

El-Kretsen 

# 2024 SUSTAINABILITY REPORT

## About El-Kretsen

A Message from the CEO	4
2024 in Brief	5
Our Operations	7
The EU Green Deal	9
Theme: Batteries	13
A Product's Journey at El-Kretsen	18

## Focus and Results

Climate Impact	20
Pollutions	22
Resources and a Circular Economy	23
Communication with Stakeholders	29

# About El-Kretsen

## A message from the CEO

### From political goals to smart business plans

The Sustainability Report for 2024 is not just about figures and statistics – it also relates to people, ideas and the kind of collaborations that make a difference. We know that this kind of change doesn't happen all by itself, which makes us proud to be part of a system working to bring about a more sustainable world. We want this report to give you an honest, inspiring picture of what we have achieved in the past year.

Our work largely revolves around practical, operational effort: collecting, sorting and recycling. The results can be measured in different ways. One is our contribution of 100,000 tonnes of recycled materials. Other contributions are educational materials, teacher's handbooks and our presence on social media. Here, our aim is to motivate and help bring up the next generation to think in circular terms from the very beginning.

Finally, I want to mention the concept of *resource efficiency* – or maybe simply *smart recycling*. This is making the best possible choices based on current conditions: maybe the greatest gain is not made by recycling complex electronics in their entirety. One example of this is when the metals on a circuit board are melted down using the energy released by the plastic mounting plate. In this case, we get the greatest environmental gain through energy recovery of the plastic and material recovery of the metals. I'm convinced that being a process-oriented organisation with a holistic approach lets us create a system that can show others the way, too.

The choices we make as a producer responsibility organisation are often based on political decisions. In 2024, we headed into the world of politics to explain what we do, what we stand for and what ideas we think have the greatest future potential. However, we are affected by trends as well as politics.

Three current examples of trends that are changing our society are: 1) The ever-growing number of battery-operated products that come with new risks, such as more fires in homes and at collection points. 2) Electronics and batteries imported from unethical producers (via e-commerce platforms, for example) often contain fewer recyclable materials and also distort competition when such producers shun their producer responsibility. 3) We also know it will take more than a few years before most critical raw materials can be recycled on market terms. However, we can come up with constructive solutions for all three problems.

Ei-Kretsen should be an enabler in the transition. Our customers — the producers — as well as we as an organisation, need not only clear and positive results from what we do today. We also need a close dialogue about how the resources of the future can most intelligently move from one product life to another.

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Fredrik Benson, CEO



# 2024 in Brief

Organisations can have several different target groups, all with their individual perspectives of and approaches to the company. This is definitely the case for El-Kretsen – and it means that depending on who we ask, we will get different answers to questions like "What does El-Kretsen do?", "Who do we serve?" and "What should we focus our efforts on?" Even if our list of stakeholders is long, we can still discern four main subject areas (if not actual target groups). The first one is the producers. It was to serve them that our organisation was initially created in 2001. Apart from engaging with El-Kretsen as their PRO (Producer Responsibility Organisation), they want us to be a partner who can guide them through the many rules and regulations, both the ones already in place and those on the horizon. Also, they are looking to us to develop services that relate to and facilitate their practical and regulatory efforts. This could be anything from picking up WEEE from in-store collection points to reporting environmental data and statistics. The second subject area could be headed "Municipalities and subcontractors", and it covers those who represent the foundation in the collection system that is part of El-Kretsen's DNA.



The third subject area covers the organisations and businesses that use El-Kretsen's services, like on-site collection of WEEE from these enterprises or hazardous waste reporting. The fourth one is actually more of a perspective than either a subject area or target group. It concerns sustainability in general with a focus on sustainable solutions. We believe that this is of interest to all our target groups, even if they are not necessarily concerned with the other services we offer. This is why we have spent 2024 dividing our communication efforts up according to these four subject areas, and we intend to finalise this work in 2025 as shown to the right:

 <b>el-kretsen.se</b> Producer responsibility issues <i>In progress</i> <a href="#">WEBSITE</a> →	 <b>elretur.se</b> Collection and recycling issues <i>Going live in 2025</i>
 <b>verksamhetsavfall.se</b> Vessel renting, hazardous waste reporting, etc <i>Was launched in 2024</i> <a href="#">WEBSITE</a> →	 <b>kunskapsrummet.com</b> Statistics, information, educational materials, research, policies, etc <i>Re-designed in 2024, more material being continuously added</i> <a href="#">WEBSITE</a> →

# 2024 in Brief

*Below are some general comments on 2024 for each of the subject areas:*

## **Producer responsibility issues**

On October 16, EI-Kretsen hosted the conference Tillsammans för Kretsloppet ("Closing the Loop Together"). The main focus was the EU Green Deal and we discussed how the legislation that is gradually being implemented will affect producers, EI-Kretsen and our subcontractors. The conference also offered a valuable opportunity to hold some workshops, which allowed us to take note of various ideas and requests for EI-Kretsen's continued development.

All through 2024, we had to put a lot of effort in to prepare for the new battery directive, and we expect to have to keep this work up until August 18 2025, when the directive will essentially come into force.

## **Collection and recycling issues**

In line with our quality work, we are always striving to improve and develop the logistics and recycling processes used for handling all our materials. Since EI-Kretsen owns neither facilities nor vehicles, this development work is always done together with our suppliers, which makes contracts and agreements a key constituent. In 2024, some contracts were renegotiated and some new suppliers were added. As an example of progress, we now use X-ray technology for more efficient battery sorting.

Elretur is the name of the collaboration forum that includes EI-Kretsen, Avfall Sverige, SALAR (The Swedish Association of Local Authorities and Regions) and a few municipal representatives. The group meets a few times per year and the aim is to guarantee safe and efficient collection. The forum also discusses ideas for continued progress.

## **Verksamhetsavfall.se**

This website was launched in 2024 after we had realised that many organisations are required to report hazardous waste but have no other reasons for liaising with EI-Kretsen. Creating a website purely for these organisations improved the information flow. This website will be under development in 2025 and is intended to eventually offer many of the additional services that EI-Kretsen offers generally .

## **Tomorrow's adults and tomorrow's policy choices**

We feel we can safely say that smart choices are a result of having some understanding. This is why EI-Kretsen is continuing its long-established cooperation project Natur & Miljöboken (educational materials for school children between the ages of 10 and 12) and our special edition of the comic Bamse (aimed at younger children – and curious grown-ups, too, of course). A more short-term approach is reflected in the policy questions EI-Kretsen initiated in 2024. Here, too, the intention is to propose policy changes based on solid and objective information . At EI-Kretsen, we have a lot of expertise in our field and genuinely hope to be able to contribute. One way of reaching out is having personal meetings with school children, politicians, journalists, students and researchers, but we also have the ambition to expand Kunskapsrummet (Sustainability Library) into a deep and abundant well of knowledge.

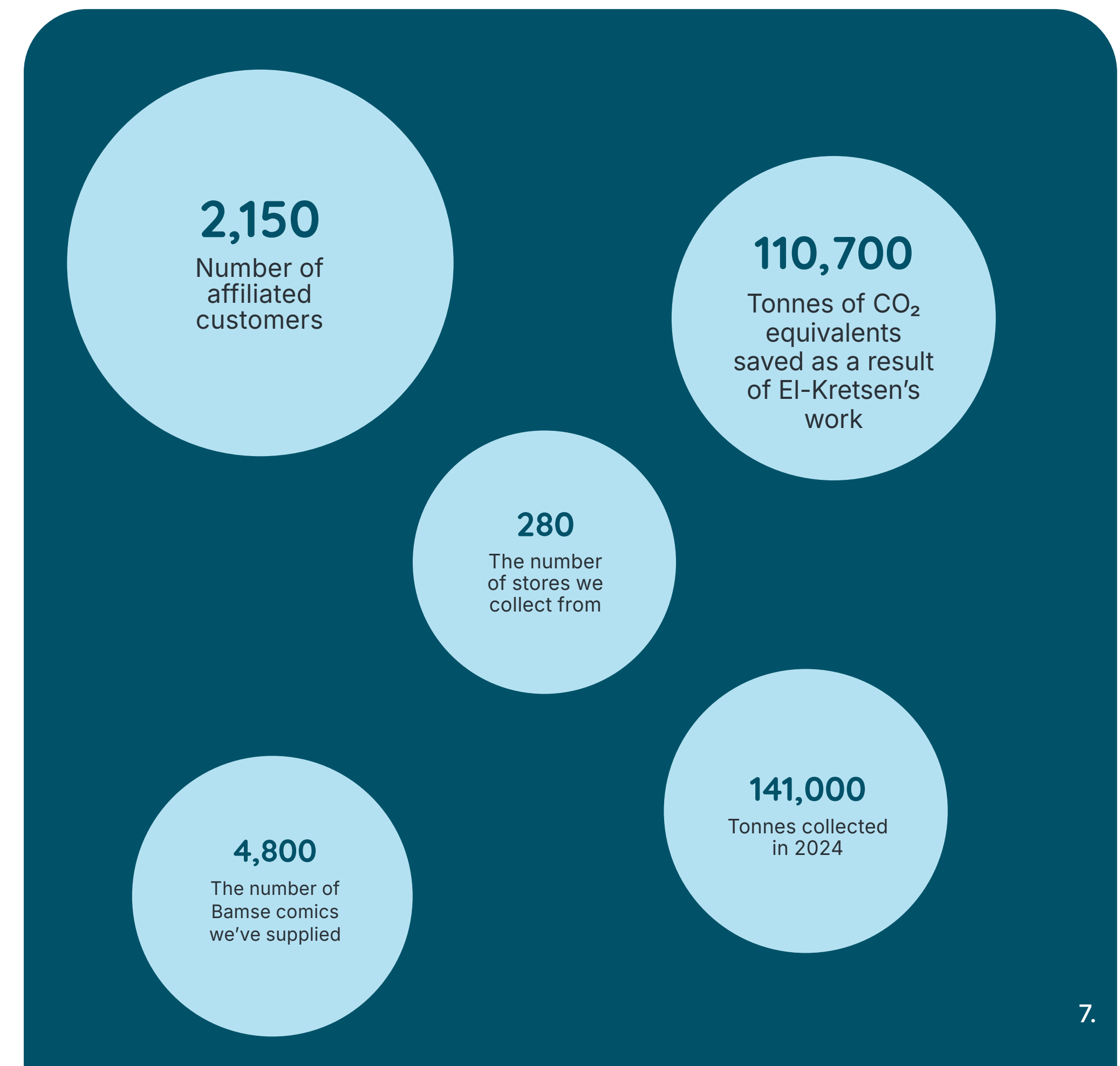
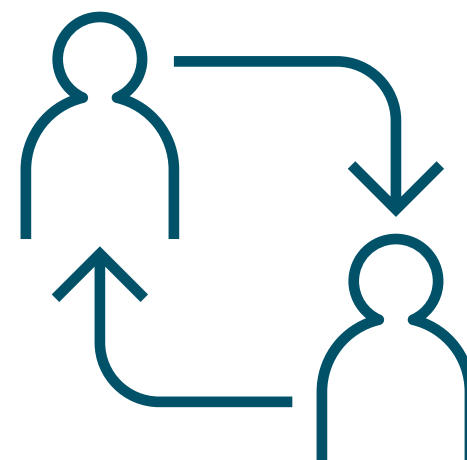
# Our operations

When producer responsibility for electrical and electronic equipment was introduced in 2001, EEE producers looked to their trade organisations to create a joint service organisation for handling the collection and recycling – El-Kretsen. In 2009, El-Kretsen's services were expanded to also include batteries.

Our task is to help producers comply with their producer responsibility by offering a nationwide collection system and making sure that the WEEE and batteries we collect are handled in a safe way, that environmentally hazardous substances are correctly disposed of and that as much of the recycled materials as possible are reintroduced into the material loop.

Our collaboration with Sweden's 290 municipalities has been developing ever since we became active in 2001. Electronic products and batteries are constantly changing. Recently, the question of how best to handle the growing number of lithium batteries has loomed ever larger on the horizon. We have revised the collection process from the recycling centres (ÅVCs) in order to minimise the fire hazard these batteries present. The sorting process has also been refined and fire-retardant materials are now in place all over Sweden.

However, batteries are not only collected from recycling centres and municipalities, but also from stores and service points. We are just seeing the start of the EU initiative "Right to Repair", which, if it has the desired effect, will increase the number of products being repaired. Here, there is a lot of scope for new market players. The success of this initiative will to a certain degree depend on the extent to which the government is willing to support such initiatives through measures like tax relief. If more products are handled on this market in the future, these workshops will also generate WEEE. At the moment, store-collected WEEE only accounts for a small proportion of our collection, but this may well change in the future.



# Our operations

## El-Kretsen's customers: the producers

The primary definition of a "producer" is a company that produces or imports electrical or electronic equipment for putting on the Swedish market. We also serve foreign producers, particularly those who sell directly to Swedish end customers. These producers have to appoint a Swedish legal representative, known as an Authorised Representative. You can appoint El-Kretsen as your authorised representative. At this point in time, this only concerns EEE, but once the new battery regulation comes into force similar requirements will also apply to batteries. We also offer reporting to the Swedish Environmental Protection Agency (EPA) free of charge, a service most of our customers avail of. At our website you can find a list of all our 2,150 affiliated producers (as per the end of 2024).

## El-Kretsen's facility for analysis and statistics

To keep careful track of what we collect, 1.5 to 2 per cent of all this waste is analysed at our own analysis facility in Arboga. Here, we carry out detailed studies of both individual products and entire product groups. This facility enables us to collect statistically ensured data, for example how many mobile phones we collect in a year as well as their state, age, brand, etc.

## Services for the producers' customers: Businesses and organisations

In the last few years, El-Kretsen has extended its number of services. One of the additional services that has been developed is picking up WEEE and batteries straight from businesses and organisations. Since 2019, there is also a requirement that any business that handles hazardous waste has to report this to the Swedish EPA within 48 hours. In order to facilitate this process, El-Kretsen has developed an application that helps those who dispose of hazardous waste to register it at the same time. This information can also be used by collection points to report any deposited hazardous waste to the Swedish EPA. In 2024, we launched a separate website where we have listed all the information concerning services for businesses that wish to dispose of hazardous waste and batteries as well as reporting of hazardous waste: [Verksamhetsavfall.se](https://verksamhetsavfall.se)

Visit the website here:

[VERKSAMHETSAVFALL.SE](https://verksamhetsavfall.se) →

## European collaboration

While producer responsibility is based on EU directives and regulations, different countries implement this legislation in different ways. This means that producers who operate internationally need to relate to several different organisations and sets of regulations. In order to facilitate this process, El-Kretsen was one of the founders of WEEE Europe, which has now been renamed Pronexa. Pronexa offers advice and reporting of WEEE, batteries and now also packaging.

El-Kretsen also participates in European cooperation organisations such as WEEE Forum and Eucobat, who focus on producer responsibility for EEE and batteries respectively. This cooperation makes El-Kretsen's voice in the EU stronger and it offers the possibility of being able to influence future legislation and also take part in international fora and an international exchange of knowledge and information.

[PRONEXA](#) →

[WEEE FORUM](#) →

[EUCOBAT](#) →

## El-Kretsen's subcontractors for logistics and recycling

All over Sweden, WEEE and batteries need to be transported from the many collection points to treatment facilities where the materials are sorted and pre-treated before they are sent on to be recycled. At [el-kretsen.se/transport](https://el-kretsen.se/transport), you can find all the transporters and recyclers we work with at El-Kretsen.

Our suppliers all adhere to the European standards for handling waste intended for recycling. They also continuously report to El-Kretsen what amounts they have dealt with and in what way. This cooperation requires close contact and a structure for handling collection inconsistencies. Through openminded dialogue, we promote further development in issues relating to work environment and to both cost-efficiency and eco-efficiency in all our processes.

## Information work

Kunskapsrummet.com (Sustainability Library) covers all sustainability aspects that relate to El-Kretsen. In 2024, the website was re-launched and we continue to add new relevant information. The information here is aimed at a much wider target group: the general public, schools, politicians and others. Everyone is welcome to look in to find easily accessible facts or maybe ask us a question. Kunskapsrummet also offers more clear-cut educational materials for schools and links to our sustainability cooperation partners. The website is only available in Swedish.

[KUNSKAPSRUMMET.COM](https://kunskapsrummet.com) →



# The EU Green Deal, new legislation 2024

The EU Taxonomy was launched in 2018 as the first tool of the EU Green Deal. The regulation made a connection between sustainability aspects and economic activities. Since then, it has been developed and now features clear environmental objectives for the climate, circularity, water, biodiversity and pollution. It has also been supplemented by delegated acts which in greater detail describe what economic activities that support the objectives. During 2024, the screening criteria for the acts relating to climate and environment have also been refined. This development is regarded as a step forward and a way of assuring that the economic activities of companies are in line with the sustainability objectives listed in the Taxonomy.

## Producer responsibility

In addition to the Taxonomy, the EUs sustainability target for 2050 is supported by a wide range of legal frameworks. One of these is producer responsibility. In 2024, producer responsibility for balloons was added to the other groups. Moreover, since January 1, 2025, producers of fishing gear are also required to register with the Swedish EPA and sign up with a PRO (Producer Responsibility Organisation). Another major change in the field of producer responsibility is that in 2024, Swedish municipalities took over the responsibility for the collection of packaging waste. However, producers are still required to belong to a PRO in order to cover the costs of collection and recycling. A new concept, littering fees, has also been introduced for producers of single-use products. Single-use plastic cups have now been banned altogether.

## More extended producer responsibilities are emerging:

### Fiskekretsen

Fiskekretsen's main objectives are:

- To facilitate the collection and recycling of fishing gear containing plastic.
- To promote the use of recycled plastic in new products.
- To contribute to the reduction of the amount of plastic waste in oceans and other aquatic environments.
- To provide support and information to our members to ensure compliance with current legislation.

The goal is to collect and recycle at least 20 percent of all fishing gear containing plastic introduced on the Swedish market.

[FISKEKRETSEN](#) →

## Right to Repair

Directive (EU) 2024/1799, which aims to:

- Reduce the amount of electronic waste in the EU.
- Improve the access to repair services and spare parts.
- Aid consumers in saving money by prolonging the lifespan of their products.
- Strengthen the circular economy by reducing the need for producing new goods.

Even if this ordinance came into force in 2024, it allows EU member countries a two-year implementation period. Just like its name indicates, producers will be required to offer both warranty and post-warranty servicing for their products. One consequence of this is that they will need to provide spare parts and manuals. The EU, on the other hand, is required to develop a digital platform to facilitate locating spare parts as well as service shops.



### Textile-Kretsen (?)

Extended producer responsibility for textiles has been in the works for several years. Since the beginning of the year, it has been prohibited to dispose of textiles in household waste, but there is still no producer responsibility in place—meaning no one has the direct responsibility to push the issue of material recycling forward. The EU Council of Ministers and the European Parliament are expected to make a decision during the year regarding extended producer responsibility. In connection with that, the question will arise as to who or which parties will manage the producer responsibility in Sweden.

# The EU Green Deal

## Critical Raw Material Act (CRMA)

The aim of the Critical Raw Materials Act is to reduce the EU's dependence on critical raw materials from other countries while simultaneously improving its ability to make greater use of the resources already available in products and waste. The benchmarks are set for 2030, when the EU should have the capacity to:

- Extract at least 10 per cent of its annual consumption of critical raw materials.
- Process at least 40 per cent of its annual consumption of critical raw materials.
- Recycle at least 25 per cent of its annual consumption of critical raw materials.

The list of critical raw materials is long, ranging from common substances such as aluminium and copper to those which are only found in small quantities, like cobalt, nickel and lithium and those found in extremely small quantities, such as beryllium, tantalum and earth metals.

In 2023 and 2024, El-Kretsen has been running projects to see which materials offer the greatest recycling potential, how this recycling could be done and at what financial cost. You can read more about this in the section on batteries in the next chapter.

This is the regulation in its entirety:

[THE CRMA REGULATION](#) →

## Ecodesign for Sustainable Products Regulation (ESPR)

Regulation (EU) 2024/1781 replaces the ecodesign directive. In the new regulation, the list of product groups covered by producer responsibility has been expanded and more specific requirements have been introduced. However, the new measures will not take effect all at once. Major changes such as the requirement for digital product passports will come into force later on.

The aim of this regulation is to make available information on a product's materials and their origins, how it has been designed, how it can be repaired and finally how to best recycle it. Such product passports will make it easier to compare different products with one another, something which also serves to make the Ecodesign regulation an important part of the Taxonomy.

This is the regulation in its entirety:

[THE ESPR REGULATION](#) →

## Standardised requirements for chargers

As of December 28, 2024, all new portable electronic devices sold within the EU are required to have a USB-C port as their common charging standard. This includes products such as mobile phones, tablets, portable loudspeakers, etc. As of 2026, this requirement will also apply to laptop computers.

A common charging standard reduces the need to own numerous specific charging leads and components. According to EU estimations, this requirement alone will reduce electronic waste by 11,000 tonnes per year.

You can read the full document describing the changes in the EU directive 2014/53/EU "On the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment", (EU) 2022/2380 here:

[EU DIRECTIVE 2022/2380](#) →

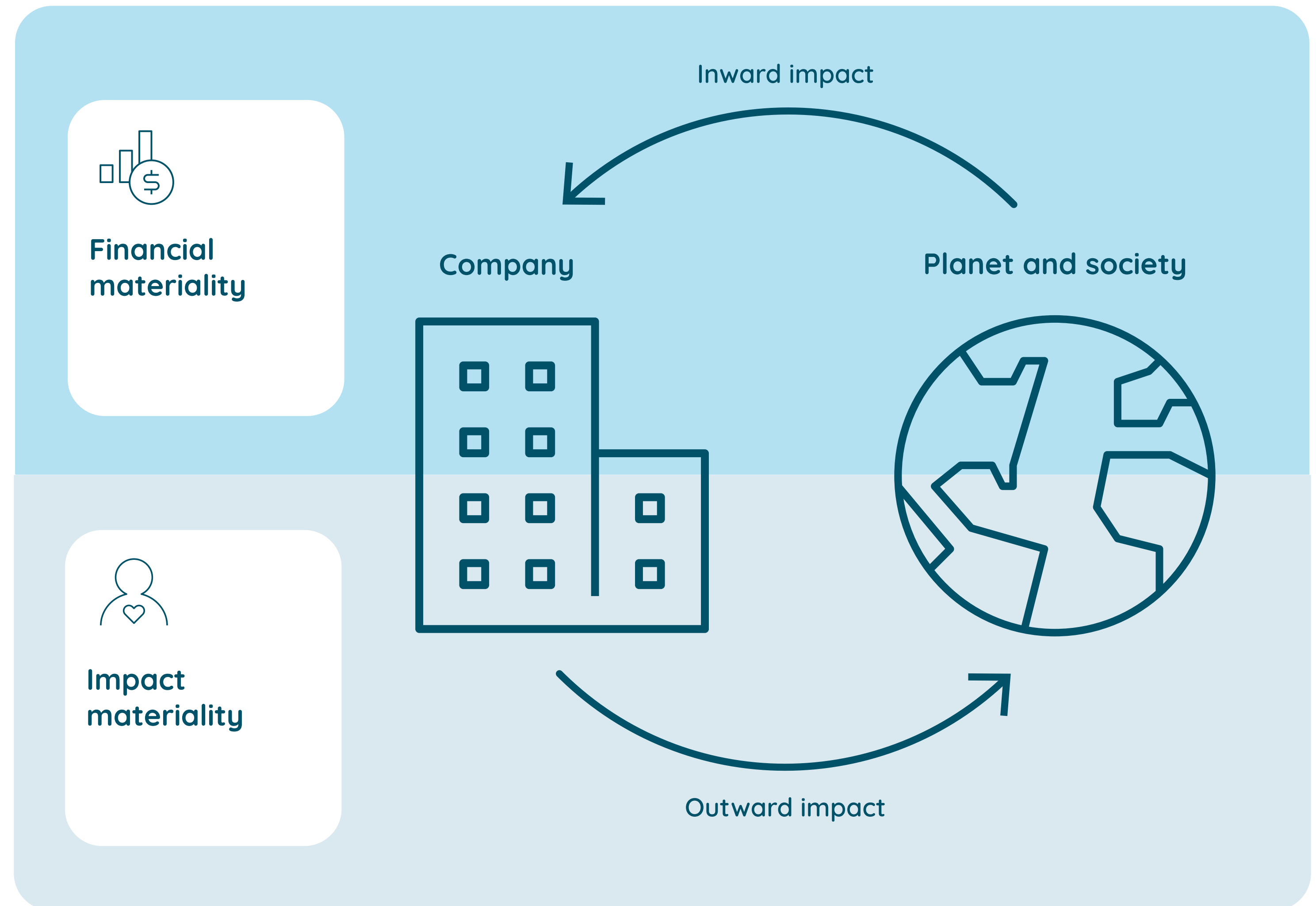
# The EU Green Deal

## Developments in sustainability reporting

The legal framework for what has to be included in a sustainability report, how the report should be produced and who has to answer to which requirements is described in the directive Corporate Sustainability Reporting Directive (CSRD). These days, a growing number of businesses are required to comply with the more specific format for sustainability reporting described in the new European Sustainability Reporting Standards (ESRS). As of 2025, El-Kretsen also falls under this stricter regulatory framework and will now be reporting according to these standards. Initially, it will involve a lot of work primarily with the double materiality perspective. This is meant to explain how we at El-Kretsen affect the world around us from a sustainability aspect – and in reverse, how the sustainability risks of the world around us may affect El-Kretsen's finances.

The CSRD Directive (EU) 2022/2464 can be found in its entirety here:

[THE CSRD DIRECTIVE](#) →



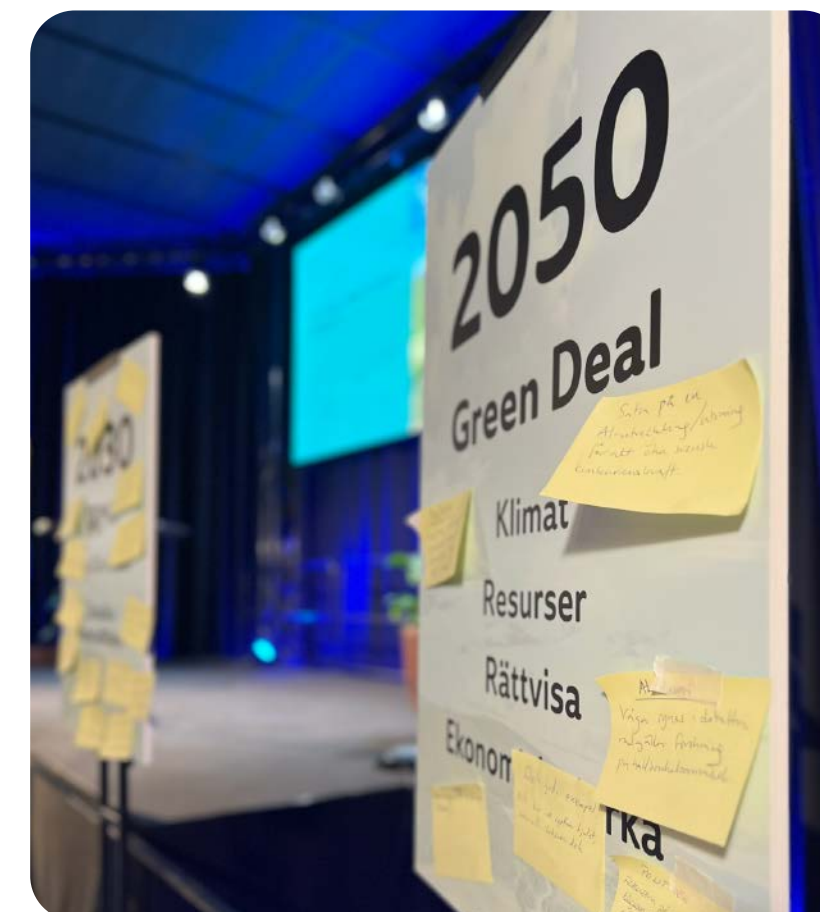
# The EU Green Deal

## Swedish legislation

At the end of 2024, the Government supplied a memorandum concerning an updated version of the current waste legislation, "Reform of waste legislation for increased material recycling and for a more circular economy". The desire was to make sure Swedish legislation harmonises better with EU legislation, for example with respect to resource efficiency. It also aims to make it more difficult to engage in illegal handling of waste. One report that served as a starting point for the memorandum was "Sverige tänker efter – före! Nationellt avfallsförbyggande program för en cirkulär ekonomi 2024 – 2030" ("Sweden reflects – reflexively! A national waste prevention programme for a circular economy 2024-2030"). In close conjunction to this memorandum, Sweden also proposed a number of supplementary provisions for the EU Battery Regulation. El-Kretsen has commented on both these memoranda and is positive to most of the suggested changes: suggestions that harmonise with the EU and will result in concrete environmental benefits.

In addition to this, we proposed some clarifications which we hope will be incorporated, for example whether El-Kretsen and other PROs will have the opportunity to take active part in the design of waste pick-up analyses instead of merely being accountable for the costs. Or a suggestion that the concept of "financial security" is clearly defined to those producers who take individual responsibility. But the main focus of El-Kretsen's input was to emphasize the importance of supervision in order to maintain a producer responsibility that is fair and free from competition. This includes Sweden's possibility to:

- Obtain correct statistics.
- Ensure that electrical waste and batteries are properly handled.
- Make sure that everyone who has producer responsibility also contributes towards it.
- Through the above, maintain the level of trust and commitment in the producers who comply with the legislation.



## #TFK 2024

During the autumn, El-Kretsen arranged the conference Tillsammans För Kretsloppet ("Closing the Loop Together"). One aim was to offer information on the many new regulations that are being introduced both in Sweden and in the EU, and another was to get input and questions that could help El-Kretsen develop. At this conference, we created a timeline from now through to 2050 and stopped at the points that will be particularly relevant to our affiliated producers.

# Batteries – an obvious focal point!

For a few years now, batteries have been our primary focus area and they will remain high on our agenda also in 2025. One reason is that batteries are found in an ever-growing number of products. And they are not just becoming more numerous but also more powerful, which affects both the collection and recycling processes. Certain kinds of batteries are also fire hazards. The other reason is that the 2025 EU Battery Regulation will come into force in August this year. This regulation update is more extensive and divides batteries into five categories. Working out what services EI-Kretsen will be able to offer for each category in the new regulation has meant that we have had to consider a new approach – just like all European producers and producer responsibility organisations that handle batteries.

## Batteries - more prevalent in products and society

At EI-Kretsen, we keep chanting our mantra that electrical and electronic products are shrinking in size but growing in number. We may come across as boring, but the trend continues – and needless to say all these products use batteries. Every smart product, every funny product and everything that lights up or flashes contains at least one battery. The battery category currently increasing the quickest is "batteries for light vehicles" (using the term applicable as of August this year). Rechargeable lithium-ion batteries can now be found wherever there are electric bikes, electric scooters, mopeds and other means of transport. Larger lithium-ion batteries of the kind used in storage units for solar panels are also on the increase. And composite, more complex products may contain more than one kind of battery. How many different kinds of battery are required to run a car, a computer or a wind-up radio? The person dismantling such a product at the end of its useful life must know where to find these batteries, how to remove them and also what their main chemical components are in order to be able to handle and recycle them safely.

Politicians have clearly stated that we have to get rid of the batteries that are most damaging to the environment: batteries containing lead, mercury and cadmium. The use of these substances has been gradually restricted by law.

There are some exemptions to the restrictions, but very few such batteries are sold today. The results are visible in our battery collections, albeit at a slower rate because of the time lapse that occurs as certain products have a very long life before they reach our collections. There are political ambitions to make a full transition to rechargeable batteries, and the EU Commission is set to reach a conclusion in this respect by 2030. Some producers have taken individual decisions to stop selling single-use batteries. All in all, however, there is no visible difference yet. We still buy as many single-use batteries as before.

## How many batteries do our products contain?

A normal car may, in addition to its starter battery and EV battery (for electrical vehicles), need a number of minor batteries: for the car key, electrical seats, back-up systems, navigation equipment, equipment for measuring tyre pressure, etc.

Computers contain one main battery as well as minor batteries, to keep the clock ticking, for example. Some also have battery-powered memory systems. Many computer accessories, such as keyboard and mouse, also run on batteries.

And regardless of how manual a wind-up radio appears, as a rule it contains at least one rechargeable battery. Some models also contain extra back-up batteries.

# Theme: Batteries

## Lithium – a growing fire risk

As lithium is much lighter and a lot more efficient than both lead and nickel-metal hydride, it has more or less become the main power source for electric vehicles and energy storage systems. The disadvantages of lithium are well known: damaged or poorly constructed lithium batteries can ignite spontaneously, and once they do, the fire is very difficult to put out. According to the National Electrical Safety Board, lithium batteries were the cause of 150 fires in Sweden in 2024. 70 of these started while the battery was being charged. These rechargeable products are the cause of 12 per cent of all domestic fires and as much as 30 per cent of all serious personal injuries. Some of the challenges facing us at El-Kretsen are:

- Damaged batteries, which might end up in our battery bins along with regular batteries.
- Built-in batteries might be overlooked when disassembling waste products and thus go on to the next recycling phase.
- Collected batteries that have been stored while waiting to be recycled.

Every now and then, fires break out in recycling centres. Thanks to strict routines and urgent action, these fires have been quickly contained and put out. As recycling centres have for some time now lacked sufficient capacity for batteries, we have been forced to put sorted batteries into interim storage. Last autumn, a fire started at an interim storage facility for spent batteries in Trollhättan. We did not find out what kind of battery was the cause of the fire, but what we do know is that there were different chemical substances on-site, including medium-sized lithium-ion batteries. 800 tonnes of batteries were destroyed in this fire. This meant a loss of recyclable resources. It also meant a financial loss, partly as a result of having to deal with the fire but mainly because of the wasted efforts of collecting, sorting, dismantling and transporting the batteries that then went up in smoke. Needless to say, it was also a great loss to the environment, as burning batteries release many hazardous substances that can disperse into the atmosphere.

## Arrangements for safe handling

We know that the human factor keeps causing unwanted events. Regardless of how great a system is and how safe the processes are that we and our partners have created, it can only guarantee safety if the procedures are observed. This is why in 2024 we invested a lot of effort in our information work. Clear procedure protocols were followed up with newsletters and numerous visits to our collectors and handlers. We've addressed the question of how to handle collection inconsistencies as well as how important this is for our continued progress. Our mistakes are what we learn from. Below are some practical measures we have implemented to reduce the risk of fire:

- At the point of collection separating rechargeable products from products with cords
- Using separate collection vessels for large batteries
- Providing recommendations for how to handle damaged batteries
- Filling collection vessels with vermiculite, a heat-proof and protective material
- Equipping collection points with fire extinguishers designed for lithium battery fires
- Sealing the vessels before transportation and for interim storage



## Modern producer responsibility

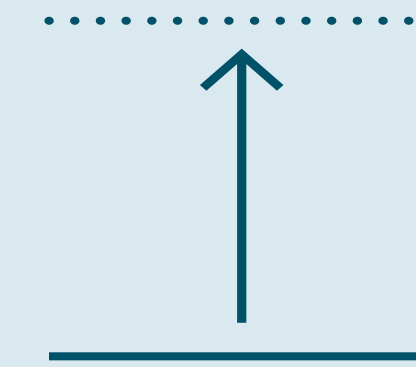
An EU regulation is not the same as an EU directive. Regulations are more detailed and apply directly in all member states. The extent and degree of detail in the EU's new Battery Regulation (2023/1542) considers the full life cycle of batteries. Producers and other economic operators will be faced with extended producer responsibility. In a few specific cases, member states are free to make their own decisions. In Sweden, February 20 was the last day for comments on things like which authorities should be responsible for what, penalty amounts and whether producer responsibility organisation affiliation should be voluntary or compulsory. But, by and large, regulations are stipulated in the joint regulation.

The regulation will be implemented gradually. There are long-term decisions that member states – and later on the commission itself – are to investigate the possibility of introducing a deposit on certain kinds of batteries, as well as a possible ban on single-use batteries. These targets will be stepped up in three ways.

First of all, the proportion of quantities collected in relation to quantities placed on the market will increase from 45 per cent today to 63 per cent by 2027 and 73 per cent by 2030.

After that, the proportion of material recovery will be increased for all batteries. Taking lithium-based batteries as an example, a minimum of 65 per cent of the materials should be recovered by 2025 and 70 per cent by 2030.

Lastly, there is the target of resource recycling. These targets have been set to ensure that we get hold of and recirculate critical raw materials, despite the fact that in weight, they only make up a small proportion of the resources. By 2027, 90 per cent of all the cobalt, copper, lead and nickel is to be recycled along with 50 per cent of all lithium. Some of these targets will be tightened up even further by 2031. In connection with this, producers are also required to use recycled materials in the batteries they manufacture.



### Different rules for different categories

On August 18 2025, the Swedish Battery Ordinance will expire and be replaced with the joint EU Regulation. At this point, batteries will be divided into five different categories:

1. Portable batteries
2. Starting, lighting, and ignition batteries (SLI batteries)
3. Light means of transport batteries (LMT batteries)
4. Electric vehicle batteries
5. Industrial batteries

Producer responsibility organisations and producers will have to apply and register for every category they handle. Each category comes with individual requirements for the kind of information a producer has to supply. Certain requirements are shared by all categories: a clear description of what kind(s) of battery a product contains and where they can be found; the need for labelling products with the crossed-out wheelie bin symbol; supplying the name of the manufacturer and information on any hazardous substances. In the future, certain battery categories will have to be equipped with a "battery passports" and their associated carbon footprint. At El-Kretsen, we will help our affiliated partners with some of this, for example information on collection and recycling as well as data relating the quantities collected.

## Research and development

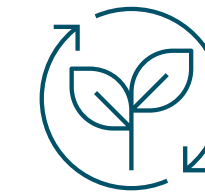
It is second nature to us at El-Kretsen to strive for continuous improvement. We weigh and measure materials and we inspect and challenge our processes. In this way, we have learnt which vessels work well and which work less well, which products can be processed together and what information gets the best results and optimal filling ratios. We keep our ear to the ground to learn the requirements and wishes of many of our stakeholders. One result of this is that we have developed services for reporting hazardous waste both for those who deposit waste and for the collection points. When it comes to actual material recycling, we have historically focused on extracting as many kilos as possible and additionally the valuable materials hiding in small quantities on parts like circuit boards.

The question of critical raw materials was brought up a few years ago. The background was twofold: one was that certain materials are only mined in a few countries, which makes the European continent very dependent on these countries. The other was that smelting these unique metals together with other metals results in an obvious waste of resources. The more kinds of materials we can extract from our batteries and WEEE, the less dependent and wasteful we will be.

Now, the issue will be brought up in both the EU's Critical Raw Material Act and in the EU Battery Regulation. This fits in with El-Kretsen's ambitions to increase opportunities for extracting and returning more clean materials to the cycle.

To get a better idea of which products and substances we could start with, El-Kretsen has carried out two studies together with Stena Circular Consulting. The aim of the first study, "Harvesting Critical Raw Materials from Electronics and Batteries", was to find out which products and batteries contained what critical raw materials. The other study, "Feasibility Study for Alkaline, Li-Ion and NIMH Batteries", addressed the possibility of recovering more substances with a primary focus on lithium, cobalt and nickel. These studies provide a more solid foundation for the continued dialogue with our recycling partners. They also pinpoint what materials and processes would be best suited for this.

The studies have been published in their entirety at [www.kunskapsrummet.com](http://www.kunskapsrummet.com)



### Harvesting Critical Raw Materials From Electronics and Batteries

[READ THE STUDY](#) →



### Feasibility Study for Alkaline, Li-Ion and NIMH Batteries

[READ THE STUDY](#) →



### From theory to practice



Throughout 2024, we have been visiting our facilities for battery sorting with the aim of quality-assuring the process. Together with our subcontractors, we have also been trying to identify any possible scope for improvement. One thing we have learnt is that those who have sorted and treated the batteries should also be involved in the next step of the process, i.e. transportation and any interim storage solutions before the spent batteries reach the recycling facilities. For this reason, the contracts for battery sorting and treatment were rewritten in the course of last year and the new versions replaced the old ones as of January 1, 2025. Currently, two sorting facilities handle all portable batteries, in Halmstad and in Vetlanda.

#### From manual sorting to X-rays

Roughly 80 per cent of all batteries collected are cylindrical cell batteries of different sizes containing different components. In 2024, attempts were made to replace manual sorting of these mixed batteries with automatic sorting using X-ray equipment. The tests have proven successful, and at the beginning of 2025, the new X-ray facility started running at full capacity. This new technology sorts batteries according to their main chemical components with close to 100 per cent accuracy which increases the degree of efficiency. This leads to increased cost efficiency as less manual labour is required. The shift in technology also results in a better work environment for the people who still are still active in the sorting process.

The remaining 20 per cent of batteries, which are larger and of very differing shapes, are still checked and sorted manually. Button cell batteries make up a very small proportion and are sifted through and separated so they can be treated individually.



# A product's journey at El-Kretsen

## From old and broken to new resources

So far, we have spoken a lot about El-Kretsen's role within the regulatory framework of the EU and Sweden, how we share our knowledge in our capacity as a PRO and how we contribute to the progress taking place in our organisation and our entire industry. But in addition to all this, we also manage a collection system. Broken, old and spent products and batteries are returned for recycling – and we are expected to turn them into new materials. But what actually happens on this journey from collected waste to recycled materials?

## Collection in different ways

Most of the products are collected by the municipalities and through our cooperation forum Elretur. The municipal collection is structured around manned recycling centres, but to increase their level of service all municipalities also offer additional in-situ and mobile collection solutions. Moreover, some waste is picked up from collection points in stores and service points. We and our suppliers collect waste from collection points, offices, hospitals and other major facilities for transportation to the next recycling stage.

## Reuse

Both El-Kretsen and Sweden's municipalities encourage people to mend, sell or donate their products in so far as is possible. In our collection vessels, we really only want to find products that have come to the very end of their life. The quality of products for reuse is higher if they are separated from the waste before they end up at El-Kretsen. Even so, we still urge our suppliers to be on the lookout for serviceable products among the WEEE they collect.

The processes of collecting and recycling WEEE do result in environmental impact and risks, but they also come with the obvious advantage of making the most of the resources available to us. In the next chapter, we will show you what this balance looks like in real life.

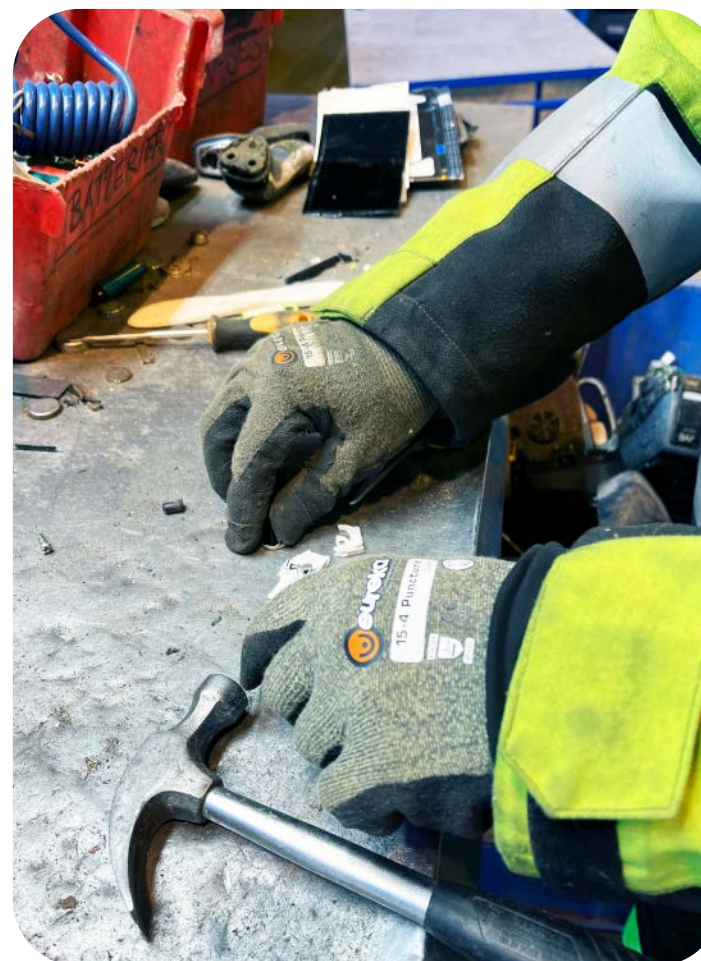


# A product's journey



## Sorting and pre-treatment

The collected WEEE and batteries are sorted through in order to remove hazardous substances and to make a rudimentary division of products according to material or chemical components. The purer and more homogenous the materials are, the better the result and greater the value will be in the next phase: the actual recycling. Depending on the product, there are many different processes for sorting and categorising. A lot is done manually using screwdrivers and hammers, but some processes are automated. Plastic waste, for example, is initially sorted in sink-float separators. These are waterfilled tanks where plastics containing flame-retardant bromides sink to the bottom while the rest floats. The next step involves optic sorting machines that can identify different types of plastic. X-ray equipment is another new tool for sorting batteries according to chemical components. All these techniques have been developed to raise the levels of efficiency and quality.



## Recycling

In certain cases, the recycling takes place without the waste having to leave the facilities of El-Kretsen's suppliers. This is the case with some of the plastics and some glass from WEEE. Other kinds of materials, such as metals and circuit boards, are sold to smelting shops for the final recycling phase.

# Focus and results

# Climate impact

## Risks

Although the handling and recycling of WEEE and batteries requires energy, this consumption is notably lower than the energy consumption needed for producing the same products from new raw materials. This means that all material recycling that takes place replaces newly produced material and indirectly reduces emissions related to material production. El-Kretsen's greatest impact and main focus area for reducing climate impact is therefore to ensure that as much material as possible is collected and recycled. As far as possible, we also want this to take place in Sweden, where the electricity mix contains less fossil fuel compared to many other countries.

There are also certain products that contain greenhouse gases and can cause direct emissions if handled incorrectly. This is especially true for refrigerants found in temperature control equipment.

El-Kretsen's focus is on identifying and minimizing the risks associated with such products. If these are handled carelessly or not at all, high concentrations of greenhouse gases can be released — a particularly significant risk when dealing with older refrigeration units.

To counteract this, El-Kretsen operates based on two strategies:

- 1. Information and motivation:** By increasing people's understanding of the importance of recycling old products correctly, more products will be handed in to recycling centres to be safely treated instead of being forgotten in a corner somewhere.
- 2. Placing demands and sharing information with suppliers:** It is when loading and unloading refrigeration units that they are most at risk of leaking. By quality assuring these processes, we stand to minimise the release of greenhouse gases.

## Possibilities

Today, all refrigerating units are treated in the same closed-loop process, regardless of age or components. This is to ensure that any refrigerants are neutralised. In the future, it may become possible to remove the products that don't contain greenhouse gases and treat them separately, using less energy-consuming processes. At the moment, however, the risk of making errors in the selection process is still too high.

Introducing the legal requirement for product passports opens the doors to quality assuring the sorting process to a greater extent. This would also make it possible to separate different types of refrigeration units and treat them according to what they contain.

When you have a choice between replacing an old product with a new one or prolonging the lifespan of the old product, the most sustainable option is generally to keep using the old product for as long as possible before replacing it. El-Kretsen is actively engaged in working to enable this through a joint venture with Begagnadevitvaror.se and Stena Recycling. At certain recycling centres, fairly modern white goods are selected for reconditioning before being sold on the second-hand market. This can apply either to an entire product or to still viable parts being sold as spare parts.

When refrigeration units are lifted using forklift trucks, as is traditionally the case, there is a risk that the unit gets crushed. Keeping these products intact is very important, especially the insulation layers which may contain refrigerants. In 2024, a project was initiated where refrigerating units and other white goods were lifted using magnets, and this has proved to be a more gentle method leading to fewer damaged units.

## Governance and follow-up measures

El-Kretsen's core activity is recycling. The more products that are made from recycled materials, the greater the environmental benefit. This also applies to climate issues, as recycling requires significantly less energy than the extraction and processing of new raw materials. Therefore, El-Kretsen's recycling efforts represent the most important aspect of our climate work. The second target area concerns transportation and focuses on how El-Kretsen sets requirements for, and monitors, the suppliers responsible for logistics — from collection to treatment. The goal is to reduce the climate footprint, which is achieved through efficient logistics and fuel choices.

A third target area focuses on quality assurance in collection and transport. The aim here is to ensure that no cooling circuits or materials containing refrigerants are damaged, as this could lead to the release of greenhouse gases.



## Climate impact pros and cons

Climate impact is a central issue not only for us as a PRO, but also for the many producers who are now expected to report the climate footprint for their products at the end of the products' useful lives. This is why, together with our Scandinavian neighbours, we have developed a CO<sub>2</sub> calculator. The calculator is based on the life cycle assessment method and is compliant with the European standard ISO 14044.

The system boundaries for the life cycle assessment go from collection to recycled state. What kind of fuel we use for transportation matters, as do the different kinds of energy used at various process stages. The carbon dioxide saved in the table below is given in relation to new production, as though no recycled resources were used, only virgin raw materials.

Category	Kg CO <sub>2</sub> equiv.
Equipment for temperature control	-20,841,223
Screens and Monitors	-6,303,173
Lamps	-286,405
Large EEE	-56,683,884
Small EEE	-22,178,166
Small IT and telecommunications equipment	-4,374,853

El-Kretsen's total carbon footprint is equivalent to 110,667,704 kg of CO<sub>2</sub>.

One example of the greenhouse gas emissions our operations give rise to comes from transport. Transportation involved in the first stage, going from collection points to sorting facilities, generates 1,938,000 kg of CO<sub>2</sub> gas. But despite the emissions generated by our collection, transport and recycling, the positive environmental impact of our work is undeniable. For example, removing and treating the refrigerants in refrigeration circuits and recycling those materials is an important ingredient in our and our society's joint efforts to reduce carbon emissions.

Comparisons are often used to give a more relatable picture of total climate impact. These comparisons are always based on generalisations and the parameters can be discussed. Using this kind of crude comparison, a saving equivalent to 110,667,704 kg of CO<sub>2</sub> can be compared to:

- Taking half a million petrol-driven cars out of traffic for one year.
- Eliminating the heating emissions generated by 25,000 homes for one year.
- Planting 4.5 million trees and letting them grow for one year.

### What is a CO<sub>2</sub>-equivalent?

Different greenhouse gases have different climate effects. For example, methane's effect on the climate is 25 times more severe than that of carbon dioxide, while nitrous oxide is 300 times more severe. To be able to compare different greenhouse gases, a standard called "CO<sub>2</sub> equivalent" has been defined. It enables us to compare these gases as well as identify their joint effect on the climate.

### Assumptions and possible sources of inaccuracies

Using the CO<sub>2</sub> calculator is a satisfactory approach as the results are worked out in the same way regardless of country. The calculator does, however, make certain set assumptions. Exactly how many miles the transports account for, the energy used in recycling, or the proportion of different treatment types are all factors that influence the result. Reuse is another example of a source that affects the final outcome. But what is the optimal lifespan for electrical products? As a rule, the longer the lifespan, the smaller the climate footprint. The vast majority of the second-hand market and reuse takes place outside of El-Kretsen's management. Therefore, the basis for reuse in this model is highly limited.



# Pollutions

## Risks

“Pollution” is a broad term. Depending on the substances in question and on the environment at risk of being polluted, it can be interpreted in different ways. At EI-Kretsen, we identify pollution on the basis of the direct and indirect risks associated with it.

- A direct risk is a local occurrence, caused by, for instance, an accident or faulty handling. A pollutant – such as oil, heavy metals, broken glass or bits of plastic – can be harmful to animals and the surrounding landscape. Environmental toxins released in this way can also be picked up by the air, water or animals and spread further over a wider area. Direct risks to people involve exposure to hazardous substances which either cause immediate harm (like corrosive acids) or give rise to long-term health problems (like after breathing in fumes from mercury or asbestos).
- An indirect risk is what we get when pollutants leak out during the recycling process or when they are transferred to new products through recycled materials. Another kind of indirect risk is presented by products that never even get into our recycling system and are thus at risk of not being handled properly, like the burning plastic without filtering out the harmful smoke gases. The more WEEE that is handled in EI-Kretsen's processes, the lower the risk of such pollution.

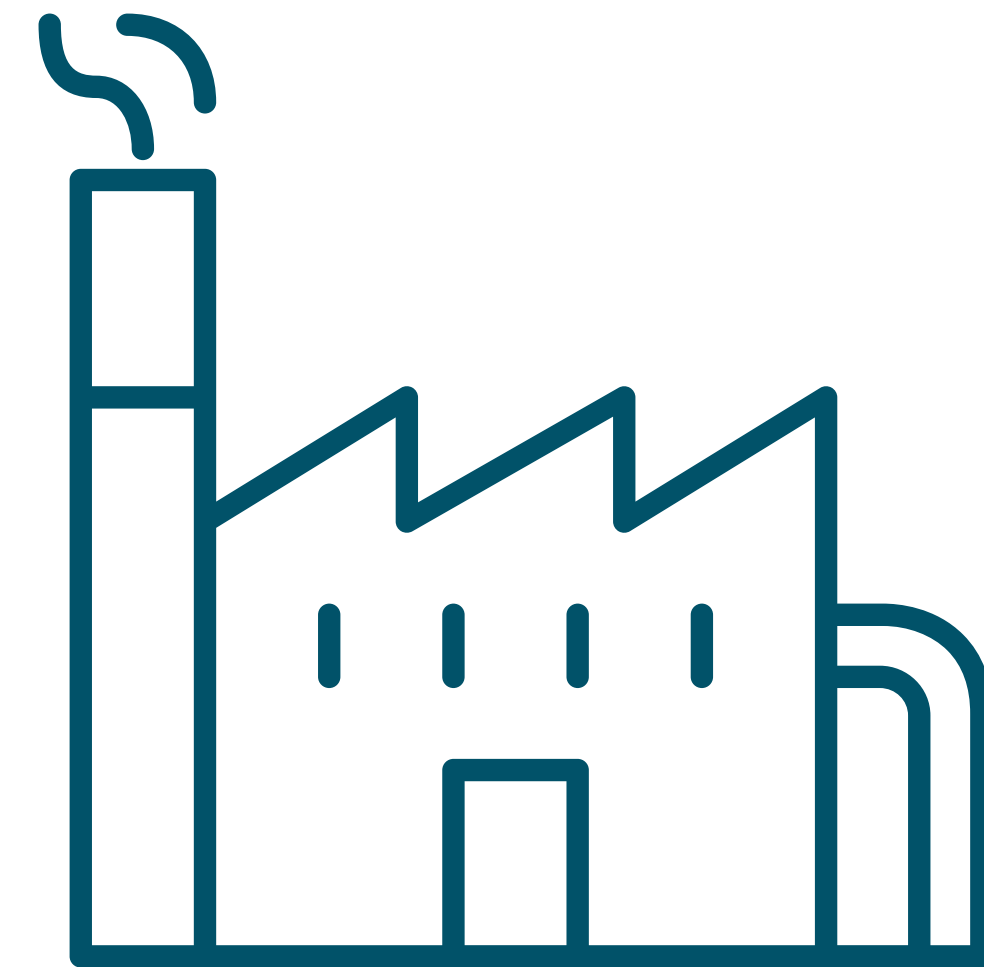
## Possibilities

At EI-Kretsen, we believe that increased knowledge is a motivating factor that will encourage people to deal with their waste in the right way. We have different ways of circulating this information, including for example:

- [Kunskapsrummet.com](https://www.kunskapsrummet.com), our platform for sustainability information.
- Our cooperation with Sweden's 290 municipalities, which helps us reach an even larger audience.
- The support we provide to schools for the long-term cultivation of competent waste handling.

We regard these as an important contribution to public education.

We also work with our suppliers to improve the quality control. Through clear instructions, follow-up measures and maintaining an ongoing dialogue, we reduce the risk of accidents and leakages. Recycling facilities are also required to report their processes and the results they achieve in accordance with EU-harmonised guidelines.



## Governance for reduced pollution

At EI-Kretsen, we have a vision: to make it impossible for waste to go missing once it has entered our process loop – i.e. from the point of collection through to the recycled product. This work is based on continuous identification and follow-up measures, for example by using a reporting tool, the system in which all recyclers report their data.

# Resources and a circular economy

## Collection and recycling

EI-Kretsen collaborates with every Swedish municipality to guarantee an efficient collection tailored to fit local conditions. Around 600 manned recycling centres make up the core of the system which then unfolds through a network of on-site and mobile collection points, battery bins and last, but not least, in-store collection from retailers. Moreover, the collectors we work with also offer collection of consumer WEEE straight from offices, hotels, hospitals and other businesses. All in all, this means that the statistics presented by EI-Kretsen covers the majority of the thousands of kilos of WEEE and batteries collected in Sweden.

Reporting to the Swedish Environmental Protection Agency (EPA) has been divided into product categories as stipulated in the Ordinance for Producer Responsibility for Electric Equipment (2022:1276), which is in turn based on the WEEE Directive (2012/19/EU) and the Swedish Ordinance (2008:834) on Producer Responsibility for Batteries.



### Collection results

EI-Kretsen also receives some 2,700 tonnes of waste that can't be categorised as falling under any producer responsibility or any given product group. Taking this additional amount into account, EI-Kretsen has collected and treated a total of 141,000 tonnes.

According to the statistical office of the European Union, Eurostat, we collected a total of 5 million tonnes of WEEE in 2022. This corresponds to just over 11 kilos per person. Sweden accounts for just under 3 per cent of the EU WEEE, but when this is divided up per citizen our average is somewhat higher than the EU average, 13,5 kilos.

### Tonnes collected

Product categories	2024	2023
1. Temperature exchange equipment	27,575	27,672
2. Screens and monitors	10,643	10,487
3. Lamps	1,891	2,030
4a. Large equipment	46,437	48,642
4b. Solar (PV) panels	104	3
5. Small equipment	40,370	34,566
6. Small IT and telecommunication equipment	7,247	6,809
7. Batteries	4,066	3,844



# Resources and a circular economy

## Recycling results

With a recovery rate of 73 %, almost 100,000 tonnes of WEEE have been transformed into new materials.

### 1. Temperature exchange equipment

Reused	1,9%
Material recovery	83%
Other recycling*	12%
Other kinds of treatment**	2%

### 3. Lamps

Reused	0,0%
Material recovery	49%
Other recycling*	28%
Other kinds of treatment**	24%

### 4b. Solar (PV) panels

Reused	0,0%
Material recovery	20%
Other recycling*	80%
Other kinds of treatment**	0%

### 6. Small IT and telecommunication equipment

Reused	0,4%
Material recovery	71%
Other recycling*	26%
Other kinds of treatment**	3%

### 2. Screens and monitors

Reused	0,4%
Material recovery	71%
Other recycling*	26%
Other kinds of treatment**	3%

### 4a. Large equipment

Reused	0,4%
Material recovery	71%
Other recycling*	26%
Other kinds of treatment**	3%

### 5. Small equipment

Reused	0,4%
Material recovery	71%
Other recycling*	26%
Other kinds of treatment**	3%

### Batteries

Material recovery	58%
Other recycling*	42%

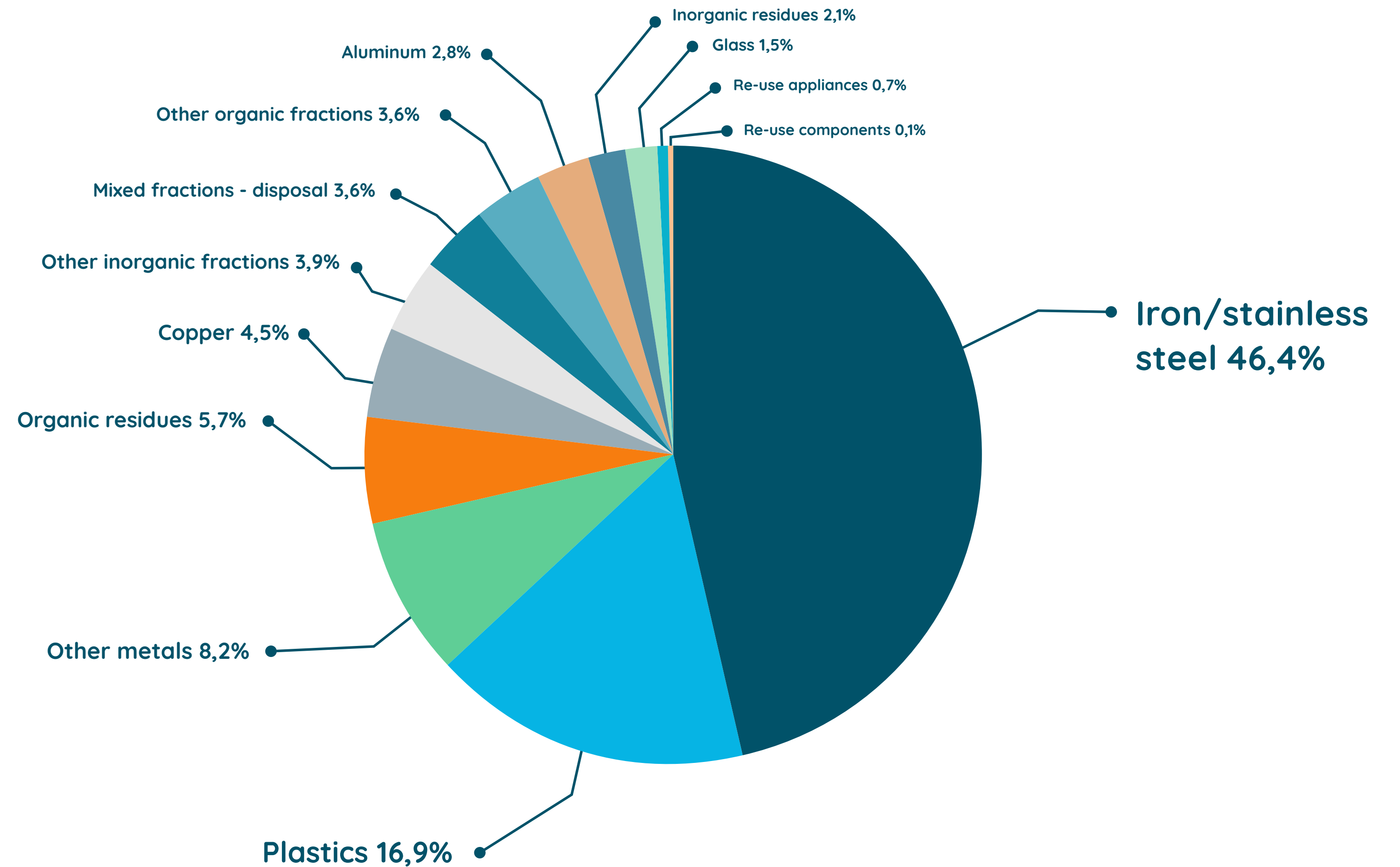
\*Energy recovery and materials that replace virgin materials, for example fillers or construction material.

\*\*Concrete, porcelain and similar materials that are not recycled, as well as environmentally hazardous materials that undergo thermal combustion.

## Material composition

What are our electrical products and batteries really made of? New electronics tend to contain a greater number of different materials and substances than old electronics. One main reason for this is that electronics have been merged into other conventional products, like furniture and clothes. Another reason is that many products have become more complex and now have more functions than they did originally, for example electric tools that come with built-in lights. A third reason is the development of composite materials. Plastics and metals can contain a number of different materials and additives. This puts more pressure on those of us who are meant to recycle these resources and return them to the materials cycle. We now face the challenges of separating different kinds of materials from one another, like textiles or wood that have been glued together with plastics and metals. But it can just as well be assorted plastics with different kinds of additives that make them more or less recyclable.

Using a standardised reporting tool means we are constantly updated on what materials are used and how different products are treated. The diagram to the right shows the total result for all product categories.



# Resources and a circular economy

## Explaining the contents

### Examples of organic residue and fractions:

Generic term	Substances	Can be found in	Content/impact/handling
Plastics	ABS, PVC, PS, PC	Casing, cables, keyboards	May contain flame retardants
Flame retardants	PBDE, TBBPA	Circuit boards, plastic details	Hazardous, endocrine disrupting
Oils & greases	Mineral oil, PAH	Compressors, coolers, engines	May be polluted
PCB	Polychlorinated biphenyls	Older condensers, transformers	Poisonous

### Examples of inorganic residue and fractions:

Generic term	Substances	Can be found in	Content/impact/handling
Metals	Copper, aluminium, iron	Cables, chassis, engines, motors	Can be recycled
Precious metals	Guld, silver, palladium	Circuit boards, plugs	Can be recycled
Heavy metals	Lead, mercury, cadmium	Batteries, fluorescent tubes, solder joints	Extremely poisonous
Ceramic materials	Ceramic insulators	Certain components	Withstands high temperatures
Glass	Glass screens, lamps	TVs, monitors	Old glass may contain lead

"Mixed fractions for disposal" is a category that provides yet another example of composite residual materials. This is waste that can't be separated and sorted into distinctive material categories. This waste is often used for energy recovery instead of material recovery.

### What products contain affects their recyclability

An early producer responsibility ordinance listed a recycling target of 4 kg per person per year. This was exceeded by El-Kretsen – and with that, by Sweden itself – in our very first year. In 2024, the outcome was 13.5kg per person. Since then, the targets of Sweden and the EU have been replaced with percentage units relating to the recycling proportion of the waste collected.

Recycling requirement according to the Swedish Ordinance SFS 2022:1276:

Category	Recycling	Of which materials recovery
1	85%	80%
2	80%	70%
3	80%	80%
4	85%	80%
5	75%	55%
6	75%	55%

In the new EU Battery Regulation 2023/1542, the recycling targets have been tightened further as disposal and energy recovery have now been banned. The material recovery rate will be gradually increased over time and specific levels will be set for individual substances, for example lithium, nickel, cobalt, copper and lead.

The pie charts above show the proportions of the total weight made up by iron and steel. Setting recycling targets quantified by weight or per cent of the total waste collected is one thing. But setting targets for individual metals (which in certain cases only exist in very small quantities) places new demands on the recycling industry. Beryllium, chromium, manganese and nickel are examples of metals that are present, but in concentrations as minute as less than one gram per waste tonne. Successfully recovering these materials to their original form brings with it technical, energy-intensive and financial challenges.

# Resources and a circular economy

## Reuse

We have no idea of how many owners a product has had before it reaches our collection points. We can, however, see that they are often old and broken, bearing witness to the fact that their best-before date was passed long ago. To find data on the volumes of reused products, we have to turn to the second-hand markets, both in and outside Sweden. Nevertheless, some of the products handed in to EI-Kretsen can be repaired, polished up and reused. EI-Kretsen runs a project where white goods are singled out and prepared for reuse. When such products are not reusable in their entirety, they are stripped of the components that are still functioning and these are then resold. Component reuse does not noticeably affect the statistics insofar as the number of tonnes collected, but it still has an important environmental impact as making new components from scratch requires a lot of resources.

Something that hardly affects the weight collected at all, but which has a very positive effect on the environment, is the oil we empty and collect from compressors. This oil is inspected and purified, after which it can be reused as a new product. Compressors are found in fridges and freezers, for example. Fridges and freezers also contain refrigerants which would have a massive negative impact if they were released into the environment. These agents are treated separately in sealed chambers. Through gas separation we are able to extract and reuse hydrochloric acid and hydrofluoric acid, for example.

## Possibilities for increased reuse

Reuse should be the obvious option when it provides environmental benefits and when there is a demand for the product or component. Examples of pointless reuse would be removing the concrete weights used in white goods for transport back to the countries where they were made. While this would improve our statistics, it would impact the environment negatively. In the same way, repairing and reconditioning old products for which there is no demand (like old television sets) would be pointless unless we forced people not only to buy them, but buy them at a price that covered the repair costs. One area where we see possibilities for increased reuse, however, is the market for components and products which still have market value and where the environmental gains exceed the negative aspects that treatment and transport often give rise to.

In its agreements with Swedish municipalities, EI-Kretsen has included the option of increasing reuse possibilities at recycling centres. The products people leave in these containers never reach EI-Kretsen and consequently they are not included in our statistics.

Of the products that do end up in our containers, a few can actually be reused in their current state or contain components that can be reused as spare parts.



# Resources and a circular economy

## Material recovery

73 per cent of the WEEE collected is forwarded for material recovery. Different metals are harvested, iron being by far the most common (in weight). But copper, aluminium and also minor amounts of precious metals are recovered. Other materials like plastics and glass are also recycled and returned to manufacturers as resources for making new products.

## Possibilities for increased recycling and material recovery

As part of our cooperation with the company Remondis, we have now introduced a new technology for purifying and recycling glass. This has resulted in a substantial rise in the recovery rate for glass. Previously, glass was used as a substitute for other kinds of material, for example as a covering product at landfills.

## Other recycling

Additional recycling includes the waste we turn into heating, such as unrecoverable plastics, wood, fabric and other combustible materials.

## Other kinds of treatment

Finally, there is waste that cannot be recovered, recycled or reused as energy. The bulk of this category is made up of the weights used in white goods such as washing machines. In the past, these weights were made of metal, but these days they are made from concrete or some similar stone-based material. "Other kinds of treatment" also covers hazardous waste that goes into storage, like mercury or radioactive units found in smoke alarms. Other examples of hazardous waste may be materials or liquids with particularly dangerous properties. These have to be burnt in special incinerators.



# Communication with different stakeholders

## Employees

EI-Kretsen has an employee handbook which provides practical information on EI-Kretsen as a place to work and offers support when introducing new employees. In addition to this, the handbook contains several policy documents concerning issues like equality, work environment, complaints procedure and drug and alcohol matters.

There are also job descriptions, career development talks and training plans, all within the framework of the ISO 9001 Quality Management System. These areas are regular points of discussion in the management group for the purpose of evaluating our operational needs and how best to meet them.

A certain amount of further training takes place in-house. In 2024, several workshops were arranged on both general and specific topics to raise the level of basic knowledge of the entire workforce.

How the employees rate EI-Kretsen as a place to work is measured and followed up every year using an external HR resource.

In December 2024, EI-Kretsen employed nine women and six men.

In addition to the Chairman of the Board, Bo Thunberg, the board is represented by representatives from EI-Kretsen's owners, the industry organisations. Board members as well as EI-Kretsen's owners can be found on EI-Kretsen's website: [Our owners](#)



## Producers

Companies with producer responsibility for electrical and electronic equipment (EEE) tend to be manufacturers or importers of a product that is made available on the Swedish market. Foreign companies that sell electronic products directly to end users in Sweden also have producer responsibility. In addition to being affiliated with a producer responsibility organisation (PRO), foreign companies must appoint a legal representative in Sweden known as an Authorised Representative. Of EI-Kretsen's 2,150 affiliated producers, some 200 are based abroad. They have also appointed EI-Kretsen as their Authorised Representative.

Part of the producer responsibility involves disseminating information. The new battery regulation emphasises the responsibility of all the people through whose hands a battery passes in its lifetime. EI-Kretsen's umbrella organisation WEEE Forum has introduced "International E-waste Day". This is one example of how all of us stakeholders can join forces to spread the word on why and how WEEE and batteries should be handled correctly. In conjunction with this campaign, EI-Kretsen arranged the conference "Closing the Loop Together". We spent a whole day looking at the many facets of the EU's Green Deal and investigating the possibilities it creates for us (the PRO) and for producers and recyclers.



Maria Wetterstrand, social debater and former politician, provided insight into the EU's development of the Green Deal.



The day consisted of several workshops. Part of the aim was to find out what wishes and ideas the participants had for EI-Kretsen's services in the future. The resulting information has been compiled and is now used in our internal strategy and development work.



The old post office in Stockholm is a fantastic venue, accommodating many participants in discussions around EI-Kretsen's issues.



After the conference, all participants received a compendium containing presentations and summaries from the workshops and more.

## 9.1 out 10

The overall "Satisfied Customers Index" 2024

How well does EI-Kretsen actually help all the producers, suppliers and others who get in touch to ask questions? We continuously measure and assess this and we also give our stakeholders the opportunity to tell us how they think we can improve.

## Suppliers

Collecting and handling 140,000 tonnes of WEEE all throughout Sweden in a way that is both eco-efficient and cost effective requires carefully planned logistics. Our IT systems enable us and our suppliers to keep a check on filling ratios, plan our routes and ensure that all the waste we pick up is delivered to the correct facility. Sweden's 290 municipalities provide the backbone of the collection system. From there, numerous transport companies, pre-treatment facilities and recyclers take over to close the materials loop.

We have an ongoing dialogue with our suppliers around all kinds of issues to make sure our logistics remains lean. Over a 12-month period we make lots of on-site visits and also take part in local and regional meetings.



We also arrange a large annual workshop for the employees at the many recycling centres, transporters and recyclers. This is a great opportunity for all our different partners to get an overall picture of our industry as well as to inspire and be inspired by colleagues and role models all over the country.

At our workshops, we have had the opportunity to award prizes to teams that have improved the collection chain through their commitment and ideas.

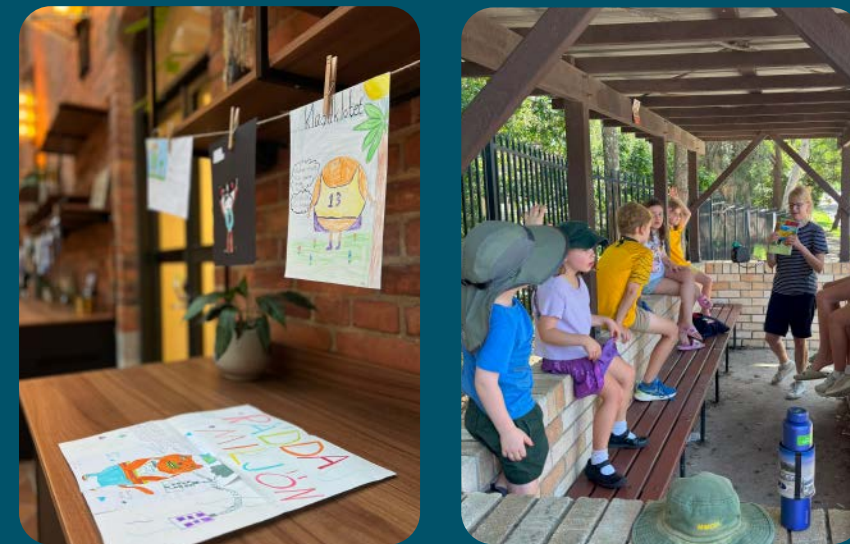


## The public

Motivating people by explaining *why* and telling them *how* we can all make more sustainable choices is a never-ending task, and the producer responsibility legislation places demands on producers, producer responsibility organisations and municipalities to this effect. As we at EI-Kretsen believe in creating a long-term recycling engagement, we produce a lot of educational materials aimed at a younger audience. We primarily disseminate these through three channels: [Skolmaterial](#), [Sopor.nu](#) and [Kunskapsrummet](#).

EI-Kretsen is also active on social media. On LinkedIn, for example, we publish news updates on the activities we are involved in, and on TikTok we post weekly short films which highlight EI-Kretsen's information and values.

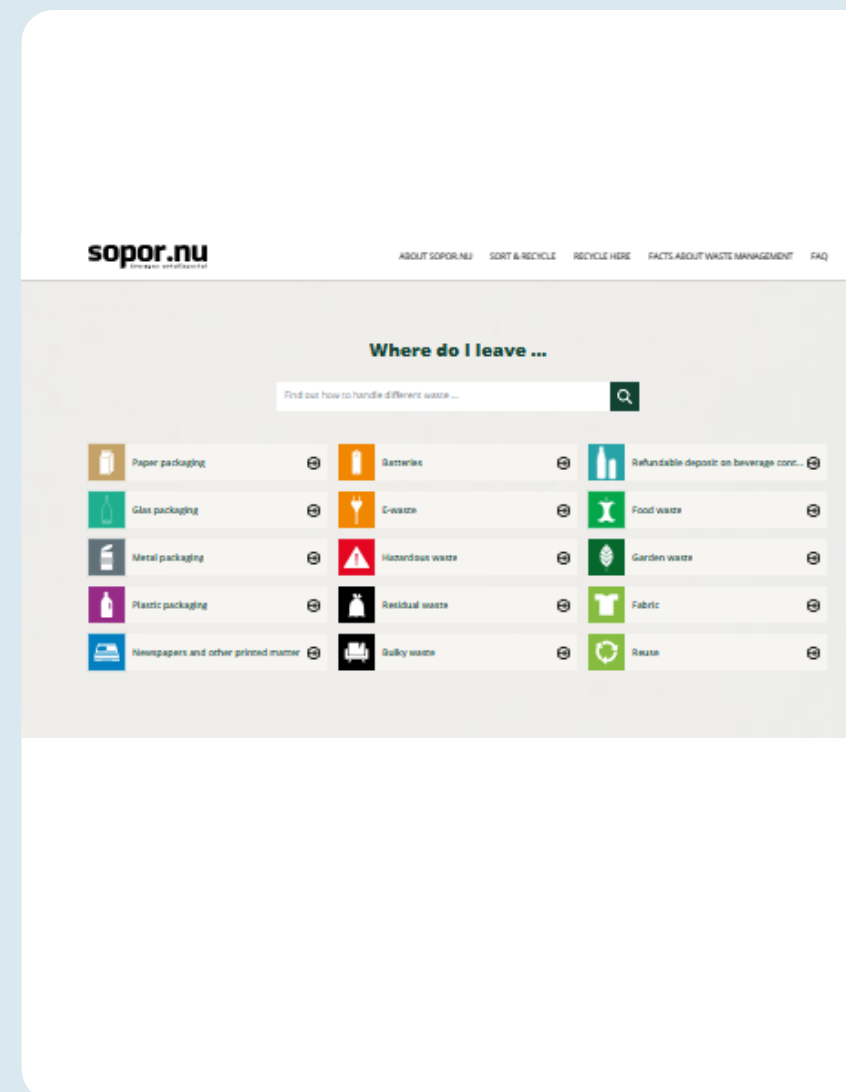
### Educational materials



Through the book *Natur & Miljöboken* we provide Sweden's elementary schools with information materials that have been adapted to the national curriculum. They also arrange competitions where the pupils work creatively on sustainable solutions by drawing pictures, for example. These photos were taken at the conference "Closing the Loop Together", where we had the privilege of displaying some of these works of art.

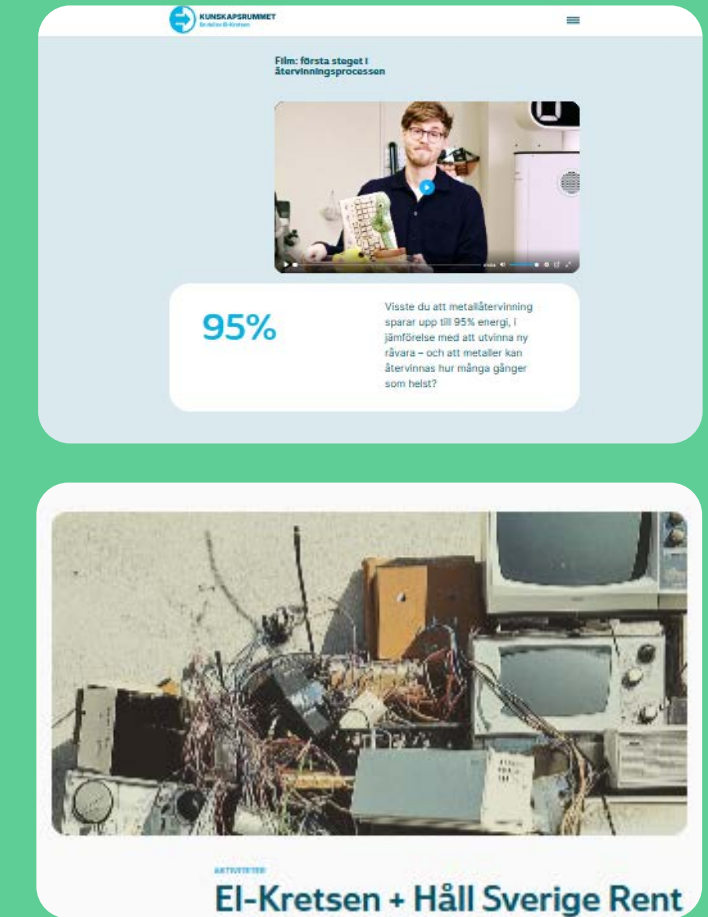
Together with the publishing house Egmont, EI-Kretsen has created a special edition of the much-loved comic *Bamse*. We distribute classroom kits free of charge to all primary schools in Sweden. In 2024, we produced a poster and a teacher's handbook which we now include in every kit. The furthest we have sent this kit was to the Swedish school in i Australia. Good news travels far!

### Sopor.nu



In a joint project with Avfall Sverige (Swedish Waste Management) and the producer responsibility organisations NPA and Recipo, EI-Kretsen has set up [sopor.nu](#), a website providing comprehensive information on all kinds of waste. We know it is a popular website, particularly among the municipalities. They can both copy information from it and direct their residents to it.

### Kunskapsrummet



During 2024, EI-Kretsen's *Kunskapsrummet* (Sustainability Library) underwent a total make-over and is continuously topped up with articles and information. This is a website aimed at school children and students looking for information on how WEEE and batteries are collected and recycled, but it also welcomes the more curious members of the general public who wish to know more about what we call politics. It is, in short, a space for discussing problems and pose in-depth questions about how we can reach the circular society we aim for in the smartest and most efficient way possible.



**El-Kretsen AB**