RAPPORT 2024

Swedish Waste Management

AVFALL SVERIGE

Preface

Swedish waste management is at a turning point – with positive developments! In 2024, the amount of household waste per person continued to decrease. More waste is going to biological treatment, and there is a clear long-term trend: more resources are being recovered and less is going to waste.

This publication summaries this past year – a year of preparations, reforms and initiatives at all levels: from local textile sorting campaigns to municipalities taking over package collection, from new residual waste targets to local emergency preparedness and international partnerships to support a war-torn waste sector in Ukraine.

Each Swede generated an average of 426 kilograms of household waste during the year, a decrease of five kilograms compared to 2023. At the same time, biological treatment increased by a full 11 percent. Waste such as food and garden waste undergoes digestion or composting and is turned into biofertiliser, soil conditioner and biogas. Even rigid plastics, which historically have had a low recycling rate, are now being collected to a much greater extent through municipal systems, creating better conditions for both quality and quantity in material recycling.

During the year, Avfall Sverige set a new goal to accelerate this positive development: the 30/30 goal. This will replace the previous 25/25 goal. With the new goal, the aim is to reduce the amount of residual waste by 30 percent (compared to 2023) by 2030. This is an ambitious but necessary step to meet both climate and recycling targets, and to meet the EU's requirement of at least 60 percent material recycling (including preparation for reuse) of municipal waste by 2030. It will affect all steps of the waste hierarchy.

Progress is being boosted by concrete reforms. On 1 January 2024, municipalities took over responsibility for the collection of packaging waste. At the same time, the requirement to separate and collect biowaste went into force. As of 2025, separate collection of textile waste is also required. These reforms are complex, and we give a big round of applause to the municipalities, who have made great strides in implementing them in an extremely short amount of time. These reforms, coupled with measures in the Swedish Environmental Protection Agency's National Waste Plan (NAP) and the Waste Prevention Programme (PAF), indicate a shift towards more sustainable resource use and a stronger link to the Sustainable Development Goals (SDGs), especially SDG 12 – Responsible Consumption and Production.

We also see how legislation at EU level is shaping the future – with new directives, regulations and increased requirements for sustainable production, product design and transparency in the management chain. All this opens the door to innovation, greater climate benefits and increased resource efficiency in waste management.

In "Swedish Waste Management 2024", we gather data from all of Sweden's municipalities, plants and other members to both provide a picture of the current situation and show the way forward.

It is a report about statistics and governance, but also about change. It highlights how the Swedish waste sector is banding together to reduce environmental and climate impact, increase our strategic autonomy by safeguarding resources for the future and contribute to a sustainable economy.

Together, we are building a resource-efficient future – one kilogram at a time.

Malmö, 1 July, 2025

Tony Clark,
Managing Director Avfall Sverige

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How Swedish waste management works

Preventing the creation of waste is the top step in the waste hierarchy. It is the priority of both Swedish and European waste legislation.

The waste hierarchy order of priority is:
- waste prevention
- reuse
- material recycling and biological treatment
- other recycling and recovery, e.g. energy recovery
- disposal, e.g. to landfill.

According to the definition in the Swedish Environmental Code[1], waste is any matter or object that the bearer disposes of, intends to dispose of, or is obliged to dispose of.

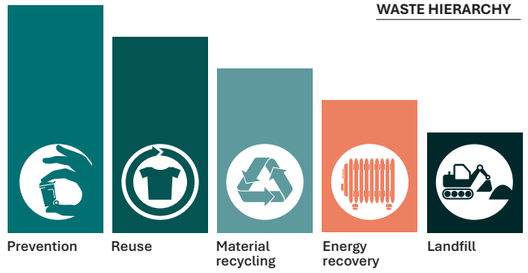
There are different methods for treating waste[2]:
- preparation for reuse
- material recycling
- biological treatment
- energy recovery
- disposal (landfill and treatment of hazardous waste).

Hazardous waste can be treated using one or more of these methods, depending on its properties. Waste that may contain hazardous substances should not undergo material recycling, but should instead be phased out of the eco-cycle. Recycling means that the waste will be used as a replacement for another material or other fuels.

Preparation for reuse is also a recycling process. According to the definition, preparation for reuse means inspecting, cleaning or repairing any item that is waste so it can be reused without further treatment.

Material recycling saves energy and natural resources, thereby reducing environmental impact. Biological treatment closes the eco-cycle's loop, produces electricity and biogas, and returns nutrients to the soil in the form of biofertiliser. Energy recovery refers to the extraction of energy from waste to provide both district heating and electricity. Landfill entails waste being stored in a manner that is safe in the long-term.

WASTE HIERARCHY



THE RESPONSIBILITIES OF MUNICIPALITIES

Under the Swedish Environmental Code, each municipality is responsible for ensuring that municipal waste[3] within the municipality is collected and either recycled in the best possible way or disposed of. Municipal waste refers to waste from households and waste that is similar in nature and composition to waste from households, such as waste from restaurants, shops, offices, etc.[4] Certain types of waste are not municipal waste if going strictly by the definition, but are included in municipal responsibility for collection, recycling, etc. These include sewer fractions from private sewers, and construction and demolition waste not produced by professional operations. In this publication, we use the term household waste for the waste generated by households and businesses that falls under municipal waste responsibility pursuant to Chapter 15, § 20 of the Environmental Code.

Every municipality is required by law to have its own waste and sanitation ordinance, which consists of a waste plan and regulations for waste management[5]. Municipalities can collaborate and draw up common regional waste plans. The municipalities are working at increasing rates to promote the prevention and reuse of waste. Preparation for reuse of household waste is part of the municipal responsibility. The municipalities also have a duty to inform about waste management and about the content of the waste plans.

THE RESPONSIBILITY OF PRODUCERS

Sweden has producer responsibility for, among other things: packaging, waste from electric and electronic equipment (WEEE), tyres, vehicles, batteries, fishing gear and pharmaceuticals.

A producer is an entity that imports, produces or otherwise puts a product on the market. Producers are responsible for collecting and disposing of end-of-life products, usually through so-called material companies created for different producer responsibilities. This means that there must be suitable collection systems and treatment methods for recycling.

1 Swedish Environmental Code (1998:808), chapter 15, § 10
2 Avfall Sverige Report 2017:23 Right item to the right treatment Right item to the right treatment. Material recycling, waste incineration and the detoxification of society
3 The Swedish Environmental Protection Agency has drawn up a guide to the definition of municipal waste, and Avfall Sverige has drawn up a guide on the meaning of the term municipal waste (Guide #25)
4 However, it does not include waste from manufacturing, agriculture/forestry, fishing, septic tanks, sewage tanks and treatment, construction and demolition waste, and end-of-life vehicles.
5 Avfall Sverige Report 2017:01 Basis for the waste disposal regulations in the Municipal Waste Regulation Ordinance.

However, as of 1 January 2024, the municipalities are responsible for the collection of packaging waste, while the financial responsibility and responsibility for recycling of such waste remains with the producers.

On 1 January 2025, the municipalities became responsible for the separate collection of textile waste. Once the EU's ongoing work related to producer responsibility for textiles is finalised, the division of responsibilities for the collection and recycling of textile waste will need to be reviewed again.

Producer responsibility is also intended to encourage producers to develop products that are more economic with resources, easier to recycle and do not contain substances which are harmful to the environment. The municipalities are often obliged to include information on producer responsibility in their information on waste. This is done, inter alia, through the national waste portal sopor.nu, which is a collaboration between Avfall Sverige and several other actors.

THE RESPONSIBILITY OF HOUSEHOLDS

Households are responsible for separating and depositing waste at available collection points. They must also follow the municipality's rules for waste management.

THE RESPONSIBILITY OF BUSINESSES

Businesses are responsible for disposing of waste that does not fall under municipal or producer responsibility.

ORGANISATIONAL STRUCTURES

The municipalities must choose themselves how to organise waste management. Local government autonomy is part of the Swedish Constitution.

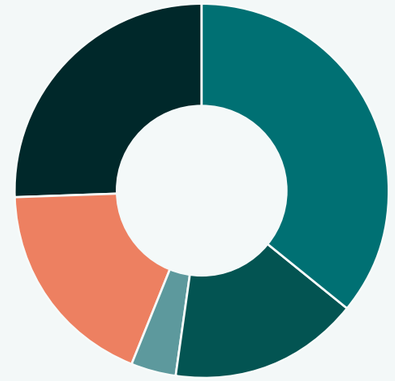
There are several organisational structures available:
- self-administration
- municipal enterprise, owned independently or jointly
- joint board
- municipal association.

The waste sector has a long history of collaboration between municipalities. As the sector has faced greater and greater demands, the collaborations have grown in scope and have undergone development and expansion. Collaboration between municipalities is a natural operational structure, providing the greatest possible environmental and societal benefit, managing waste cost effectively and ensuring the requisite competencies are in place. Municipalities can also cooperate in relation to specific issues, such as joint procurement.

PRIVATE CONTRACTORS OR IN-HOUSE

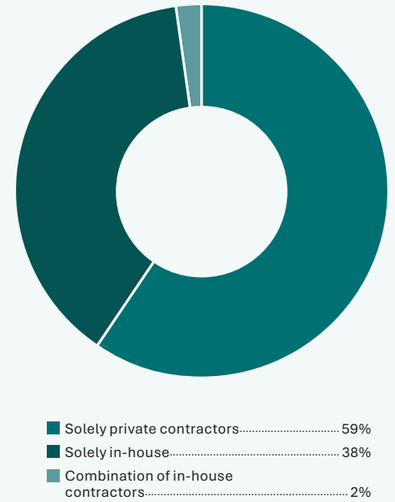
In 59 percent of the country's municipalities, the collection of food and residual waste is carried out by private contractors. 38 percent of municipalities carry out collection themselves, and the others use a combination of private contractors and in-house collection services. There has been a clear increase in the number of municipalities carrying out collection in-house as the proportion was 25 percent in 2014. This follows an international trend and stems from the municipalities' desire for greater flexibility and decision-making power. Waste treatment is either undertaken by the municipalities themselves, or by an external contractor (chosen in a procurement procedure), which can be a different municipality, a different municipal enterprise or a private company. The distribution between the various structures depends on the method of waste treatment.

WASTE MANAGEMENT ORGANISATION 2025



There are also regional companies that do not officially take over the municipal waste responsibility, e.g. Sysav, Renova and Sörab. However, Sysav is in charge for three municipalities. A total of 30 municipalities cooperate in such regional companies.

SERVICE PROVIDERS FOR THE COLLECTION OF FOOD AND RESIDUAL WASTE 2024



Waste volumes

The volumes of collected and treated household waste[6] from households and businesses amounted to 4.5 million tonnes in 2024. For the population as a whole, every Swede generated 426 kg of waste, which is a decrease of 5 kg compared to 2023.

766,030 tonnes of food and garden waste, 17 percent, were sent to biological treatment. This corresponds to 72 kg per person, which is an 11 percent increase compared to 2023. In 2024, 27 percent, just under 1.2 million tonnes, went to material recycling, including the recycling of construction material. This corresponds to 113 kg per person and is a 4 percent decrease compared to 2023.

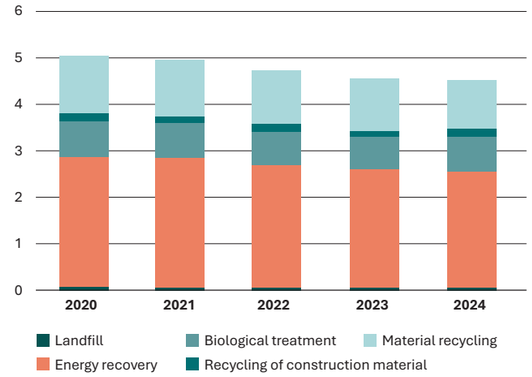
Energy recovery decreased by 3 percent to 2.47 million tonnes, which corresponds to 234 kg per person. Energy recovery accounts for 55 percent of treatment. Landfill decreased by 9 percent to 73,610 tonnes, which corresponds to 7 kg per person. Landfill accounts for 1.6 percent of the total amount of the waste managed.

In 2024, just over 1.5 million tonnes of residual waste was collected, which represents 34 percent of the household waste collected. Residual waste refers to the regular rubbish bag, which is sent for incineration with energy recovery. Food waste including home compost amounts to 498,110 tonnes, corresponding to 11 percent of household waste. Food waste is mainly treated through anaerobic digestion to obtain biofertiliser and biogas.

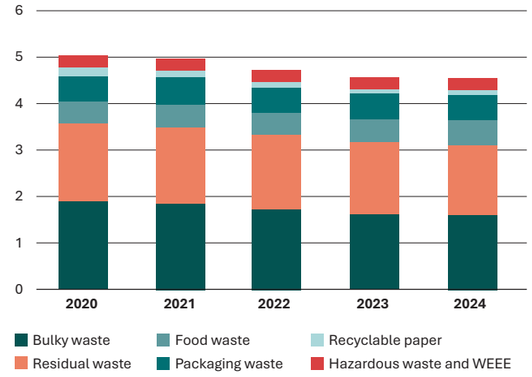
36 percent of the household waste collected consists of bulky waste, 1.6 million tonnes. This is a decrease of 1 percent compared to 2023. On average, 40 percent of the bulky waste went to material recycling, such as scrap metal, rigid plastic, corrugated cardboard, textile waste, flat glass and gypsum. This percentage also includes garden waste, which undergoes biological treatment, and the recycling of construction material. 56 percent of the bulky waste went to energy recovery and 4 percent to landfill. This is the same breakdown as in 2023.

15 percent of the household waste volume consists of packaging and recyclable paper from households and amounted to 656,000 tonnes in 2024, a decrease of 2 percent compared to 2023. This figure does not include packaging waste from businesses, unless it is disposed of at recycling stations.

VOLUMES OF HOUSEHOLD WASTE TREATED 2020–2024, MILLIONS OF TONNES



VOLUMES OF HOUSEHOLD WASTE COLLECTED 2020–2024, MILLIONS OF TONNES



6 In this publication, the term household waste refers to the waste generated by households and businesses that falls under municipal waste responsibility pursuant to Chapter 15, §§ 20 and 20a of the Swedish Environmental Code. Compared with the concept of municipal waste, construction and demolition waste from households is included, while waste from park and street maintenance is not included. Sludge and other fractions from private sewers are also included in the municipal waste responsibility, but these volumes are not included in the compilation here. However, this publication does contain a chapter on sludge.

MUNICIPAL WASTE

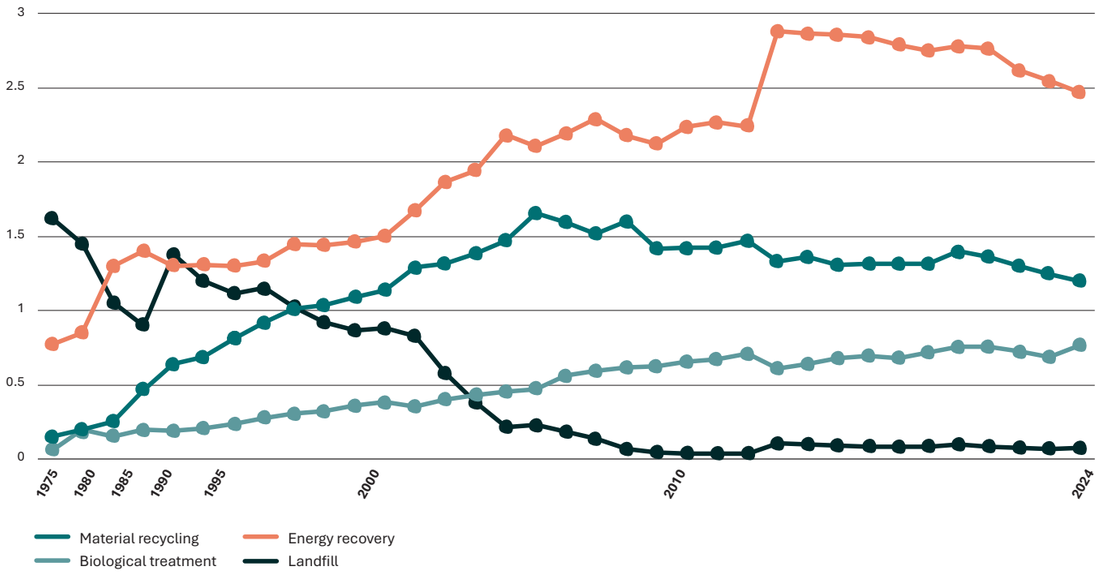
The Swedish Environmental Protection Agency compiles annual data on municipal waste. As of 2020, all EU Member States must report municipal waste based on a common definition. According to EU regulation, statistics on municipal waste are independent of whether public or private actors are responsible for managing the waste. This allows EU countries to report municipal waste and recycling rates in the same way.

According to the latest statistics from the Swedish Environmental Protection Agency, 4.1 million tonnes of municipal waste were generated in Sweden in 2023, corresponding to 392 kg per person[7]. This is a decrease of 7 percent compared to 2020. 2.2 million tonnes were collected in separate fractions (such as packaging and food waste). Municipal waste is mainly waste from households (over 80 percent), but also arises from businesses, such as food waste, residual waste and packaging from restaurants and shops. However, the volumes from businesses are underestimated.

In 2023, just under 40 percent of municipal waste actually underwent material recycling or was prepared for reuse. By 2025, at least 55 percent by weight of the municipal waste generated is to be prepared for reuse or undergo material recycling, according to the EU recycling target, which is also a national milestone in the Swedish environmental objectives system.

In 2020, Europeans generated an average of 521 kg of municipal waste per person, of which 49 percent went to preparation for reuse or to material recycling, while around 23 percent was landfilled.

VOLUMES OF HOUSEHOLD WASTE TREATED IN SWEDEN 1975–2024, TOTAL VOLUMES (MILLIONS OF TONNES)



As of 2014, the data is obtained from the municipal section of Avfall Web and concerns the intended treatment method. Prior to 2014, the data was obtained from the treatment plants.

7 https://www.naturvardsverket.se/490484/globalassets/data-och-statistik/avfall/kommunalt-avfall-2023-statistikblad.pdf

VOLUMES OF HOUSEHOLD WASTE TREATED 2020–2024

Tonnes	2020	2021	2022	2023	2024
Material recycling	1,227,310	1,198,780	1,136,910	1,105,360	1,035,860
Recycling of construction material	172,990	162,310	160,430	138,790	161,920
Biological treatment*	757,510	753,282	729,310	687,940	766,030
Energy recovery	2,782,720	2,763,640	2,616,450	2,548,260	2,473,850
Landfill	93,900	81,050	76,390	67,610	73,610
Total volume treated	**5,034,430**	**4,959,062**	**4,719,490**	**4,547,960**	**4,511,270**

Kg/person	2020	2021	2022	2023	2024
Material recycling	118	115	108	105	98
Recycling of construction material	17	16	15	13	15
Biological treatment*	73	72	69	65	72
Energy recovery	268	264	249	242	234
Landfill	9	8	7	6	7
Total volume treated	**485**	**474**	**449**	**431**	**426**

Proportion, %	2020	2021	2022	2023	2024
Material recycling	24.4%	24.2%	24.1%	24.3%	23.0%
Recycling of construction material	3.4%	3.3%	3.4%	3.1%	3.6%
Biological treatment*	15.0%	15.2%	15.5%	15.1%	17.0%
Energy recovery	55.3%	55.7%	55.4%	56.0%	54.8%
Landfill	1.9%	1.6%	1.6%	1.5%	1.6%
Total volume treated	**100%**	**100%**	**100%**	**100%**	**100%**

The data was obtained from Avfall Web's municipal section and shows which treatment method was applied to the collected household waste.
** Includes home-composted food waste, but not home-composted garden waste.*

VOLUMES OF HOUSEHOLD WASTE COLLECTED 2020–2024

Tonnes	2020	2021	2022	2023	2024
Bulky waste	1,909,360	1,849,660	1,717,870	1,622,620	1,603,930
Residual waste	1,669,090	1,638,050	1,595,590	1,558,990	1,517,030
Food waste*	463,010	482,202	467,860	464,720	498,110
Packaging waste	560,730	596,370	567,790	561,930	564,470
Recyclable paper	168,400	148,950	127,420	110,530	91,680
Hazardous waste and WEEE	263,840	243,830	242,970	229,170	236,050
Total volume collected	**5,034,430**	**4,959,062**	**4,719,500**	**4,547,960**	**4,511,270**

Kg/person	2020	2021	2022	2023	2024
Bulky waste	184	177	163	154	151
Residual waste	161	157	152	148	143
Food waste*	45	46	44	44	47
Packaging waste	54	57	54	53	53
Recyclable paper	16	14	12	10	10
Hazardous waste and WEEE	25	23	23	22	22
Total volume collected	**485**	**474**	**449**	**431**	**426**

Proportion, %	2020	2021	2022	2023	2024
Bulky waste	37.9%	37.3%	36.4%	35.7%	35.6%
Residual waste	33.2%	33.0%	33.8%	34.3%	33.6%
Food waste*	9.2%	9.7%	9.9%	10.2%	11.0%
Packaging waste	11.1%	12.0%	12.0%	12.4%	12.5%
Recyclable paper	3.3%	3.0%	2.7%	2.4%	2.0%
Hazardous waste and WEEE	5.2%	4.9%	5.1%	5.0%	5.2%
Total volume collected	**100%**	**100%**	**100%**	**100%**	**100%**

** Includes home-composted food waste. Data on volumes of household waste collected comes from Avfall Web's municipal section.*

Prevention and reuse

Preventing the creation of waste is the first step in the waste hierarchy. It is the priority of both Swedish and European waste legislation.

PREVENTION LEADS TO THE GREATEST ENVIRONMENTAL BENEFIT

Preventing waste means both reducing waste volumes and reducing the number of hazardous substances in the waste, which must occur during the production stage. The municipalities play an important role in this work, but producers must also take prevention into account when designing the products.

The EU has set targets to reduce the amount of food waste in the EU by 2030. The target for shops, restaurants and households is a 30 percent reduction in food waste, while the target for the food industry, excluding agriculture and other producers, is 10 percent.

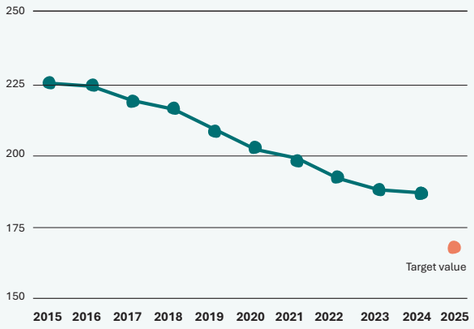
25/25 GOAL

Avfall Sverige has set a goal of reducing the total volume of food and residual waste by at least 25 percent per person (compared to 2015) by the year 2025 – our 25/25 goal. The aim of the goal is to increase our pace as we climb up the waste hierarchy. In 2015, the volume of food and residual waste was 225 kg per person nationally. 25 percent represents a reduction of 56 kg, making the remaining volume of food and residual waste 169 kg. By 2024, the volume of food and residual waste decreased by 17 percent, representing 38 kg per person, to 187 kg.

TOOLS FOR PREVENTION

Avfall Sverige is continuously striving to develop aids and support – tools – to help municipalities in their efforts to prevent waste and increase reuse.
All of these tools are available in Avfall Sverige's digital toolbox. One of the tools is a working method that involves working with waste prevention in a structured manner within a municipal organisation. The method has been used by many municipalities, and yielded results in terms of reduced waste volumes and costs, as well as a better working environment and more orderly handling of consumables. The working method is described in a handbook[8] that is also used in Avfall Sverige's waste prevention course. There are also many reports describing good examples from municipalities working according to the method or preventing waste in some other way. An important part of preventing waste is measuring and monitoring the work.
Tips and advice on how to do this can be found in a guide[9].

FOLLOW-UP OF THE 25/25 GOAL
FOOD AND RESIDUAL WASTE, KG PER PERSON



Experience has shown that a key factor for success in active waste prevention is that decisions are made at both the managerial and the political level. To support administrators in communicating the message of waste prevention, Avfall Sverige has commissioned the production of material called Increasing the pace up the ladder[10].
It consists of a guide and a presentation with script.

All municipalities are obliged to draw up a waste plan that includes waste prevention. Another obligation, implemented in 2020, is that all municipalities must provide information to households on waste prevention measures. The waste charge may be used to fund these information initiatives.
The Swedish Environmental Protection Agency's guide[11] contains many tips and support. Avfall Sverige has several reports on reducing household waste, including a compilation of more than 60 proposals for measures[12] and a report with proposals for measures based on current research[13].

Avfall Sverige also works extensively with communication on prevention, for example by focusing on "invisible waste", i.e. waste that arises during production[14] and that the consumer does not see. The volume of this "invisible waste" is often significantly larger than the waste that the product itself results in.

For example, a mobile phone, which weighs about 150 grams, generates 120 kg of waste during production. Expanding waste prevention to the production stage will lead to significant environmental benefits. Ready-made campaign material is available to communicate about "invisible waste".

Other communication material that has been produced is "10 ways to reduce your waste". The material presents 10 simple ways for private individuals to reduce their waste. The material consists of several videos and graphic products that can be used in several different ways. There are tips for reducing both food and residual waste, and the material is well suited for use with the 25/25 goal and other initiatives.

Avfall Sverige is the national coordinator of the EU project "European Week for Waste Reduction", which is also supported by the Swedish Environmental Protection Agency. Through the project, which runs for one week in November each year, activities aimed at reducing waste and the amount of hazardous substances in waste are organised all over Europe. This campaign can also be used by the municipalities in their work to reduce waste. Information on the project is available at avfallsverige.se and ewwr.eu.

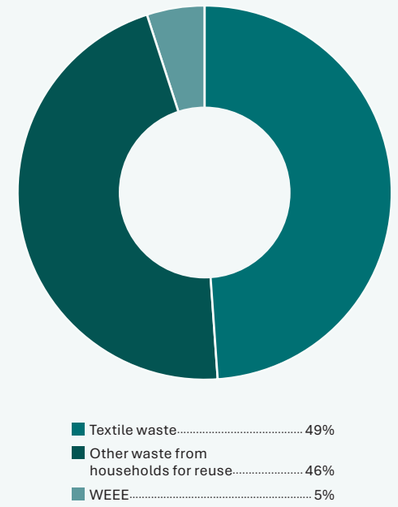
There are several other tools that can help with waste prevention, such as a guide to reducing the use of single-use plastics at various events[15]. The guide describes a deposit and return system with reusable materials as an alternative to single-use plastic.
Another tool describes how to reduce the amount of paper advertising sent to the municipality[16].

REUSE

The term reuse means that a product is used again instead of being thrown away. Waste can be prepared for reuse through inspection, cleaning or repair. At present, 76 percent of the recycling centres have some form of means for accepting waste for reuse, often a simpler receiving area in partnership with aid organisations. This is an increase of four percentage points compared to 2023. There are also recycling centres that have expanded operations to include repairs and sales. Several municipalities have plans to develop their recycling centre into a centre for repair, rental, and exchanging and sharing activities[17].

To facilitate the prevention and reuse work of the municipalities, Avfall Sverige has published a guide that explains the legal requirements[18]. However, increasing reuse is more than a matter of municipalities expanding their operations. Private individuals also have to reuse to a greater extent. Avfall Sverige has therefore published a handbook on safer reuse[19] and a guide on which construction materials and products are suitable for reuse[20].

COLLECTED MUNICIPAL WASTE PREPARED FOR REUSE 2024



One way to increase recycling could be to raise awareness of what is thrown away that could be reused instead.
A so-called product sorting analysis can provide a picture of what bulky waste contains[21]. These tools – and more – can be found in Avfall Sverige's digital toolbox for prevention.

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2018:18 Sharing gadgets, space, vehicles and time – A guide to sharing economy in the municipalities
- 2018:29 Potential for increased reuse – case study recycling centres
- 2018:30 Measuring edible food waste – a pre-study
- 2019:08 Results and experiences from using Avfall Sverige's waste prevention method – "Top step" (Översta steget) and other projects
- 2019:32 Reuse of construction and demolition materials and products in municipalities
- 2020:21 Guide – Minimisation masters
- 2022:11 Increased reuse through innovation and circular resource flows
- 2022:12 Increasing the reuse of materials
- 2022:24 Measures to reduce food waste in households
- 2023:01 Climate impact of different waste fractions, updated 2022 (incl. calculation model)
- 2024:01 Increased reuse with the help of new recipients – guidance for municipalities
- 2024:21 Product sorting analysis of recycling centre waste – method, results and discussion

8 Handbook on resource-smart material use in the municipality – method and inspiration for waste prevention (2023)
9 Avfall Sverige Report 2021:16 Measurement and follow-up of waste prevention in businesses
10 Avfall Sverige Report 2021:14 Increasing the pace up the ladder, Guide and Report 2021:13 Good examples
11 https://www.naturvardsverket.se/vagledning-och-stod/avfall/informera-hushall-om-avfallsforebyggande-atgarder/
12 Avfall Sverige Report 2023:03 Municipal measures to reduce household waste – and facts on prevention
13 Avfall Sverige Report 2023:12 Reducing household waste – research-based strategies and measures for the municipality as an actor
14 Avfall Sverige Report 2024:25 Invisible waste – the waste footprint of products
15 Avfall Sverige Report 2021:03 Guide for events without single-use products
16 Avfall Sverige Report 2023:13: Case study: Reducing paper advertising to the municipality
17 Avfall Sverige Report 2020:08 Good examples of municipal reuse work
18 Avfall Sverige Guide #9: Legal requirements for prevention and reuse
19 Guide to safer reuse (2023)
20 Construction reuse guide (2022)
21 Avfall Sverige Report 2024:19 Manual for waste composition analysis of bulky waste, including product sorting analysis

Collection and transport

460,770 tonnes of food waste were collected in 2024, which equates to 44 kg per person. In 2024, 284 of the country's 290 municipalities had separate collection of source-separated food waste. Nearly 38,000 tonnes of food waste were home-composted.

143 kg

of residual waste collected per person 2024

TOTAL 1,517,030 TONNES

COLLECTION OF SOURCE-SEPARATED FOOD WASTE

As of 2024, the separation of food waste is mandatory for households and businesses. This requirement is linked to the EU Waste Framework Directive, and the municipalities have been made responsible for collecting the separated food waste as a separate fraction.

The municipalities' collection of source-separated food waste increased by 8 percent in 2024 compared to 2023. The mandatory sorting has thus produced results.

Avfall Sverige has created an overview of various collection systems for source-separated household food waste[22]. The report describes what happens throughout the chain and uses this to assess how it affects the quality of collected food waste and ultimately the biofertiliser/compost. To achieve good quality, active quality assurance is required in the collection phase[23]. The quality of the end product is dependent on how well the food waste is separated at the source[24]. An important tool for good quality is varying types of communication initiatives[25] [26]. Avfall Sverige has also published the report "On target with food waste", which describes what different actors along the food waste collection and recycling chain can do to increase the volumes of food waste collected while maintaining high quality[27].

The separation of edible fats, such as frying oil, is also mandatory. However, there is no requirement for kerbside collection, so many municipalities choose to collect it at the recycling centre.

COLLECTION OF PACKAGING

To achieve a higher level of material recycling for packaging, the Government has decided that the collection of packaging shall take place closer to households. This will increase accessibility. Collection will gradually shift from collection at recycling centres to kerbside collection. This is expected to be fully implemented throughout the country by 2027. In 2024, responsibility for the collection of packaging was transferred from producers to municipalities to be more rationally linked to the collection of food and residual waste, but with responsibility for material recycling remaining with producers. Under the packaging ordinance, producers will bear the costs of collection and material recycling. The transition to kerbside collection is well in line with the EU Waste Framework Directive, which requires packaging and food waste to be collected separately across the EU. At present, about two thirds of the apartment blocks have kerbside collection of packaging, with the fractions collected in separate bins or underground containers. For detached and semi-detached houses, about 30 percent now have kerbside collection and there are different collection solutions in place – individual bins, two- and four-compartment bins, and collection of packaging in different coloured bags for optical sorting. Statistics show that the total volume of collected packaging per person is higher, and residual waste lower, in municipalities with more extensive kerbside collection[28].

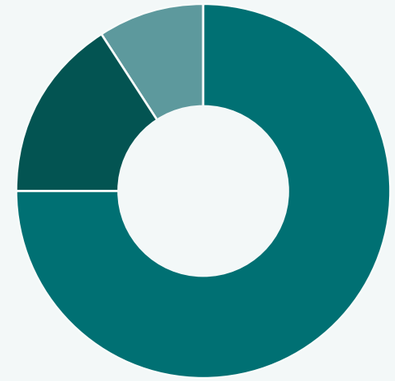
The municipalities have been responsible for the collection and recycling of recyclable paper since January 2022 through the lifting of producer responsibility. As there is no requirement for kerbside collection of recyclable paper, it is usually collected via recycling stations.

COLLECTION OF TEXTILES

Textiles make up another fraction that has received increased environmental focus, and are increasingly collected separately, usually in partnership with non-profit organisations. Textiles are mainly collected for reuse and further processing for reuse via sorting facilities in Europe. In 2024, the municipalities collected 16,780 tonnes of textiles. 75 percent of the separated textiles went to reuse, 16 percent went to material recycling, and 9 percent went to energy recovery.

22 Avfall Sverige Report 2015:15 Food waste's journey from table to earth
23 Avfall Sverige Report 2015:17 Quality assurance of source-separated food waste
24 Memorandum No 1 2025 Summary of waste composition analysis results in Avfall Web 2021–2023
25 Avfall Sverige Report 2016:03 Collection of food waste in apartment blocks Good examples from municipalities and public housing companies
26 Avfall Sverige has compiled good examples of communication regarding the collection of food waste in a database available to Avfall Sverige members at avfallsverige.se
27 Avfall Sverige Report 2024:16 On target with food waste
28 Memorandum No 1 2025 Summary of waste composition analysis results in Avfall Web 2021–2023

HANDLING OF COLLECTED TEXTILE WASTE 2024



As of 1 January 2025, separate collection of textile waste is required in all EU countries. There is a difference between textiles for reuse and textile waste. Separate collection of textile waste, which is classified as municipal waste, is the responsibility of the municipalities. The municipalities are also required to inform households and operators to ensure that textiles are reused whenever possible. There is no requirement for kerbside collection of textile waste, and it is up to the municipality to ensure that textile waste is treated in an environmentally sound manner according to the waste hierarchy. Municipalities organise the collection of textile waste and textiles for reuse mainly through non-profit organisations. They may differ in aspects such as whether they collect in one textile stream or two. The exact way collection is carried out therefore varies, and there are several regional and local solutions. The disposal of textile waste is still a major challenge. Textile waste that is wet, contaminated or heavily soiled should also be handled separately and should be treated through energy recovery, as it ruins other textiles.

The material recycling of textile waste is currently in the form of materials such as soundproofing, padding and rags. With the current state of technology, only a limited proportion of textiles can undergo material recycling as fibre to fibre. However, many new initiatives for material recycling of textiles are under way, both in Sweden and in the EU. Several actors, such as researchers, research institutes, universities, industrial networks, municipalities and recyclers, are collaborating on a variety of initiatives and methodologies with promising results. For example, Sysav has built the world's first fully automated textile sorting plant, Siptex, in Malmö and Telge Återvinning has built a pre-sorting plant for textile reuse in Södertälje.

The European Parliament has agreed that a harmonised producer responsibility for textiles is to be introduced in the EU. This is required to be implemented 30 months after the final decision, which is expected to be taken in autumn 2025. Realistically, this means that, in Sweden, producer responsibility for textiles will have entered into force by 2028.

DEVELOPMENT OF THE COLLECTION SYSTEM

Waste collection has historically involved heavy lifting, leading to work-related injuries, but bags have now been replaced with bins or other types of containers, providing a better working environment.

In many places, manual waste handling has been replaced by new technology and automated systems, such as vacuum waste collection and underground container systems, mainly in big cities and in newly built areas. In addition to aesthetics and design, an advantage is that they do not require any heavy manual handling during emptying. Vacuum waste collection is a closed and fully automated system which reduces the need for transports, particularly in residential areas. The vacuum waste collection system collects waste pneumatically by means of tubes in an automated vacuum system.

The use of underground containers as a collection system is growing rapidly throughout the country. Positioning containers underground reduces the need for space above ground, where only the disposal hatch/chute is visible. The temperature underground is relatively low, which prevents bad odours. The containers are emptied using a vehicle with loader crane.

There are also underground containers that can be emptied using a front loader vehicle. Because underground containers hold larger volumes, the number of transports can be reduced.

VEHICLES AND FUEL

Rear-loading vehicles are the most predominant waste collection vehicles, but side-loading vehicles are also common. The proportion of multi-compartment vehicles is increasing, as a growing number of municipalities transition to kerbside collection in two- or four-compartment bins.

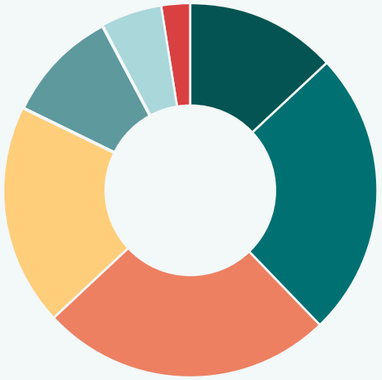
The choice of fuel may be dictated by the municipality's procurement requirements. In recent years, there has been a clear shift from fossil diesel to various biofuels, such as biogas or HVO, which is a synthetic diesel made from e.g. slaughterhouse or grain waste.

Plug-in hybrids and electric vehicles have great potential for the waste industry and are being used in various places. In addition to the environmental benefits, electric vehicles also significantly reduce noise levels during operation and emptying. Through procurement, municipalities can impose requirements that bins and vehicles be adapted for better occupational health and safety.

To increase resilience and in line with emergency preparedness plans, many municipalities choose to have different types of vehicles and fuels. Avfall Sverige has published a report that provides support for setting the right requirements when procuring fossil-free waste collection, with resilience and preparedness in mind[29].

29 Avfall Sverige Report 2024:22 Guidance for the purchase and procurement of vehicles and fuels

BULKY WASTE COLLECTED 2024



- Metal, plaster, rigid plastic and other materials for material recycling 13%
- Garden waste 25%
- Wood waste, non-impregnated 25%
- Combustible waste 19%
- Construction materials 10%
- Mineral/inert waste 5%
- Unsorted 3%

MOST COMMON COLLECTION SYSTEMS FOR SINGLE-FAMILY HOUSES 2024

Two separate bins 56%
(one for food waste, one for residual waste)

Only one bin 2%

Two-compartment bin 7%

Four-compartment bin 22%

Different coloured bags for optical sorting 13%
(usually food waste + residual waste, but there is also residual waste + food waste + newspapers/ packaging waste)

RECYCLING CENTRES

At the municipal recycling centres, households can hand in bulky waste, garden waste, WEEE and hazardous waste. Bulky waste is waste that is too heavy, too bulky or otherwise unsuitable for collection in bins or kerbside collection. In 2024, 1,603,930 tonnes of bulky waste were collected at Sweden's 586 recycling centres. This corresponds to 151 kg per person.

The recycling centres handle hazardous household waste, with the risks that this can involve when the waste is received, sorted and transported. In order to create a safe environment for visitors and staff continuous occupational health and safety work is undertaken on risk assessment, the correct protective gear and secure premises for handling the hazardous waste.

Many of the country's recycling centres are hit hard by thefts, burglaries and incidents where staff are threatened by visitors – the latest statistics show that four out of five recycling centres were the target of crime in 2023[30]. Electronics, items turned in for reuse and car batteries are the main targets for theft. Many of the larger recycling centres have therefore installed various technical security solutions, such as electric fencing or surveillance cameras. Some have employed security firms who are on site during particularly high risk periods.

A growing number of municipalities are also introducing access control systems at recycling centres, where visitors need to present a driving licence or visitor card to enter. In addition to improving security, this measure also improves the customer flow and leads to better visit statistics. The access control system is often combined with a number of free visits, and is also a prerequisite for so-called unmanned recycling centres, where households can drop off their waste when no staff are on hand. To be approved for this, the visitors must first complete a short training programme in sorting and safety. Unmanned hours are increasing at Sweden's recycling centres, as it is a cost-effective way to increase collection and service to citizens.

In addition to larger recycling centres, there are also smaller neighbourhood recycling centres in several places, which focus on collecting waste from households without cars and trailers. There are also mobile recycling centres, which are manned facilities that can travel around and are often made up of one or more trucks. These accept e.g. hazardous waste, some bulky waste, garden waste and usually also WEEE and items for reuse.

A growing number of recycling centres are focusing on enabling local residents to turn in items for reuse. Many recycling centres have therefore partnered with volunteer organisations that resell the items, or allow visitors to freely pick up and drop off items directly on site. Some recycling centres also have their own on-site reuse operations, often in cooperation with job training.

30 Avfall Sverige Report 2025:04 Safety at recycling centres

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2018:10 Access control systems at recycling centres
- 2018:11 Kerbside collection in an urban environment
- 2018:32 Build a recycling centre! Updated manual for designing recycling centres
- 2018:37 Good examples of mobile recycling centres
- 2020:10 Waste management in sparsely populated areas, on islands and during seasonal variations
- 2020:24 Exposure risks in the collection of food waste
- 2022:08 Experiences and good examples of introducing and operating unmanned recycling centres
- 2023:11 Better sorted packaging and food waste in apartment blocks
- 2023:19 Don't make it harder
- 2024:02 Permits and laws at the recycling centre
- 2024:11 Food waste collection from businesses with medium volumes
- 2024:17 Guide on the establishment of bottom-emptying waste containers
- 2024:20 Manual for waste composition analysis of everyday household waste
- 2024:22 Fossil-free electric waste collection
- 2024:29 Quality assurance for kerbside collection of everyday waste
- 2025:04 Safety at recycling centres
- 2025:06 Volume weights for waste
- Avfall Sverige's handbook for hazardous waste from households
- Avfall Sverige's handbook for waste facilities
- Guide #15: Food waste collection under animal by-products legislation

Sludge and latrine waste

Collecting and treating sludge, latrine waste, and other fractions from small, private sewers falls under municipal waste responsibility. Sludge from sludge separators and blackwater from closed tanks are often treated at municipal wastewater treatment plants together with other incoming wastewater.

The recycling of sludge from private sewers thus usually takes place after the treatment plant has treated the sludge. 45 percent of the sludge from private sewers was used on agricultural land, and 19 percent was used to cap landfills. The trend is that sludge for landfill capping is decreasing, while use on agricultural land is increasing. However, Revaq-certified wastewater treatment plants[31] are finding it increasingly difficult to accept sludge from sludge separators, as it often has low nutrient content and a relatively high cadmium/phosphorus ratio. Other options for the disposal of sludge are therefore needed[32]. The treatment charge for sludge from sludge separators averaged SEK 195 per tonne, excluding VAT, in 2024.

192 municipalities have reported that they handle 44,300 latrine waste collections per year, in total 1,790 tonnes of latrine waste. The scope varies from one latrine waste collection per year in certain municipalities to up to 8,000 collections in municipalities with many second homes. The number of latrine waste collections has decreased by 42 percent since 2012. Many municipalities have systematically worked to phase out latrine waste collection for reasons related to occupational health and safety.

Solutions for reducing phosphorous in individual plants, such as phosphorous traps[33] and micro treatment plants[34], are being installed on an ongoing basis. This is in response to requirements to reduce emissions that cause eutrophication. The number of micro treatment plants has increased by almost 80 percent since 2020. The emptying and treatment of filter material from phosphorus traps and sludge from micro treatment plants is part of the municipal waste management responsibility. In 2024, the municipalities collected 219 tonnes of phosphorus filter material, compared with 43 tonnes in 2023.

SLUDGE COLLECTION

87 percent of municipalities employ private contractors for the collection of sludge; 10 percent undertake this in-house and the remaining 3 percent use a combination. Sludge collection can be done using different techniques, namely full drainage, partial drainage and mobile dewatering. With full drainage, the entire contents of the sludge separator are drained and transported away. With mobile dewatering, the content of the sludge separator is suctioned up and dewatered, either by mechanical separation or with the help of polymers. Partial drainage involves suctioning up the bottom sludge and floating sludge, and then leaving the water phase in place or returning it to the sludge separator. Partial drainage can be performed with a one-compartment or two-compartment vehicle. Partial drainage and mobile dewatering reduce transport to the drop-off point and the amount of sludge that needs to be treated, which is positive for both the environment and the economy.

Sludge collection is often hard and physically demanding, with several manual operations such as pulling hoses long distances and lifting heavy manhole covers and hard sludge cakes. The municipalities are working actively to make long-term improvements to the working environment. Cooperation is required between the various actors to strategically and systematically work on occupational health and safety issues. Taking inventory of and documenting the municipality's collection points is an important component in improvement, and is crucial to a sound and transparent procurement process[35].

CERTIFICATION

Certification requirements for systems to ensure the quality of fractions from small sewers, SPCR 178, have been in force since 2012. The requirements were updated in 2019. At that time, the regulations applied to source-separated sewer fractions such as WC wastewater, latrine waste and urine[36]. In recent years, SPCR 178 was managed by RISE, which in 2024 chose to put the certification system on hold. It is unclear what will happen to SPCR 178 in the future, but various studies are being conducted.

GREASE SEPARATORS AND COMBINATION SYSTEMS

Grease generated in households and restaurants is categorised as municipal waste[37]. 219,280 tonnes of sludge from 19,170 grease separators were treated by the municipalities in 2024. On average, each system is emptied 3.4 times per year, but there is great variation, from once a year to twelve times a year in some municipalities.
83 percent of the grease separator sludge undergoes anaerobic digestion, primarily at municipal wastewater treatment plants. On average, the treatment charge amounted to SEK 451 per tonne, excluding VAT. Systems in which a kitchen food waste disposer with food waste separator is connected in series with a grease separator, referred to as combination systems, have recently been introduced in some municipalities[38].

31 Revaq certification applies to sludge from treatment plants; see svensktvatten.se
32 Avfall Sverige Report 2016:20 Dewatering of sludge from small wastewater treatment plants – quality and disposal
33 Avfall Sverige Guide #19 Phosphorous filters – handling and replacement
34 Avfall Sverige Report U 2013:14 Micro treatment plants in private sewers
35 Avfall Sverige Guide #13: Sustainable occupational health and safety during sludge collection from private sewers
36 Avfall Sverige Report 2018:19 Ammonia hygienisation of source-sorted sewer fractions from Swedish households. Underlying data from updating SPCR 178 "Systems to ensure the quality of fractions from small sewers"
37 Avfall Sverige Guide #25 Meaning of the term municipal waste
38 Avfall Sverige Report 2018:35 Grease separators and combination systems with separators for food waste and grease

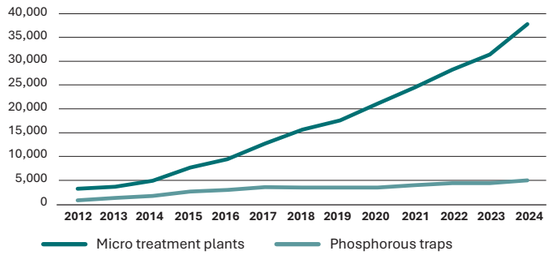
READ MORE IN AVFALL SVERIGE'S REPORTS

- Guide #23 Collection system for private sewers
- 2016:07 Sustainable eco-cycle of small sewers
- 2019:02 Sludge collection with two-compartment vehicle. Smaller amount to transport and treat – better for the environment!
- 2020:16 A comparative study of two sludge collection techniques – full drainage and mobile dewatering with polymers
- 2022:16 Partial drainage of sludge separators with one-compartment vehicle
- 2023:14 Reduction of medicinal products through urea treatment of source-separated WC wastewater – a pre-study

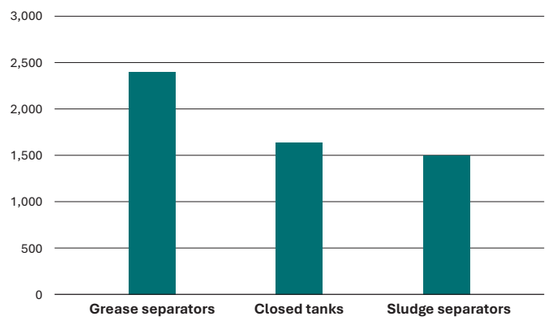
NUMBER OF INDIVIDUAL WASTEWATER TREATMENT PLANTS 2024

Total number of private sewers	701,050
Sludge separators, number of plants	549,710
Sludge separators, number of collections	533,320
Closed tanks, number of plants	93,600
Closed tanks, number of collections	166,490

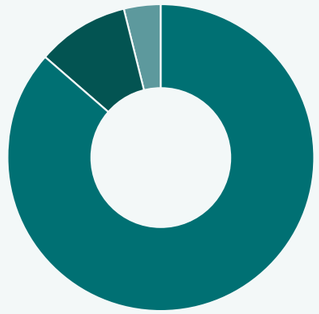
NUMBER OF MICRO TREATMENT PLANTS AND PHOSPHOROUS TRAPS 2012–2024



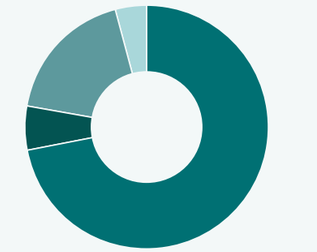
COLLECTION CHARGES 2024, SEK/DRAINAGE, INCL. VAT



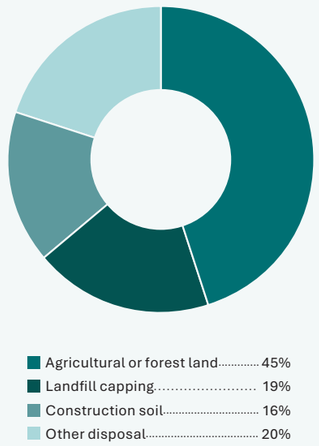
SLUDGE COLLECTION SERVICE PROVIDERS 2024



SLUDGE COLLECTION TECHNIQUE 2024



DISPOSAL OF SLUDGE 2024



Hazardous waste

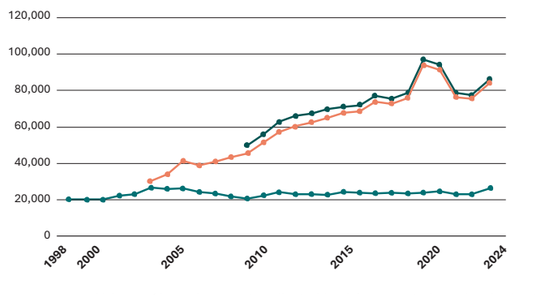
85,430 tonnes of hazardous waste[39] were collected from households in 2024 (equivalent to more than 7.1 kg per inhabitant), an increase of 10 percent compared to 2023. This includes 57,580 tonnes of impregnated wood and 2,100 tonnes of asbestos. Impregnated wood has increased by 10 percent, while asbestos has decreased by 2 percent. Hazardous waste in the form of paint, chemicals and oily waste amounted to 25,750 tonnes, an increase of 12 percent compared to 2023. The collection of nitrous oxide canisters, which is a new fraction in the measurement, amounted to 240 tonnes[40].

To detoxify the eco-cycle, it is important that hazardous waste be separated and handed in properly and in the right place. Hazardous substances may be present in extremely small quantities in some products, but collectively can cause substantial harm if they end up in the wrong place. There are also indications that newly impregnated wood does not need to be classified as hazardous waste, which would facilitate reuse and reduce costs for municipalities[41].

The municipalities are responsible for the collection, transport and treatment of hazardous waste from households. This responsibility is regulated by the Swedish Environmental Code, the Swedish Waste Ordinance and the municipal waste regulations. Households and businesses, for their part, have an obligation to separate hazardous waste from other waste. Most municipalities have regulated this obligation in the municipal refuse collection regulations.

There are no exact details on the amount of hazardous waste produced by industry, but according to the latest official waste statistics reported to the EU by the Swedish Environmental Protection Agency, 2 million tonnes of hazardous waste, excluding mining waste were produced in Sweden in 2022[42]. The waste came mainly from construction, service producers, energy supply, metal and metal products, and the manufacture of chemicals, pharmaceuticals, and plastic products. The Avfall Sverige report "Where does hazardous waste go?" from 2017 shows that about 343,000 tonnes were exported to European treatment plants.

VOLUME OF HAZARDOUS WASTE COLLECTED 1998–2024



Pharmaceuticals that are not hazardous waste are covered by producer responsibility and must be turned in at pharmacies. Many pharmacies also cooperate with municipalities for the safe collection of syringes and needles. Hazardous waste dropped off at collection or waste treatment plants often requires pretreatment. As hazardous waste may contain substances which are to be phased out of the eco-cycle, treatment is often aimed at destroying these substances. Substances that cannot be rendered harmless or reused are taken to landfill. In such cases, it is important that the waste be chemically and physically stable so that hazardous substances do not leak out into the surrounding environment.

COLLECTION SYSTEMS

The majority of hazardous waste from households is collected at municipal recycling centres, but four out of five municipalities also have some form of kerbside or consumer-oriented collection, for example through collection containers hung off of waste bins, collection bins outside of shops, or boxes in refuse rooms[43]. Many municipalities also combine several different collection forms to increase collection. This includes, for example, battery bins, mobile recycling centres, green vehicles, unmanned hazardous waste collection points, and in-store collection in cooperation with different retail chains.

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2024:09 Guide for classifying hazardous waste
- 2024:10 Critical care – handbook on the management of infectious waste, sharps, and chemotherapy and other pharmaceutical waste

39 Hazardous waste is waste described in Annex 3 of the Swedish Waste Ordinance with a waste code marked with an asterisk (*).
40 As this is a new fraction and many municipalities do not track the volume of nitrous oxide canisters collected, this figure is an underestimate.
41 Avfall Sverige Report 2024:13 Pressure-treated timber – waste classification and management
42 Swedish Environmental Protection Agency Report "Waste in Sweden 2022"
43 Avfall Sverige Report 2022:02 Kerbside and consumer-oriented collection of hazardous waste from households

WEEE and batteries

Since the introduction of producer responsibility for electrical and electronic products[44] in Sweden in 2001, municipalities and producers have cooperated on the collection of WEEE, waste from electrical and electronic equipment. Avfall Sverige, the Swedish Association of Local Authorities and Regions and the producer responsibility organisation El-Kretsen cooperate in the consultation council Elreturrådet, through which the municipalities undertake to be responsible for the collection of WEEE from households at their recycling centres in return for payment, and the producers are responsible for treatment.

In Sweden, there are two producer responsibility organisations for WEEE, El-Kretsen and Recipo, the latter of which focuses more on retail collection. WEEE is usually collected together with batteries.

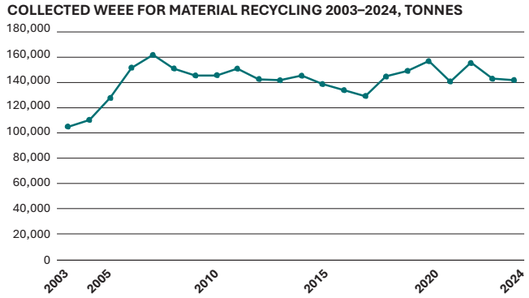
Avfall Sverige and El-Kretsen collaborate with several municipalities on different projects to develop these collection systems. The collection of WEEE from households takes place mainly at the municipal recycling centres, but a majority of the municipalities have several different collection systems, both kerbside and consumer-oriented, such as battery bins and collection bins for small WEEE[45].

COLLECTION SYSTEMS

Since 2015, shops are responsible for accepting WEEE. Large shops that sell electronics are required to collect all types of consumer electronics smaller than 25 centimetres, even if the consumer does not buy anything. For other shops, a one-for-one principle applies, i.e. if you buy a product, you have the option of turning in one equivalent old product at that shop. The collected products are submitted free of charge to an approved recycling collection system.

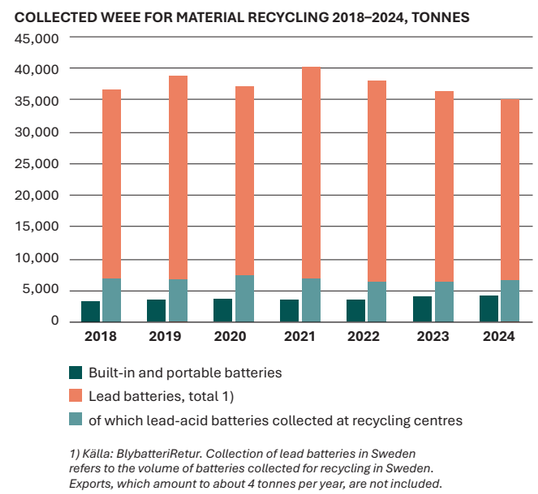
The battery producers are responsible for the collection, treatment and recycling of all batteries, regardless of when they appeared on the market. An EU regulation will change the rules on battery producer responsibility from August 2025. In addition, the EU has decided that more batteries will be labelled with a hazardous waste code, and under the dangerous goods regulations, the increasingly common sodium batteries, like lithium batteries, are now also classified as dangerous goods.

COLLECTED WEEE FOR MATERIAL RECYCLING 2003–2024, TONNES



Source: El-Kretsen and Recipo

COLLECTED WEEE FOR MATERIAL RECYCLING 2018–2024, TONNES



1) Källa: BlybatteriRetur. Collection of lead batteries in Sweden refers to the volume of batteries collected for recycling in Sweden. Exports, which amount to about 4 tonnes per year, are not included.

TREATMENT METHODS

Electrical and electronic waste is pretreated through separation and dismantling. Pretreatment is carried out at certified facilities, after which the waste is sent for final treatment or recycling. Components containing hazardous substances are treated at approved treatment plants. Much can be recovered once the hazardous substances have been removed. Plastic cases are incinerated in energy recovery plants, and metals are sent to smelting plants for material recycling. Recovered copper, aluminium and iron are used as raw materials in new products. Computers, mobile phones and other IT products contain small amounts of precious metals that are also recovered. For example, some printed circuit boards contain gold and silver. Fluorescent tubes and CFL bulbs contain mercury and are therefore handled through separation in a closed process. Through the process, the mercury is disposed of in a safe and controlled way, while the fluorescent tube powder can be reused in the production of new light sources. The glass is cleaned and reused. Other types of light bulbs, such as incandescent bulbs and LED lights, are treated as part of the same process as fluorescent tubes and CFL bulbs. Batteries are sorted by chemical content before being sent for recovery or disposal.

44 See the definition of electrical and electronic waste in Ordinance (2014:1075) on Producer Responsibility for Electrical and Electronic Equipment
45 Avfall Sverige Report 2022:02 Kerbside and consumer-oriented collection of hazardous waste from households

Swedish household waste 2024

1 GW

The amount of energy required to meet the electricity needs of a city the size of Lund (approximately 100,000 inhabitants) for eight hours.

1000 GWh

The amount of energy required to power all of Sweden's trains, metros and trams for five months.

TOTAL VOLUME OF HOUSEHOLD WASTE:

4,511,300 TONNES

of which hazardous waste: 85,400 tonnes

495,900 tonnes Food waste
270,100 tonnes Garden waste

564,500 tonnes Packaging
383,700 tonnes Recycling centre waste
150,600 tonnes Electronics and batteries
91,700 tonnes Recyclable paper
7,400 tonnes Material separated from residual waste

1,510,100 tonnes Residual waste
963,700 tonnes Bulky waste

73,600 tonnes Mineral-/inert waste

BIOLOGICAL TREATMENT

Fuel (biogas) for 20,000 biogas vehicles that drive 15,000 km/year

ANAEROBIC DIGESTION
- **260 GWh vehicle gas**
- **20 GWh heating + electricity + other**
- **445,520 tonnes biofertilizer**

COMPOSTING
- **313,540 tonnes compost soil**

MATERIAL RECYCLING
- **838,530 tonnes raw material**
- 272,520 tonnes lost to energy recovery
- 83,850 tonnes lost to landfill

Energy recovery from waste meets the heating needs of more than 1,470,000 apartments and the electricity needs of more than 940,000 apartments

ENERGY RECOVERY
- **5,000 GWh heating**
- **700 GWh electricity**

LANDFILL
- **1.5 GWh heating**
- **0.02 GWh electricity**

Material recycling

1,035,860 tonnes, 23 percent, of household waste went to material recycling in 2024.
This corresponds to 98 kg per person, a decrease of 7 percent compared to 2023.
In addition, 161,920 tonnes of construction material were recycled.

MATERIAL RECYCLING PLAYS A KEY ROLE IN A SUSTAINABLE SOCIETY

It is therefore vital that waste be viewed as a resource, and handled correctly. Material recycling means that separated materials can replace other production materials or construction materials. This not only results in a reduction in the consumption of virgin material; it also leads to energy savings.

RECYCLING TARGETS

The EU wants to guide member states towards a more circular economy and has therefore intensified recycling targets in the new waste legislation.
By the end of 2025, at least 55 percent of municipal waste in the EU shall be recycled to new material.
The target increases to 60 percent by 2030 and to 65 percent by 2035. The targets apply to material recycling, including preparation for reuse. In connection with this, reporting has been honed to apply to volumes actually recycled[46].
For packaging material, the target is material recycling of 65 percent by 2025, and 70 percent by 2030.

The Swedish Environmental Protection Agency conducts annual follow-ups of the recycling targets in Sweden. In 2023, just under 40 percent of municipal waste was actually recycled or prepared for reuse[47]. For packaging, only three of the nine national recycling targets were met in 2023[48]: metal packaging made of ferrous metal (steel) and aluminium, and aluminium cans that are part of the deposit-return system.

There is no data for wood packaging, which means that total target fulfilment cannot be calculated.

NORDIC-WIDE SIGNAGE SYSTEM

In partnership with the Nordic waste organisations, Avfall Sverige launched a common system for waste terminology and symbols for waste in 2020. The system can be used in kerbside collection, at recycling stations and recycling centres, on bins, in refuse rooms, in collection in cities, and on packaging. A common system makes it easy to do the right thing – for citizens, municipalities and packaging producers – throughout the Nordic region. It can facilitate the realisation of recycling targets.

Under the new Packaging and Packaging Waste Regulation, EU countries must introduce a harmonised waste sorting labelling system. The labelling must appear on both packaging and collection containers. The aim is to make sorting easier for consumers across the EU through clear, standardised symbols. One of the systems being studied is the Nordic labelling system. The inquiry will issue its recommendation in 2025.

RECYCLING

Packaging and recyclable paper are processed at different recycling facilities, both in Sweden and abroad, depending on the material. The recycling levels are high for paper and glass, while material recycling of plastics, for example, is lower.

In recent years, there has been an increase in the number of fractions at recycling centres, as legal requirements are being raised and options for further material recycling are evolving, for example for fishing gear, hard plastics and textile waste. Most bulky waste undergoes material recycling or energy recovery. A lot of hazardous waste is destroyed to detoxify the eco-cycle, but some is also sent to material recycling.

Materials that are generally difficult to recycle or that are made up of different composite materials go to energy recovery and are converted to electricity and heat. Examples of such materials are certain types of construction waste, broken sports equipment, some furniture, toys, foam rubber, carpets, tarpaulins and cushions.

46 Read more about the EU Waste Directive https://eurlex.europa.eu/legalcontent/SV/TXT/PDF/?uri=OJ:L:2018:150:FULL&from=EN
47 https://www.naturvardsverket.se/490484/globalassets/data-och-statistik/avfall/kommunalt-avfall-2023-statistikblad.pdf
48 Swedish Environmental Protection Agency Report “Sweden’s recycling of packaging. Follow-up of producer responsibility for packaging 2023”. https://www.naturvardsverket.se/4ae0ac/globalassets/data-och-statistik/avfall/rapport-sveriges-atervinning-av-forpackningar-2023.pdf

A growing volume of waste prepared for reuse is being collected at recycling centres. This includes construction materials, furniture, household appliances, tools, and sports and leisure items.

Material recycling of bulky waste is carried out, for example, for scrap metal that is sent directly to processing plants with which the municipalities have contracts. There, it is inspected, sorted based on type of metal, fragmented, and ultimately used to produce new products at steel and metal works.

Wood is usually sorted based on how it was treated, e.g. pure wood, painted, or pressure impregnated. Untreated wood is chipped and used as a biofuel or in the manufacture of chipboard. If the wood contains chemicals, e.g. it has been painted or pressure impregnated, it is treated separately and then destroyed to produce energy. A major initiative has been launched in the industry to reuse pallets, a form of wooden packaging, which are now sorted separately at many recycling centres.

Garden waste, such as leaves, grass clippings and fallen fruit, is processed through biological treatment. For example, it can undergo anaerobic digestion or be composted to soil that is sold at the recycling centre.
Some garden waste is sent for energy recovery.
Another garden waste treatment method that is being used in places such as Stockholm and Helsingborg is to use pyrolysis to generate biochar[49]. The method has attracted great national and international interest.

Stone, soil, brick and ceramics are turned into fill material that can be used in various forms of construction work.
Corrugated board is a large fraction and is sent for recycling into new corrugated board. One paper fibre can be recycled 7-8 times.

There are now also recycling methods for materials that were previously difficult to recycle, such as plaster and flat glass. Plasterboard is ground down into plaster powder, which is used to make new plasterboard. Flat glass is mainly recycled into insulation material or packaging.

PLASTICS PROBLEMATIC WHEN IT COMES TO RECYCLING

Glass and metal are two materials that could theoretically be recycled an infinite number of times as long as they are not contaminated. Material recycling of plastics, on the other hand, is complicated since plastic waste is a mixture of a number of different types of plastics, and the products often consist of several composite materials and additives[50].

Plastics are a very useful material that combines many good properties. But plastics can also create problems, in their manufacture, use and recycling.
Various environmental and health impacts are examples of such problems, along with littering both on land and in our oceans. The biggest problem is its fossil content, which affects the climate. Plastics that cannot be reused or recycled because they contain hazardous substances, are improperly designed or contain multiple additives and dyes are a major issue, particularly in the waste stage. But, responsibility for addressing the problem begins right from the design and production stage.

Avfall Sverige has defined positions[51] in relation to plastics for better management of the material, but also finds that the responsibility for achieving these targets lies primarily with the producers. A report shows that it is entirely possible to significantly limit the number of plastic variants used today, which would increase recycling and the value of the plastic at the next stage[52]. The Government has also called attention to the various problems that plastics can cause, and launched an inquiry, called the Plastics Inquiry, to review the possibilities for reducing the negative environmental effects of plastic. The inquiry resulted in, among other things, a national coordination node.[53]

The Swedish Environmental Protection Agency has been commissioned by the Government to run this node – National Plastics Coordination – which is a collection point with up-to-date knowledge and information that businesses, municipalities, regions, researchers and authorities need in their efforts to promote the sustainable use of plastics.

Technological development for automated sorting and material recycling is increasing steadily, as is the quality of the secondary raw material. In parallel, it is important to increase the demand for recycled material, particularly among producers, manufacturers and designers of new products.

In 2019, Svensk Plaståtervinning opened a new, modern sorting plant for plastic packaging in Motala, which has made it possible to increase the sorting of plastics. The plant has been expanded to enable the sorting of additional plastics, making it the world's largest plastic sorting plant. In 2021, Sörab and Stockholm Exergi opened Sweden's first automated pre-treatment plant for recyclable material from residual waste. The method sorts out some of the material that incorrectly ended up in the bin so that it can be recycled. However, it is important to separate at the source for cleaner material flows. Pretreatment for energy recovery is a complementary measure that aims to, among other things, reduce the amount of plastic sent for incineration.

According to data in Avfall Web, 7,390 tonnes of material for recycling were sorted out from residual waste.

49 Avfall Sverige Report 2018:14 The biochar market in Sweden
50 Report No. C245 IVL "Material recycling of plastic waste from recycling centres"
51 https://www.avfallsverige.se/om-oss/vad-vi-tycker/
52 Avfall Sverige Report 2022:23 Unity – Is it possible to replace all current plastic variants with a smaller number??
53 SOU 2018:84 It's possible if we want it bad enough. Suggestions for sustainable plastic use.

VOLUMES OF PACKAGING AND RECYCLABLE PAPER COLLECTED FROM HOUSEHOLDS AND SUBMITTED FOR MATERIAL RECYCLING 2020–2024, TONNES

	2020	2021	2022	2023	2024	2004 kg/person
Recyclable paper	168,400	148,950	127,420	110,530	91,680	8.7
Paper packaging	190,860	217,220	204,390	208,980	245,140	23.2
Metal packaging	21,750	21,860	20,990	21,130	21,880	2.1
Plastic packaging	99,600	104,870	104,780	97,530	99,850	9.4
Glass packaging	248,520	252,420	237,630	234,290	197,600	18.7
Total packaging	**560,730**	**596,370**	**567,790**	**561,930**	**564,470**	**53.3**

COLLECTED BULKY WASTE FOR MATERIAL RECYCLING 2020–2024, TONNES

	2020	2021	2022	2023	2024	2004 kg/person
Scrap metal	176,550	158,930	139,370	135,440	136,290	12.9
Plaster waste	27,330	28,830	27,960	27,270	28,030	2.6
Flat glass	2,900	4,040	4,760	4,890	5,600	0.5
Rigid plastic	14,540	14,590	10,340	13,360	15,870	1.5
Other to material recycling	44,160	29,820	31,800	29,780	21,480	2.0
Total	**265,480**	**236,210**	**214,230**	**210,740**	**207,270**	**19.6**

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2017:13 Sorting experiments with Swedish residual waste in ROAF's sorting plant
- 2019:03 Introduction to sales of waste – prerequisites and considerations for different types of materials
- 2024:18 Municipal textile collection
- 2024:25 Invisible waste
- 2024:26 Key figures for material recycling
- 2024:29 Quality assurance for kerbside collection of everyday waste
- 2025:03 Easily accessible collection points (LIP)
- 2025:05 Where will the plastic go?
- 2025:07 Action plan for reducing the amount of plastic sent to incineration

Collection and recycling of rigid plastic

It is important to increase the recycling of plastics, especially as they are largely fossil-based. Many municipalities now provide for the collection of plastics that are not packaging, referred to as rigid plastic.

According to Avfall Web, 15,870 tonnes of rigid plastic was collected for recycling in 2024, an increase of 19 percent compared to 2023.

Biological treatment

The biological treatment of food waste[54] at Swedish anaerobic digestion and composting plants amounted to 506,480 tonnes in 2024. This is an increase of 8 percent compared to 2023.

In total, co-digestion plants processed 1.9 million tonnes of waste, including food waste from households and businesses, other biological waste from slaughterhouses and the food industry, and livestock manure. Total energy production from the co-digestion plants was 1,272 GWh, of which 91 percent was vehicle gas.

TREATMENT METHODS

The main purpose of biological treatment is the circulation of nutrients in society as a means of closing the eco-cycle. Anaerobic digestion is the most common method of treating food waste in Sweden. Food waste treated in central composting facilities accounts for only two percent of food waste treatment in 2024, compared to almost 30 percent 15 years ago.

Anaerobic digestion produces biogas, which consists mainly of methane and carbon dioxide. Biogas is a renewable source of energy. After upgrading, during which the carbon dioxide and other unwanted gases are removed, biogas can be used as a vehicle fuel or to replace fossil gas in industry. It can also be used for heating or electricity generation. Anaerobic digestion also produces biofertiliser, a fertiliser with a high nutrient content.

More than 1.9 million tonnes of biofertiliser were produced in 2024. 99.9 percent of this organic fertiliser was used in agricultural land. Using biofertiliser instead of mineral fertiliser puts plant nutrients back into the eco-cycle and reduces the need for e.g. imported phosphorus. Biofertiliser is an important fertiliser for increasing organic farming in Sweden, which is a goal of the National Food Strategy for Sweden. In 2024, 36 percent of the biofertiliser produced was approved for use in organic production.

CERTIFIED RECYCLING

Plants that produce compost or biofertiliser from source-separated waste from the foodstuff and/or feedstuff chains can quality label their products through our certified recycling system.

This is a certification system developed by Avfall Sverige in consultation with the agricultural and food industries, compost and biofertiliser producers, soil producers, public authorities and researchers. LRF (Federation of Swedish Farmers), Svenska Kvarnföreningen (Swedish Flour Milling Industry Organisation), Lantmännen, Svenska Foder and KRAV are some of the organisations that approve biofertilisers based on source-separated food waste, which meets the certification requirements of SPCR 33.

Certification places demands on the entire handling chain, from incoming waste and substrate to the end product. There are also requirements related to the implementation of the process. From 1 January 2023, only approved food waste collection bags may be used for the production of certified biofertiliser. An approved collection bag is certified according to EN13432 or evaluated for contact with foodstuff according to (EC) No 1935/2004. Setting requirements for the collection bags minimises the risk of unwanted chemicals or heavy metals migrating from the bag into the food waste during transport and storage, or in the digester. The new requirement is an easy-to-understand quality measure that aims to maintain and strengthen the high level of confidence in certified biofertiliser by farmers and food companies.

More than 1.8 million tonnes of certified biofertiliser were produced in 2024 for use as agricultural fertiliser. Today, 91 percent of all biofertiliser produced in co-digestion plants is certified.

MINIMISING METHANE EMISSIONS

Avfall Sverige and Svenskt Vatten are collaborating on a self-inspection system[55] as a means of minimising methane emissions from biogas and upgrading plants – EgMet. Methane emissions should be minimised for environmental, economic, safety and other reasons. A number of plants, both co-digestion plants and wastewater treatment plants, have joined the system. These plants systematically measure emissions and actively strive to reduce them. Every three years, measurements from the plants participating in EgMet are compiled in a summary report[56] that is published on Avfall Sverige's website.

The methane issue is a highly prioritised issue, and Avfall Sverige has developed a strategy for reducing methane emissions in the waste sector. An action plan with measures for biogas plants, etc. will be developed based on this strategy. A report summarising the methane emissions work to date was also published in 2024.[57]

54 "Food waste" is used as a collective term for food and kitchen waste.
55 Self-inspection of Methane Emissions – A description of the system for inventorying and reducing methane emissions from co-digestion plants, wastewater treatment plants and biogas upgrading plants
56 https://www.avfallsverige.se/media/0oxfpggm/bu120-statistikrapport-metan_omga-ng-5.pdf
57 Avfall Sverige Report 2024:14 Knowledge synthesis on methane emissions in the waste sector

BIOLOGICAL TREATMENT OF FOOD WASTE AT CENTRAL PLANTS 2020–2024 (TONNES)

	2020	2021	2022	2023	2024
Food waste to co-digestion plants	401,490	407,090	406,090	390,870	429,070
Food waste to central composting plants	8,530	8,370	6,970	8,240	11,460
Food waste that undergoes anaerobic digestion at wastewater treatment plants	39,070	29,950	46,040	70,290	65,950
Total central plants	**449,090**	**445,410**	**459,100**	**469,400**	**506,480**

Source: Avfall Web and Svenskt Vatten (anaerobic digestion at wastewater treatment plants)

Food waste includes waste from households and household-like waste from restaurants, grocery stores, schools and similar organisations. However, it does not include waste from the food industry, slaughterhouses, etc. Food waste that undergoes anaerobic digestion at treatment plants includes food waste that travels to the sewer system via a food waste disposer.

BIOLOGICAL TREATMENT THROUGH ANAEROBIC DIGESTION, 2020–2024 TOTAL *

	2020	2021	2022	2023	2024
Volume of waste to anaerobic digestion (tonnes)	1,763,010	1,733,520	1,789,800	1,808,590	1,928,390
Volume of biofertiliser produced (tonnes)	1,823,620	1,737,160	1,818,480	1,818,490	1,998,900
Energy production (MWh)					
Vehicle gas	963,270	1,053,200	1,040,770	1,045,240	1,152,950
Electricity	5,700	2,110	3,400	5,900	9,690
Heating	48,120	58,160	49,940	50,810	48,040
Industrial use	N/A	7,500	12,510	14,260	17,950
Flaring	68,390	44,730	38,720	38,430	42,740
Other	21,810	8,870	0	290	1,110
Total (MWh)	**1,107,290**	**1,174,570**	**1,145,340**	**1,154,930**	**1,272,480**

Source: Avfall Web, Avfall Sverige.

**) These volumes relate to the co-digestion plants that reported data to Avfall Web.*
This summary does not provide a complete picture of biological treatment through anaerobic digestion in Sweden.

PLANTS THAT COMPOST FOOD WASTE 2024

Municipality	Food waste (tonnes)
Luleå	8,240
Östersund	3,220
Total	**11,460**

Avfall Sverige operates the website biogodsel.se

The website contains information on what biofertiliser is, how it is used, what effect it has, and what regulations govern its use.

CO-DIGESTION PLANTS 2024

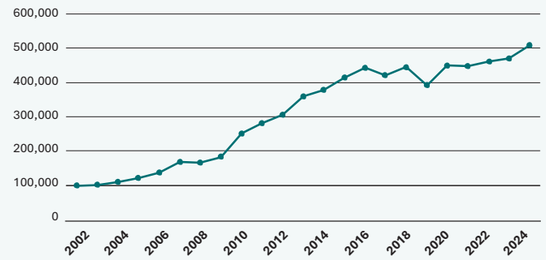
Municipality	Total (tonnes)	Of which food waste
Alvesta	78,220	3,800
Bjuv*	51,890	14,310
Borås*	25,620	16,510
Falkenberg*	79,560	32,400
Falköping	8,130	6,650
Gotland*	105,000	9,000
Gävle*	28,060	18,680
Helsingborg*	105,410	19,970
Huddinge*	79,640	40,320
Härnösand*	7,590	7,170
Jönköping*	24,940	23,500
Kalmar*	22,700	170
Kalmar*	88,300	2,870
Kalmar*	87,560	3,270
Karlshamn	9,630	8,550
Karlskoga*	50,480	22,250
Katrineholm*	64,260	0
Kristianstad*	117,810	25,310
Laholm*	38,660	7,770
Lidköping*	85,690	0
Linköping*	111,200	42,600
Mariestad	83,590	0
Skellefteå	10,790	8,860
Skövde*	48,070	0
Sotenäs*	26,700	18,710
Sävsjö*	72,990	0
Trelleborg*	68,420	0
Upplands-Bro*	61,120	41,330
Uppsala*	54,790	33,850
Vårgårda*	65,520	1,710
Västerås*	29,890	18,380
Västerås*	77,230	1,130
Örebro*	57,740	0
Total	**1,927,200**	**429,070**

Source: Avfall Web, Avfall Sverige.

Avfall Sverige's statistics include digestion plants classified as co-digestion plants, i.e. plants that treat several types of biological waste. Most co-digestion plants receive municipal waste (food waste).
More information about the plants is available on Avfall Sverige's website.

**) Plant that producers certified biofertiliser in accordance with SPCR 120*

BIOLOGICAL TREATMENT OF FOOD WASTE 2002–2024



Regards food waste treated at central plants for anaerobic digestion and composting, including anaerobic digestion at sewage treatment plants. Data from 2010 onwards has been obtained from Avfall Web; prior to that, from questionnaire surveys.

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2018:31 The food waste recycling processes of the future
- 2018:33 Knowledge synthesis on polymer in the biogas industry
- 2019:09 Measuring greenhouse emissions using both conventional and new, innovative technology at biofertiliser storage facilities
- 2019:11 Thermophilic or mesophilic digestion of food waste – which is better?
- 2019:17 The microbiological working environment for biological treatment
- 2020:17 Method for evaluating food waste pretreatment equipment
- 2020:20 Food waste pretreatment – summary of studies of twelve plants
- 2020:31 Recommendations for the measurement of microorganisms in the working environment of pretreatment and co-digestion plants
- 2021:20 Analysis parameters for biofertiliser and compost – mapping and knowledge gathering
- 2022:04 Evaluation and reduction of methane emissions from different European biogas plant concepts (EvEmBi)
- 2022:09 Microorganisms in the working environment of pretreatment and co-digestion plants – mapping and measures
- Certified recycling, SPCR 120 – Annual report
- 2022:17 Investigation of possible changes to the unit for limit values in certified recycling – SPCR 120
- 2022:20 Evaluation of the certification systems for biofertiliser and compost, SPCR 120 and SPCR 152
- 2022:24 Measures to reduce food waste in households
- 2023:29 Investigation of PFAS in biofertiliser from Swedish biogas plants
- 2023:27 Reduced methane losses during maintenance of farm biogas plants
- 2023:16 Impact of biofertiliser on soil carbon
- 2023:01 Climate impact of different waste fractions, updated 2022
- 2024:24 Hygienisation in biogas plants
- 2024:26 Key figures for material recycling

Energy recovery

In 2024, Swedish waste incineration plants received 6.6 million tonnes of waste for energy recovery. This is the same level as in 2023. 1.9 million tonnes (28 percent) is household waste from households and businesses, and 72 percent is other waste from companies and industries.

Waste is a fuel used in Swedish district heating systems. Energy recovery from waste meets the heating needs of more than 1,470,000 apartments and the electricity needs of more than 940,000 apartments. In 2024, 20 TWh of energy was recovered, of which 17.6 TWh was used for heating and 2.4 TWh for electricity. In addition, five plants reported that they delivered 0.1 TWh of district cooling.
Sweden is one of the countries in Europe that recovers the most energy per tonne of waste, approximately 3.0 MWh per tonne.

The energy recovery capacity in Sweden is greater than the domestic availability of combustible waste. In 2024, Swedish energy recovery plants therefore also treated 2.5 million tonnes of sorted waste from other European countries, 1.2 million tonnes of which was municipal waste.
This waste contributes to the fuel supply in Sweden and solves some waste management problems in exporting countries. In the EU, a total of 136 million tonnes of waste is still sent to landfill (2022)[58], 51 million tonnes of which is municipal waste (2022)[59]. This leads to methane emissions equivalent to more than 74 million tonnes of carbon dioxide[60]. To reduce the environmental impact of landfills, the EU has set a target of maximum ten percent of all municipal waste being sent to landfill by 2035. This transition to a more circular economy means that millions of tonnes of waste must be treated in other ways, including through energy recovery.

Waste sent to energy recovery often contains some fossil plastic waste. This can include materials that are unsuitable for material recycling or mis-sorted packaging that has ended up in the residual waste stream. When such waste is incinerated, fossil carbon dioxide is emitted. Avfall Sverige's ambition is to cut fossil emissions from energy recovery in half by 2030 and reduce them to almost zero by 2045. The analysis has been summarised in an action study[61] followed by an updated report published in 2024[62].
Avfall Sverige has also adopted positions on how energy recycling can become climate-neutral, "33 measures to end the incineration of fossil plastics"[63].

There are 33 incineration plants with energy recovery of municipal waste in Sweden. Kils energi, Högbytorp and Söderenergi do not accept household waste, but are members of Avfall Sverige and are included in the energy recovery statistics.

After incineration, residues remain. Slag makes up about 14 percent by weight of the amount of input waste, and flue gas treatment residues make up 4.5 percent by weight. Slag consists of materials that are not combustible or do not evaporate during combustion. Examples of such materials are glass, porcelain, iron scrap and gravel.

Once larger objects and metal residues have been sorted out for material recycling and the remaining material has been sifted and stabilised, what remains is granulated slag. This is mainly used as a construction material in landfill sites, but it would be beneficial to be able to use it instead of sand and natural gravel in road construction, for example[64]. Sand and gravel from natural deposits are a finite resource that should be reserved for particularly pressing areas of application. Avfall Sverige actively works actively with its members to ensure that granulated slag used outside of the plants will not cause harm to people or the environment.

> Flue gas treatment residues is the collective term for a fine-grain fraction that is created during the treatment of flue gas. The fraction consists of fly ash, filter cake from hose filters, and sludge from wet flue gas treatment. After they are stabilised, flue gas treatment residues are either sent to landfill or used as a neutralisation agent when refilling mines and pits. In addition, a growing number of methods are being developed to recycle resources such as metals and salts from fly ash.

58 https://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_management_indicators
59 https://ec.europa.eu/eurostat/statistics-explained/index.php/Municipal_waste_statistics#Municipal_waste_treatment
60 excl. UK and Iceland, https://www.eea.europa.eu/en/analysis/publications/annual-european-union-greenhouse-gas-inentory-2025
61 Avfall Sverige Report 2021:09 Backcasting – how Sweden can achieve fossil-free energy recovery from waste incineration
62 Avfall Sverige Report 2024:04 Backcasting – how Sweden can achieve fossil-free energy recovery from waste incineration (Updated)
63 https://www.avfallsverige.se/media/zhvhaoxq/sta-ndpunkter-energia-tervinning.pdf
64 Avfall Sverige Report 2019:14 Updated decision-making support for recycling granulated slag in specific asphalt-covered construction structures

RECYCLING METHOD

According to the EU Framework Directive on Waste and the Swedish Waste Ordinance, waste incineration with efficient energy recovery is considered a recycling method[65]. Swedish plants fulfil the energy efficiency criterion (R1 formula) by good margin[66]. Energy recovery is one of only a few treatment methods for this waste. This is particularly true during pandemics and other extraordinary events, when large volumes are generated in a short period of time and the hospitals' own treatment capacity is not sufficient.

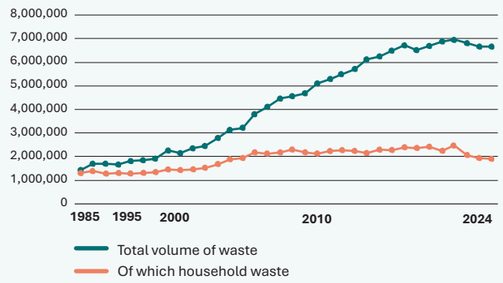
READ MORE IN AVFALL SVERIGE'S REPORTS

- 2017:06 Industry-wide agreement for quality assurance of waste fuel
- 2017:23 Right item to the right treatment. Material recycling, waste incineration and the detoxification of society
- 2017:24 Dioxin and waste incineration
- 2018:09 Fire safety during storage of waste fuel
- 2018:13 Guide for classifying incineration residues with calculation methods
- 2019:06 Waste incineration for future needs: scenario analysis and action plans
- 2019:14 Updated decision-making support for recycling granulated slag in specific asphalt-covered construction structures
- 2021:18 PFAS in waste residuals from Swedish incineration plants
- 2022:13 Socioeconomic analysis of energy recovery of waste in Sweden
- 2022:14 Development of a test method for granulated slag for hazard classification of ecotoxic properties (HP14)
- 2022:19 Pathways to less recyclable waste sent to energy recovery – broadened acceptance criteria and other initiatives
- 2023:04 Bio-credits – business models for negative emissions from energy recovery
- 2023:20 Granulated slag and dust spreading from construction work
- 2023:18 Commercial fly ash treatment methods
- 2023:24 Dioxin sampling at start/stop conditions over flue gas treatment with carbon-impregnated filling bodies
- 2024:04 Backcasting – How can Sweden achieve fossil-free energy recovery from waste incineration?
- 2024:07 Environmental permits – delimitations in reassessment
- 2024:27 Capacity study
- 2025:01 Guidance on compliance with limit values in case of disruption
- 2025:05 Where will the plastic go?
- 2025:07 Action plan for reducing the amount of plastic sent to incineration

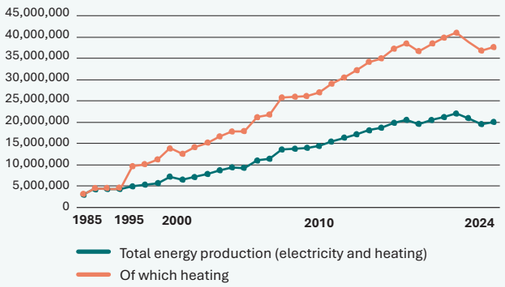
Energy recovery

– a hygienic and environmentally sound method for treating and detoxifying waste that cannot or should not be treated using any other method, such as infectious hazardous waste from the healthcare sector.

WASTE TO ENERGY RECOVERY 1985–2024 (TONNES)



ENERGY PRODUCTION FROM WASTE 1985–2024 (MWH)



65 EU Framework Directive on Waste (2008/98/EC) and the Swedish Waste Ordinance (2020:614)
66 Read more about the Energy Efficiency Criterion (R1 formula) in Annex 2 of the Swedish Waste Ordinance (2011:927)

ENERGY RECOVERY 2020–2024

	2020	2021	2022	2023	2024
Volumes (tonnes)					
Household waste	2,240,990	2,468,270	2,066,340	1,936,530	1,896,050
Business waste	4,646,980	4,510,220	4,762,840	4,719,370	4,769,330
Total	**6,887,970**	**6,978,490**	**6,829,180**	**6,655,900**	**6,665,380**
Production (MWh)					
Heating	18,607,670	18,994,400	17,920,670	17,266,310	17,648,840
Electricity	2,593,970	3,104,700	3,045,280	2,247,610	2,353,720
Total	**21,201,640**	**22,099,100**	**20,965,950**	**19,513,920**	**20,002,560**
Residual products (tonnes)					
Slag, bottom ash	1,024,510	1,027,440	1,066,930	949,710	914,820
RGR, fly ash	303,060	299,370	266,840	278,705	299,650

ENERGY RECOVERY PLANTS 2024

		PROCESSED WASTE (TONNES)		ENERGY PRODUCTION (MWH)	
Municipality	**Plant**	**Total**	**Of which household waste from Sweden**	**Heating**	**Electricity**
Avesta	Källhagsverket	54,150	11,960	146,730	0
Boden	Bodens Värmeverk	129,710	85,930	252,630	43,080
Bollnäs	Säverstaverket	62,970	35,110	144,500	27,530
Borlänge	Fjärrvärmeverket, Bäckelund	82,810	44,560	204,240	30,070
Borås	Ryaverket	110,990	20,060	276,640	45,080
Eda	Åmotsfors Energi	72,980	14,490	170,940	17,180
Eksjö	Eksjö Energi AB	44,460	18,060	126,270	14,860
Finspång	FTV Värmeverket	24,630	1,320	55,950	0
Gothenburg	Sävenäs avfallskraftvärmeverk	549,950	197,890	1,562,270	221,400
Halmstad	Kristineheds avfallsvärmeverk	164,690	57,500	465,430	39,840
Helsingborg	Filbornaverket	197,000	45,970	475,010	79,840
Hässleholm	Beleverket i Hässleholm	49,130	23,100	139,470	3,310
Jönköping	Kraftvärmeverket Torsvik	160,020	30,160	436,530	95,600
Karlskoga	Karlskoga Kraftvärmeverk	82,450	32,230	141,190	16,410
Karlstad	Avfallsvärmeverket på Heden	44,020	26,860	130,230	0
Kil	Kils Avfallsförbränningsanläggning	14,270	0	45,020	190
Kiruna	Kiruna Värmeverk	52,200	3,760	107,330	2,540
Kumla	Ekokem Förbränning	144,540	17,160	265,190	52,670
Lidköping	PC Filen	108,180	17,750	338,860	30,580
Linköping	Gärstadverket	578,150	89,860	1,408,140	253,540
Ljungby	Ljungby Energi AB	45,420	45,420	144,130	12,080
Malmö	Sysav förbränningsanläggning	569,540	146,190	1,424,920	171,030
Mora	Avfallsförbränningen Mora	*	*	*	*
Norrköping	E.ON Händelöverket	330,000	22,000	766,000	83,000
Nybro [1)]	Kraftvärmeverket Transtorp	56,700	56,690	258,450	28,300
Sigtuna	Brista kraftvärmeverk	188,160	60,850	494,510	80,180
Skövde	Värmekällan	58,400	32,000	172,580	0
Stockholm	Högdalenverket	638,510	293,110	1,655,480	204,500
Sundsvall	Korsta kraftvärmeverk	165,390	59,330	502,110	40,990
Södertälje	Söderenergi	454,010	0	1,456,110	184,800
Uddevalla	Lillesjö Avfallskraftvärmeverk	115,260	39,300	270,340	60,450
Umeå	Dåva kraftvärmeverk	153,130	88,020	371,280	44,990
Upplands-Bro	Högbytorp kraftvärmeverk	217,410	0	600,100	80,560
Uppsala	Vattenfall AB Värme Uppsala	333,910	95,430	1,118,830	17,380
Västervik	Stegeholmsverket	41,940	18,470	115,850	19,820
Västerås	Västerås Kraftvärmeverk	570,300	165,510	1,405,580	351,920
Total		**6,665,380**	**1,896,050**	**17,648,840**	**2,353,720**

Avfall Sverige's statistics mainly relate to waste incineration plants that receive household waste. Most also accept other waste. The total amount of waste also includes imported waste. Energy recovery relates to total waste, not just household waste.
1) Data is for 2023, has not reported for 2024.
**) The plant accepts household waste but has not reported data in 2023.*

Waste treatment plants with landfills

1.9 million tonnes of waste were sent to landfill in 2024[67].
Only 1.5 percent, 28,150 tonnes, of this was household waste.

Landfilling is the disposal of waste by placing it in a landfill. Landfilling is the treatment method used for waste that cannot or should not be treated in any other way, such as asbestos and certain types of contaminated excavated materials. Internationally, landfilling is still the dominant method of dealing with waste, but Sweden has been reducing its use of landfilling in favour of other treatment methods since the early 1990s. In Sweden, landfilling of combustible and organic waste is prohibited, and we also pay taxes on the waste that goes to landfill.

Swedish landfills are often located on or adjacent to larger waste treatment plants, where landfilling is often a small part of the operation. Other handling, such as sorting, processing and some treatment of the waste, often takes place at the same plant, with the aim of using resources in the best possible way according to the waste hierarchy. The plants are often intermediate storage facilities for combustible residual waste and for waste that will be sent for material recycling, such as metal, cardboard and glass. The plants often treat biodegradable waste and contaminated excavated material.

When a landfill is full and its capacity exhausted, it must be closed and capped with materials and an impermeable layer to prevent rainwater from entering and becoming contaminated by the waste. Today, materials such as slag, sludge, ash and excavated materials are used in various layers in the final capping systems. Stricter legal requirements were introduced in 2008, so many landfills in Sweden are now being shut down and capped through 2030.

In 2024, the Landfill Directive (1999/31/EC) was revised, making it possible to draw up a reference document for best available techniques (BREF) and associated BAT conclusions for landfills under the Industrial Emissions Directive. This process started in 2024 and will continue for a number of years to come.

LANDFILL GAS

Landfill gas is produced at a landfill where organic waste has been deposited[68]. The gas consists of about 50 percent methane, with the rest consisting of carbon dioxide, nitrogen and small amounts of other gases. Since landfill gas contains methane, it needs to be collected and treated to reduce its environmental impact. The collected gas can be used to generate heat and electricity. Landfill gas can also be flared in a landfill gas flare. With flaring, the energy is not captured, but methane emissions are reduced as the gas is combusted and converted to carbon dioxide. The flaring of landfill gas is necessary when it is not possible to remove it or to use it in some other way.

Since the ban on organic waste going to landfill was introduced, the formation of gas at landfill sites has progressively decreased. In 2024, 103.6 GWh of landfill gas was collected at 48 waste treatment plants, of which 67.8 GWh was used for energy.

Energy recovery from collected landfill gas consisted of 1.3 GWh of electricity and 66.5 GWh of heat. Gas equivalent to 35.8 GWh was flared.

LEACHATE

A modern landfill is constructed with a bottom barrier layer to ensure that any leachate generated can be collected and prevented from spreading to the environment. Leachate is defined as water which has been in contact with the landfill material and is discharged from or is retained in a landfill.

In 2024, 9.3 million cubic metres of leachate was processed at 91 waste treatment plants. This includes contaminated surface water from operational areas in cases where all of the water is handled in the same treatment process.

63 of the plants with leachate management are still landfilling waste, while the rest have been capped or are in the process of being capped. 64 percent of the plants report that the leachate is treated locally before being discharged to a nearby recipient. The remaining plants report that leachate is diverted to municipal wastewater treatment plants after various degrees of local treatment.

67 A total of 110 plants are represented in Avfall Web. 64 of these landfill waste, of which 47 landfill household waste.
The total volume of waste sent to landfill at individual plants can vary significantly from year to year due to a varying need to send ash and contaminated excavated material to landfill.
68 Avfall Sverige Report D2013:02 Landfill gas handbook

READ MORE IN AVFALL SVERIGE'S REPORTS

- 2015:13 Decision-making support for handling landfill emissions during capping
- 2016:11 Aerated ponds
- 2016:32 When is active management of landfill gas no longer necessary?
- 2017:28 Characterisation of surface water from different types of activities and waste
- 2017:34 Application of the law on tax on waste
- 2017:36 Handbook for assessing leachate and contaminated surface water at waste treatment plants
- 2018:09 Fire safety during storage of waste fuel
- 2018:21 Microplastics in treated leachate
- 2018:25 PFAS at waste treatment plants
- 2019:01 Updated assessment criteria for contaminated excavated material
- 2019:13 Guide on BAT conclusions for waste treatment (WT-BREF)
- 2019:26 Analysis of socio-economic consequences of landfill tax in Sweden
- 2020:11 Surface emissions of landfill gas
- 2020:14 Treatment of leachate with sulphate-reducing bacteria
- 2020:26 Treatment methods for contaminated surplus material
- 2021:02 Treatment of PFAS-contaminated water from waste treatment plants
- 2021:05 Evaluation of PFAS purification effect in two full-scale plants
- 2021:06 Avfall Sverige's landfill handbook 3.0 Revised landfill handbook – part of the waste management of tomorrow
- 2021:07 General briefing on BREF documents and BAT conclusions for the waste industry
- 2021:15 Handling and landfilling of soils with invasive species – Asian knotweed
- 2022:10 Future utilisation of landfill sites
- 2022:18 Surface active foam fractionation – SAFF, for leachate treatment – a full-scale trial
- 2023:05 Filter-based treatment techniques for stormwater from waste treatment plants and recycling centres
- 2023:09 Purification of PFAS-contaminated leachate through an ion exchange process; pilot regeneration trial
- 2023:15 Waste fires, emissions and risks
- 2023:25 Treatment of excavated materials contaminated with PFAS before landfilling or reuse
- 2024:08 Reduced landfilling of insulation

LANDFILLED QUANTITIES 2020–2024 (TONNES)

	2020	2021	2022	2023	2024
Volume sent to landfill	2,782,750	2,738,060	2,841,350	1,463,250	1,915,500
of which household waste	42,500	44,220	34,100	30,720	28,150

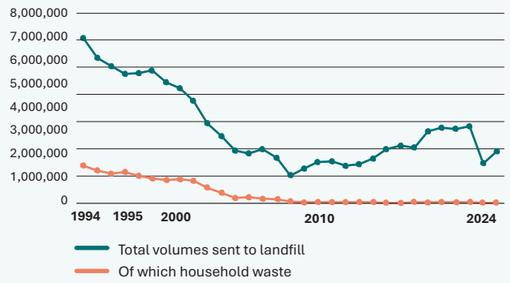
Avfall Sverige's landfill statistics do not provide a complete picture of landfill in Sweden. Initially, the idea was to keep statistics of plants that accepted household waste. Today, many of these plants no longer accept household waste.
There is some uncertainty about the figures for household waste, as it is not always possible to distinguish flows of household waste from other waste.

ENERGY RECOVERY AT LANDFILL SITES 2020–2024 (MWh)

	2020	2021	2022	2023	2024
Useful energy	82,750	80,020	75,630	59,770	67,770
of which electrical energy*	3,180	3,350	3,160	1,790	1,300
Flaring	53,050	70,380	54,140	50,139	35,830

** Other energy is used for heating*

LANDFILLED QUANTITIES 1994–2024 (TONNES)



The difference compared with previous years may be partly due to three plants that previously reported approximately 1 million tonnes not reporting data for 2023 and 2024.

1.9
MILLION
TONNES OF WASTE SENT TO LANDFILL IN 2024

PLANTS THAT SEND HOUSEHOLD WASTE TO LANDFILL 2024

		WASTE SENT TO LANDFILL (TONNES)		
Municipality	**Plant**	**Total**	**Of which municipal waste**	**Recovered energy, MWh**
Alingsås	Bälinge	880	470	730
Arvika	Mosseberg Deponi	2,390	600	250
Borlänge	Fågelmyra Avfallsanläggning	12,570	1,280	60
Borås	Sobackens Deponi	88,880	150	210
Dorotea	Bergvattnet	110	110	0
Eda	Lunden	260	140	0
Eslöv	Rönneholms avfallsanläggning	1,670	320	160
Finspång	Sjömansäng	540	480	0
Gotland	Slite avfallsanläggning	370	30	430
Grums	Karlbergs avfallsstation	250	250	0
Gothenburg	Tagene avfallsanläggning	187,830	6,070	0
Hagfors	Holkesmossen avfallsanläggning	3,290	1,460	0
Halmstad	Skedala AFA (Brogård)	2,780	360	0
Helsingborg	NSR Deponianläggning	5,450	360	0
Härnösand	Älands avfallsanläggning	20,480	240	1,490
Hässleholm	Vankiva Aktiva deponier	154,700	140	0
Jönköping	Miljöhantering i Jönköping	31,780	790	0
Kalmar	Moskogens avfallsanläggning	31,270	130	0
Karlskoga	Mosseruds Återvinningsanläggning	3,910	1,610	70
Karlskrona	Mältans avfallsanläggning	5,040	720	530
Karlstad	Avfallsupplag Djupdalen	12,540	1,650	0
Kil	Lersätters avfallshanteringsområde	18,090	210	0
Kiruna	Kiruna deponi	1,590	110	0
Klippan	Hyllstofta avfallsanläggning	1,240	50	870
Kramfors	Högbergets avfallsanläggning	8,240	430	0
Laholm	Ahla deponi och återvinningscentral	1,990	310	0
Lidköping	Kartåsens avfallsanläggning	33,050	240	0
Linköping	Gärstad avfallsanläggning	17,120	1,100	0
Ljungby	Bredemads avfallsanläggning	1,970	650	0
Lycksele	Lycksele Deponi	250	160	0
Malmö	Spillepengs avfallsanläggning	18,620	250	6,580
Motala	Tuddarps avfallsanläggning	2,760	440	0
Orust	Månsemyrs deponi i drift	450	210	0
Oskarshamn	Storskogens avfallsanläggning	1,000	200	0
Skellefteå	Degermyran	4,550	570	0
Sunne	Holmby Avfallsanläggning	1,700	360	340
Söderhamn	Långtå avfallsanläggning	3,670	60	0
Uppsala	Hovgårdens avfallsanläggning	6,560	80	0
Vallentuna	Löt avfallsanläggning	168,450	40	0
Vetlanda	Flishults avfallsanläggning	111,960	550	0
Vänersborg	Ragn-Sells Heljestorp	147,790	1,070	7,750
Västervik	Målserums avfallsanläggning	830	120	0
Växjö	Häringetorp behandlingsanläggning	76,690	1,020	650
Ystad	Hedeskoga avfallsanläggning	10,920	1,160	1,820
Älmhult	Äskya	2,130	50	90
Örebro	Atleverket	25,810	720	3,890
Östersund	Gräfsåsens deponi	6,750	630	0
Total		**1,241,170**	**28,150**	**25,920**

Charges, costs and instruments of control

Municipalities and producers handle the management of municipal waste.
The cost to municipalities is recouped through waste charges, which are set by the municipal council. Producers' costs are recouped through a charge on the product. The producers determine what this charge should be themselves.

As a rule, the municipality's waste charges cover the total cost of municipal waste management, but any deficits that occur may be funded through taxation. Administration, such as waste planning, customer service, invoicing and information are included in the costs. In addition, the charge must cover the cost of services at recycling centres, such as the collection of bulky waste and hazardous household waste.

The charge is often divided into a basic charge and a variable charge. The basic charge is intended to cover the above costs. The variable charge is intended to cover fees such as collection and treatment charges. According to the prime cost principle in the Local Government Act, the municipalities' revenue from the waste charges may not exceed their costs for waste management.

AVERAGE CHARGE

According to data from Avfall Sverige's statistics system Avfall Web, a household in a detached house paid an average of SEK 3,013 in waste charges in 2025[69]. This is an increase of 10 percent compared to 2023. Households in apartment blocks paid an average of SEK 1,930, and the average charge for second homes was SEK 1,880 in 2025. The increase for apartments and second homes is 15 and 10 percent, respectively, compared to 2023. On average, the basic charge makes up 47 percent of the total charges for detached houses. The cost of waste management is, on average, SEK 6.80 per day for households in detached houses and apartment blocks.

On average, the municipalities' total cost for waste management in 2024 was SEK 1,437 per person, excluding VAT. This is an increase of 20 percent since 2023. The municipal cost for the collection of food and residual waste averaged SEK 436 per person, and the cost of treatment averaged SEK 153 per person. The basic cost averaged SEK 568 per person.

INSTRUMENTS OF CONTROL

There are many different instruments available to reduce the environmental impact of waste management, improve resource efficiency and increase recovery. These can be information or administrative and financial instruments. Administrative instruments include regulations and bans, such as bans on landfilling organic waste and compulsory food waste collection.

Properly formulated financial instruments can either be a carrot, like tax relief and subsidies, or a stick, like taxes and charges.
One basic principle is that the polluter should pay.

Many municipalities have used the waste tax as an incentive to separate food waste by charging a lower fee for food waste compared to mixed combustible residual waste.
As of 2024, it is mandatory for all households and businesses to separate food waste, so this type of environmental governance is no longer applied.

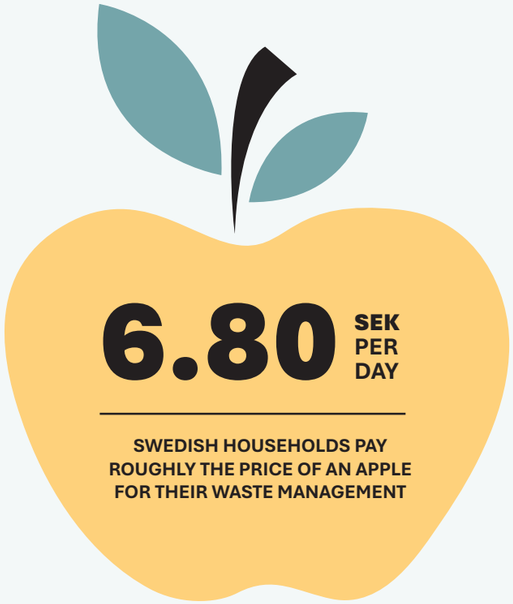
To achieve a higher material recycling rate for waste, several municipalities have introduced a weight-based charge, where households pay an additional rate per kg of waste collected on top of the basic charge.
In such case, collection vehicles are equipped with a scale and equipment to identify each individual bin. The total annual cost for weight-based charges varies depending on the quantity of waste left for collection. The charge varies between SEK 1.87 and SEK 6.50 per kg for residual waste and between SEK 0 and SEK 4.55 for a food waste bin, combined with various types of bin charges and the fixed basic charge. 33 of the country's municipalities have a weight-based charge in 2025. Some municipalities with food waste collection have lower weight charges for the food waste bin; in some municipalities it is free.

TREATMENT CHARGES

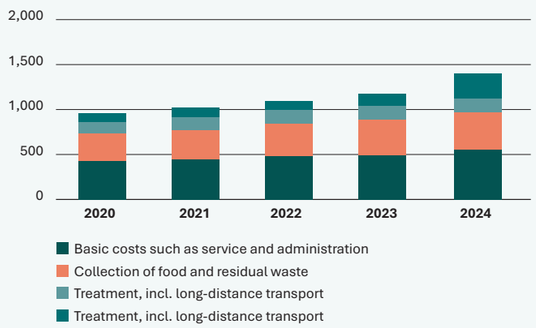
Municipalities often pay a charge to get their waste treated. Treatment charges can vary greatly. The charge for energy recovery from residual waste was SEK 804 in 2024, a decrease of four percent compared to 2023.
The charge for anaerobic digestion of food waste increased by two percent (from SEK 450 to SEK 461) in 2024, and the charge for landfilling increased by five percent.

Tax on waste sent to landfill was introduced in 2000 as an incentive for reducing landfilling. The tax was initially SEK 250 per tonne, but has since been raised at various intervals. In 2025, the tax is SEK 744 per tonne.
In 2025, Avfall Sverige will conduct a new study of the landfill tax. A revised version of a previous Avfall Sverige report[70] will be published in 2025.

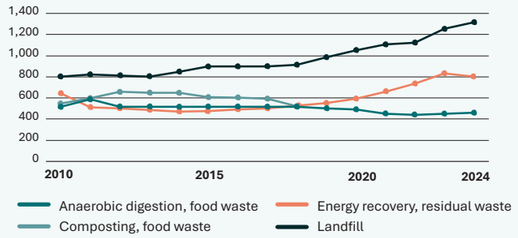
69 In 2025, Avfall Sverige changed the method for collecting waste charges so that data is taken for the current year, i.e. 2025. As a result, there is no data for 2024.
70 2019:26 Analysis of socio-economic consequences of landfill tax in Sweden



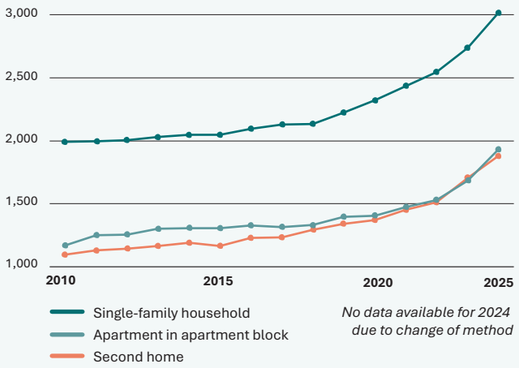
WASTE MANAGEMENT COSTS, SEK PER PERSON EXCL. VAT, 2020–2024



TREATMENT CHARGES EXCL. VAT 2010–2024, SEK/TONNE



AVERAGE WASTE CHARGES PER HOUSEHOLD SEK, INCL. VAT, 2010–2025



READ MORE IN AVFALL SVERIGE'S REPORTS

- 2020:28 Eco-based waste charges – use, effect and good examples
- 2022:15 Guidance for structuring waste charges

TREATMENT CHARGES FOR MUNICIPAL WASTE, SEK PER TONNE, EXCL. VAT 2024

		Interval
Anaerobic digestion, food waste	460	120-870
Energy recovery, residual waste	800	510-1100
Landfill	1,320	820-1890

The treatment charge refers to the median in Avfall Web.
The interval shows the normal distribution of waste treatment charges.

Total volume of waste generated in Sweden

Data on all waste in Sweden can be found in the official statistics reported to the EU through the Swedish Environmental Protection Agency. According to the EU's Waste Statistics Directive, Member States must report the statistics every two years.

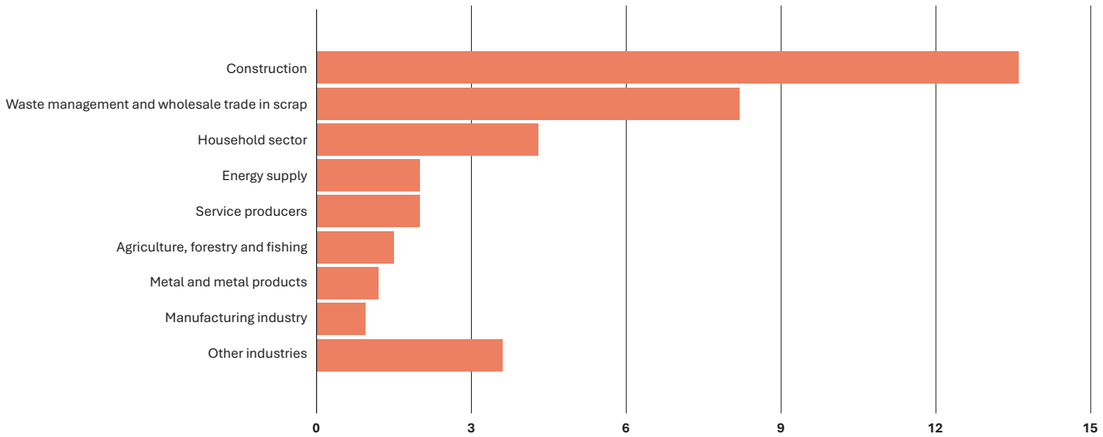
The latest statistics relate to waste volumes for 2022[71].
At that time, 164 million tonnes of waste were generated in Sweden, of which 7.2 million tonnes were hazardous waste. The majority of the waste generated, 86 percent or 141 million tonnes, consisted of mineral waste from the mining industry. 22.6 million tonnes were generated in other industries and households.

Businesses are responsible for managing their own non-municipal waste. Some businesses have their own landfill sites at their disposal or can recover energy from waste in their own plants. Construction and demolition waste is waste from construction, renovation, rebuilding or demolition of buildings, or from more extensive construction work in gardens.

The municipality is not responsible for collecting or handling such waste when it comes from businesses.
The largest volume of waste was generated in the construction sector, 13.6 million tonnes. Construction and demolition waste is therefore a priority area in the national waste plan and in the waste prevention programme.

However, construction and demolition waste generated in non-professional activities, for example when a private individual performs DIY renovations at home, is included in the municipality's collection and treatment responsibility since January 2023. Some construction and demolition waste is classified as hazardous waste, for example asbestos and impregnated timber, and must be handled accordingly.

TOTAL WASTE GENERATED IN SWEDEN, EXCLUDING MINING WASTE, 2022, MILLIONS OF TONNES



71 Report "Waste in Sweden 2022"

2024 in brief

AVFALL SVERIGE

- Preparations for the municipal takeover of packaging collection were made in 2023 and continued in 2024 with webinars, guides and guidelines. Many municipalities used the "Recycled by YOU!" campaign material. A hub for the nearest recycling station was launched on sopor.nu and work continues to include recycling centres.
- During the year, preparations were made for the Government's requirement for separate collection and recycling of textile waste from 1 January 2025. Avfall Sverige's Administrative Office held webinars and drew up guidelines and communication support. Interest in textile sorting took on unprecedented proportions, both in the media and among the general public. The focus in 2025 will be on deciding how to organise producer responsibility and how to handle directly imported textiles, which are often of low quality and harmful to health.
- Materials were drawn up in preparation of the requirement of separate collection of fishing gear from 1 January 2025.
- In 2023, Sida decided to support Avfall Sverige and the Swedish Association of Local Authorities and Regions (through Salar International) to improve waste management in Ukraine. In 2024, the project was formed, pilot municipalities were designated in both Sweden and Ukraine, and a network was established in Sweden. The project was launched at an event in Kiev on 11 October. The project was also given a name, Waste Management for Ukraine – WM4U.
- In an open letter to the Minister for Climate and the Environment, Romina Pourmokhtari, Avfall Sverige submitted the 16,000 signatures collected in the petition against non-recyclable plastic.
- The annual meeting in Malmö attracted over 700 participants and 47 exhibitors.
- The autumn meeting gathered more than 450 participants and 33 exhibitors in Linköping, focusing on the theme "Quality in waste management".
- In partnership with ISWA and the support of CEWEP and the Swedish Energy Agency, Avfall Sverige hosted the 2024 Beacon WtE Conference. Avfall Sverige also hosted the Nordic Biogas Conference, in partnership with a number of other actors in the industry.
- Avfall Sverige launched a strategy for minimising methane emissions from the waste sector.
- Avfall Sverige participated in Almedalen on fossil-free waste management, municipal companies and competition, PFAS and the circular economy.
- Along with a number of other actors, Avfall Sverige signed Fossil Free Sweden's "Strategy for biogenic carbon capture".
- In 2024, Avfall Sverige's Administrative Office worked with members to review and update Avfall Sverige's core values. A decision was made in 2025 and it was presented at the 2025 Annual General Meeting.
- Nitrous oxide canisters are a growing problem, especially for energy recovery plants, where they cause damage, but also due to costly handling during collection and recycling. Avfall Sverige published, among other things, a guide for handling these at recycling centres.
- A new network for biochar was launched.
- The Avfall Sverige Board decided on a new goal – the 30/30 goal. The aim is to reduce residual waste by 30 percent (compared to 2023) by the year 2030.
- Avfall Sverige received ISO 14001 environmental certification. The organisation had previously received ISO 9001 quality certification.
- Avfall Sverige's MD Tony Clark was ranked 42nd out of the 101 people on Aktuell Hållbarhet's 2024 list of people who have achieved the most in terms of increased sustainability benefits, in relation to the formal power they have.
- Four new staff members were hired. Minna Gillberg, was hired as advisory consultant for social policy/EU. In international collaboration, mainly Ukraine, Andrik Mols was hired as project manager, Hedvig Peterson as coordinator and Håkan Gustafsson as donor coordinator (part-time). Weine Wiqvist has been working part-time as senior advisory consultant for international collaboration.

SWEDEN

- On 1 January 2024, responsibility for collecting packaging waste was transferred from producers to municipalities. At the same time, the separation of biowaste, including food waste, became mandatory in the municipalities. On the same date, requirements were also introduced to separate packaging from its contents (with the exception of packaging containing pharmaceuticals and hazardous waste).
- The tax on plastic bags was abolished on 1 November.
- The tax exemption for biogas was reintroduced on 13 December.
- The Swedish Environmental Protection Agency presented a new national waste plan, “Waste in a circular society”, and the waste prevention programme “A circular Sweden thinks ahead!”. The plan and programme contain around 500 proposed measures to accelerate the transition to a sustainable circular economy and reduce waste volumes.
- The Government presented an inquiry proposing changes to waste legislation to increase the material recycling of municipal waste.
- In 2024, the waste industry prepared to meet the requirements of the EU’s Corporate Sustainability Reporting Directive (CSRD). This will require larger companies to report on their sustainability performance, aiming to increase transparency and promote sustainability initiatives in the sector.
- The Swedish Energy Agency designed a support system for bio-CCS that was approved in 2024. The support is distributed through a reverse auction and the winning operator or operators can use the support for investment and operating costs in Swedish bio-CCS projects. Several of Avfall Sverige’s plants are planning to build CCS/CCUS plants.
- Industrins Biogaskommission, in which Avfall Sverige is a member, launched its activities by compiling a knowledge base and drawing up reform proposals to secure industry’s access to biogas.
- Sweden’s most extensive environmental trial to date was launched. 11 people, most of whom are linked to Think Pink, are suspected of serious environmental offences. 21 affected sites have been identified, where the business dumped waste.
- Sweden was declared free of swine fever, which affected central Sweden in 2023.

EU AND GLOBAL

- The EU Ecodesign for Sustainable Products Regulation, which contains a wide range of rules to make sustainability the norm, entered into force.
- In May, a new regulation on waste transports entered into force, aiming to ensure that waste is only exported to countries where it can be treated in an environmentally acceptable way, and to strengthen the supervision of and support the EU’s transition to a circular economy.
- In July, the EU directive on the right to repair for consumers entered into force.
- The EU’s revision of the Industrial Emissions Directive (IED) and the Landfill of Waste Directive entered into force. These amendments aim to reduce the environmental impact of industrial processes and improve the management of landfills, for example by enabling the development of BAT conclusions for landfills.
- As part of the EU’s aim to harmonise Member States’ waste collection systems, the EU’s Joint Research Centre (JRC) is working to “investigate” different existing labelling systems. The Nordic system has been used as a proposal in the process. JRC’s report with recommendations to the European Commission is expected in spring 2025, with final proposals for a harmonised collection system.
- At the final of the Europe Week for Waste Reduction (EWWR), Sysav’s contribution was recognised as the winner.

The waste agenda

2035 Maximum 10 percent of municipal waste may go to landfill.
The EU countries that sent 60 percent or more of their municipal waste to landfill in 2013 have been granted a five-year extension.

Preparation for reuse and recycling of municipal waste shall be at least 65 percent by weight.

2030 Preparation for reuse and recycling of municipal waste shall be at least 60 percent by weight.

2029 For all packaging waste, the target is to achieve a material recycling rate of at least 65 percent per year by 2029 and at least 70 percent thereafter.

2027 Municipalities shall have introduced kerbside collection of packaging from households and co-located businesses

2026 The municipalities are responsible for collecting packaging waste in squares and parks where the municipality has waste management responsibility.
Plastic packaging waste shall also be collected at other popular locations where significant volumes of such waste are generated and where the municipality has waste management responsibility.

The largest producer organisations shall organise collection sites for packaging waste from businesses (at least one site per municipality).

2025 Preparation for reuse and material recycling of municipal waste shall be at least 55 percent by weight.

From 1 January, separate sorting and collection of textile waste will be mandatory. Producer responsibility for fishing gear was introduced on 1 January. This includes a requirement for separate sorting.

The municipality is responsible for collecting plastic fishing gear that is municipal waste at the recycling centre, for example, and for collecting fishing gear from ships at port-based collection facilities.
The municipality will be compensated for collection in accordance with regulations from the Swedish Environmental Protection Agency.

About Avfall Sverige

Avfall Sverige is the municipalities' trade association in the field of waste management and recycling. It is our members who ensure that waste is collected and recycled in all Swedish municipalities. We promote sustainable and innovative waste management where we collaborate with others based on our social responsibility.

Our vision is a future without waste. That is why we influence, develop and collaborate for a future where waste is prevented, recycled and seen as a resource.

There are two categories of members at Avfall Sverige:

- Municipalities, municipal enterprises, municipal associations, etc. whose work is based on public duties and tasks. These members have the right to vote at annual meetings and make decisions on Avfall Sverige's statutes and policies, etc.
- Associate members are private sector stakeholders, including consultants and suppliers of services and equipment.

ANNUAL MEETING AND THE BOARD

Avfall Sverige's highest decision-making body is the annual meeting, which makes decisions regarding bylaws, policies, budget framework, the Board and the Nominating Committee. In policy matters, Avfall Sverige's opinions and positions are established by the Board after being prepared by working groups, the Development Committee and the Administrative Office. Avfall Sverige's Board consists of 18 directors, of whom ten are elected representatives and eight are civil servants. All directors have term of office lasting two years. The annual meeting adopted revised bylaws in 2022.

NOMINATING COMMITTEE

The Nominating Committee consists of seven members, of whom four are elected representatives and three are civil servants. The principal auditor and one alternate auditor are elected to serve for a period of one year at the annual meeting.

AVFALL SVERIGE'S WORKING GROUPS

Avfall Sverige's broad area of operation is reflected in the eight working groups, in which representatives of its members (primarily municipalities) participate. The Administrative Office's advisory consultants, who are specialists in different areas, participate in the relevant group. Within the working groups, there are 19 different operational groups, where members work with issues related to specific operational areas. No less than 200 member representatives are involved in at least one working group or one of its operational groups. Working groups are an important link between the members and the Administrative Office, as well as member-to-member.

ADVISORY SERVICES

Members can make use of Avfall Sverige's specialist expertise via Avfall Sverige's reports, guides, handbooks and training courses or by contacting the Administrative Office directly. The advisory services are highly appreciated, with advice provided by phone and email, through guides and handbooks, and in the form of contract and procurement templates and standard agreements.

Digital "live member advice" is a valued support, as it enables urgent information to quickly be made available to all members. Avfall Sverige often acts as intermediary between members and others who can contribute more knowledge and experience on various issues.

MEMBERSHIP DEVELOPMENT IN 2024

In 2024, Avfall Sverige had 213 municipal members, representing all of Sweden's 290 municipalities, directly or indirectly through their regional companies and municipal associations. There were also 151 associate members.

NATIONAL AND INTERNATIONAL COLLABORATIONS AND NETWORKS

Avfall Sverige collaborates extensively with other organisations in Sweden and abroad. External collaboration benefits Swedish waste management and the members of the association.

Examples of organisations we work with:

- Swedish Association of Local Authorities and Regions (SKR)
- Swedish Society for Nature Conservation
- Swedenergy
- Swedish Gas Association
- Svenskt Vatten
- Keep Sweden Tidy

Examples of international collaboration:

- MWE (Municipal Waste Europe), which represents the interests of municipalities and municipal enterprises in the EU.
- CEWEP (Confederation of European Waste-to-Energy Plants), which represents the interests of stakeholders in the energy recovery sector.
- ECN (European Compost Network), which works with issues related to biological treatment at the EU level.
- ISWA (International Solid Waste Association), the global waste organisation
- UNDP (United Nations Development Programme), collaboration with Avfall Sverige on improving waste management globally.

Avfall Sverige's advisory consultants contribute their particular expertise in each organisation.

ENVIRONMENTALLY AND QUALITY-CERTIFIED OPERATIONS

All of Avfall Sverige's operations have been quality certified according to ISO 9001:2015 since 2018 and environmentally certified according to ISO 14001:2015 since 2024. Environmental and quality work is an important part of our operations.

DEVELOPMENT OF THE INDUSTRY THROUGH TRAINING INITIATIVES

Avfall Sverige has an extensive training programme designed to increase the level of knowledge and competence in the industry. It consists of courses, theme days and contracted courses. The focus of the training programme is anchored in the working groups and responds to the needs of members and the industry alike. 30 training activities were held in 2024, 8 of which were organised digitally.

COMMUNICATION AND EXTERNAL MONITORING

Avfall Sverige carries out broad external monitoring of environmental and climate issues related to waste management, as well as of purely factual issues related to waste. In addition to using this in the Administrative Office's own lobbying work, we disseminate this knowledge to members, primarily via Avfall Sverige's website, newsletter and magazine.

NATIONAL LOBBYING AND DIALOGUE WITH DECISION-MAKERS

Avfall Sverige is an active participant in government inquiries and when new legislative proposals are drafted. At meetings with the Government Offices of Sweden, MPs, government officials and government agencies, Avfall Sverige is often represented by the Managing Director and various advisory consultants. Board representatives and members also participate at times. Avfall Sverige also participates actively in lobbying through opinion pieces and replies, either independently or with other actors.

CONSULTATIVE RESPONSES

As a representative of the municipalities and their waste management, Avfall Sverige plays an important role as consultative body and actively contributes opinions ahead of political decisions through its official consultative responses. The organisation therefore has ongoing contact with the Parliament and Government, as well as with a number of authorities in issues related to waste management. In addition to consultative responses, Avfall Sverige provides opinions on issues affecting the industry.

FUNDING

Avfall Sverige's activities are mainly budget-based and they follow the mission statement that is approved through the general budget at the annual meeting and through the detailed budget by Avfall Sverige's Board. Revenues are made up, in basically equal proportions, of membership dues and fees on the one hand and income from commercial activities such as courses, conferences, consulting assignments, publications, etc., on the other. All members pay membership dues and a service fee. Dues and service fees for municipal members (municipalities, municipal enterprises and similar) are based on the size of the population. For associate members, the fee is a fixed charge at three levels, depending on the size of the company.

AVFALL SVERIGE'S DEVELOPMENT INITIATIVE

Avfall Sverige champions issues and runs projects in accordance with the waste hierarchy and with the aim of achieving better waste management in society. The organisation invests significant resources in projects intended to move the industry forward.
Avfall Sverige's development initiative began in 1998. Since then, approximately 600 development projects with a total cost of approximately SEK 155 million have been approved. Together with its members, Avfall Sverige has successfully developed the waste industry since that time through relevant, accessible and useful projects. The projects are based on member involvement, including through questions brought up in the working groups, which gives them a firm footing within the association. They are also relevant to the majority of Avfall Sverige's members.

DEVELOPMENT COMMITTEE

Avfall Sverige's Board appoints the Development Committee, which consists of the chairs of the eight working groups, an additional representative from the municipalities, and the Managing Director of Avfall Sverige. With input from the working groups, the Committee decides which projects should be granted funding and how the funds should be allocated.

OTHER DEVELOPMENT INITIATIVES

Three of the working groups have their own development initiatives, which they fund and decide on themselves. These are the working groups on energy recovery, biological treatment and waste treatment plants.

REPORTS

The results of the development initiatives are primarily presented as reports on the Avfall Sverige website. Avfall Sverige publishes around 30 reports each year. The reports are distributed digitally via the website, at no extra cost to members. Isolated reports and handbooks are published in printed format. A short presentation with the report's various results and conclusions can be downloaded from the website.

Here, in Swedish Waste Management, you will find references to a selection of reports, listed under "Read more" in most chapters. You can also find additional reports in various areas on our website by filtering the reports by topic.

AWARD OF SCHOLARSHIPS

Avfall Sverige has been awarding scholarships within the waste management field every year since 2005. The scholarships are awarded for the most deserving papers and degree projects at the undergraduate level at Swedish universities. The Development Committee decides who will be awarded a scholarship.

SUPPORT SYSTEMS

Avfall Sverige provides various support systems for its members, including Avfall Web, the Waste Index, the Waste Hub, Certified recycling of biofertiliser and compost, and Self-inspection of methane emissions.

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Avfall Sverige (Swedish Waste Management Association) has been the municipalities' trade association in the field of waste management and recycling since 1947

It is our members who ensure that waste is collected and recycled in all Swedish municipalities. We promote sustainable and innovative waste management, where we collaborate with others based on our social responsibility.

AVFALL SVERIGE

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