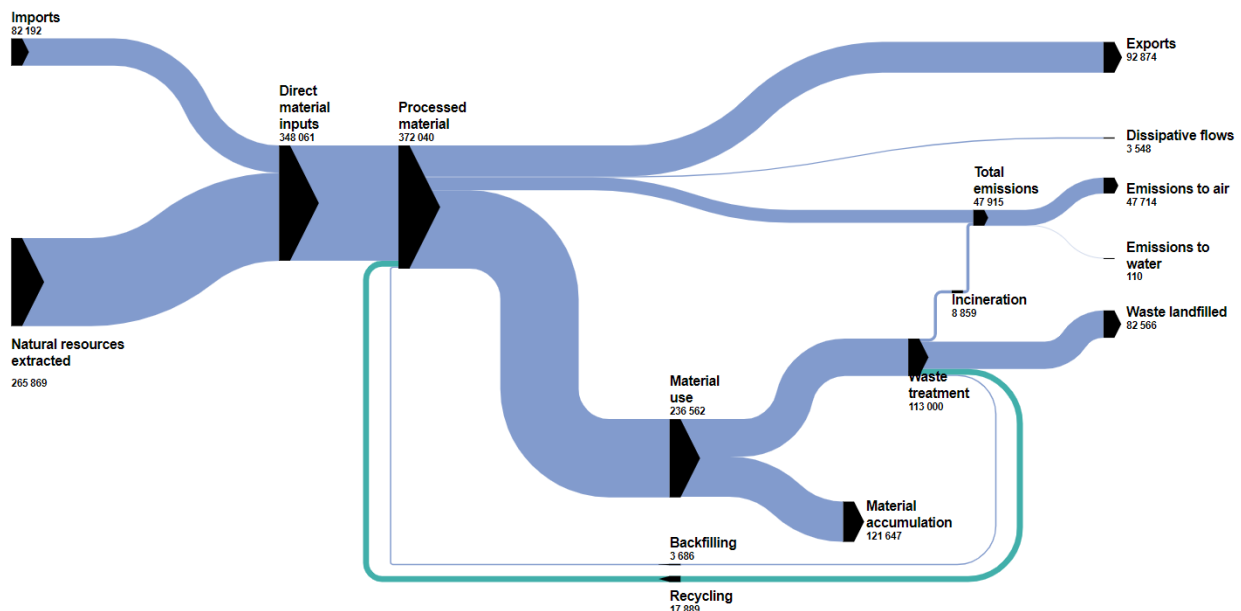
Sweden – facts and figures

 	GDP: EUR 480.6 billion (3.6 % of EU27 total in 2020)
	GDP per person: EUR 46 420 (purchasing power standard) (124.2 % of EU27 average per person figure in 2020)
	Use of materials (domestic material consumption (DMC)) 255.2 million tonnes DMC (4.2 % of EU27 total in 2020) 24.7 tonnes DMC per person (183.1 % of EU27 average per person in 2020)
	Structure of the economy: Agriculture: 1.5 % Industry: 24.3 % Services: 74.2 %
	Employment in circular sectors: 75 999 people are employed in circular economy (CE) sectors (2.1 % of EU total in 2018) People employed expressed as a percentage of total employment: 1.5 % (EU average 1.7 %)
Surface area: 438 574 square kilometres (9.8 % of EU27 total)	
Population: 10 327 589 (2.3 % of EU27 total in 2020)	

Note: all definitions and metadata used in this profile are taken, as shown, from Eurostat

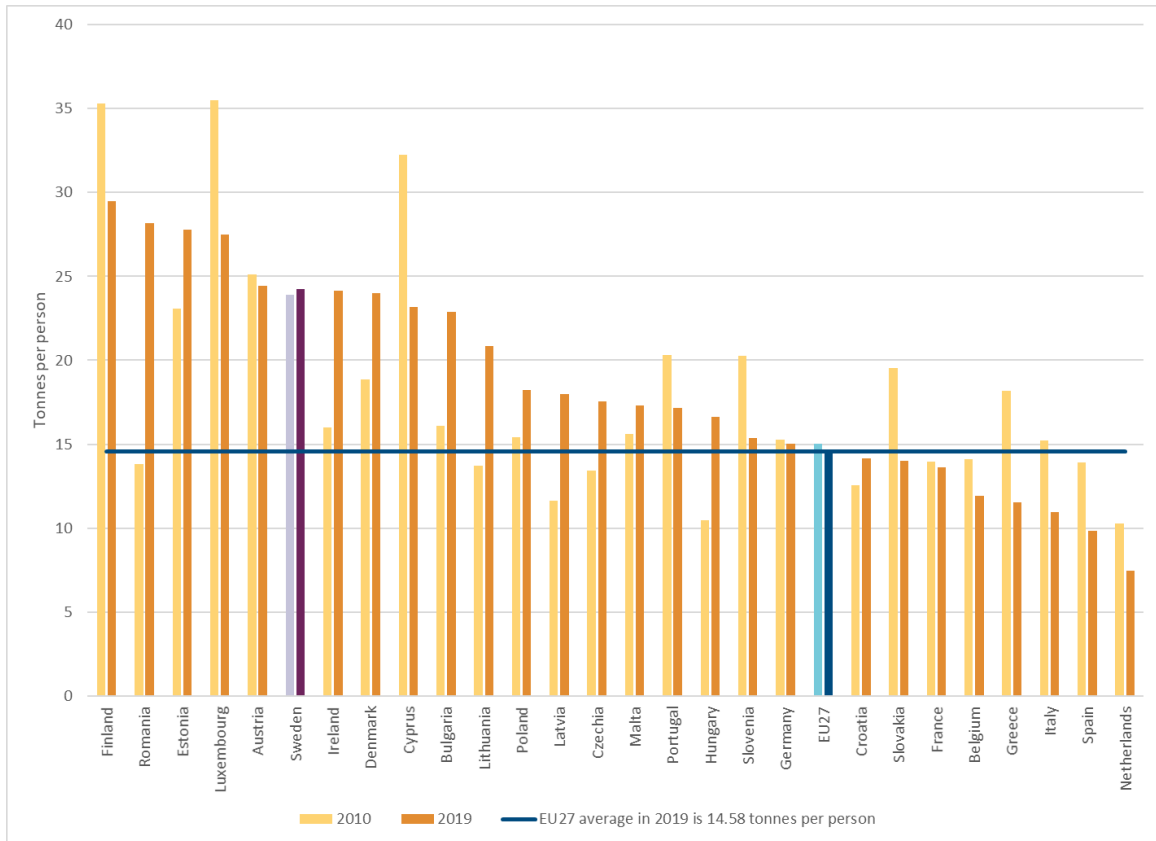
Source: Eurostat datasets, EU27 2020 (accessed 20 June 2022)

Figure 1 Material flow diagram for Sweden in 2020, '000 tonnes



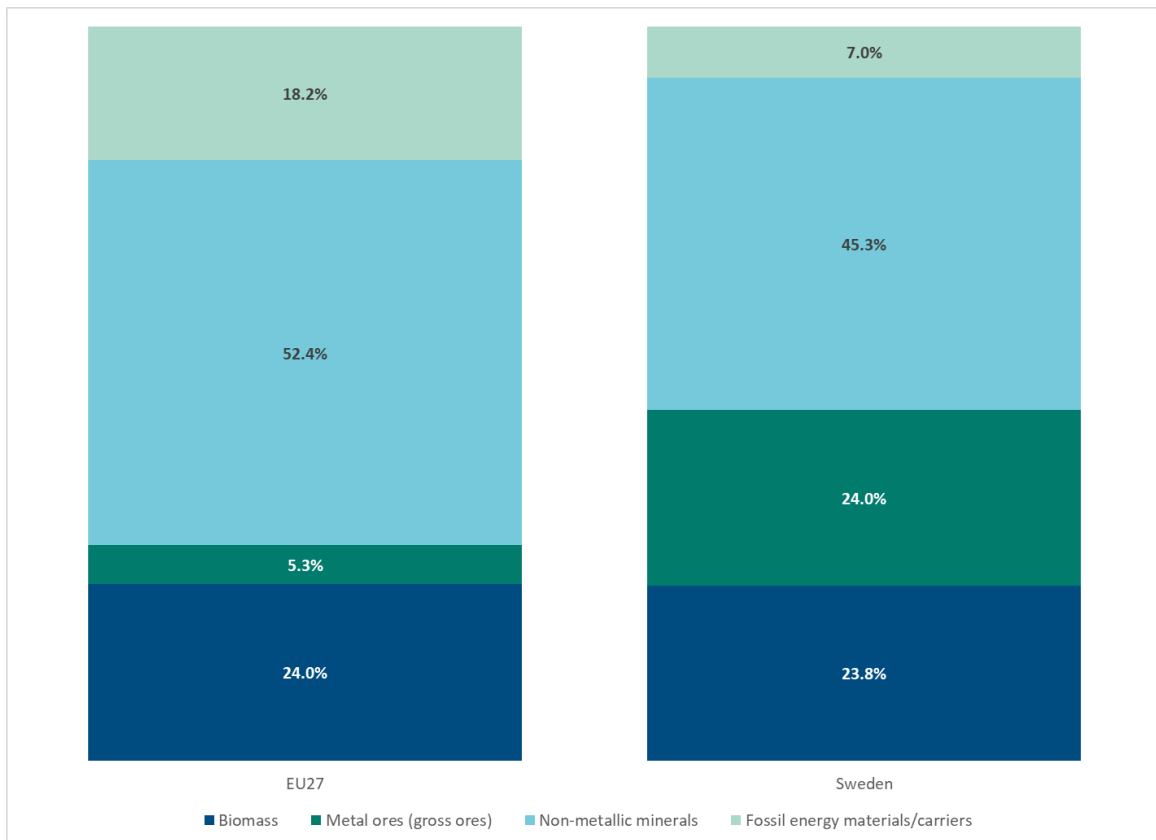
Source: Eurostat (2022) [env_ac_mfa], [en_ac_sd], [env_wassd] (accessed 20 June 2022)

Figure 2 Material footprint (raw material consumption), EU27, 2010 and 2019, tonnes per person



Source: Eurostat (2020) [env_ac_rme] (accessed 4 July 2020)

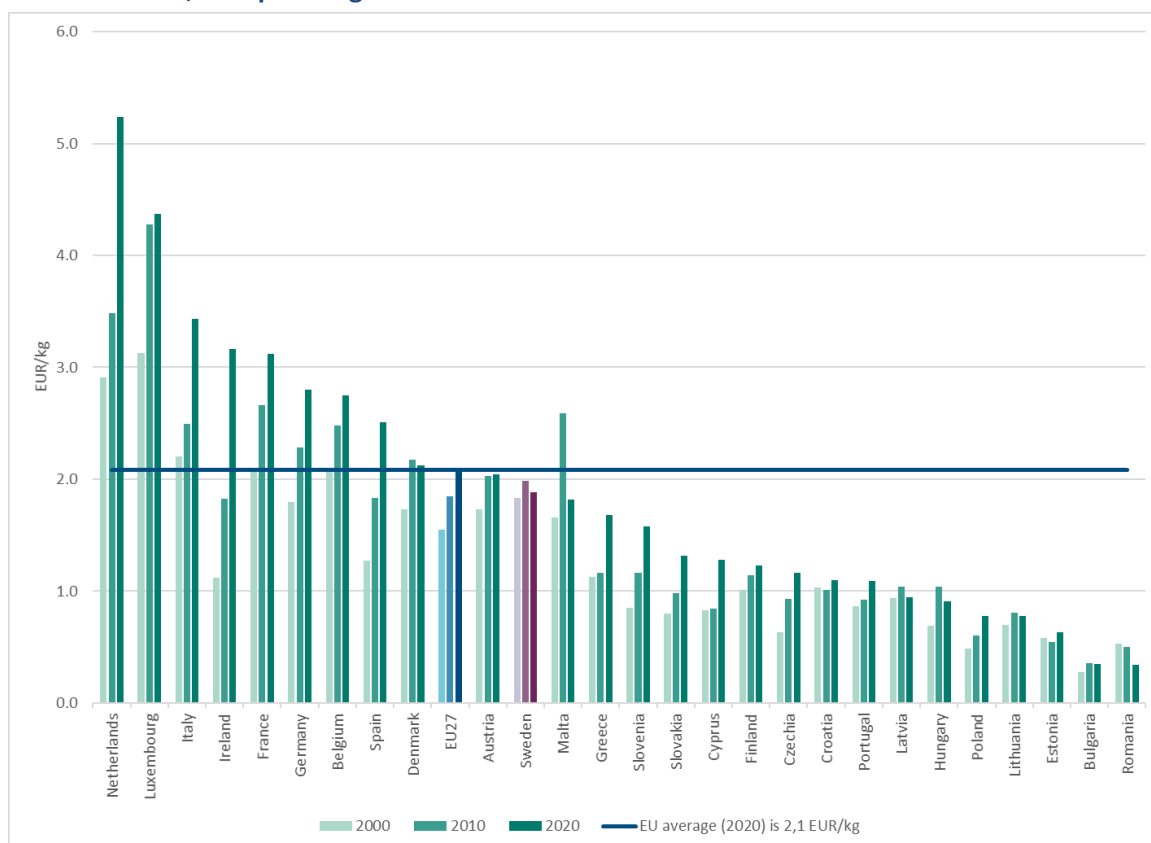
Figure 3 Domestic material consumption by selected material category, EU27 and Sweden, 2020, per cent



Note: totals may not sum to 100 % due to rounding

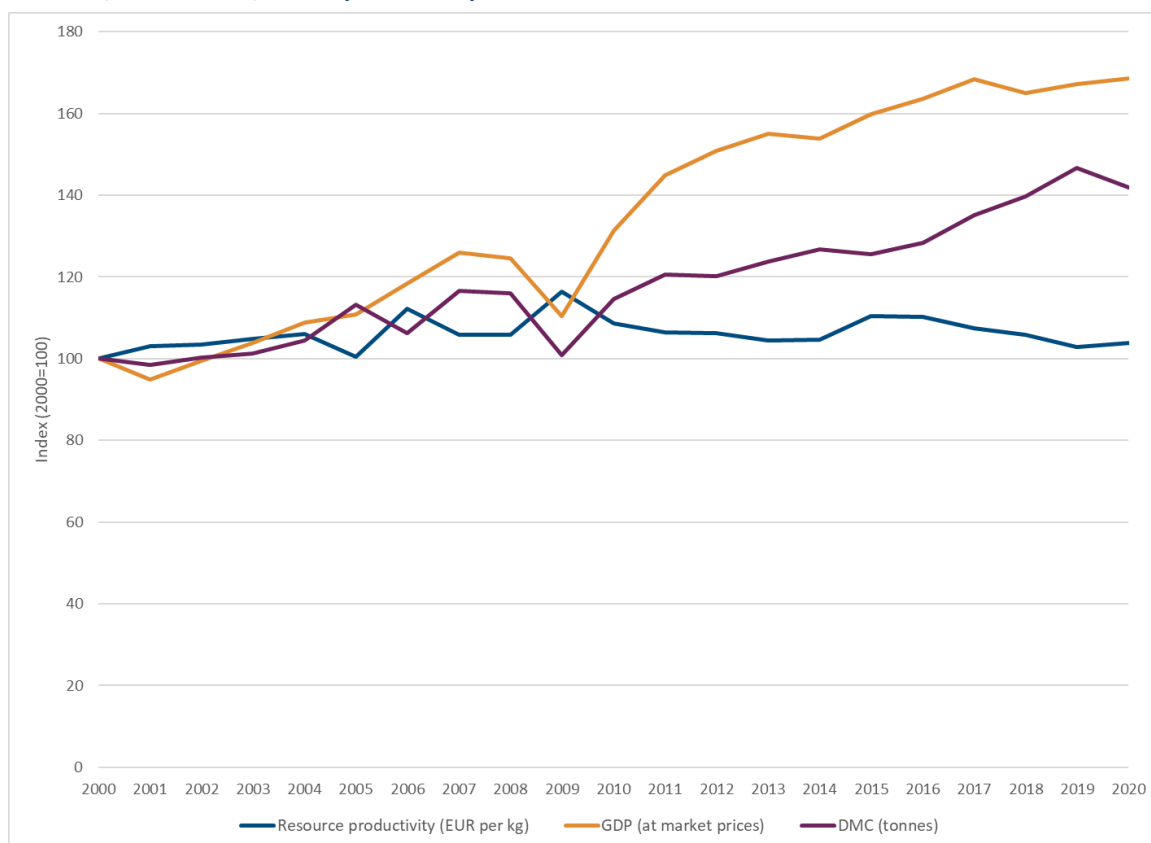
Source: Eurostat (2022) [env_ac_mfa] (accessed 20 June 2022)

Figure 4 Resource productivity (gross domestic product/domestic material consumption), EU27, 2000, 2010 and 2020, EUR per kilogram



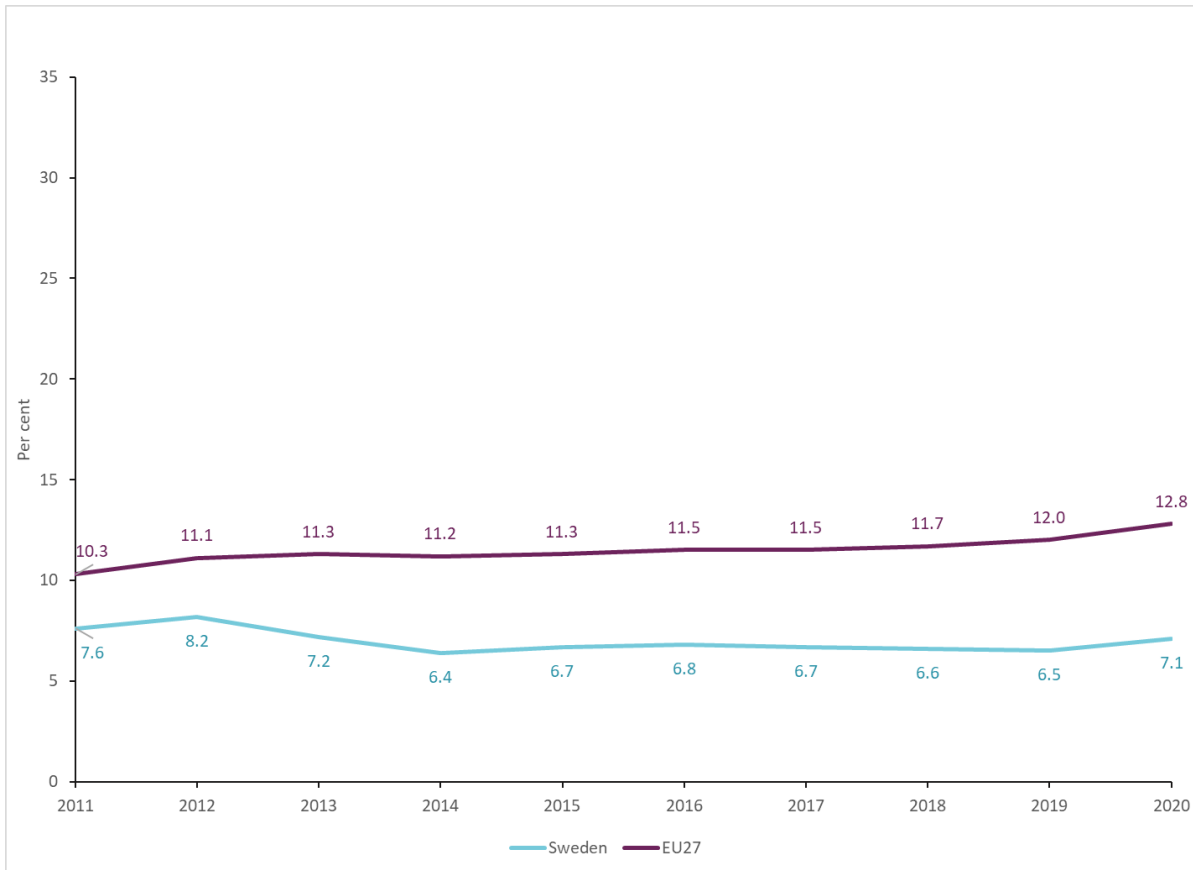
Source: Eurostat (2022) [env_ac_rp] (accessed 20 June 2022)

Figure 5 Gross domestic product, domestic material consumption and resource productivity trends, Sweden, 2000–2020, index (2000=100)



Source: Eurostat [env_ac_mfa], [env_ac_rp] & [nama_10_gdp] (accessed 4 July 2022)

Figure 6 Circular material use rate in Sweden, 2011–2020, per cent



Source: Eurostat (2022) [env_ac_cur] (accessed 20 June 2022)

Existing policy framework

Dedicated strategy, roadmap or action plan for circular economy

Sweden has adopted a National Strategy for the transition to a CE in July 2020 ⁽¹⁾. This has been followed by a CE action plan as well as an Action Plan for Plastics. A National Waste Management Plan and Waste Prevention Programme are also in place.

The vision of the Strategy is a society in which resources are used efficiently in non-toxic circular flows, replacing virgin materials. The overall objective is that the transition to a CE will contribute to achieving the environmental and climate objectives, as well as the Sustainable Development Goals (SDGs) in the UN's 2030 Agenda.

To contribute to this, **four focus areas** of importance for achieving the vision have been selected. The focus areas are closely linked.

- 1 **Better product design** and **sustainable production** are essential to enable products and materials to circulate to a higher degree than currently, but there is also a need to increase the focus away from products to functions or services.
- 2 The **consumption** of private and public actors needs to be sustainable, which happens when they can easily demand sustainable products and services.
- 3 Products and materials need to be recirculated in **non-toxic and circular material cycles**.
- 4 The transition depends on business and other actors having incentives to make the transition to circularity. **Circular business models and innovation** are tools for the CE and are relevant in all focus areas.

Action is focused on areas for which measures are judged to have the greatest potential to contribute to the transition and to contribute to achieving the environmental and climate objectives and the SDGs. Action plans may also be adopted for priority areas or streams that are particularly relevant to the transition to a CE.

There are six prioritised material streams in the Strategy:

- plastic;
- textiles;
- food;
- renewable and bio-based raw materials;
- construction and real estate sector;
- innovation in critical metals and minerals.

Circular economy action plan

The general Action Plan is tied to the Swedish strategy for the CE. The Action Plan contains more than 100 measures in various stages of implementation, and it **targets production, consumption, hazardous substances and innovation** ⁽²⁾. The transition to a fossil-free and circular economy is crucial both for Sweden to achieve its environmental and climate goals and for the objectives of Agenda 2030, as well as to maintaining the global competitiveness of its businesses. Through investment in innovation and entrepreneurship, based on circular material flows and business models, resources can be used efficiently in non-toxic circular flows and replace virgin materials. In addition, the development of a resource-efficient, non-toxic, circular and bio-based economy can be promoted, while Sweden strengthens the competitiveness of its companies and reduces the environmental pressure on ecosystems.

¹ [Swedish strategy for circular economy accelerates the transition to sustainability - Government.se](#)

² [Handlingsplan cirkulär ekonomi \(regeringen.se\) \(in Swedish\).](#)

The following actions have been implemented so far.

- Establishing a **national platform for sustainable fashion and textiles** which provides support to actors along the value chain and presents good examples.
- Establishing a **national plastic coordination** with the aim of increasing and disseminating knowledge about plastic and microplastics, and, together with other actors, be a driver of sustainable plastic use.
- Strengthen the work with **non-toxic product design and production** through expanded guidance and support to industry as well as supervision by the authorities.
- Implementing **research and innovation funds** for reducing negative environmental effects from plastics, advanced water treatment and developing circular business models etc.
- Financing economic grants, called **Climate Leap and Industrial Leap**, for investment in technology that contributes to reduced carbon dioxide emissions.

A separate Action Plan for Plastics has been published ⁽³⁾.

A National Waste Management Plan and Waste Prevention Programme are also in place in Sweden ⁽⁴⁾.

Action Plan for Sustainable Regional Development

An Action Plan, for implementation in 2022–2024, of the National Strategy for Sustainable Regional Development throughout the country for 2021–2030 has recently been decided by the government ⁽⁵⁾. One focus area in this Action Plan is **specialising in a smart way**. It deals with utilising existing research and investment grants to include the regional perspective in the transformation and how to cooperate and share knowledge and experiences. Another focus area in the Plan is **a competitive, circular and biobased, climate- and environmentally sustainable economy**. Within this area, the Swedish Agency for Economic and Regional Growth has been tasked to support the regions in their work with supporting small and medium-sized enterprises (SMEs) in their transformation to becoming more circular businesses.

The Delegation for a Circular Economy

In April 2018 the government set up a Delegation for a Circular Economy to strengthen the transition to a resource efficient, circular and bio-based economy. Its mission is to give advice to the government, identify obstacles to and needs of education and information about the CE. It will also be a knowledge centre and coordination force for the transition, both regionally and nationally. In 2022 the government has further strengthened the role of the delegation ⁽⁶⁾.

Committee for Economic Policy in the transition

In June 2022, the government decided to appoint a committee to investigate within which areas and in what way economic policies can be used to support the transition to a CE ⁽⁷⁾.

³ [sveriges-handlingsplan-for-plast---en-del-av-den-cirkulara-ekonomin.pdf \(regeringen.se\)](#) (in Swedish)

⁴ [Att göra mer med mindre \(naturvardsverket.se\)](#) (in Swedish)

⁵ [Nationell strategi för hållbar regional utveckling - Regeringen.se](#) (in Swedish)

⁶ [Delegationen för cirkulär ekonomi \(delegationcirkularekonomi.se\)](#) (in Swedish)

⁷ [Ekonomiska styrmedel för att främja omställningen till en cirkulär ekonomi - Regeringen.se](#) (in Swedish)

Circular economy policy elements included in other policies

CE policy element	Included in policy
Waste sorting requirements for construction and demolition waste	Swedish Circular Economy Action Plan (CEAP) Nya regler (naturvardsverket.se) (in Swedish)
Reusable mugs and take-away food containers. This is formulated in a way that enables future restrictions on other materials	Förordning (2021:996) om engångsprodukter Svensk författningssamling (in Swedish) Erbjuda servering i återanvändbara muggar och matlådor (naturvardsverket.se) (in Swedish)
Definition of hazardous waste	Avfallsförordningen illustration-220119.pdf (naturvardsverket.se) (in Swedish)
Climate declaration for buildings	Swedish CEAP Climate declaration for new buildings - Boverket
Climate leap	Swedish CEAP Klimatklivet (naturvardsverket.se) (in Swedish)
Industrial leap	Swedish CEAP Industriklivet (energimyndigheten.se) (in Swedish)

Monitoring and targets

Assessment of circular economy performance

Statistics Sweden assesses progress by using the Eurostat's CE indicators due to a time-limited grant from Swedish Innovation Agency (Vinnova). Statistics Sweden launched a set of national circular economy indicators on 20 June 2022. These can be found on Statistics Sweden's website ⁽⁸⁾.

The indicators follow Eurostat indicators for the CE, with some alternations and additions. Several of the indicators follow trends from 2010, but some have shorter time series. For some indicators there is no time trend since new data from these is being used for the first time. This is the case for food waste, municipal waste and the recycling of building and demolition waste.

The indicators relate to several aspects of a CE: consumption and production, recycling, secondary raw materials, and competitiveness and innovation. These are, in most cases, based on official statistics that have been combined in new ways. The work has been carried out within the framework of the Vinnova (Sweden's Innovation agency) funded project **What is measured gets done – Stage 2**. The work of the Vinnova project will continue into 2023 with more indicators being published and time series updated. The plan for 2022, for example, is to add the material footprint as an indicator, using the methodology developed by Eurostat.

For the data used to calculate the CE indicators by Statistics Sweden there is a quality report with links to the primary statistics ⁽⁹⁾.

Statistics Sweden has developed a **new indicator** which was inspired by the EEA study on emerging data streams ⁽¹⁰⁾. The indicator is called **Tax deduction for repair of white goods in homes**. It should be noted that Sweden has chosen to use only part of the tax deduction, the part that gives tax deductions for repair of home appliances in homes. It was thought that this tax deduction is best in line with CE principles ⁽¹¹⁾. Another new indicator which Statistics Sweden has presented is waste per person. The amount of waste is a mirror to what is happening. The amount of waste is supposed to decrease as society becomes more circular. Hence, waste per person can act as an indicator of the development of a CE ⁽¹²⁾.

The indicator of resource productivity (GDP/DMC) has also been added to the Swedish indicators ⁽¹³⁾.

Sweden has chosen to use other methodologies than Eurostat's for the following indicators.

- Food waste: Statistics Sweden has chosen to use data from the new EU reporting framework.
- Generation of municipal waste per person: Statistics Sweden has chosen to use data from the new EU reporting framework.
- Recycling rate of different packaging waste: Statistics Sweden has chosen to use data from the new EU reporting framework. In this there is a stricter definition of what can be included in recycling.
- Recovery rate of construction and demolition waste: the recovery rate is based on follow-up of Swedish recycling targets for construction and demolition waste which are milestones within the Sweden's environmental goals. It is calculated by dividing the amount of waste from construction and demolition that have been recycled with the total generated construction and demolition waste. As Statistics Sweden thinks it is important that the calculation of the CE indicator is in line with the national goal, this methodology has been used.

⁸ <https://scb.se/hitta-statistik/statistik-efter-amne/miljo/miljoekonomi-och-hallbar-utveckling/cirkular-ekonomi/> (in Swedish)

⁹ https://scb.se/contentassets/9ebac5eb75e54956b216dba54b9a4ee7/mi1306_2022_kd_lg_20220620.pdf (in Swedish)

¹⁰ [Monitoring the circular economy using emerging data streams — European Environment Agency \(europa.eu\)](https://europea.eu/monitoring-the-circular-economy-using-emerging-data-streams)

¹¹ [Total utbetalad skattesubvention för reparation av vitvaror i bostaden \(scb.se\)](https://scb.se/total-utbetalad-skattesubvention-for-reparation-av-vitvaror-i-bostaden) (in Swedish)

¹² <https://scb.se> (in Swedish)

¹³ <https://scb.se> (in Swedish)

Where there is no national methodology for some Eurostat indicators – self-sufficiency for raw material and green public procurement, no data for Sweden has been published. Sweden has data about the recycling rate of different packaging, but not all are published on the CE website. Data can instead be found on the packaging website of Statistics Sweden ⁽¹⁴⁾. Below is a list of all the national CE indicators ⁽¹⁵⁾.

Competition and innovation

- Value added in the CE at factor cost (actual cost).
- Value added at factor cost in the circular sector – percentage of gross domestic product (GDP).
- Gross investment in tangible goods in the circular sector.
- Gross investments in tangible goods in the circular sector – percentage of GDP).
- Number of people employed in the private circular sector.
- People employed in the circular sector – percentage of total employment.

Production and consumption

- Generation of municipal waste per person.
- Generation of waste excluding major mineral wastes per unit of GDP.
- Waste per person.
- Generation of waste, excluding major mineral wastes, per unit domestic material consumption.
- Total tax deduction for repair of domestic white goods.
- Food waste per person.
- Resource productivity – raw material consumption (GDP/RMC).

Secondary raw materials

- Circular material use (CMU) rate in industrial production.

Recycling

- Recycling rate of municipal waste.
- Recycling rate of all waste excluding major mineral waste.
- Recycling rate of packaging.
- Recycling rate of construction and demolition waste.

The increase in population together with increasing prosperity globally has led to an increase in demand. This in turn leads to increased production and thus increased demand for natural resources and chemicals. Between the years 2010 and 2020, 1.9–2.1 tonnes of waste were generated in Sweden per person per year. This trend is increasing slightly.

The data for generated waste exclude a number of types of waste from mineral waste – soil masses, mineral construction and demolition waste, mineral waste and dredged material.

Sweden's economy is **highly dependent on the extraction and processing of natural resources nationally and internationally**. A combination of measures is needed to reduce the extraction of natural resources, break linear material flows in favour of circular ones and achieve a decoupling of economic growth from material consumption. Developing policies promoting the more efficient use of resources and materials is a very complex challenge. It involves a lot of activities interwoven in global material flows with very different functions, volumes and effects on the environment and sustainability.

Sweden needs to save more resources by making better use of the full lifespan of products, reusing more and more products and using products that are made from recycled materials. It also needs more sharing

¹⁴ <https://scb.se/en/finding-statistics/statistics-by-subject-area/environment/waste/waste-packaging/>

¹⁵ [Cirkulär ekonomi \(scb.se\)](https://scb.se/en/finding-statistics/statistics-by-subject-area/environment/waste/waste-packaging/), (in Swedish)

of products that are not used often, such as tools and cars. Buildings, clothing and electronics are goods for which there is great potential to reduce the environmental impact through reuse and sharing.

The Swedish economy is still largely built around the rapid consumption of raw materials and industrial production is still highly dependent on the supply of new primary raw materials. To achieve a resource-efficient cycle, waste volumes need to be reduced and preparation for reuse and material recycling of waste increased significantly.

The expansion of district heating, together with a tax on landfilling of waste and bans on landfilling, has meant that landfilling has decreased, and the use of waste for energy generation has increased. Today, for example, **less than 1 % of household waste is landfilled in Sweden**, while landfilling is still an important management method for household waste in many other EU Member States. For a long time, there has been an expansion of waste incineration plants in Sweden and, since 2010, the capacity for incineration of waste is greater than the country's waste generation.

Efficiency does not automatically lead to reduced resource utilisation. An important reason for this is rebound effects, which means that technological development is primarily used to increase production and societal consumption.

Work on the CE includes not only finding new ways to reduce the use of inputs, optimising production processes and improving the management of resource reserves, but also developing new energy-efficient products and services, preventing waste and changing consumption patterns.

In Spring 2022, RE:Source, working together with Circle Economy, RISE and Statistics Sweden, who provided data, published **Circularity Gap Report Sweden** ⁽¹⁶⁾. The indicator the report used is quite similar to the CMU rate, which is one of Eurostat's indicators. In the report there is a lot of analysis about Sweden's status and how its economy can become more circular. The report gives answers as to which country characteristics or policy actions explain differences between Sweden's performance and the EU average.

Circular economy monitoring frameworks and their indicators beyond the ones from Eurostat

The indicator (GDP/RMC) is close to the SDG indicator 12.2. Statistics Sweden will work to publish data on GDP/RMC later in 2022 and use Eurostat's methodology.

Besides Eurostat's indicator set, Sweden has indicators from the Delegation for Circular Economy ^(17, 18). These targets, which are in line with EU targets, are about reduction of greenhouse gases, packaging, food waste and municipal waste. One target, for example, is that the share of packaging which is reusable should increase by 20 % from 2022 to 2026 and by 30 % from 2022 to 2030.

1. Standardisation

More than 70 countries and partners are working together within the International Organization for Standardization (ISO) on several parallel standard proposals that will help guide, clarify and provide measurability of the CE at different levels in the transition to increased circularity. Sweden is very active in the global arena within ISO, with several participants from the Swedish group involved in international working groups ⁽¹⁹⁾. Three standard proposals will form the foundation for the whole area:

- terms, basic principles and framework for implementation (ISO 59004);
- guidance for business models and value chains (ISO 59010);

¹⁶ <https://resource-sip.se/circularity-gap-report-sweden-en/>

¹⁷ <https://delegationcirkularekonomi.se/> (in Swedish).

¹⁸ <https://www.regeringen.se/48f821/contentassets/561eea8cac114172b993c1f916e86a9b/cirkular-ekonomi-handlingsplan-for-omstallning-av-sverige.pdf> (See page 8) (in Swedish)

¹⁹ [Stardarder för cirkulär ekonomi - Svenska institutet för standarder, SIS](#) (in Swedish)

- measuring and assessing circularity (ISO 59020).

2. Task force measuring the circular economy

Sweden is a member of the United Nations Economic Commission for Europe (UNECE) task force on measuring the CE, the main objective of which is to draft practical guidelines for CE measurement ⁽²⁰⁾.

3. The Policy Relevant Indicators for Consumption and Environment project

The Policy Relevant Indicators for Consumption and Environment (PRINCE) project was set up to explore ways to improve and expand the set of indicators used to estimate the environmental impacts linked to Swedish consumption, both within Sweden and abroad. Any new methods and indicators should be policy relevant and easily repeatable, drawing on credible, timely data.

The second phase of the PRINCE project has summarised and built further on the achievements of its first phase, and the project has already influenced policy processes.

Gap analyses in the second phase of the PRINCE project have produced experimental time series for consumption-based indicators that are judged to satisfy criteria for official statistics for deforestation related greenhouse gas emissions, veterinary antibiotics and pesticides. The second phase has also developed similar experimental time series for hazardous chemical product use, biodiversity and fisheries which require further methodological development before they can be considered for official use.

There is still potential for increased policy uptake for consumption-based approaches. The PRINCE project is financed by the Swedish Environmental Protection Agency's environmental fund supporting research needs for the agency as well as for the Swedish Agency for Marine and Water Management ^(21, 22, 23).

Circular economy targets

➔ Circular economy - targets in the Action Plan for the transition in Sweden

The Swedish milestone targets indicate steps along the way to the environmental-quality objectives and the generational goal. Below are the milestones in the environmental goal system that are particularly relevant in the transition to a CE. The Delegation for Circular economy has adopted these targets in their action plan for the transition in Sweden ⁽²⁴⁾.

Reuse of packaging

The proportion of packaging placed on the Swedish market for the first time that is reusable must increase by at least 20 % between 2022 and 2026 and by at least 30 % from 2022 to 2030.

In Sweden, packaging is the single biggest use for plastics by weight, according to a 2019 study. According to the Swedish Environment Protection Agency, the amount of packaging placed on the market and covered by the extended producer responsibility (EPR) system for packaging has increased by 28 %, from 1 045 400 tonnes to 1 340 400 tonnes between 2012 and 2018.

This increase cannot simply be explained by population growth since the amount of packaging per person increased by 17 % over the same period. In order for packaging to be reusable it needs to be refilled or reused for the same purpose. This means that a particular piece of packaging needs to be used again as the same type of packaging.

²⁰ [Task Force on Measuring circular economy | UNECE](#)

²¹ [Svensk konsumtions miljöpåverkan \(PRINCE\) \(naturvardsverket.se\)](#) (in Swedish)

²² [Miljöpåverkan från svensk konsumtion – nya indikatorer för uppföljning \(naturvardsverket.se\)](#) (in Swedish)

²³ [New methods and environmental indicators supporting policies for sustainable consumption in Sweden \(naturvardsverket.se\)](#)

²⁴ [Etappmålen - Sveriges miljömål \(sverigesmiljomal.se\)](#) (in Swedish).

The idea is that the milestone target will lead to behavioural change among consumers and other parts of the supply chain to ensure that packaging is reused over and over again before or is recycled becoming waste. The milestone will be monitored by the Swedish Environment Protection Agency, in cooperation with other relevant public authorities.

Increased separation and biological treatment of food waste

By **2023** at least **75 percent of food waste** from households, catering services, shops and restaurants will be **separated and treated biologically** so that nutrients and biogas are utilised.

Construction and demolition waste

Preparation for reuse, material recycling and other recycling of non-hazardous construction and demolition waste, except for soil and stone, must amount to at least 70 percent by weight annually until 2025.

Increase the proportion of municipal waste that is recycled and prepared for reuse

The amount of municipal waste that is prepared for reuse and/or recycled will increase to a minimum of 55 % by weight by 2025, to a minimum of 60 % by weight by 2030 and to a minimum of 65 percent by weight by 2035.

→ Food waste and food loss

There are two milestones aiming to minimise total food loss and waste along the entire food supply chain:

Food waste

From 2020 to 2025, the total amount of food waste should be reduced by at least 20 % by weight per person.

This means that food waste prevention measures must be taken to reduce the total amount of food waste along the entire food supply chain. Food waste, according to the EU definition, is food that has become waste. According to the definition, food waste arises mainly at the retail and consumer level. The Food and Agriculture Organization of the United Nations (FAO) definition of food loss and waste is the decrease in the quantity or quality of food along the food supply chain. The milestone will be monitored by the Swedish Environmental Protection Agency based on data produced for EU reporting on the amount of food waste generated at each stage of the food supply chain.

Food loss

By 2025, an increased share of food production should reach retailers and consumers.

This means that food losses need to decrease so that more of what is produced goes further along the food chain and is not left in the field or becomes animal feed or waste. The goal is to reduce food loss at production levels such as primary production and the food industry. The responsibility for reaching the goal is, however, shared by all actors along the entire food chain, right up to the buyers and consumers, since they also play an important role in reducing the food loss the production. The level of ambition is set based on SDG 12.3, but ensures a higher pace as it aims for 2025. The level of reduction is not set since the follow-up methodology is under development. Monitoring by the Swedish Board of Agriculture will start during 2021.

→ Reduced consumption

According to Sections 24–25 of the Ordinance (2021:996) on Single-use Products, the consumption of cups and food containers that are **single-use plastic products will be reduced by 50 % by 2026**. All actors who professionally supply or use cups and food containers that are single-use plastic products must actively work to achieve this target by 1 January 2024.

Another target is to generally reduce the consumption of plastic carrier bags and ensure that the **consumption of thin plastic carrier bags is no more than 40 per person and year by 31 December 2025**.

This calculation does not include plastic carrier bags that are thinner than 15 micrometres and are needed for hygiene reasons or provided mainly as packaging for food sold in bulk.

Consumption can be reduced in several ways, such as by offering alternative products that can be reused instead of single-use plastic ones. This target will be followed up by the information that producers must report annually to the Swedish Environmental Protection Agency.

Producers of packaging consisting of more than 50 % plastic must effectively contribute to the target of using recycled plastic in plastic packaging. **By 2030, the packaging must on average consist of at least 30 % recycled plastic** ⁽²⁵⁾.

²⁵ https://riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/forordning-2021996-om-engangsprodukter_sfs-2021-996 (in Swedish)

Innovative approaches and good practice

Examples of public policy initiatives (national, regional or local)

- ➔ *Good practice example: change in consumption patterns and consumer behaviour, education (awareness-raising and training), spatial planning and urban policy*

Masters of minimization

Masters of minimization (**Minimeringsmästarna**) ⁽²⁶⁾ is a **waste minimising competition** seeking to educate the population of Sweden about reducing, reusing and recycling household items. Currently more than 200 households are participating in the competition across 50 of Sweden's 290 municipalities.

The households have one year to carry out several challenges that share the same goal – to reduce as much waste as possible. The challenges are organised around five sustainable themes: sustainable consumption, food waste, hazardous waste, the sharing economy and textile reuse/recycling. Each completed challenge leads to points for the household.

As part of completing the challenges, contestants have been asked to post about their experience on social media and describe what they have found most challenging, what strategy they used and if they turned to any creative methods to make it work.

By April 2022, participants had reduced their waste by 30 % and expressed a positive and heightened awareness about their consumption and disposal. A digital gala will be held in October 2022 to celebrate the excellent participating "minimisers" and reward the household and municipality that gained the most points.

- ➔ *Research and development*

Research and Development

Various governmental financed research and development grants within the field of CE and resource efficiency have been given during the last couple of years. The following are examples.

Circularity within the cooperation of strategic research and innovation about vehicles (Vinnova)

This is a program with several sub-programs, for example FFI Cirkularitet. See below.

FFI Cirkularitet (Vinnova)

Projects which include research and development activities within design for circularity, social sustainability, climate neutrality, climate neutral circular production and recycling of vehicles can be financed.

Circularity in industrial production – Produktion2030 (Vinnova) ⁽²⁷⁾

A grant programme for production industry aims, amongst other things, to contribute to reduced climate impacts through circular and resource efficient production.

RE:Source

RE:Source is one of 17 Swedish strategic innovation programmes. It is funded by the Swedish Energy Agency, the Swedish Innovation Agency Vinnova and the Research Agency, Formas. It is open to all stakeholders involved in the shift to a more circular use of materials.

RE:Source supports research and innovation focussing on sustainable material use, with an annual budget of EUR 8–10 million. Each year there are open calls. The plan is for the programme to run until 2027. RE:Source works to strengthen and support:

²⁶ [Hem | Minimeringsmästarna \(minimeringsmastarna.se\)](https://www.minimeringsmastarna.se) (in Swedish)

²⁷ [Cirkularitet i industriell produktion inom Produktion2030 | Vinnova](#) (in Swedish)

1. innovative, scalable solutions;
2. new business opportunities for Swedish companies;
3. facts and knowledge;
4. competence in the field of sustainable materials;
5. international research and development cooperation.

The different sectoral programs above have been evaluated and described further by Vinnova ⁽²⁸⁾.

The Circularity Gap Report Sweden ⁽²⁹⁾ is an in-depth analysis of how Sweden consumes materials, from food and consumer goods to housing and mobility. The report shows that Sweden's economy is largely linear. Sweden's economy being 3.4 % circular does not mean that 96.6 % of materials flowing through it are wasted. Around 40 % of material is stored in society – in buildings and infrastructure – while about 36 % consists of biomass with potential for circularity, such as wood products and food crops. But every year, more than 266 million tonnes of resources are needed by the Swedish economy, almost 25 tonnes per person, and this is a figure that has increased in recent years.

RE:Agenda – the innovation agenda for sustainable use of resources

The RE:Agenda describes the innovation area of sustainable use of resources, which aims to support solutions that contribute to the efficient use of resources within planetary boundaries ⁽³⁰⁾.

Examples:

1. one company has built a demonstration facility for textile sorting;
2. a unique method for chemical recycling of textiles has been developed;
3. a sportswear company has developed a business subscription model for textiles;
4. manufacturing of environmentally-friendly chipboard from wood waste;
5. improvement measures for efficient food waste recycling;
6. improved handling of airbags when dismantling obsolete vehicles;
7. secondary raw materials in construction;
8. a circular system for packaging plastics in the construction industry;
9. optimal handling of artificial turf;
10. public procurement in the design phase as a tool;

So far more than 200 different projects have received funding from the programme. More information about the projects is available in RE:Source project database ⁽³¹⁾.

➔ *Public procurement criteria, Institutional and regulatory arrangements*

Procurement criteria promoting circularity

The Swedish National Public Procurement Agency is tasked with working to promote public procurement as a tool to achieve Sweden's climate and environmental goals and contribute to increasing the pace of the transition to a fossil-free and more circular economy. Background to the assignment included the National Strategy for the Circular Economy that was launched in 2020 and the Action Plan presented by the government in 2021. In both the Strategy and the Action Plan, public procurement is highlighted as an important tool for the transition to a more CE. Such a change is also a prerequisite for Sweden to achieve its climate goals.

In 2020, the Swedish National Public Procurement Agency produced **a guide** on how procurement can be used as **a strategic tool for a circular adjustment throughout the procurement process**. In addition, the Agency launched sustainability criteria for various areas, in particular to promote circular goods and

²⁸ [Ny utvärdering av strategiska innovationsprogram | Vinnova](#) (in Swedish, summary in English).

²⁹ [Circularity Gap Report Sweden - RE:Source \(resource-sip.se\)](#)

³⁰ [The innovation agenda for sustainable use of resources - RE:Source \(resource-sip.se\)](#)

³¹ <https://resource-sip.se/projektdatabas-engelska/>

services. Examples of areas with new circular criteria are furniture, waste mitigation measures in the construction sector and plastic packaging from the healthcare, food and construction sectors. The Swedish National Public Procurement Agency actively works to communicate how public procurement can promote a circular economy ⁽³²⁾.

To work strategically with sustainable procurement, contracting organisations need to understand the impact that purchases have. Environmental spend analysis is one method for analyzing the environmental impact of purchases, including their climate impacts. The Swedish National Public Procurement Agency has published statistics on the environmental impact of Swedish public procurement. The Agency has also launched **a tool that public organisations can use for their own environmental spend analyses** ⁽³³⁾.

→ *Taxation and economic instruments*

Reduced value-added tax for repair services

A reduced value-added tax (VAT) for small repair services was introduced in 2017 ⁽³⁴⁾. The tax rate was reduced from 25 % to 12 % for the repair of bicycles, shoes, leather goods, clothes and household linen. The aim is to prolong the life of such products, prevent waste and support a more sustainable way of consuming by repairing rather than buying new products. The effect has not been possible to evaluate due to a lack of figures for the period prior to the reduction.

Reduced tax on repair services in private homes

Reduced tax on repair and refurbishment services in private homes has been successively enhanced in recent years to include more services ⁽³⁵⁾. Currently people can benefit from the reduction when, for example, repairing appliances, stairs, balconies, kitchen fittings and clothes.

Examples of private policy initiatives (sectoral)

Evaluation databases for building materials

The initiatives to develop a database for building materials was taken with the aim of enabling the **tracing of problematic substances** and providing information about waste sorting as well as supporting reuse and recycling of products both in the construction and demolition phases. There are three major databases on the Swedish market, BASTA, Byggvarubedömningen and SundaHus, for evaluating the sustainability of building materials and documentation.

The objectives for these databases are to help achieve the national environmental target of a non-toxic environment by phasing out chemicals with dangerous characteristics from construction and building products, to facilitate the choice of building materials and to offer a logbook for materials.

The databases differ in their organisational form and have differences in scope in terms of environmental aspects covered as well as criteria levels. Nonetheless, the concepts are similar, they present environmental criteria for construction products and offers a database with construction products that fulfil these criteria.

Dialogue for a sustainable textile value chain focussing on the environment and chemicals

The Swedish Environmental Protection Agency and the Swedish Chemicals Agency want to involve relevant actors to create action around relevant issues in the textile value chain through dialogue and co-creation. The Dialogue takes place in collaboration with actors in the textile sector, such as authorities, industry

³² [Upphandling för att främja cirkulär ekonomi | Upphandlingsmyndigheten](#) (in Swedish).

³³ [Miljöspend – metod och material | Upphandlingsmyndigheten](#) (in Swedish)

³⁴ [ytterligare-sankt-mervardesskatt-pa-vissa-reparationer.pdf \(regeringen.se\)](#) (in Swedish)

³⁵ [Rot och rutavdrag – företag | Skatteverket](#) (in Swedish)

organisations, innovation and educational players, researchers, voluntary organisations, municipal representatives and other actors.

At the dialogue meetings, participants have the opportunity to discuss methods that reduce the environmental impact and chemical use, tools, innovative solutions, funding for development work and ongoing research. There is also the opportunity to exchange experiences, grow their network and promote innovative solutions. The initiative is part of the government action on textile management that was started in 2016. The dialogue continues with two dialogue meetings per year, which highlight different themes with links to sustainable textile management.

The textile dialogue works to:

- Reduce environmental and health impacts throughout the value chain;
- focus on chemicals and the environment;
- promote resource-efficient and non-toxic cycles;
- coordinate ongoing and parallel initiatives;
- encourage collaboration between different actors in the textile value chain;
- increased awareness of issue with the textile value chain;
- learn from and be inspired by others;
- Encourage the industry and the authorities to jointly make representations to other national authorities, the EU and international organisations and industries about topics for which there is consensus.

The Textile Dialogue has become an important place to learn about the latest research and take part in events connected to sustainability and textiles.

At the beginning of 2021, the initiative was included in the Swedish Roadmap for Circular Economy and three further dialogue meetings were held during that year.

The feedback from the participants has been very positive. More and more actors want to be invited to the events. At the first meeting in 2017 there about 70 people in the audience, while the last meetings had 110–130 participants.

Roadmap for fossil-free competitiveness – different sectors

- **Fossil-free Sweden**
During the period 2017–2020 the building industry, vehicle industry, grocery trade sector and 19 other business sectors have separately developed roadmaps for fossil-free competitiveness. In the roadmaps there are prompts for actors in the sector. Quite a few of these directly address reuse, recycling and resource efficiency. A governmental initiative in 2015, Fossil free Sweden (*Fossilfritt Sverige*)⁽³⁶⁾, has had a central role in the development of these roadmaps by gathering business actors, municipalities and regions and facilitating dialogue and cooperation between them.
- **Centre for Circular Construction – CCBuild**
CCBuild is an arena, which aims to increase the reuse of building material, developed for and by the building and real estate sector with support from researchers and partly financed by grants⁽³⁷⁾. It offers a digital marketplace for the reuse of building materials and a digital inventory tool. Moreover, the Centre provides inspiration and examples of good practice.
- **Circular business models**
There are a number of businesses in different sectors in Sweden that offer renting or sharing of clothes, tools, cars, etc.⁽³⁸⁾.

³⁶ [Färdplaner - Fossilfritt Sverige](#) (in Swedish).

³⁷ [CCBuild](#) (in Swedish).

³⁸ [Hygglo - Hyr ut dina prylar och hyr av andra](#) (in Swedish).

The way forward

Addressing barriers and challenges

The Swedish government Inquiry into achieving a more resource-efficient and circular economy has identified the following barriers:

- the **price relationship** between buying new and renting, repairing or buying used, rewards new purchases;
- **demand for used goods is limited** due to preferences for new things and new models;
- repairs and the second-hand trade are **time-consuming for consumers**;
- the markets for second-hand goods, repair services and rentals are held back by, among other things, **inadequate regulations and a lack of trust**;
- the **lack of impact for circular design** in the manufacture of new products.

It is often cheaper today to use raw materials than recycled ones. It is also frequently more expensive to repair an item than to buy a new one. To increase the pace of the transition to a CE in which resources are used in a resource-efficient way, pricing needs to be changed so that circular solutions are promoted. Entrepreneurship and innovation, based on circular material flows and business models, that can also lead to the development of a resource-efficient, non-toxic, circular and bio-based economy, needs to be strengthened throughout the country. Primary raw materials should, as far as possible, be replaced by resources used efficiently in circular flows ⁽³⁹⁾.

The Delegation for Circular Economy has identified **obstacles** in the transition to a circular economy, for example ⁽⁴⁰⁾:

- as virgin raw materials are cheaper than recycled materials, measures are needed to create **competitiveness for recycled materials**, not least for plastics;
- **price** is of great importance **for consumers** in choosing services and products;
- currently both circular business models and small-scale production occurs in Sweden, but there is a **lack of scaling up**;
- small and medium-sized enterprises (SMEs) face different types of challenge from larger companies when it comes to the circular transition. Larger companies may, for example, have greater capacity in terms of administration and opportunities for cluster collaboration than SMEs, as this requires time and resources.

Ranking types of barriers

No information available.

Future policy plans

Increased support through local and regional climate investment (**Klimatklivet**) measures in the Swedish National Recovery Plan aims to address local and regional challenges in reducing greenhouse gas emissions. The transition to a circular economy has an important role to play in reducing climate-changing emissions and achieving a sustainable recovery. Klimatklivet can, for example, provide support investment in recycling, such as plastic recycling, that contributes to the transition to a CE.

New green technology is often more expensive than conventional technology. In addition, green investments are often assessed as higher risks by the financial market, which means higher interest rates

³⁹ SOU 2017:22 [Microsoft Word - Samling_SOU 2017_22 \(regeringen.se\)](#) (in Swedish, summary in English).
⁴⁰ [Dokument Delegationen för cirkulär ekonomi \(delegationcirkularekonomi.se\)](#) (in Swedish)

and stricter terms for loans. This can prevent companies from investing in green technology and is a reason why state support will be given to such investments for a limited period ⁽⁴¹⁾.

⁴¹ [Sveriges återhämtningsplan - Regeringen.se](#) (in Swedish)

European Topic Centre on
Circular economy and resource use
<https://www.eionet.europa.eu/etcs/etc-ce>

The European Topic Centre on Circular economy and
resource use (ETC CE) is a consortium of European
institutes under contract of the European
Environment Agency.

