



THE EPA CIRCULAR ECONOMY PROGRAMME

The Driving Force for Ireland's Move to a Circular Economy

CIRCULAR ECONOMY AND WASTE STATISTICS HIGHLIGHT REPORT

2022

EPA Circular Economy Programme



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Circular Economy and Waste Data Highlights

A total of **15.7 million tonnes** of waste was generated in Ireland in 2022. This is a decrease of 1.9 million tonnes from 2021 levels.



1.24 million tonnes or **39%** of all municipal waste was exported for treatment in 2022.

This includes **740,000 tonnes** of municipal waste exported for recycling and **369,000 tonnes** of residual municipal waste exported for energy recovery through incineration.

67% of all packaging waste recycled was sent abroad for recycling.



8.3 million tonnes of **construction and demolition** waste was generated in 2022. **A decrease of 9%** since 2021.



Packaging waste generation in Ireland was **1.2 million tonnes** in 2022, similar to 2021. The recycling rate for packaging waste increased slightly from 58% in 2021 to **60%** in 2022.



3.2 million tonnes of **municipal waste** was generated in 2022, a minor increase from 3.17 million tonnes in 2022. **41%** of Municipal waste was recycled in 2022, the same level as in 2021 and 2020.



A total of **1.76 million tonnes** of **household waste** was managed in Ireland in 2022. This is a **3% decrease** since 2021 and a 5% decrease from a peak of 1.85 million tonnes in 2020.



Ireland generated **750,000 tonnes** of **food waste** in 2022. This equates to **145kg** of food waste per person and is higher than the EU average of 130kg of food waste per capita.



In **2022**, the number of end-of-life vehicles (ELVs) generated **decreased by 27.6%**.



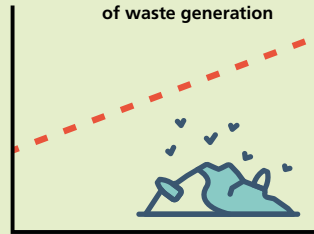
30,680 tonnes of single-use plastic bottles were placed on the market and **14,930 tonnes** of waste single-use plastic bottles were collected with other wastes.



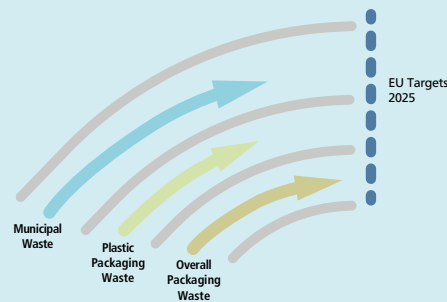
Key Messages

1 We are generating too much waste in Ireland, a total of 15.7 million tonnes in 2022. System-wide change is needed to accelerate the transition to a circular economy. Effective regulation, incentives and enforcement are required to influence industry, business and consumers to adopt more sustainable production and consumption behaviours.

We are in a Linear Economy with continued high levels of waste generation

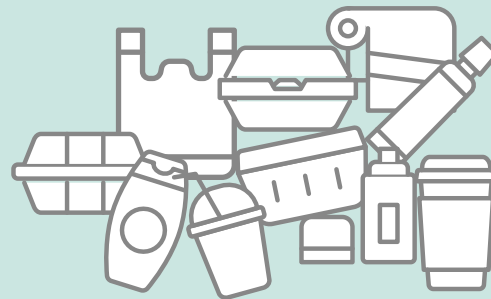


2 Ireland's circular economy and waste system is underperforming. Our efforts to reuse and recycle more are not progressing, upcoming municipal waste recycling targets will be missed and the rollout of a consistent 3-bin system remains to be delivered.



Struggling to meet upcoming recycling target

3 Packaging waste accounts for approximately one third of kerbside waste collected from households and businesses. Packaging waste has grown by over 20% since 2016, impacting recycling which has fallen by 7%. There is a high risk we will not meet recycling targets for packaging and plastic packaging waste.



4 Ireland's national waste treatment capacity is vulnerable with an over reliance on other countries to treat our waste. Over 1.2 million tonnes of municipal waste was exported to other countries in 2022.

We are exporting too much of our waste

municipal waste

39%

1.2 million tonnes

hazardous waste

57%

220,000 tonnes

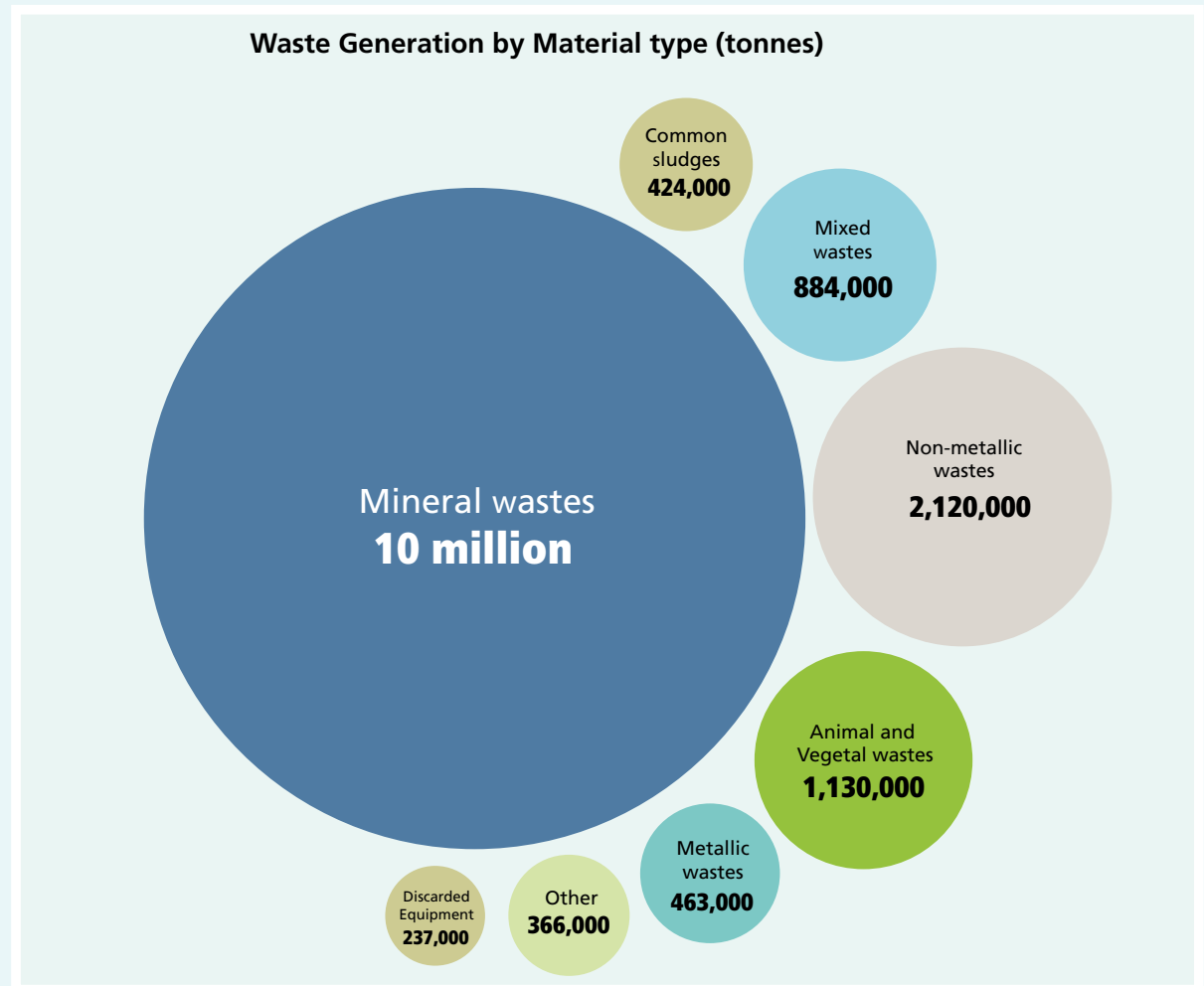


5 Ireland's construction sector accounted for over 8 million tonnes of waste and about 50% of domestic natural resource extraction in 2022. Embracing a circular economy in the built environment means supporting renovations and retrofits, designing buildings and urban spaces to use less carbon intensive resources and reusing materials.



Waste Generation

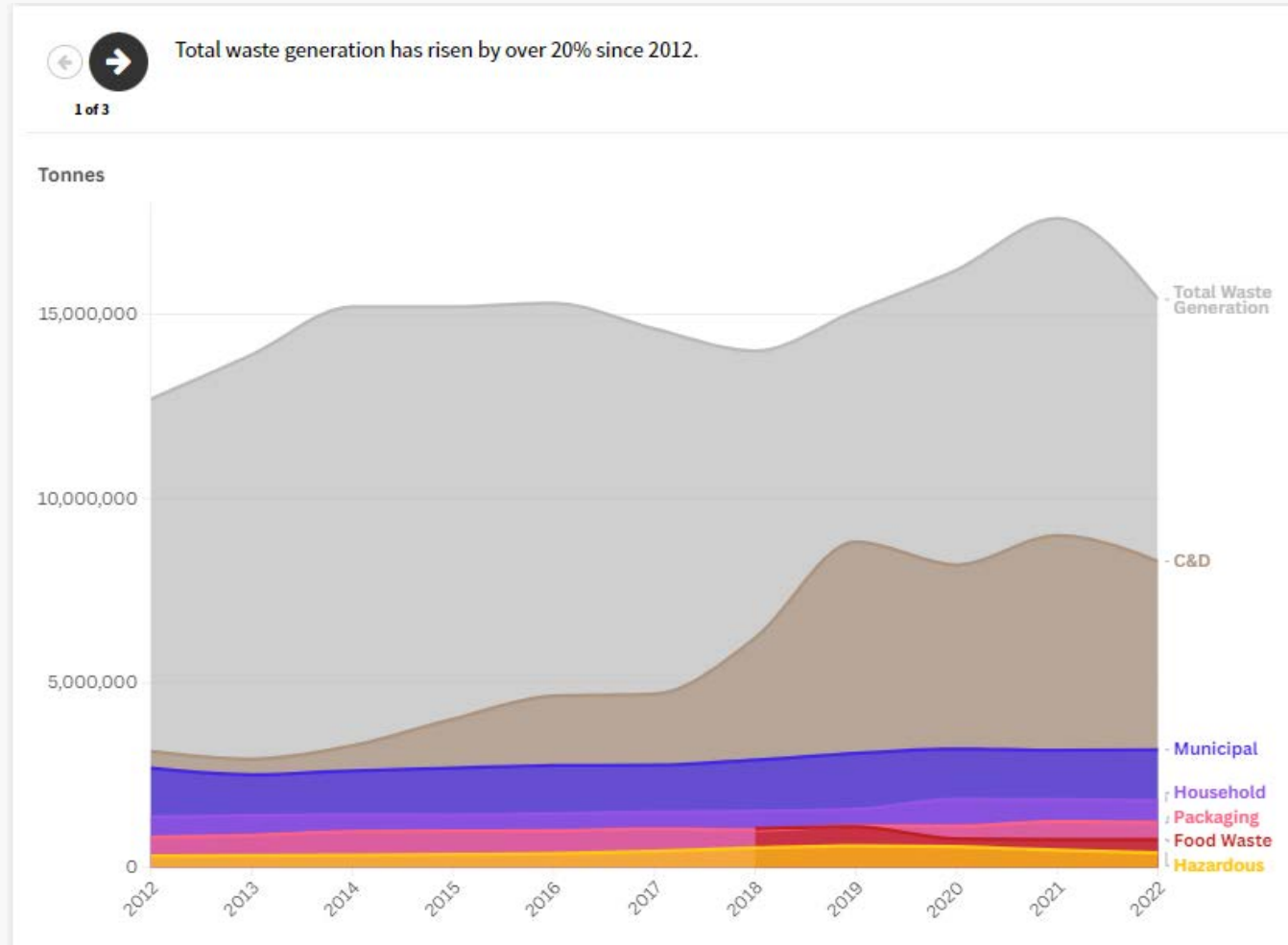
- Waste generation refers to the total tonnage of waste that is disposed of and collected through the waste management system in Ireland each year.
- The EPA estimates that **15.7** million tonnes of waste was generated in Ireland in 2022. This is a decrease of 1.9 million tonnes from an estimated 17.6 million tonnes in 2021.
- Mineral Wastes are the largest waste material type, accounting for **10 million tonnes** or two-thirds of all waste generated and includes:
 - ▲ Soil waste - 6.5 million tonnes;
 - ▲ Naturally occurring minerals (e.g. waste gravel, crushed rock, sand and clays) - 3 million tonnes; and
 - ▲ Construction and demolition wastes - 240,000 tonnes.
- Non-metallic wastes are the second largest waste category, accounting for 2.1 million tonnes or 14% of all waste. This includes plastic, wood, textile, paper and cardboard wastes.
- Animal and vegetal wastes, mainly derived from food preparation activities, account for 1.1 million tonnes or 7% of all waste.
- Mixed wastes which includes sorting residues, street sweepings and other undifferentiated wastes, accounts for 884,000 tonnes.
- Metallic wastes which includes aluminum, copper, lead and other metal wastes account for 463,000 tonnes of waste generated.
- Common sludges account for 424,000 tonnes, discarded equipment accounts for 237,000 tonnes, and other wastes account for 366,000 tonnes.



For more information on this approach and the waste material categories see here [Waste Generation | Environmental Protection Agency](#)

Waste Generation

WASTE GENERATION IN IRELAND HAS INCREASED BY OVER 20% SINCE 2012



Source: EPA Ireland. Created with Flourish Studio

[Click to view the full graph series](#)



Waste Treatment and Exports

Waste treatment refers to the processes involved in the recovery or disposal of waste. The majority of waste in Ireland is treated through one of the following processes:

- **Recycling:** Where waste is correctly segregated into its constituent materials, (e.g., plastics, cardboard & metals) these can be recycled or prepared for reuse. Recycling includes treatment of organic waste through composting and anaerobic digestion.
- **Thermal treatment:** Incineration of unsegregated waste in municipal incinerators or cement kilns with recovery of the energy generated.
- **Disposal:** Where materials are unsuitable for recovery they are disposed of at landfill.

Key waste treatment statistics in Ireland in 2022:

- **43%** of Municipal waste was treated by energy recovery through incineration in 2022.
- The Municipal waste recycling rate was **41%** in 2022, unchanged from 2021 and 2020. This must reach **55%** by 2025.
- **64%** of plastic packaging was treated through incineration, a reduction from 70% in 2021.
- The packaging recycling rate increased to **60%** in 2022, up from 58% in 2021.
- **81%** of C&D waste treated in Ireland was recovered by backfilling, **7%** went for disposal and only **10%** was recycled.

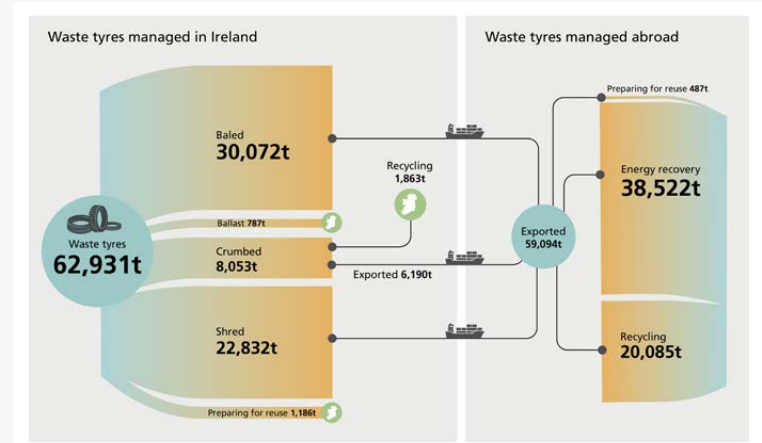
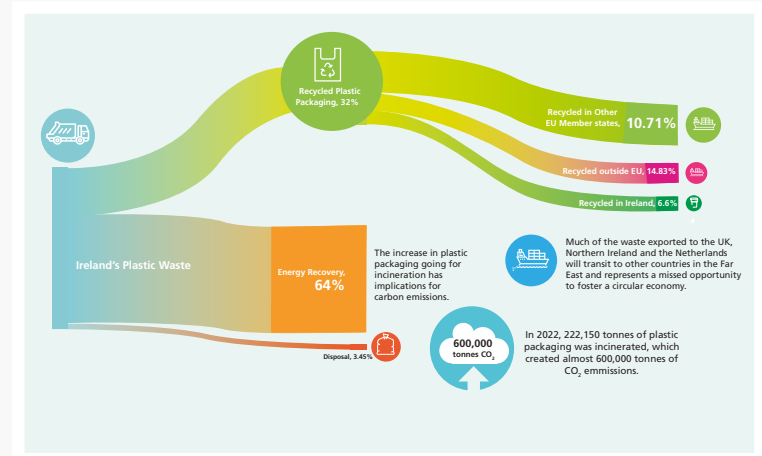
- **510,000 tonnes** of waste was accepted for treatment at composting and anaerobic digestion facilities in 2022.
- The WEEE collection rate was **51%** in 2022, a significant drop from 64% in 2021 and well below the EU target of 65%.

Overall, the total quantity of waste recovered through recycling or composting has increased over the last number of years but not fast enough to keep up with the increasing waste generation rates.

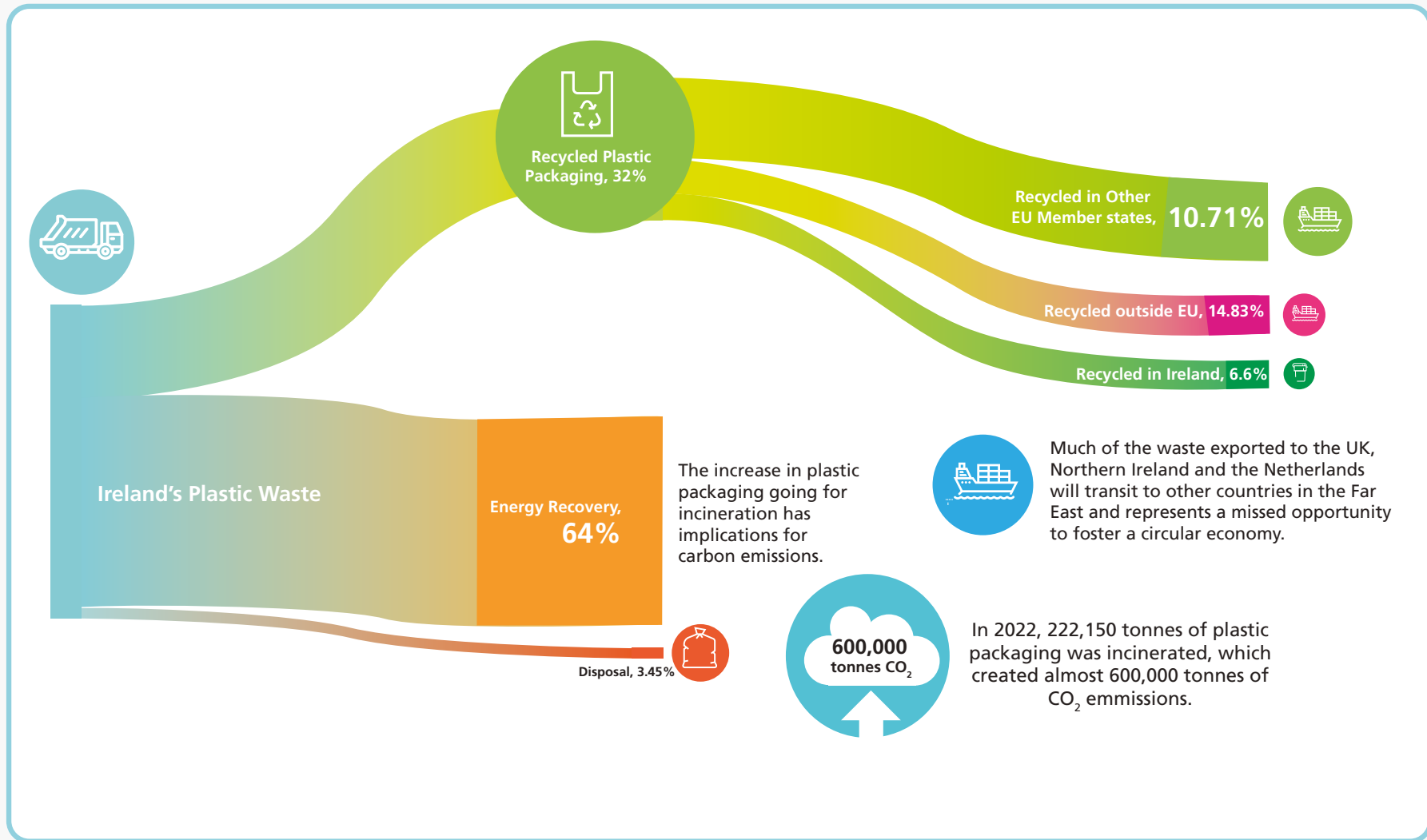
Ireland also continues to rely on export for treating a number of key waste streams. In 2022:

- **39%** of municipal waste was exported for final treatment and 369,000 tonnes of residual municipal waste exported for energy recovery through incineration.
- **67%** of packaging waste which was recycled, was exported for recycling. The remaining 33% recycled in Ireland was composed mainly of glass and wood.
- **33%** of organic waste treated by composting or anaerobic digestion was sent to Northern Ireland for treatment.
- Nearly **94%** of all waste tyres were exported for recycling and energy recovery.
- In 2022, **57%** of hazardous waste was treated abroad in countries that are party to the Basel Convention, an increase from 52% exported in 2021.

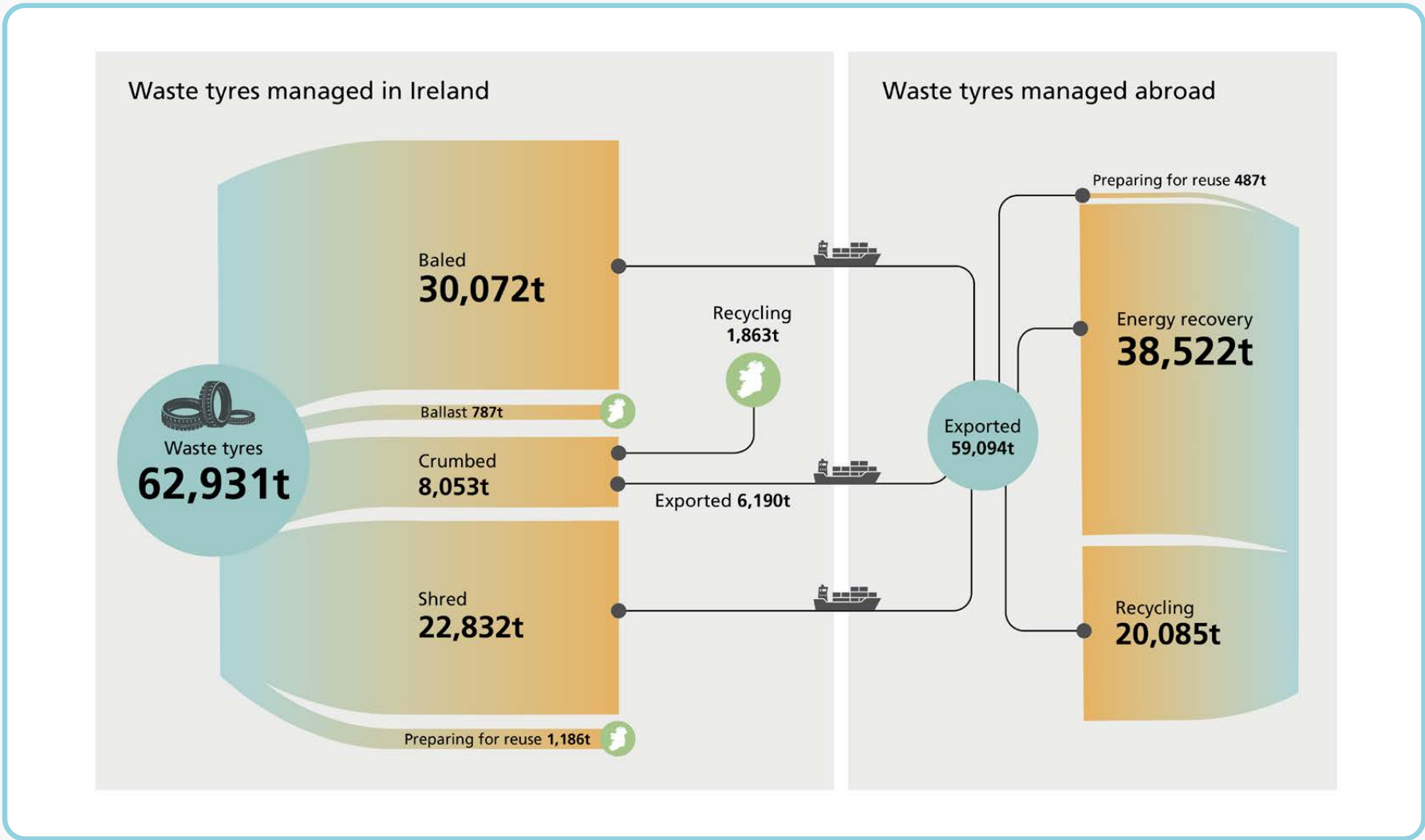
Ireland continued to rely on export for treating for a number of key waste streams in 2022.



Waste Treatment and Exports



Waste Treatment and Exports

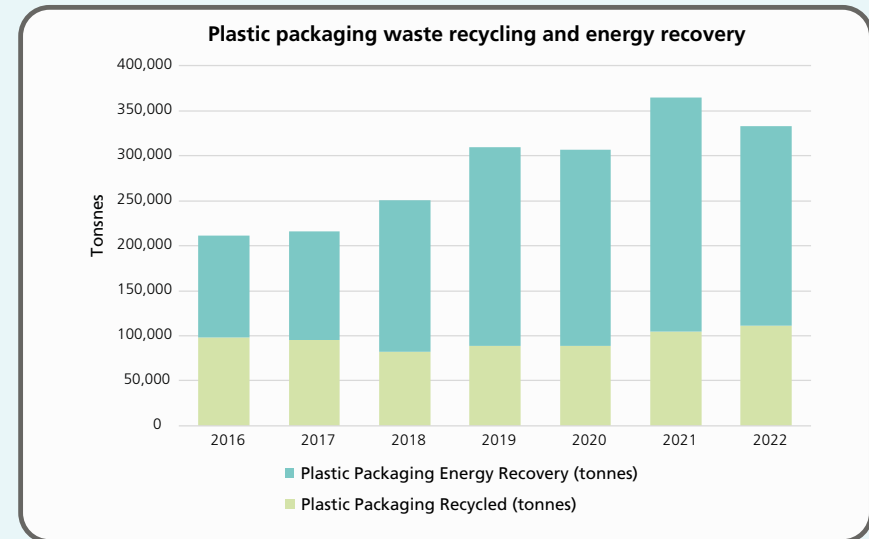
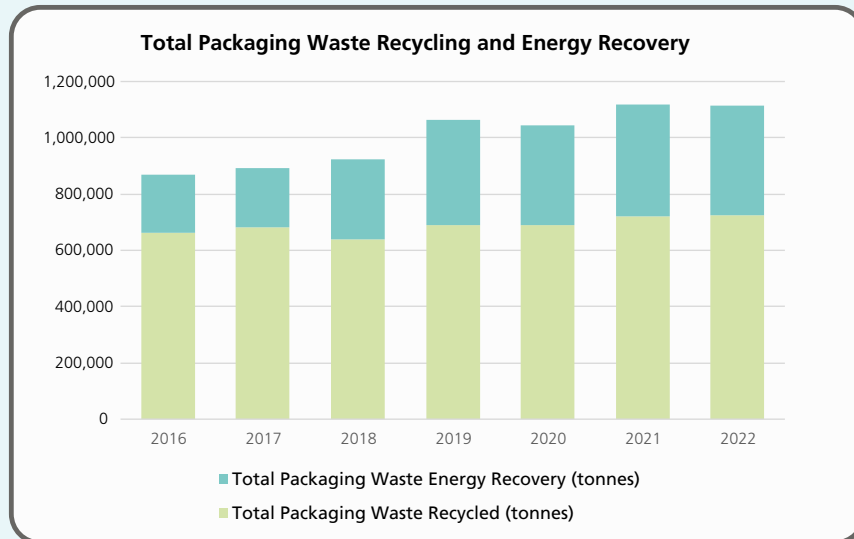


Waste Treatment and Exports

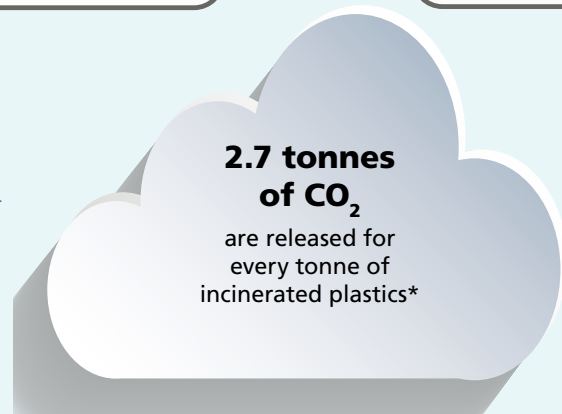
PACKAGING AND PLASTIC PACKAGING WASTE TREATMENT

In 2022, almost a third of all **packaging** waste was sent for incineration with energy recovery. We need to divert more of this to recycling to meet our recycling targets.

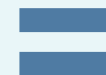
There was a decrease in the amount of **plastic packaging** waste sent for energy recovery in 2022. This is due to a reduction in plastic packaging waste generation levels along with a slight increase in the amount of plastic packaging waste which was recycled.



147,000 tonnes of plastic packaging was treated at municipal incinerators in 2022



2.7 tonnes of CO₂ are released for every tonne of incinerated plastics*



This resulted in **396,900 tonnes of CO₂ emissions**

*calculation factor from European Environment Agency

Municipal Waste



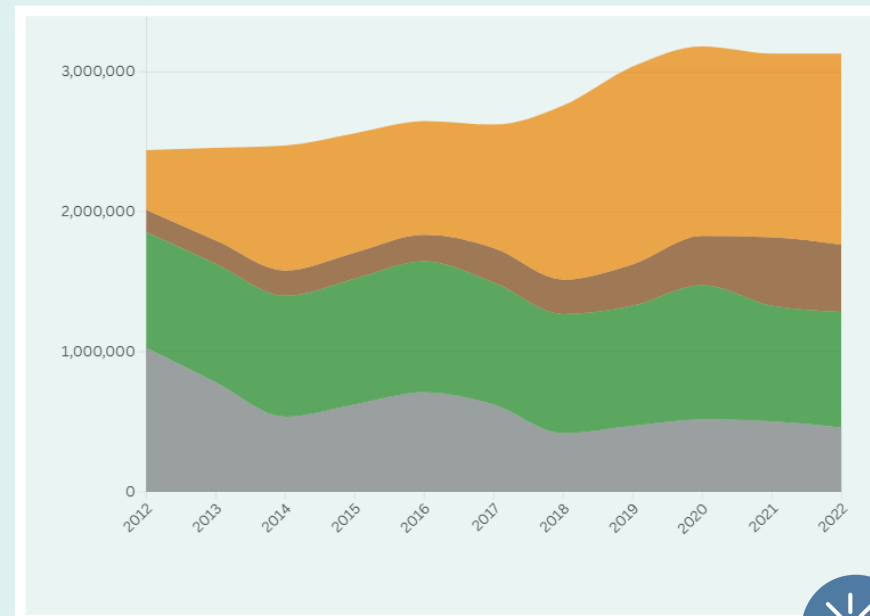
Ireland generated 3.2 million tonnes of municipal waste in 2022.

Just over 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2022.

Municipal Waste is the waste we all produce everyday in our homes, offices, businesses and schools. It includes household and non-household (commercial) waste and contains the following:

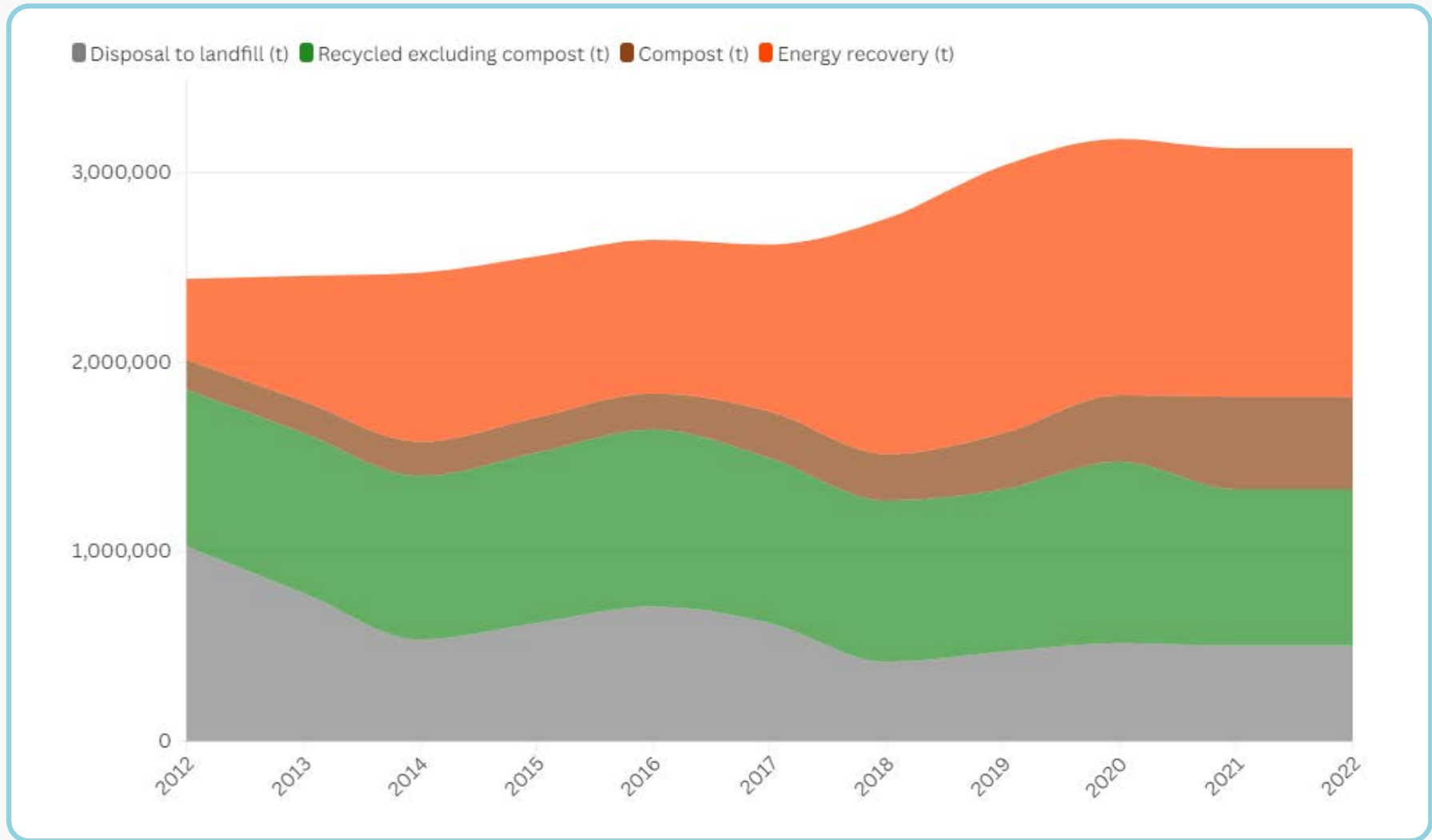
- ▲ Mixed municipal residual waste – this is unsegregated general waste that cannot be recycled.
 - ▲ Mixed municipal recyclable waste – e.g. clean glass, plastic, paper, cardboard and metals.
 - ▲ Municipal biowaste – Organic Food and garden waste, usually collected through a brown bin service.
 - ▲ Bulky municipal waste such as broken furniture, carpets, toys etc. that do not fit into a wheelie bin and are disposed of through a skip hire service or brought to a civic amenity site.
 - ▲ Waste Electrical and Electronic Equipment (WEEE), such as portable electronic devices and home appliances.
- Ireland generated **3.2 million tonnes** of municipal waste in 2022, this is relatively unchanged from 2021 and 2020 levels.
 - Of this, **55%** came from households and **45%** came from commercial and public service sources.
 - Just over **1.3 million tonnes** of municipal waste generated in Ireland was recycled in 2022, resulting in a recycling rate of 41%. The recycling rate remains unchanged from 2020 and indicates that we face significant challenges to meet the upcoming EU recycling targets of 55% by 2025 and 65% by 2035.
 - The proportion of municipal waste sent to landfill reduced slightly to **15%**.
 - **334,000 tonnes** of municipal biowaste was treated through composting or anaerobic digestion, similar to 2021 levels.

For more info see: [Municipal | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/municipal)



Click to see full graph

Municipal Waste



[Click to view animated graph](#)

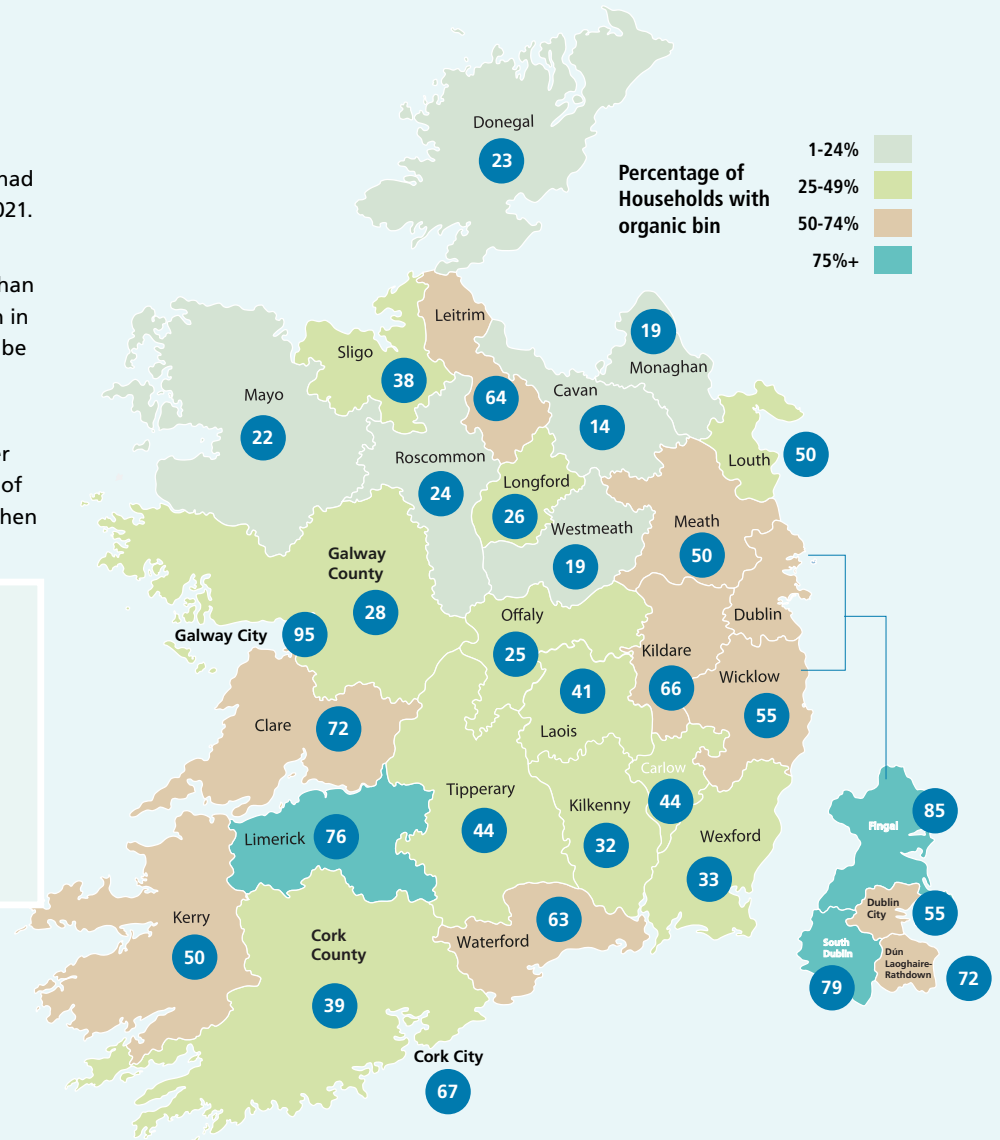
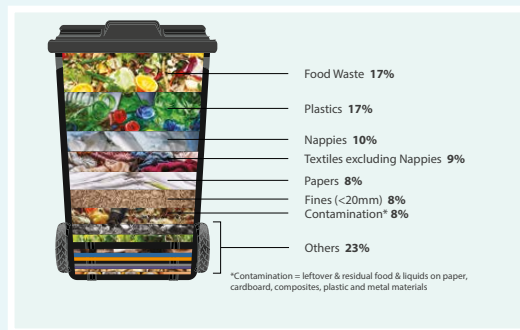


Household Waste

Household waste includes all waste (general, recyclables and organic waste) which is either collected directly at kerbside from households or brought by householders to bring banks, civic amenity sites, and pay-to-use compactors.

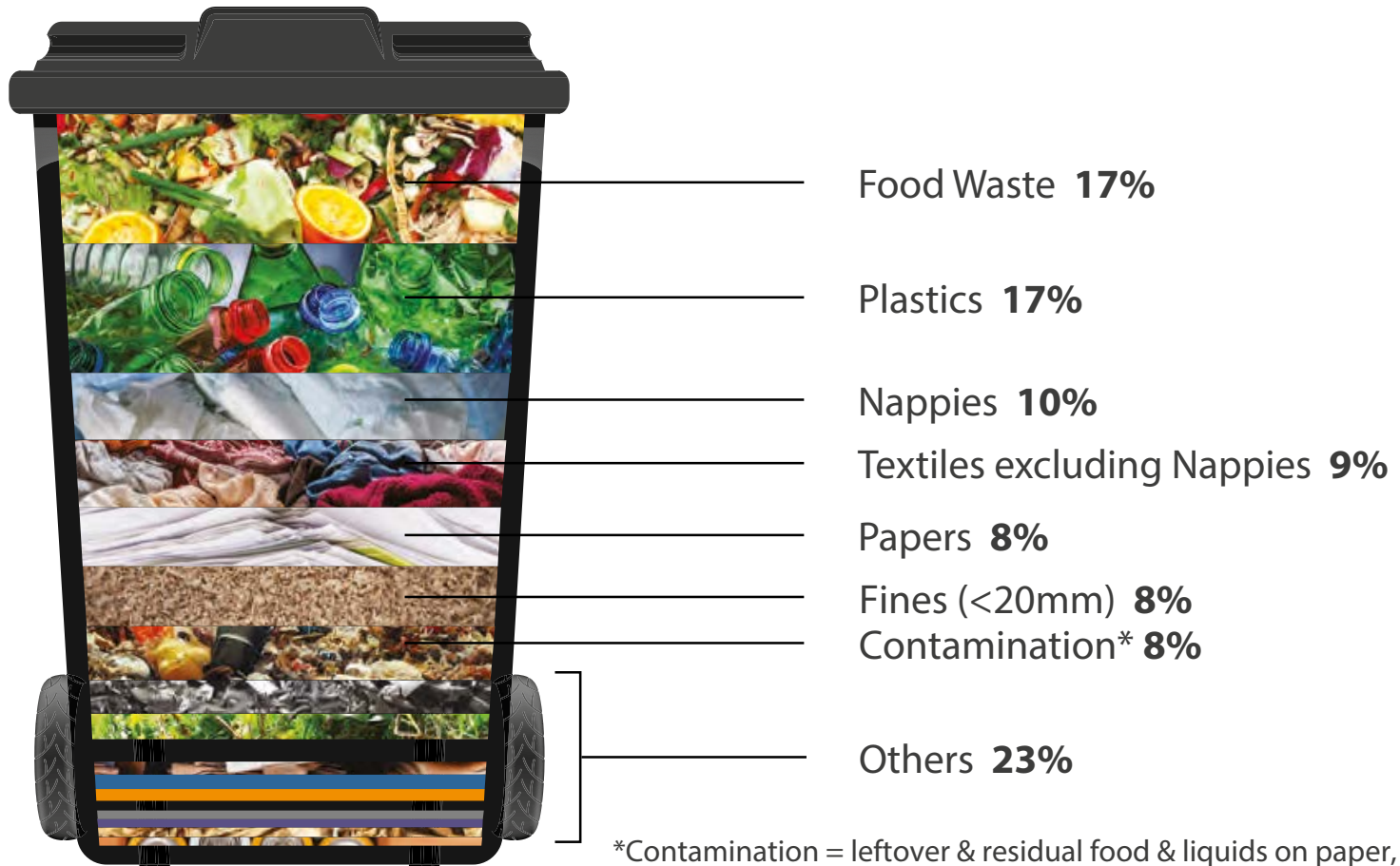
- **1.76 million tonnes** of household waste was managed in Ireland in 2022. This equates to approximately one tonne or 200 black bags of mixed waste per household.
- There was a relatively minor **decrease of 3%** of managed household waste generated in 2022 compared to 2021. This follows a similar decrease between 2021 and 2020.
- The EPA's 2022 municipal waste characterisation study found incorrect segregation of waste is still very common in household bins.
- The study found that 64% of waste placed in the general waste bin could have been segregated into the recycling or organic bin.
- Food waste in particular accounts for 17% of household unsegregated waste, and is an area where we can look to improve household recycling rates.
- Householders should avail of an organic/ brown bin service - available to all areas from 2024 - and dispose of their food and other organic waste in these bins or through home composting.

- At a national level, **66% of households** had a brown bin service, a drop of 3% from 2021.
- There is strong variation in the rollout of organic bins across the country with less than **30% of customers** having an organic bin in some local authority areas in 2022, as can be seen on the map on the right.
- There are also some areas where the presentation rates of brown bins are lower than 50%. This indicates a low usage rate of brown bins by some householders even when a bin is provided.



For more info see: [Household | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/publications-and-reports/household-waste)

Household Waste



Construction and Demolition (C&D) Waste

Construction and demolition (C&D) waste includes all the waste produced by the construction and demolition of buildings and road infrastructure.

- It contains a wide variety of materials such as concrete, bricks, wood, glass, metals and plastics.
- It is the largest waste stream in Ireland in terms of both volume and weight and accounts for more than a third of all waste generated in the EU.
- In 2022, **8.3 million tonnes** of C&D waste was recorded. This is a down 8% from 9 million tonnes in 2021.
- The decrease in C&D waste, particularly soil and stone waste, is likely due to a number of factors such as the type of development (housing, commercial, infrastructure) during the year, the stage of construction of developments with significant excavation works.
- The role of Article 27 of the European Communities (Waste Directive) Regulations, 2011, in preventing soil and stone being designated as waste in 2022 is also a factor to consider. The data shows that in 2022 over 2.6 million tonnes of soil and stone was determined as by-product and diverted from waste.



In 2022 over **2.6 million tonnes** of soil and stone was determined as by-product and never became waste

TREATMENT TYPES OF CONSTRUCTION AND DEMOLITION WASTE IN 2022					
	Recycling (t)	Energy recovery (t)	Backfilling (t)	Disposal (t)	Total (t)
Concrete, brick, tile & gypsum*	348,105	4,789	254,913	10,564	618,372
Segregated wood, glass & plastic	30,828	14,879	477	7,947	54,101
Bituminous mixtures	53,352	0	45,747	0	99,099
Metals	314,020	0	11	4	304,574
Soils, stones & dredging spoil	5,494	0	6,280,304	453,466	6,739,263
Mixed C&D Waste	31,238	35,635	26,578	46,951	140,402
Waste treatment residues	43,367	91,628	75,870	101,137	312,003
Total	816,943	146,931	6,683,870	620,070	8,267,813

*Please note that no gypsum was backfilled or landfilled

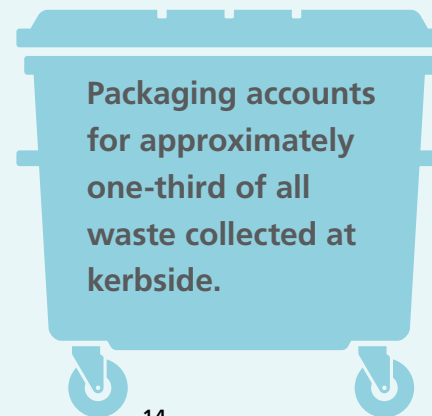
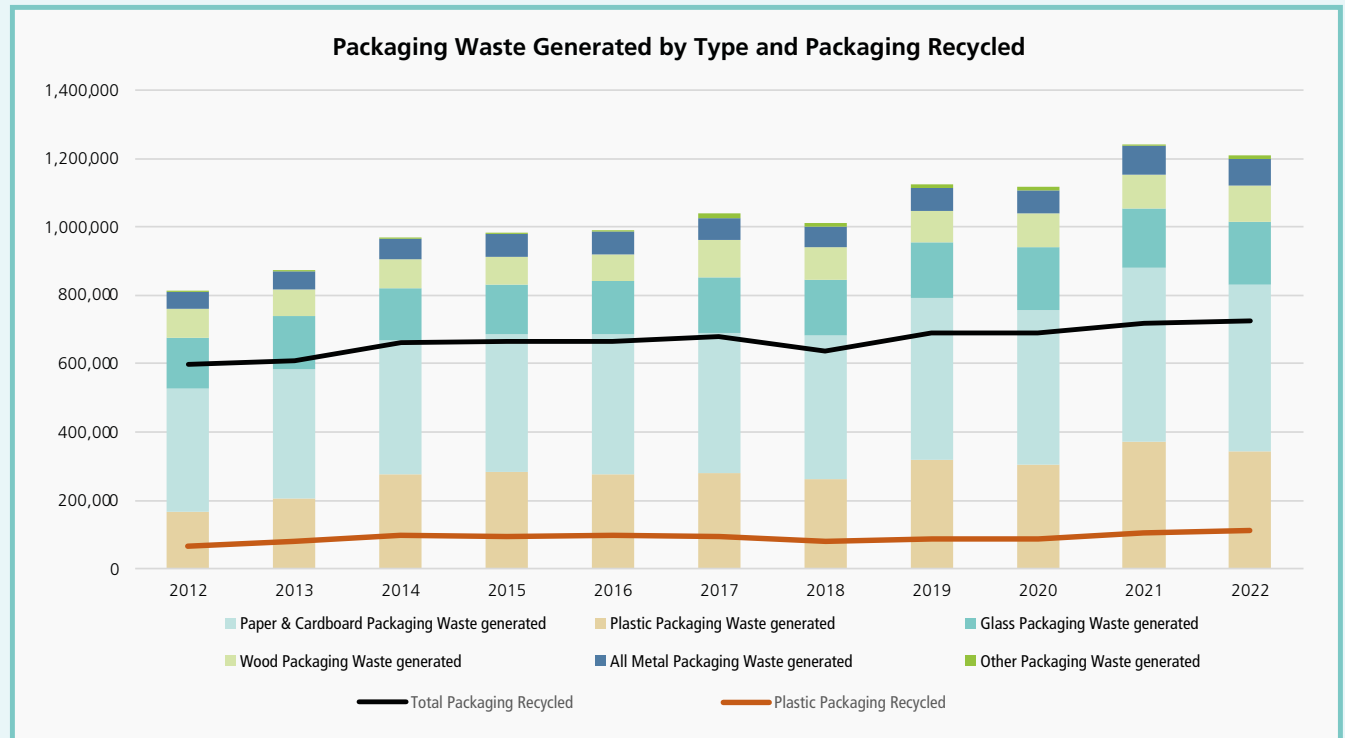
- Soil and stones made up the vast majority (**82%**) of C&D waste collected in 2022.
- Most C&D waste treated in Ireland was recovered by backfilling (**81%**), while **7%** went for disposal and only **10%** was recycled. The table on the right shows the breakdown of treatments type for all C&D materials.
- National *end of waste (for recycled aggregates) and by-product (for site-won asphalt and soil and stone)* decisions will help to establish reliable and safe markets for recyclable materials, reduce the use of virgin materials and prevent construction wastes generation.

For more info see: [Construction & Demolition | Environmental Protection Agency \(epa.ie\)](#)

Packaging Waste

Packaging comes with the products we buy for our homes and businesses. It protects them during transport, keeps them fresh and provides product information. Once the products are unpacked, the packaging become waste.

- In 2022, Ireland generated **1.2 million tonnes** of packaging waste. Relatively unchanged from 2021.
- This includes paper and cardboard packaging (40%) plastic packaging (29%), with smaller amounts of glass, wood, metal and textile packaging.
- **60%** of all packaging waste was recycled in 2022, an increase from 58% in 2021. Of this, **67%** was exported for recycling.
- **32%** of plastic packaging generated in Ireland in 2022 was recycled in 2022. This is up from 28% in 2021.
- Just **7%** of all plastic packaging waste generated was recycled in Ireland.
- Generation of packaging waste has risen by over 20% since 2016. The quantity of packaging waste we recycle however, has only risen by 9%. This has led to a fall of 7% in the overall packaging recycling rate since 2016.
- EU recycling targets for all packaging (65%) and plastic packaging (50%) will come into place in 2025 and increase thereafter. Ireland will need to increase its recycling rate significantly to meet those targets.



For the sixth year in a row, Ireland generated **OVER 1 MILLION TONNES** of packaging waste

For more info see:
[Packaging | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/publications/Packaging)

Food Waste

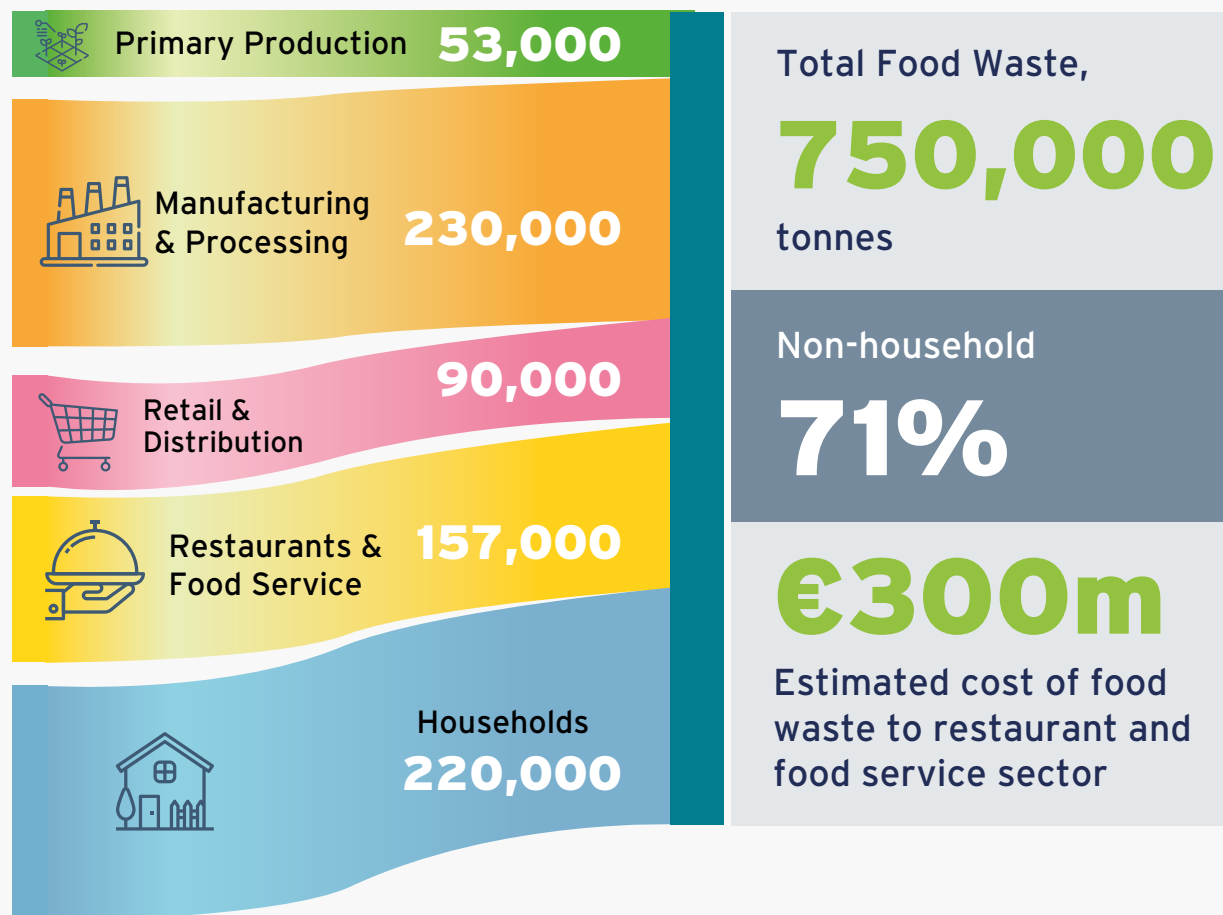
The EU Commission defines food waste as any food that becomes waste under the following conditions:

- ▲ It has entered the food supply chain (i.e. post harvesting).
- ▲ It then has been removed or discarded from the food supply chain, or at final consumption stage, and
- ▲ It is finally destined to be processed as waste.

Member States are required to report the amount of food waste generated along five stages of the food supply chain, shown in the graphic on the right.

- The EPA estimates that Ireland generated **750,000 tonnes** of food waste in 2022. This equates to **145kg of food waste per person** and is higher than the EU average of 130kg of food waste per capita
- The food Manufacturing and Processing sector was the largest source of food waste, generating **31% (230 000 tonnes)** of all food waste in 2022.
- This was followed closely by Households which generated **220,000 tonnes or 29%** of the total amount of food waste in Ireland.
- Food waste costs the restaurant and food service sector in Ireland and estimated €300 million per year.

Total Food Waste (tonnes) per supply chain stage in 2022



For more info see here: [Food Waste Statistics | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/food_waste_statistics)

Single Use Plastics

IRELAND'S 2022 SUP DATA HIGHLIGHTS

Single-use plastics (SUPs) are plastic products that are used once, or for a short period of time, before being disposed of. Monitoring across the EU has revealed that 10 single-use plastic items, including fishing gear, make up 70% of all marine litter on European beaches.

The Single-Use Plastics Directive (SUPD) was adopted by the EU in 2019 and Ireland reported under this directive for the first time this year. The SUPD introduces a range of measures, controls, and targets to deal with plastic products, including:

- Market restrictions,
- Consumption reduction measures,
- Extended producer responsibility,
- Deposit Return Scheme (DRS),
- Design obligations such as beverage containers to have attached caps starting in 2024; by 2025 PET bottles must contain at least 25% recycled content; and by 2030, beverage bottles must contain at least 30% recycled content.
- Labelling obligations.

**947
TONNES**

of cups for beverages including their covers and lids **made wholly of plastic** were placed on the market



**8,468
TONNES**

of cups for beverages including their covers and lids **made partly of plastic** were placed on the market



**30,680
TONNES**

of single-use plastic bottles were **placed on the market**



**3,032
TONNES**

of food containers **made wholly of plastic** were placed on the market



**13,559
TONNES**

of food containers **made partly of plastic** were placed on the market



**14,930
TONNES**

of waste single-use plastic bottles were **collected with other wastes**



**2,600
TONNES**

of fishing gear were **placed on the market**



**692
TONNES**

of waste fishing gear **were collected**



Find out more here: [Single-use Plastics | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/single-use-plastics)

Other Circular Economy and Waste Statistics



Hazardous Waste

A waste is hazardous when it can harm human health or the environment. Industrial facilities remain the largest source of hazardous waste in Ireland followed by the construction and demolition sector and then municipal sources.

- Ireland generated **390,000 tonnes** of hazardous waste in 2022, a decrease of 16% from 2021.
- This decrease was mainly driven by reduced dredging activities at Dublin Port, leading to a reduction of almost **65,000 tonnes** in dredging spoil.
- **143,000 tonnes** of hazardous waste was treated to become non-hazardous in 2022. Waste types treated included used motor oil, healthcare wastes, sludges, filter cakes, absorbents, laboratory and chemical waste, contaminated soils and household hazardous waste from civic amenity sites.
- In 2022, 57% of hazardous waste was treated abroad and 43% was treated in Ireland, either onsite or in cement kilns.

Find out more here: [Hazardous | Environmental Protection Agency \(epa.ie\)](#)



WEEE

Waste from Electrical and Electronic Equipment (WEEE) may contain hazardous materials which can cause environmental and health problems if not treated properly. Modern electronics also contain rare and expensive resources, including critical raw materials. These can be recycled and re-used if the waste is effectively collected and managed.

- In 2022, **66,000 tonnes** of WEEE were collected in Ireland for treatment. This represents an 8% decrease from 2021 levels, when increased patterns of household clearouts led to record levels of WEEE items being collected.
- Ireland achieved a collection rate of **51%** in 2022. The EU WEEE Directive (2012/19/EC) sets a collection target of **65%**, which Ireland has yet to achieve.
- All recycling, recovery and reuse targets were met across all categories of WEEE in 2022.

Find out more here: [WEEE | Environmental Protection Agency \(epa.ie\)](#)



Waste Oils

The Waste Framework Directive requires Member States to report on waste oils for each calendar year. This is a new reporting obligation which is still in development at EU and IE level.

The categories of waste oils that fall within the scope of this reporting include any mineral or synthetic lubrication or industrial oils which have become unfit for the use for which they were originally intended e.g. engine oils, oils for turbines and hydraulic oils.

- CSO Trade Statistics estimate that approximately **30,000 tonnes** of oils, namely mineral and synthetic lubrication and industrial oils were placed on the market in Ireland in 2022.
- Approximately **28,000 tonnes** of waste oil was separately collected in Ireland in 2022. When adjusted for imports and exports, over **22,000 tonnes** of waste oils were finally treated in Ireland and used for energy recovery in 2022.

Find out more here: [Waste Oils | Environmental Protection Agency \(epa.ie\)](#)

Other Circular Economy and Waste Statistics

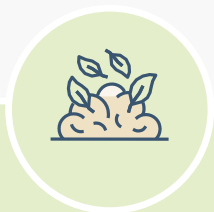


ELVs and Tyres

End-of-Life Vehicles (ELVs) are cars or light commercial vehicles that are no longer suitable for use and are discarded as waste.

- An estimated **11,800 tonnes of ELVs** arose in Ireland in 2022, a 27.6% decrease from 2021. This decrease may be due to a backlog of vehicles treated in 2021 following COVID-19 restrictions.
- In 2022, Ireland met all EU recovery targets for ELVs, targets achieving a recovery rate of **96%** and a recycling rate of **89%**
- A total of **62,900 tonnes** of waste tyres were collected and treated in Ireland in 2022. This represents an **increase of 43%** on the amount collected in the last reporting year, 2020.
- Final treatment of waste tyres:
 - ▲ 61% Energy Recovery, 35% Recycled, 3% Reuse, 1% Ballast

Find out more here: [End-of-Life Vehicles | Environmental Protection Agency \(epa.ie\)](#)



Compost and Anaerobic Digestion

Compost waste is the treatment of organic waste material such as domestic food waste from the brown bin through aerobic decay at a waste facility.

Anaerobic digestion (AD) is the conversion of organic waste such as food processing waste and livestock slurry by micro-organisms in the absence of oxygen into biogas and liquid digestate.

Ideally all organic waste should be segregated at source and collected separately in a brown bin system so it can be treated by composting or anaerobic digestion rather than disposal at landfill.

- **510,000 tonnes** of waste was accepted for treatment at composting and anaerobic digestion facilities in 2022. This is a decrease from 590,000 tonnes in 2021.
- **33%** of organic waste treated by composting or anaerobic digestion was sent to Northern Ireland for treatment.

Find out more here: [Composting & Anaerobic | Environmental Protection Agency \(epa.ie\)](#)



Biodegradable Municipal Waste

Biodegradable municipal waste (BMW) comprises elements of municipal waste that will rot or degrade biologically e.g. food waste, garden waste and waste paper and cardboard.

The Landfill Directive (1999/31/ EC) sets targets for the diversion of BMW from landfill.

- **152,000 tonnes** of BMW was disposed to landfill in 2022 which is well within Ireland's current limit of 427,000 tonnes.

There has been an increase in BMW disposed to landfill since 2021. This corresponds to a rise in the total amount of municipal waste accepted at landfill in the last two years.

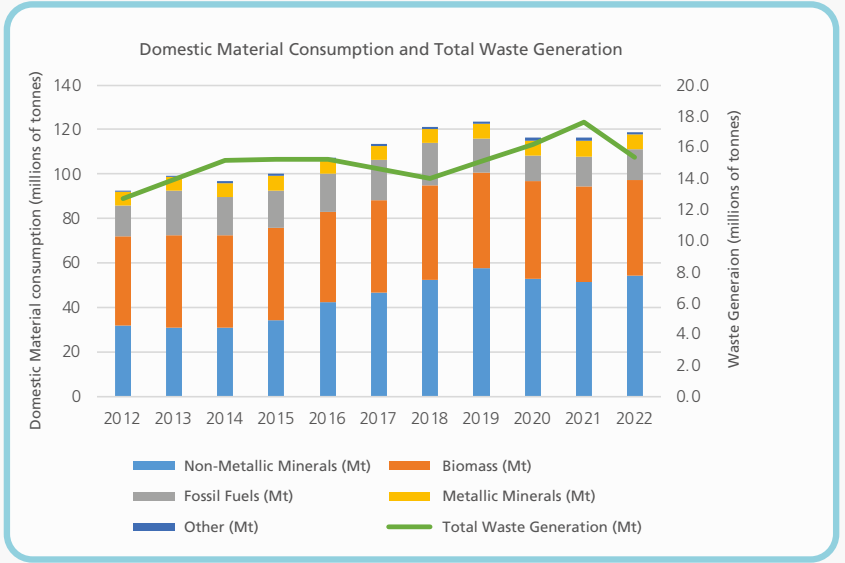
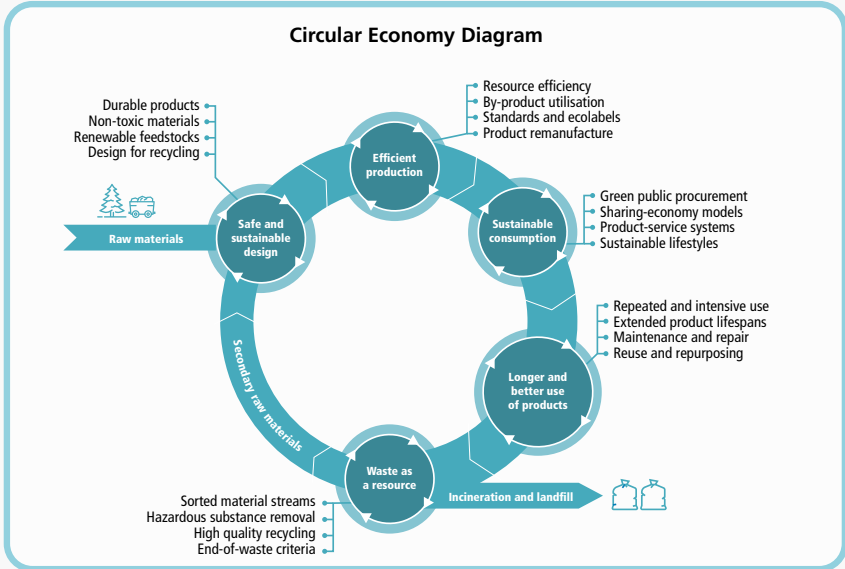
Find out more here: [Biodegradable Municipal Waste | Environmental Protection Agency \(epa.ie\)](#)

Material Consumption and Circularity

The goal of a circular economy is to reduce waste generation and to minimise over-consumption of new materials and products.

- Extracting virgin/primary materials for use in our economy has negative environmental impacts such as biodiversity loss, land use degradation, water quality pressures and carbon emissions. When these materials come to the end of their use and are discarded, they contribute to waste generation and their treatment has negative environmental impacts.
- We can achieve sustainable material consumption and waste generation through solutions such as sustainable product design, by-product utilisation, green public procurement, reuse & repair, and utilising recycled waste as a resource (see Circular Economy Diagram).
- In 2022, a total of 119 million tonnes of materials were consumed by the Irish economy. Domestic Material Consumption (DMC) in Ireland is dominated by two material types: **Non-Metallic Minerals** (inc. Crushed rock, Sand and gravel) and **Biomass** (inc. Grazed biomass and Fodder crops) (source [CSO](#)).
- Total DMC in Ireland has grown by over 28% since 2012.
- The Circular Material Use Rate (CMUR) is a key metric used to measure circularity in EU member states. The CMUR is a measure of the total quantity of materials recycled nationally expressed as a percent of the total quantity of materials consumed nationally.
- At **1.8%**, Ireland's CMUR is one of the lowest in Europe. High levels of primary resource extraction from agricultural and construction activities, and the open nature of our economy in terms of imports and exports are the main factors influencing this. However, we can improve the current rate by.¹
- Reducing the quantity of primary materials consumed nationally by increasing the use of secondary materials in our economy, and
- Ensuring the correct financial and regulatory responses are put in place to support the use of secondary materials **instead of** virgin/primary materials.
- There are significant quantities of materials (inc. soil and stone, cardboard and paper, plastic and wood wastes) available to be used as secondary materials rather than disposed of and treated as waste.

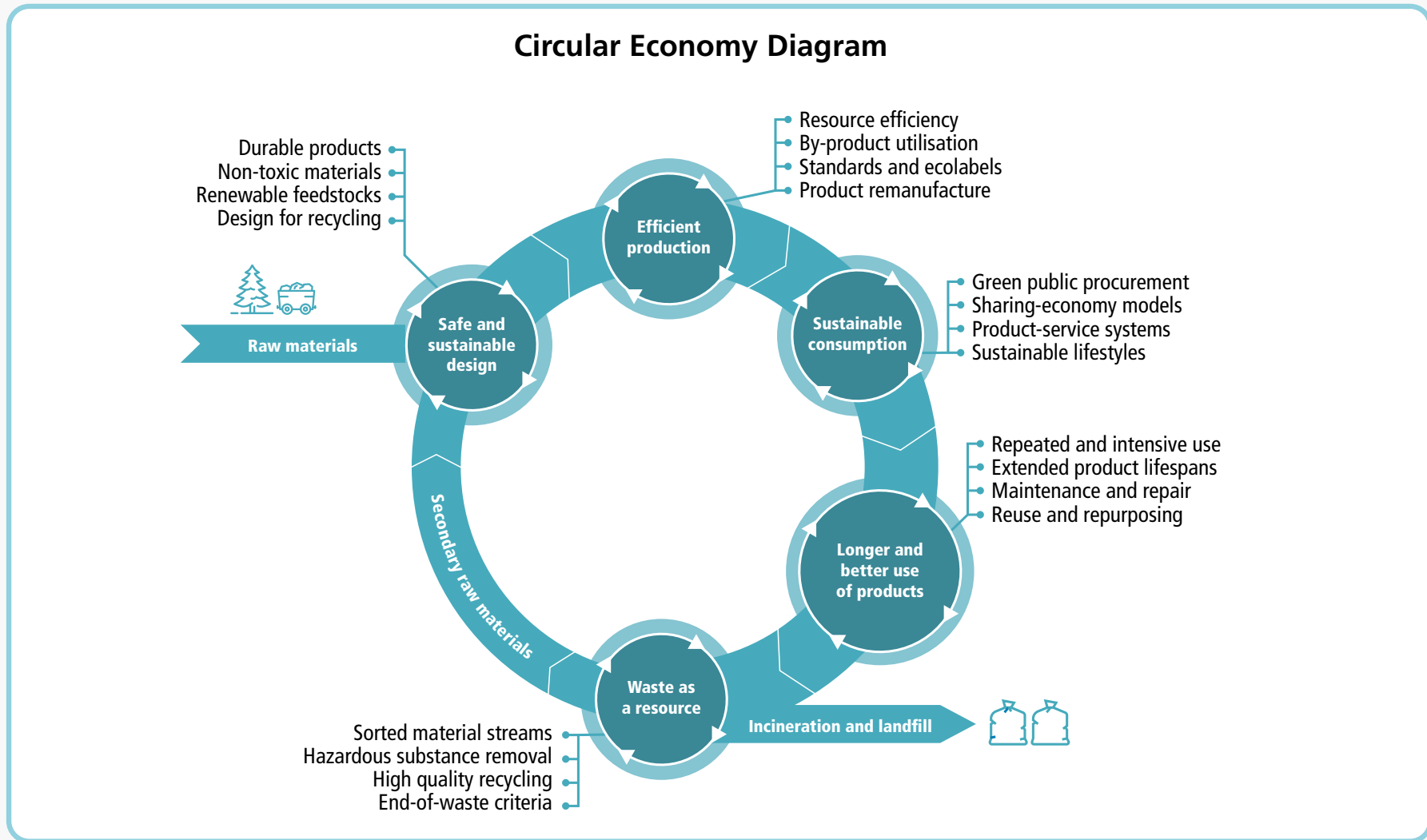
Ireland's Circularity rate
1.8%
(EU Average 11.5%)



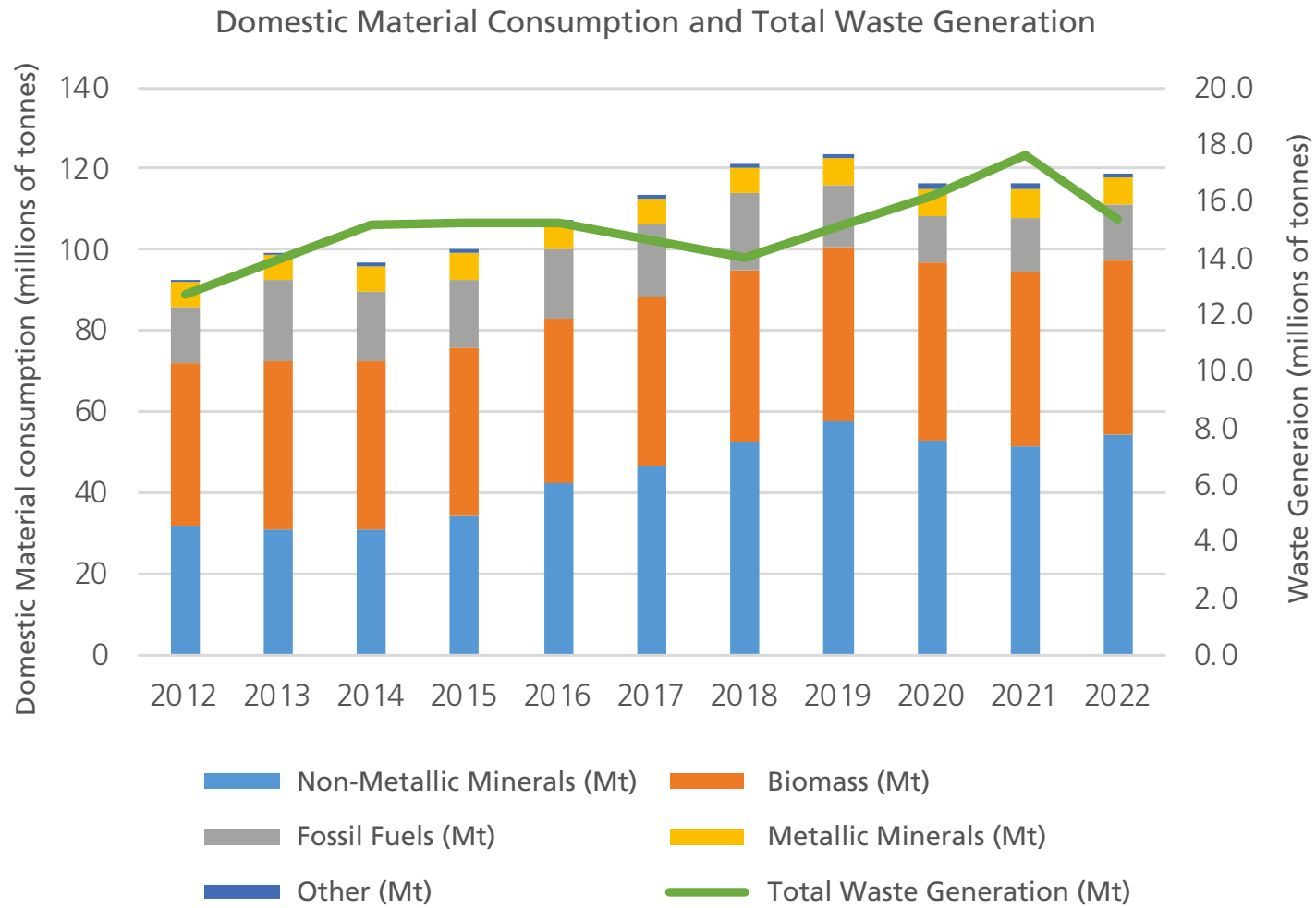
¹ www.epa.ie/publications/research/circular-economy/Research_Report-458.pdf

[Click here to see the full EUROSTAT material flow diagram](#)

Material Consumption and Circularity



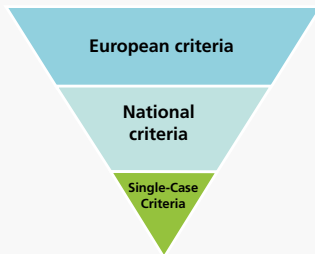
Material Consumption and Circularity



Spotlight 01: End of Waste and By-Product Decisions

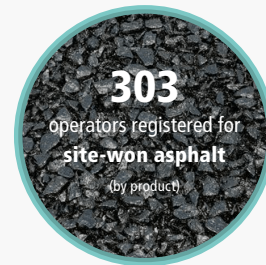
National end of waste and by-product decisions, introduced from 2023 on, will help to establish reliable and safe markets for recycled and secondary materials, reduce the use of virgin materials and prevent construction wastes generation.

End-of-waste and by products criteria can be set at European level, national level or on a single-case basis, however there are no by-product criteria currently set or in development at EU-level.



End-of-waste

- *End of waste* defines the point at which a waste recycling process is complete and the output material is no longer classified as waste, but rather a product.
- EU has published three EU-level end-of-waste criteria to date (iron, *steel and aluminium scrap*, glass cullet, and *copper scrap*) and work is underway to develop EU-level end-of-waste criteria for plastics, textiles and mineral construction and demolition waste.
- The EPA published *national end-of-waste criteria for recycled aggregates* (October 2023) and made numerous single-case end-of-waste decisions for various other waste types.

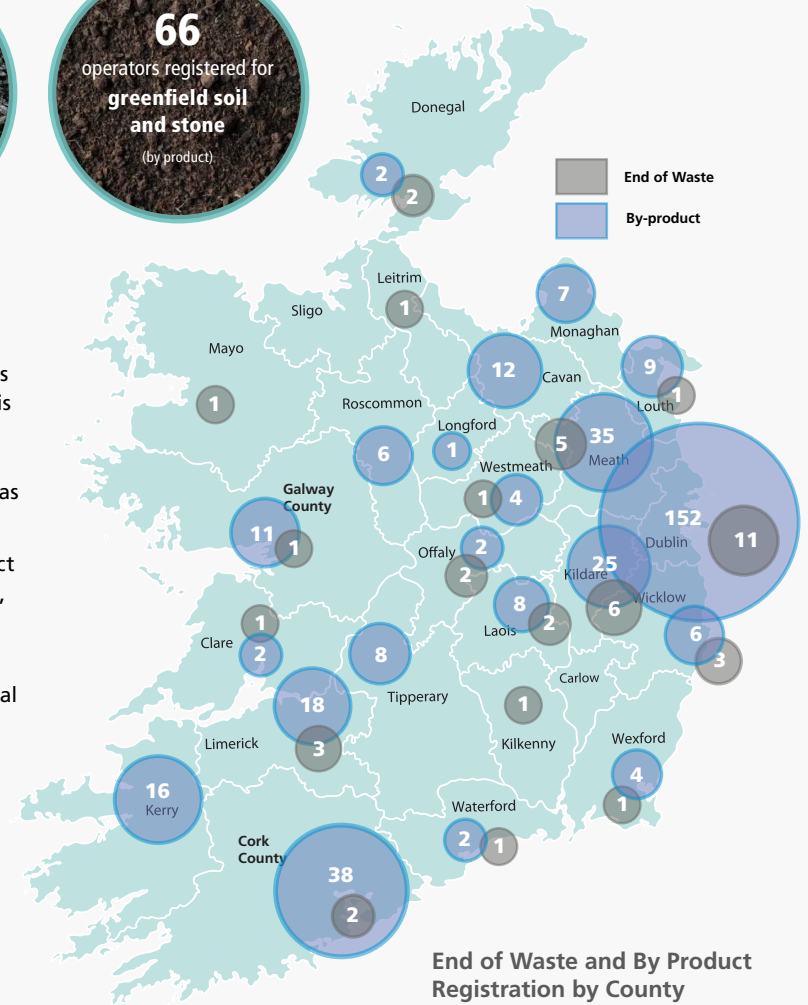


By-products

- Most production processes generate a production residue, which may be classified as by-product or a waste. A production residue is determined to be a by-product before it ever enters the waste stream. If a material enters the waste stream it cannot be later classified as a by-product.
- The EPA has published two national byproduct criteria for *site-won asphalt* (November 2023), and greenfield *soil and stone* (August 2024)
- The EPA has made many single-case determinations for various by-product material types.

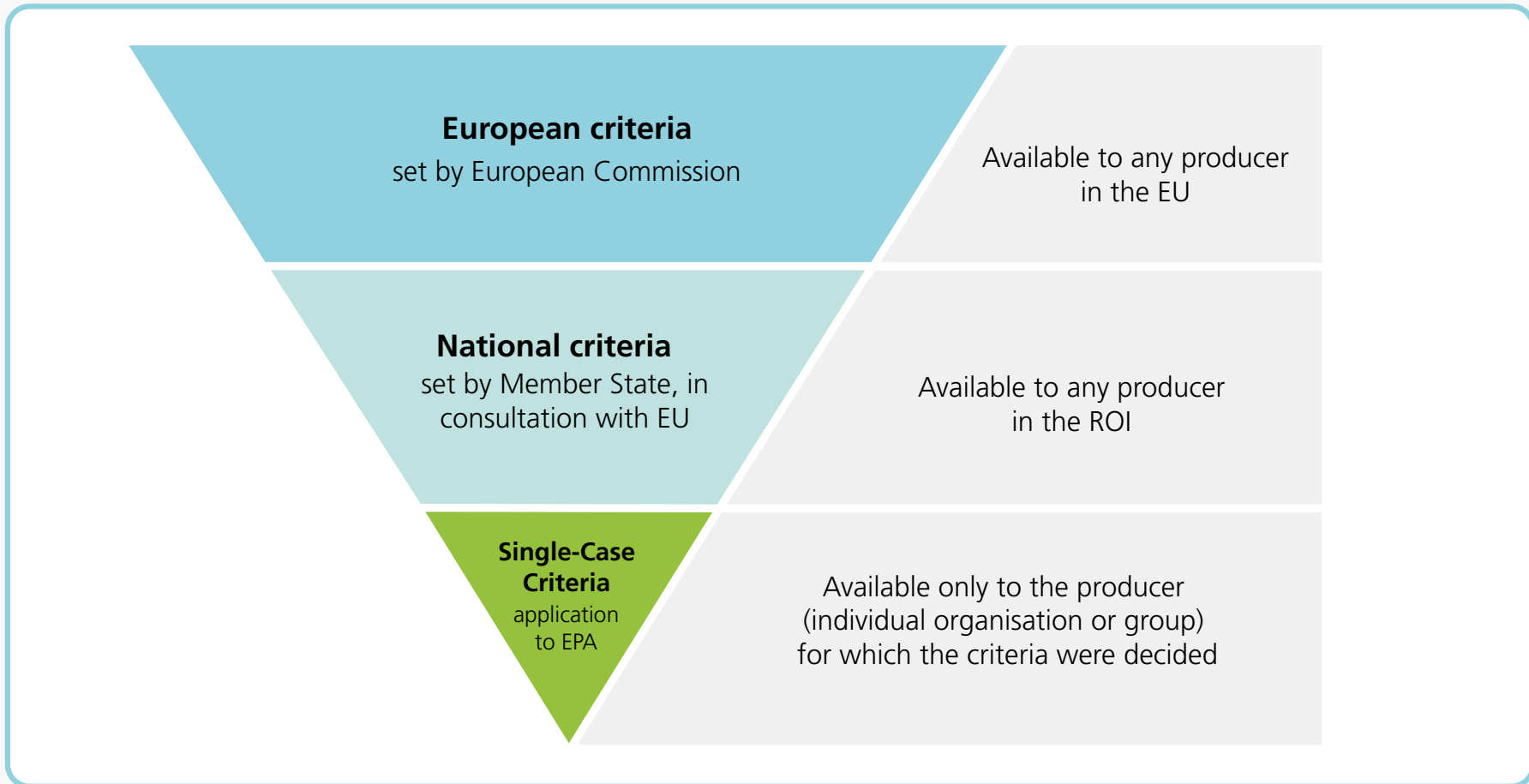
The EPA maintains an *End of Waste Register* and a *By-Product Register*, which display all single-case notifications/determinations and national registrations.

The EPA supports an increase in End of Waste and By Product registrations in future. This will have a large impact on reducing Ireland's waste generation and increasing the circularity of construction materials.



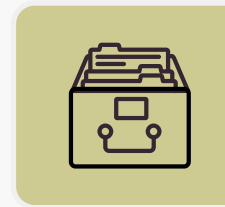
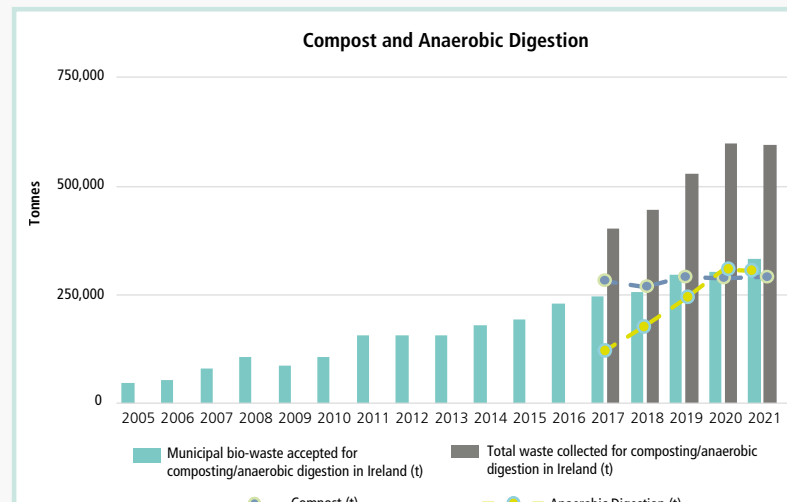
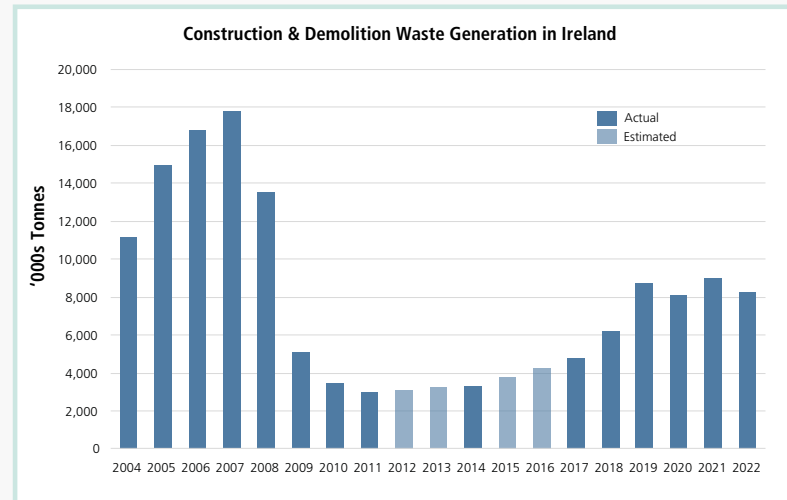
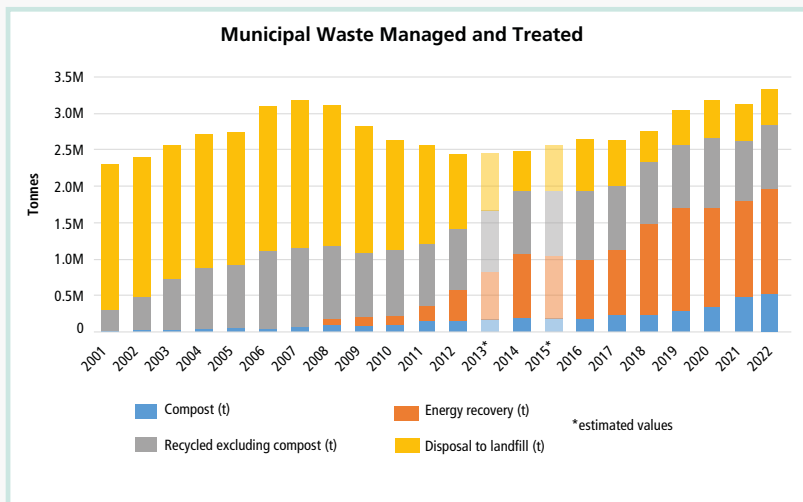
Data as of 18 Nov 2024

Spotlight 01: End of Waste and By-Product Decisions



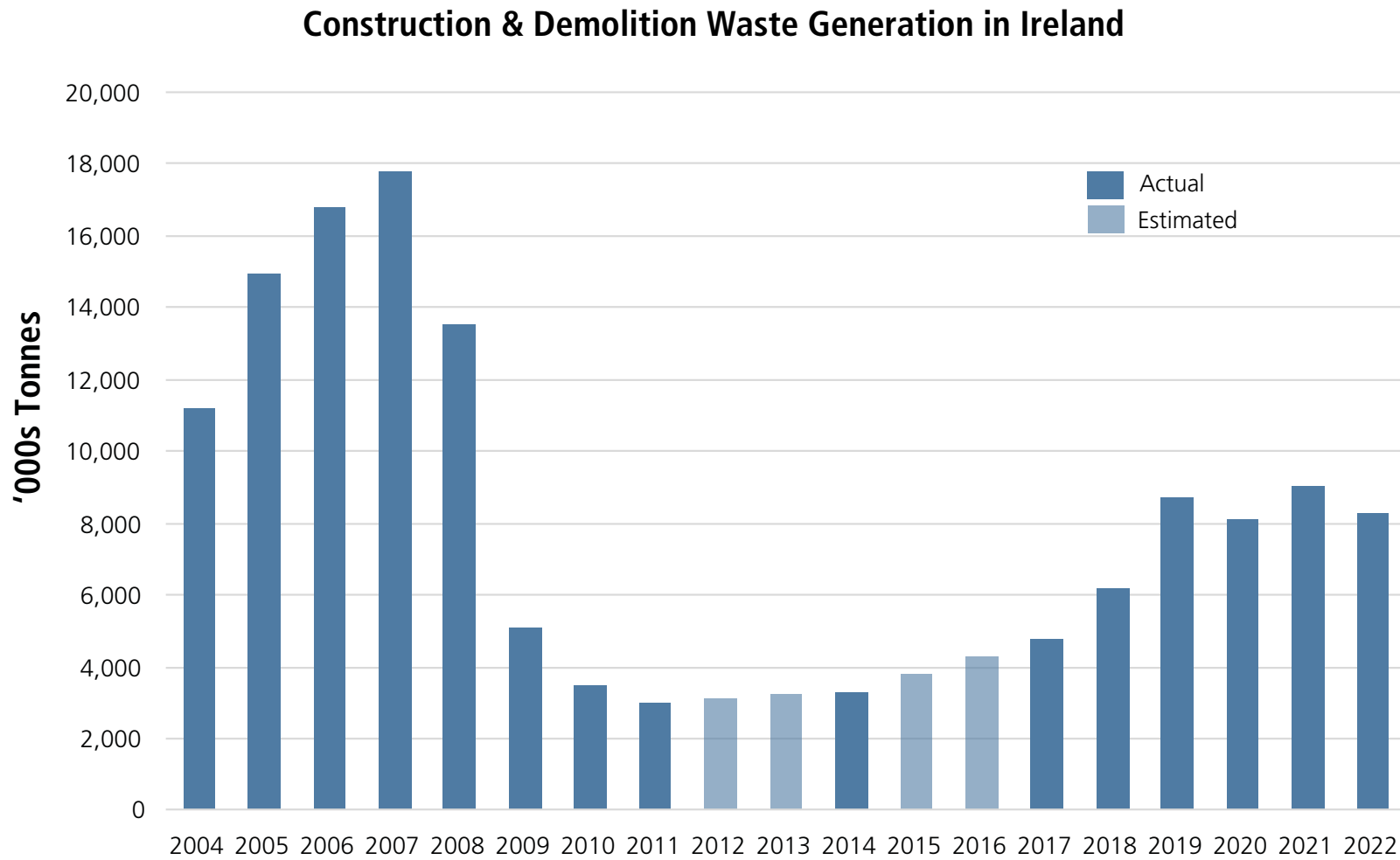
Spotlight 02: Data Archive

- Circular Economy and Waste Statistics data compiled and reported by the EPA over the last twenty years will now be available to access in one location on our **Waste Statistics Data Archive** webpage.
- Historical data allows us to see trends in waste generation, treatment of waste and progress towards a circular economy. For example, the data archive for treatment of municipal waste (graph below) displays a relatively consistent portion of municipal waste being recycled in the last decade, whilst incineration of municipal waste for energy recovery has increased steadily.
- Trends from Circular Economy and Waste Statistics can be compared with trends in the consumer market and then used by policy makers to make well-informed decisions based on quantifiable evidence.
- Data from multiple different waste streams are available for download in Excel and CSV format.

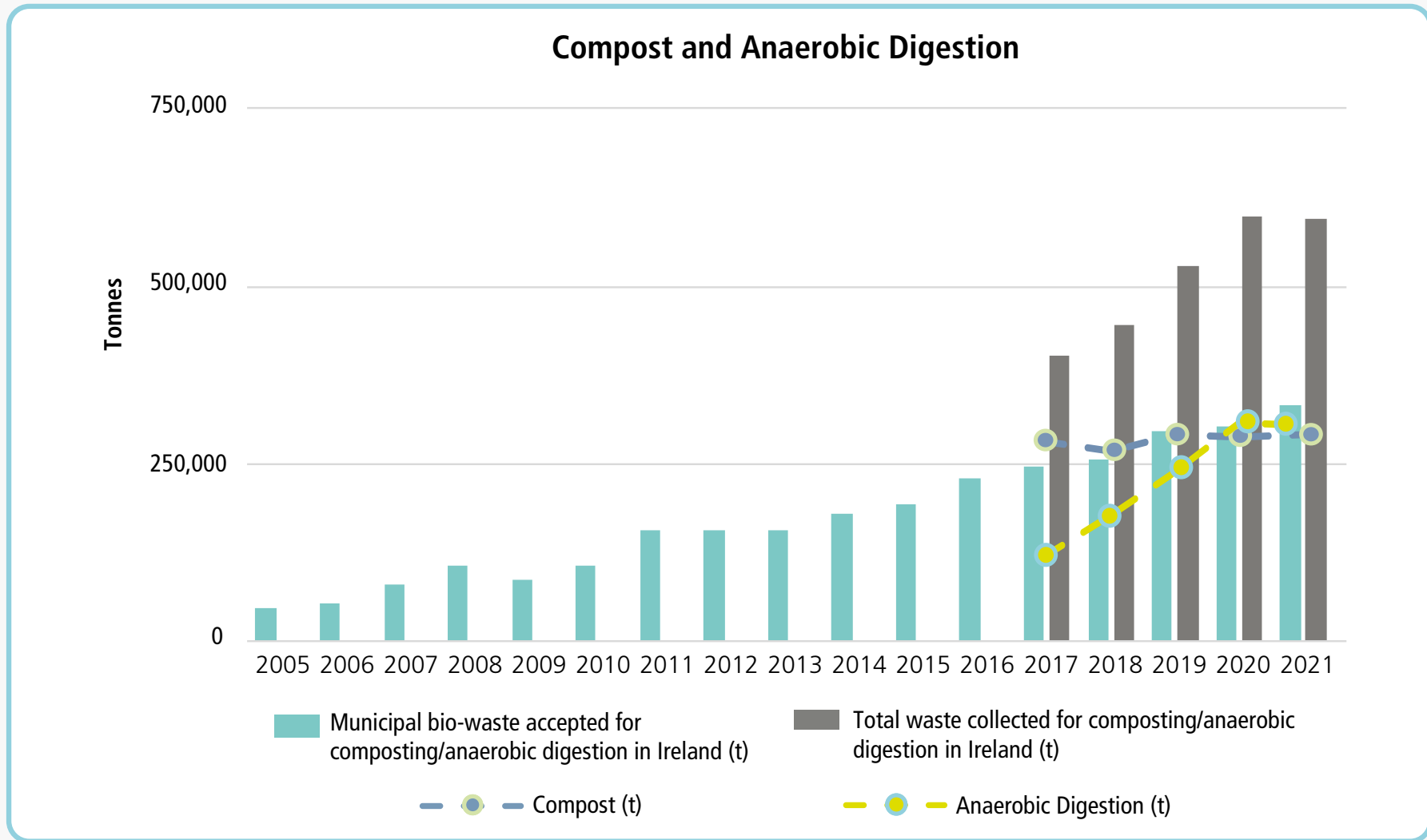


Find out more here: [Waste Statistics Data Archive | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/waste-statistics-data-archive)

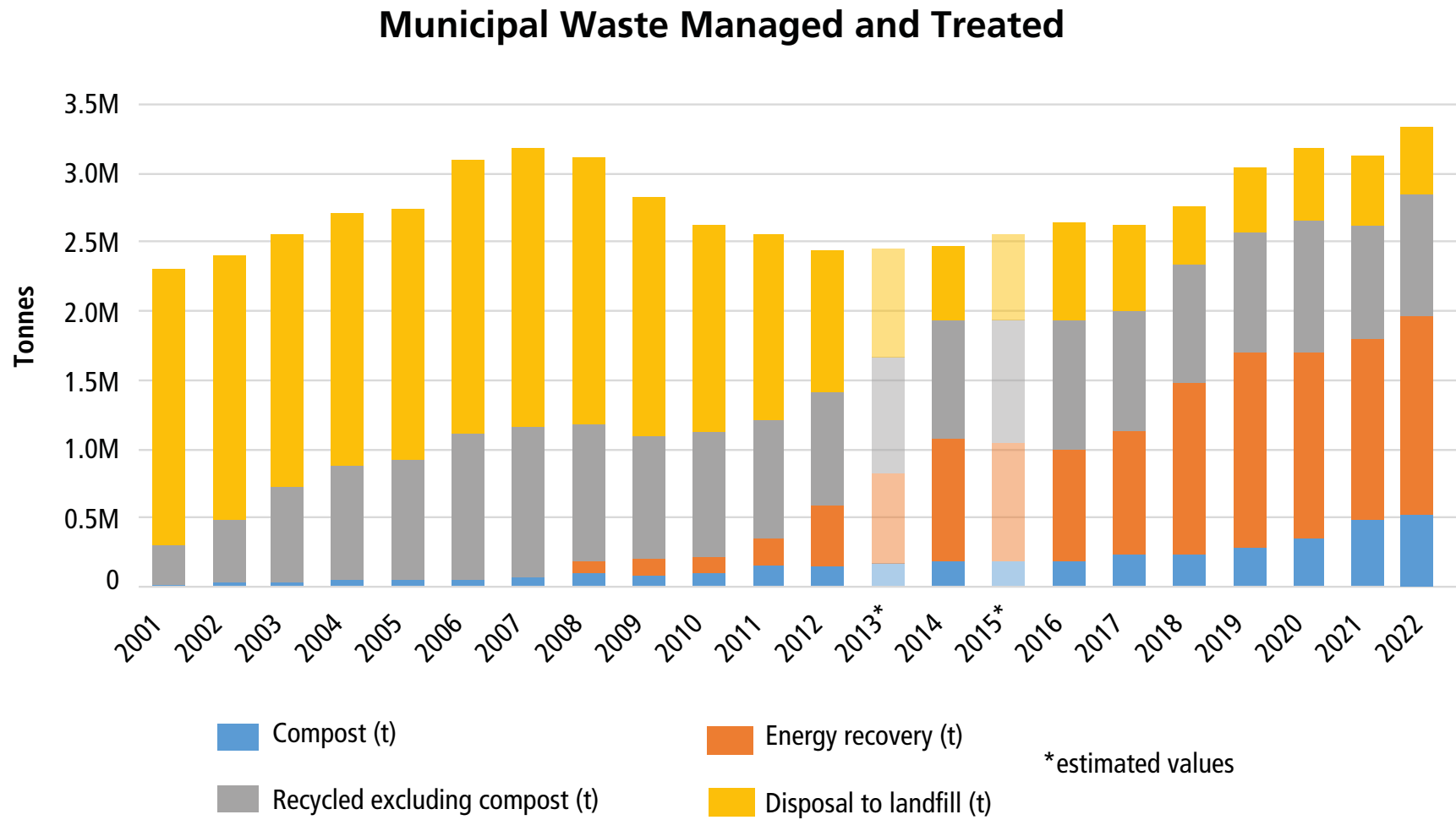
Spotlight 02: Data Archive



Spotlight 02: Data Archive



Spotlight 02: Data Archive

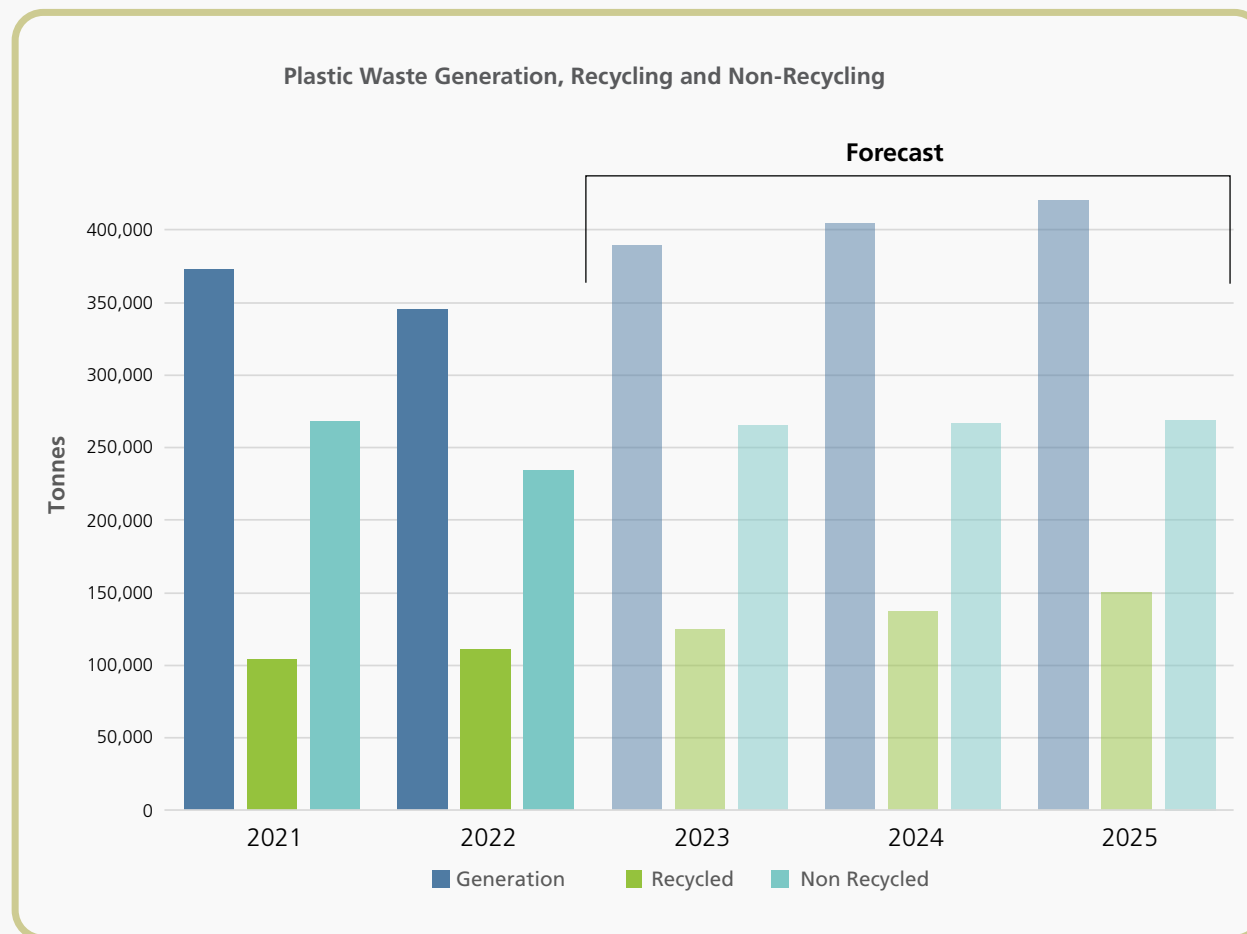


Spotlight 03: Plastics Own Resource

Our forecast differences for 2022 were:

Generation:	- 4,870
Recycled:	+14,300
Non-Recycled:	- 19,100

- As of 1st January 2021, all member states must pay a new contribution to the EU budget called the ["Plastics Own Resource"](#).
- The amount each country must pay is based on the proportion of plastic packaging waste generated in the country each year which is not recycled.
- A uniform call rate of €0.80 per kg will be applied to the weight of plastic packaging waste that is not recycled, with a mechanism to avoid excessive contributions from less wealthy Member States.
- This measure aims to encourage Member States to reduce packaging waste and stimulate Europe's transition towards a circular economy.
- In 2022, Ireland generated **234,000 tonnes** of non-recycled plastic packaging which totalled to a POR contribution by Ireland of **€187,000,000**.



Actions to Progress a Circular Economy

Businesses / Industry

- Commercial business, public buildings and apartment complexes need to significantly improve waste segregation on their premises. See the graphics below for tips on how this can be done.
- Phase out single use packaging in supply chains in favour of reusable packaging options.
- Food sector businesses should sign up for the [Food Waste Charter](#).
- Increase application of By-product and End-of-Waste decisions to divert construction and industrial materials away from waste, (see pg. 21)
- C&D waste can be prevented by employing best practice circular construction activities. This includes designing out waste and maximising the use of resources in line with the EPA's [Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects](#).

Waste Industry

- Must provide organic waste bins to all commercial and household customers to make food waste segregation easier.
- Use targeted awareness campaigns to educate and motivate householders waste to segregate food waste.
- Make waste collection fees transparent and readily available to encourage waste segregation and waste reduction.
- Collect and submit accurate data on waste collection and treatment activity, to help track progress towards EU targets.

Local Government

- Enforce the roll-out of organic waste bins to all houses, apartments and commercial premises to improve segregation and increase recycling of municipal waste.
- Undertake compliance checks of food waste segregation, initially in the food services sector and then across all sectors.
- Improve enforcement of the construction and municipal waste sectors at all stages of the waste cycle (source, collector and facility).
- Improve access to recycling infrastructure, such as civic amenity sites and bring banks, to make it easier for householders to support segregation of special, bulky and hazardous wastes.

We all are responsible for generating waste and have a role to play in reducing both the amount of waste generated in Ireland and improving our reuse, repair and recycling rates.



All external bins should be placed in a well designated, accessible location.



Use different coloured bin/bags for each waste stream.



Have clear consistent signage on all bins (internal and external).



Highlight problematic wastes and provide guidance and training on how to improve/avoid contamination.

Actions

Take a minute, before you bin it!



Click to view the mywaste.ie campaign



INDIVIDUALS

1. REDUCE

- As per the waste management hierarchy, focus first on waste prevention - reduce the amount of waste you generate as an individual and within your household.
- Be mindful when purchasing items of the amount of packaging that product contain and whether these can be readily recycled or not. Avoid products with unnecessary and excessive packaging.
- Where possible, buy food and other items loose (unpackaged) or through a refill service.
- Plan your weekly meals to limit the amount of food waste that is generated in your household. See <https://stopfoodwaste.ie> for more tips.

2. REUSE & REPAIR

- Choose to reuse, repair or buy second hand items before buying new products. See <https://www.repairmystuff.ie> to find a local repair service.

Take the time to clean and repair items before donating to a local charity shop or other reuse outlet.

Click to find out more.



 Re-turn

3. Recycle

- Utilise Re-turn, the deposit return scheme (DRS) launched in 2024. The DRS covers PET (polyethylene terephthalate) plastic bottle bottles and aluminium and steel cans between 150 ml and 3 l.
- Maintaining good waste segregation practices within your household enables effective recycling and recovery of your waste.
- Place clean, dry and loose recyclable materials in your recycling bin. To find out what items can be recycled visit [What can I recycle? | Repak](#)
- Place food and other organic waste in your brown bin. If your household does not have a brown bin, sign up for a service when it becomes available across the country from 2024 onwards.
- Bring items suitable for reuse to a local charity shop or other reuse outlet. See <https://crni.ie/reuse-directory/> to find a reuse outlet near you.
- Bring bulky waste, WEEE, batteries, textiles and hazardous waste items to your local bring bank or civic amenity center.
- All other waste should go in your general bin.
- Find out more about how to recycle your end-of-life vehicle and the location of your nearest vehicle recycler through your local authority or at elves.ie or mywaste.ie.
- Visit <https://www.weeeireland.ie/household-recycling/> for information on how to dispose of and recycle Waste Electrical and Electronic Equipment.

Circular Economy and Waste Statistics

The EPA is responsible for compiling national statistics on circular economy activities and the generation and management of waste in the Republic of Ireland.

This report is a summary of all the EPA's circular economy and waste statistics data releases during 2024, covering the 2022 reporting reference year. For more detailed information on individual waste streams and the latest available data for Ireland, please see here: [Circular Economy and Waste Statistics](#). The EPA gathers circular economy and waste data from a range of sources, including waste operators, collectors and treatment facilities, local authorities and EPA-licensed facilities.

National circular economy and waste statistics are prepared to fulfil a number of statutory European and international reporting obligations including:

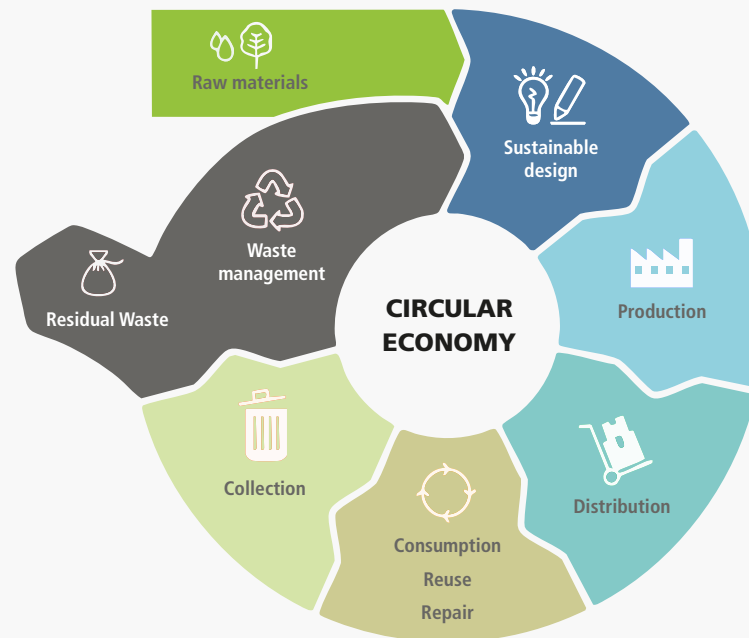
- The EU Waste Framework Directive (2008/98/ EC as recast by 2018/851/EC);
- The EU Waste Statistics Regulation (2150/2002/ EC as amended);
- The Single-use Plastics Directive (2019/904);
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; and
- EU producer responsibility initiative directives: the Packaging Directive, WEEE Directive and ELV Directive.

National circular economy and waste statistics are also used for a number of other important functions such as:

- Tracking the effectiveness of policies in transitioning Ireland from a linear to a circular economy;
- Calculating the contribution of the waste sector to Ireland's Greenhouse Gas (GHG) emissions;

- Reporting on Ireland's compliance with key recycling, recovery and disposal
- Supporting waste enforcement activities; and
- Informing the public about trends in waste generation and treatment.

There is also a spotlight section which focuses on accessing historical waste data, reporting on unrecycled plastics and national regulatory decisions; actions for Industry, Local Government and Individuals to take to improve our circularity.



Infographic from [Circular economy: definition, importance and benefits | Topics | European Parliament \(europa.eu\)](#)



National circular economy and waste statistics are prepared to fulfil a number of statutory European and international reporting obligations.

This report summarises all of the key findings from the 2022 waste statistics data.

Access Data and Information

Circular Economy and Waste Statistics | Environmental Protection Agency (epa.ie)

EUROSTAT

REPAK

MyWaste | Ireland's Guide to Managing Waste | Recycling and Rubbish

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