National Waste Statistics

Summary Report for 2018

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Environmental Protection Agency

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.

Knowledge: We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.

Advocacy: We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.

Our Responsibilities

Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

> waste facilities (e.g. landfills, incinerators, waste transfer stations);
> large scale industrial activities (e.g. pharmaceutical, cement manufacturing, power plants);
> intensive agriculture (e.g. pigs, poultry);
> the contained use and controlled release of Genetically Modified Organisms (GMOs);
> sources of ionising radiation (e.g. x-ray and radiotherapy equipment, industrial sources);
> large petrol storage facilities;
> waste water discharges;
> dumping at sea activities.

National Environmental Enforcement

> Conducting an annual programme of audits and inspections of EPA licensed facilities.
> Overseeing local authorities' environmental protection responsibilities.
> Supervising the supply of drinking water by public water suppliers.
> Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
> Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
> Prosecuting those who flout environmental law and damage the environment.

Water Management

> Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
> National coordination and oversight of the Water Framework Directive.
> Monitoring and reporting on Bathing Water Quality.

Monitoring, Analysing and Reporting on the Environment

> Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
> Independent reporting to inform decision making by national and local government (e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports).

Regulating Ireland's Greenhouse Gas Emissions

> Preparing Ireland's greenhouse gas inventories and projections.
> Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.
Environmental Research and Development.

Strategic Environmental Assessment

> Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

Environmental Research and Development

> Assessing the impact of proposed plans and programmes on the Irish environment (e.g. major development plans).
Radiological Protection.

Radiological Protection

> Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
> Assisting in developing national plans for emergencies arising from nuclear accidents.
> Monitoring developments abroad relating to nuclear installations and radiological safety.
> Providing, or overseeing the provision of, specialist radiation protection services.

Guidance, Accessible Information and Education

> Providing advice and guidance to industry and the public on environmental and radiological protection topics.
> Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making (e.g. My Local Environment, Radon Maps).
> Advising Government on matters relating to radiological safety and emergency response.
> Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

Awareness Raising and Behavioural Change

> Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
> Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and Structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

> Office of Environmental Sustainability
> Office of Environmental Enforcement
> Office of Evidence and Assessment
> Office of Radiation Protection and Environmental Monitoring
> Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

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Published by:
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ISBN: 978-1-84095-924-6

September 2020

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Waste Generation

Ireland generated approximately

14m TONNES OF WASTE

in 2018, across all sectors

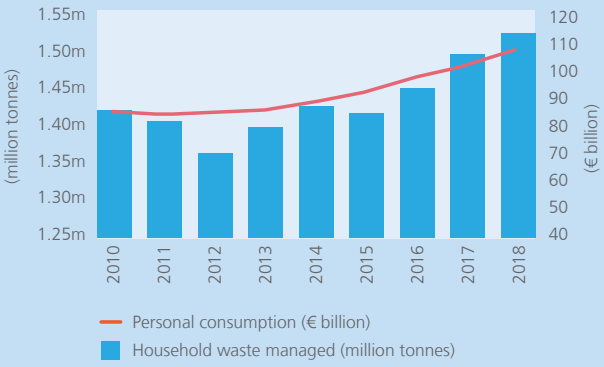
MUNICIPAL WASTE amounted to **2.9m** TONNES

of which **1.5m** TONNES came from **HOUSEHOLDS**

while **FOOD WASTE** amounted to **1.05m** TONNES

Waste generation in Ireland continues to be closely linked with

ECONOMIC WEALTH and **LIFESTYLE & CONSUMPTION PATTERNS.**



Waste Composition

The makeup of Ireland's municipal waste has changed considerably over the last ten years.

PLASTICS NOW MAKE UP ONE-FIFTH OF THE WASTE IN HOUSEHOLD RECYCLING & RESIDUAL WASTE BINS

While the introduction of brown bins has led to a welcome reduction in the amount of food and garden waste found in the residual waste bin

ONLY

43%

OF IRISH HOUSEHOLDS HAVE A BROWN BIN

ROUGHLY

50%

OF ALL HOUSEHOLD ORGANIC WASTE CONTINUES TO BE DISPOSED OF IN THE 'WRONG' BINS.

In the commercial sector almost

70%

of the content of the residual waste bins could potentially

BE DIVERTED EITHER TO RECYCLING OR TO BROWN BINS

Waste Treatment

THE PAST TWO DECADES HAVE SEEN RADICAL CHANGES IN HOW IRELAND'S MUNICIPAL WASTE IS MANAGED

Landfill disposal has fallen sharply, recycling rates increased steadily in the early 2000s before plateauing, while the share of waste sent for energy recovery has risen markedly since 2011.

Ireland's recycling rate for municipal waste

DECLINED TO

38% in 2018

DOWN FROM

40% in 2017

PACKAGING RECYCLING RATES SLIPPED TO

64% in 2018

DOWN FROM

66% in 2017

Ireland continues to have some significant waste infrastructure deficits and

RELIES ON EXPORT

FOR A NUMBER OF KEY WASTE STREAMS

including packaging waste and hazardous waste

Compliance with Targets

IRELAND MET ALL RELEVANT TARGETS FOR

- Packaging Waste
- Waste Batteries
- Waste Electrical & Electronic Equipment (WEEE)
- End-Of-Life Vehicles (ELVS)

IRELAND IS ON TRACK

to meet its 2020 EU targets for municipal and construction/ demolition waste

Much more ambitious EU targets for 2025 and 2030 mean

IRELAND'S RECYCLING RATES WILL NEED TO IMPROVE CONSIDERABLY

over the coming years

Outlook

The latest data underscore that

IRELAND NEEDS TO DO MORE

- to prevent waste
- to increase reuse & recycling
- to increase our self sufficiency in waste management
- to move towards a more integrated approach to resource management

1. Introduction

The EPA compiles national statistics on waste generation and management in the Republic of Ireland. National waste statistics are produced to meet European legislative reporting obligations and for other purposes such as informing national waste management and prevention policy and tackling waste crime. European legislation for which statistics are produced include:

- the Waste Framework Directive (2008/98/EC as recast by 2018/851/EC);
- the Waste Statistics Regulation (2150/2002/EC as amended);
- EU producer responsibility initiative directives, including the Packaging Directive, WEEE Directive and ELV Directive.

The EPA also prepares waste data for the Sustainable Development Indicator on Municipal Waste.

Since 2018, the chief outlet for national data on waste has been the EPA's 'National Waste Statistics' web resource, a dedicated waste statistics area of the EPA's website, where new data on individual waste streams is published as it becomes available. See **www.epa.ie/nationalwastestatistics/**

This summary report collates the key findings from the data published on the National Waste Statistics website for 2018. For detailed tables on individual waste streams and the latest available data for Ireland, always check the EPA website.

2. Waste Generation & Management in Ireland

Waste Legislation & Policy

Ireland's waste management practices, infrastructure and regulation have matured significantly over the last 20 years. This change has been driven by EU legislation which in turn has shaped national policy and economic instruments. European waste policy has long been centred on the concept of the waste hierarchy *(Figure 1)*, with EU directives setting targets for the recovery of waste and its diversion from landfill with the aim of moving waste management practices further up the waste hierarchy.

Figure 1: The waste hierarchy, showing the order of preference for actions to reduce and manage waste (Source: EPA).

The EU Circular Economy Action Plan, adopted in 2015, emphasises the need to move towards a life cycle-driven 'circular' economy, reusing resources as much as possible and bringing residual waste close to zero. It complements and updates pre-existing European waste legislation, tightening existing targets and introducing a range of new targets. Ireland's national waste policy was reviewed in 2020 to strengthen the focus on the circular economy and *A Waste Action Plan for a Circular Economy* was published in September 2020.

Waste Management Planning

There are three waste management planning regions in Ireland: Connacht-Ulster, Eastern-Midlands and Southern. The three Regional Waste Management Offices prepare cyclical statutory Regional Waste Management Plans, which set objectives and targets for the prevention and management of waste within each region, in line with national policy.

The EPA is responsible for preparing the National Hazardous Waste Management Plan. The current Plan covers the period of 2014 – 2020 and sets out the priority actions that should be undertaken in relation to: the prevention of hazardous waste; improved collection rates for certain categories of hazardous waste; steps that are required to improve Ireland's self-sufficiency in hazardous waste management and the continued identification and regulation of legacy issues (e.g. identification, risk assessment and regularisation of historic unregulated waste disposal sites). A new plan will be published by the EPA in 2021.

Waste Regulation

The EPA, the National TransFrontier Shipments Office (NTFSO), the National Waste Collection Permit Office (NWCPO) and local authorities are responsible for regulating the largely-privatised waste industry in Ireland. There was just over 4,000 waste authorisations in place in 2018, spanning the collection, transport, storage and treatment of waste. The number of authorised waste collectors has fallen from over 3,000 in 2010 to 2,104 in 2018, indicating significant consolidation has taken place in Ireland's privatised waste collection sector. Across the whole range of sectors licensed by EPA, waste transfer stations ranked second highest for the number of non-compliances in 2018 and 2017 (after the Food & Drink sector). Of the 15 sites on the EPA's National priority list in 2018, 5 were in the waste sector. Local authorities are responsible for regulating permitted waste facilities and collectors: in 2018, they carried out approximately 38,000 waste-related inspections, handled over 40,000 waste-related complaints (plus over 30,000 litter complaints), undertook almost 17,000 enforcement actions and over 600 prosecutions relating to waste.

Waste Generation

Based on data collated by the EPA and CSO for the purpose of reporting under the Waste Statistics Regulation (2150/2002/EC as amended), Ireland generated approximately 14 million tonnes of waste in 2018 across all sectors.

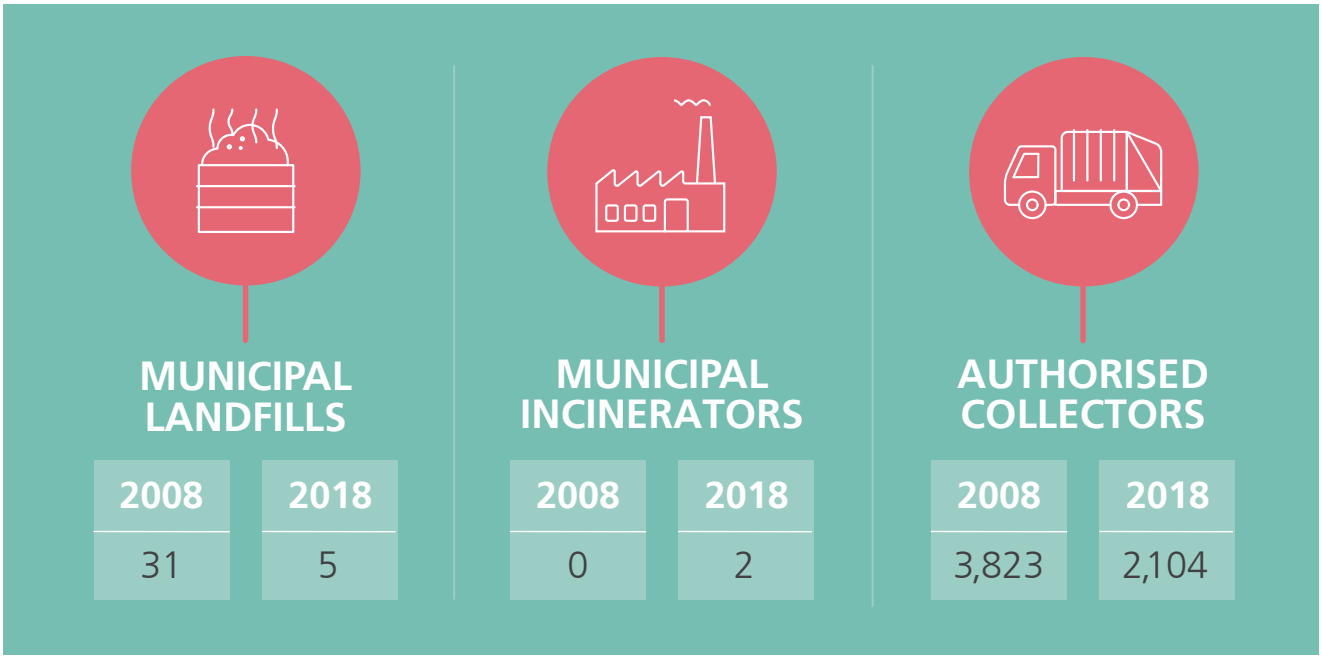


Figure 2: Waste Collection & Treatment in 2018, compared with 2008. (Source: EPA).

The collection and treatment of waste is for the most part privatised in Ireland, with the exception of some civic amenity sites and bring banks which are provided by local authorities. There has been a notable decline in the total number of authorised waste collectors from 2008 to 2018, reflecting consolidation in Ireland's waste collection market. The most significant change in recent years has been the shift away from disposing of residual waste to landfill to its use in energy recovery. Ireland now has two incinerators treating municipal waste for energy recovery (total licensed capacity to treat 835,000 tonnes of non-hazardous municipal waste per year), while in addition three cement kilns are authorised to accept solid recovered fuel (SRF) for co-incineration as an alternative to fossil fuels. The number of active landfills accepting municipal waste in Ireland has fallen dramatically from 28 in 2010 to five in 2018 and just three at the end of 2019. Indeed, in early 2016, landfill capacity was identified as critically low and required additional capacity to be authorised to prevent environmental impacts such as stockpiling of wastes or illegal activity. To avoid such a situation reoccurring and detect where and when capacity deficits may arise, particularly for municipal waste, quarterly reports on Ireland's waste treatment and storage capacity are prepared by the Regional Waste Management Offices in association with the EPA, the Irish Waste Management Association and the waste industry.

Producer Responsibility Initiatives

Producer Responsibility Initiatives (PRIs) have been developed for a number of waste streams, based on the producer pays principle. In Ireland, PRIs are in place for packaging, electrical and electronic equipment, batteries, end-of-life vehicles, farm plastics and tyres. The European Union has set collection targets for waste electrical and electronic equipment (WEEE) and waste batteries; recycling and other recovery targets are also in place for packaging, WEEE, batteries and end-of-life vehicles.

The 2018 Circular Economy legislative package strengthens the producer responsibility concept in European legislation and extends the requirements for producer responsibility schemes.

Waste Prevention

Ireland has a well-established National Waste Prevention Programme which is recognised by the European Commission as an example of best practice in the EU. The work of the programme is delivered by the EPA and its vision is to prevent waste and drive the circular economy in Ireland through national-level, strategic programmes with high visibility and influence. The programme provides tools and information to businesses, households and the public sector to influence behavioural change and support sustainable choices. The NWPP underwent an independent strategic review in 2018 and the reframed programme is focussing on six priority areas: food waste, construction and demolition, plastics, agriculture, resources and raw materials and local waste prevention[1]. Some examples of NWPP initiatives are Stop Food Waste, the Local Authority Prevention Network and Smart Farming.

[1] NWPP Annual Reports are available at: **www.epa.ie/pubs/reports/waste/prevention/reports/**

3. Progress to Targets

Ireland must meet a range of EU targets for recycling and recovery of different waste streams, including municipal waste, construction and demolition waste, packaging waste, waste electrical and electronic equipment, waste batteries and end-of-life vehicles. Appendix 1 summarises Ireland's performance in relation to its current targets and shows that all current targets have been met. Notwithstanding this positive performance, various targets are set to become far more challenging over the next number of years, following recent updates to EU Regulations and Directives arising from the Circular Economy Action Plan.

KEY NEW EU TARGETS

Municipal Waste Recycling

While Ireland is expected to narrowly meet the 2020 recycling target for municipal waste (50%), under the revised Waste Framework Directive this target increases by 5 percentage points every five years until it reaches 65% in 2035. The calculation method for 2025 and beyond is also significantly more stringent, making achieving the higher targets even more challenging.

Landfilling

The revised Landfill Directive requires member states to reduce the share of municipal waste landfilled to 10% or less by 2035. While Ireland has made significant progress in reducing disposal to landfill, the 10% target presents a significant challenge.

Plastic Packaging

Ireland recycled 31% of waste plastic packaging in 2018, exceeding the current Packaging Directive target of 22.5%. However, the revised Packaging Directive sets significantly more ambitious plastic packaging recycling targets of 50% for 2025 and 55% for 2030.

Waste Electrical & Electronic Equipment (WEEE)

By collecting 61% of waste electrical and electronic equipment (WEEE) placed on the market in 2018, Ireland exceeded the WEEE Directive's target of 45%. This target increased to 65% for 2019, which represents a significant step up in ambition.

Other New Targets & Obligations

As well as tightening existing targets, the 2018 EU Circular Economy Package introduces a range of other targets and reporting obligations for various waste streams and materials, including food waste, single use plastics and re-use of material that was never a waste. Building on the existing separate collection obligations for paper and cardboard, glass, metals and plastic, it will become mandatory for separate collection of hazardous household waste (by 2022), biowaste (by 2023) and textiles (by 2025).

4. Municipal Waste

Municipal waste consists of household waste and commercial and other waste that is similar in nature to household waste. It is one of the largest waste streams and a key area of policy focus. The data presented below are provisional data for 2018 and still subject to Eurostat validation - always check the EPA Waste Statistics webpages for the latest data (**www.epa.ie/nationalwastestatistics**).

2.9m	tonnes generated in Ireland in 2018
38%	was recycled, 43% was used in energy recovery, while 14% was landfilled
1m	tonnes (35%) was exported for recycling or recovery

Quantity of municipal waste

Over 2.9 million tonnes of municipal waste was generated in Ireland in 2018, of which 53% came from households and 47% from commercial sources. This amounted to 600 kg of municipal waste per person in Ireland, an increase from 577 kg per person in 2017. Ireland consistently ranks in the top tier of municipal waste producers in Europe and well above the EU average of 492 kg per person *(Figure 3)*. The large variation in municipal waste generation across the EU reflects differences in consumption patterns and economic wealth, as well as differences in how countries manage and report municipal waste.

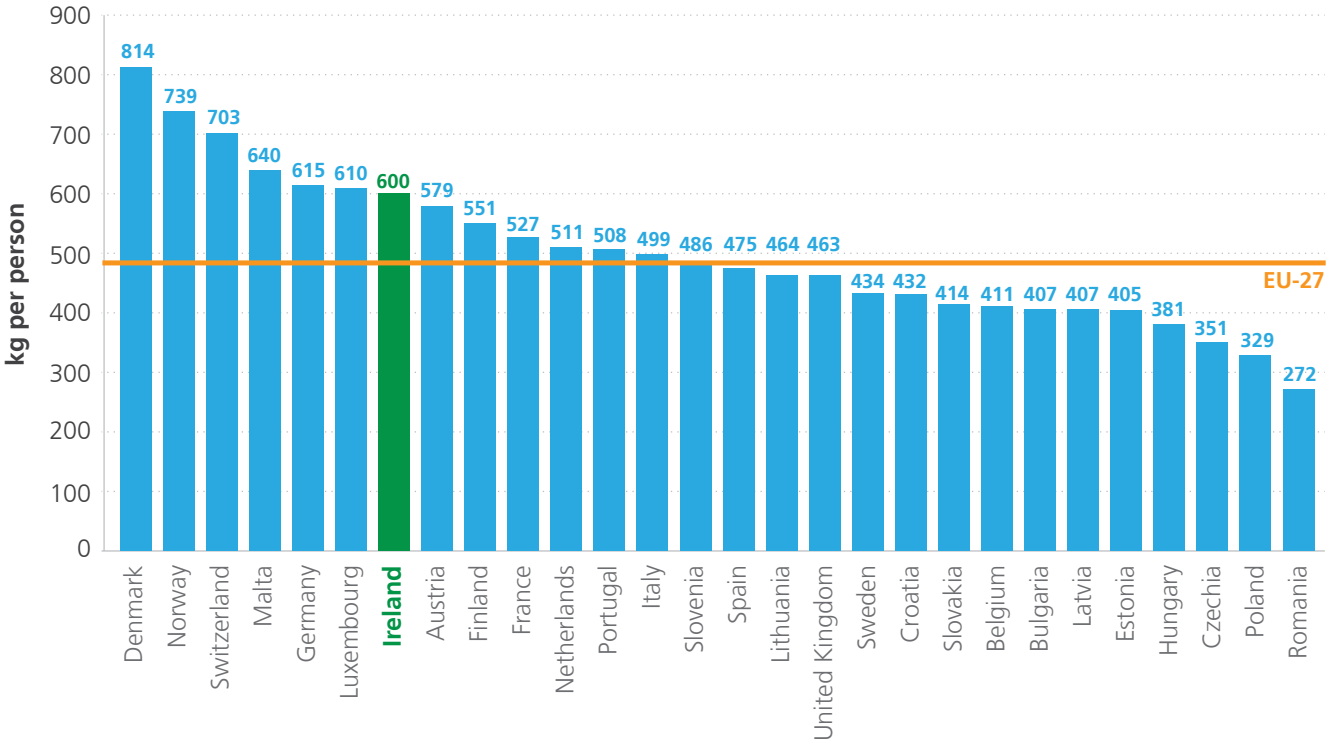


Figure 3 - Municipal waste generated per person in the EU in 2018. Source: Eurostat.

Management of municipal waste

Of the 2.9 million tonnes of municipal waste generated in Ireland in 2018, 38% was recycled, 43% was used in energy recovery and 14% was landfilled *(Figure 4)*.

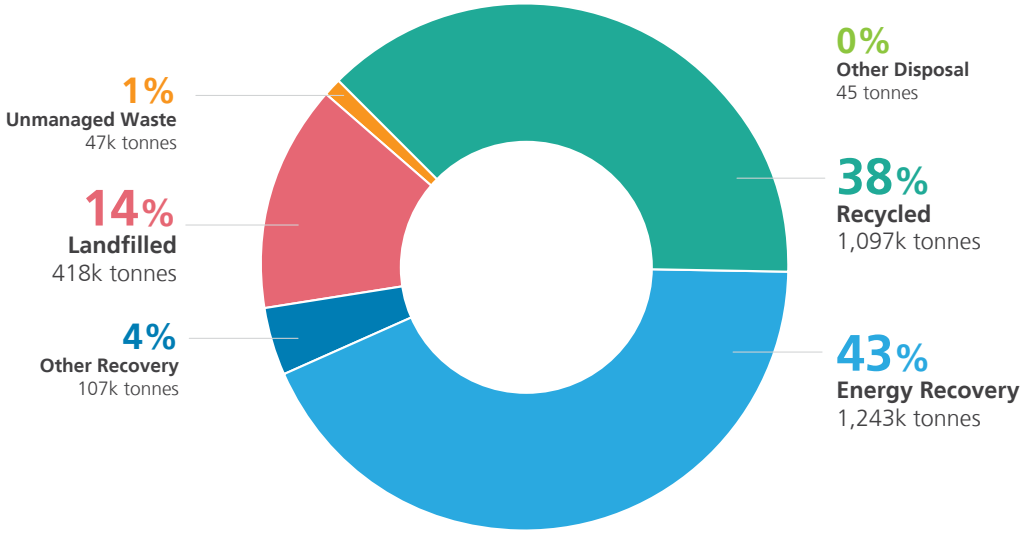


Figure 4 - Management of municipal waste in Ireland in 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Figure 5 illustrates the very significant changes that have occurred in the management of municipal waste in Ireland since 2001, notably the dramatic decline in landfilling over this period accompanied by increased levels of recycling in the early 2000s and subsequently an increase in the share of municipal waste sent for energy recovery since 2011. These trends are discussed in more detail below.

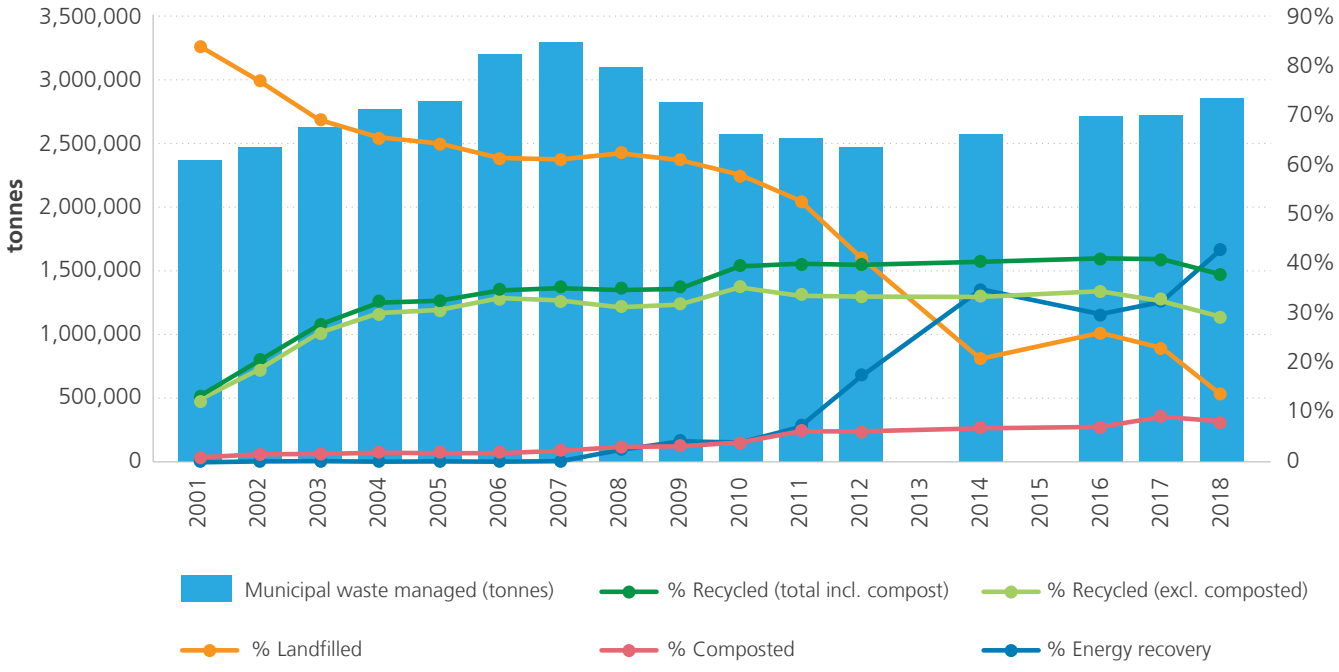


Figure 5 - Changes in municipal waste management in Ireland from 2001 to 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Disposal to landfill has fallen sharply; a welcome development since this is the least desirable option in the waste management hierarchy. Only 14% of municipal waste was landfilled in 2018, down from 58% in 2010 and over 80% in 2001. The increase in the landfill levy has been a key policy driver in bringing about this dramatic shift *(Figure 6)*. Despite these improvements, it will be a significant challenge for Ireland to further decrease the share of municipal waste landfilled down to 10% or less by 2035, as required under the revised Landfill Directive.

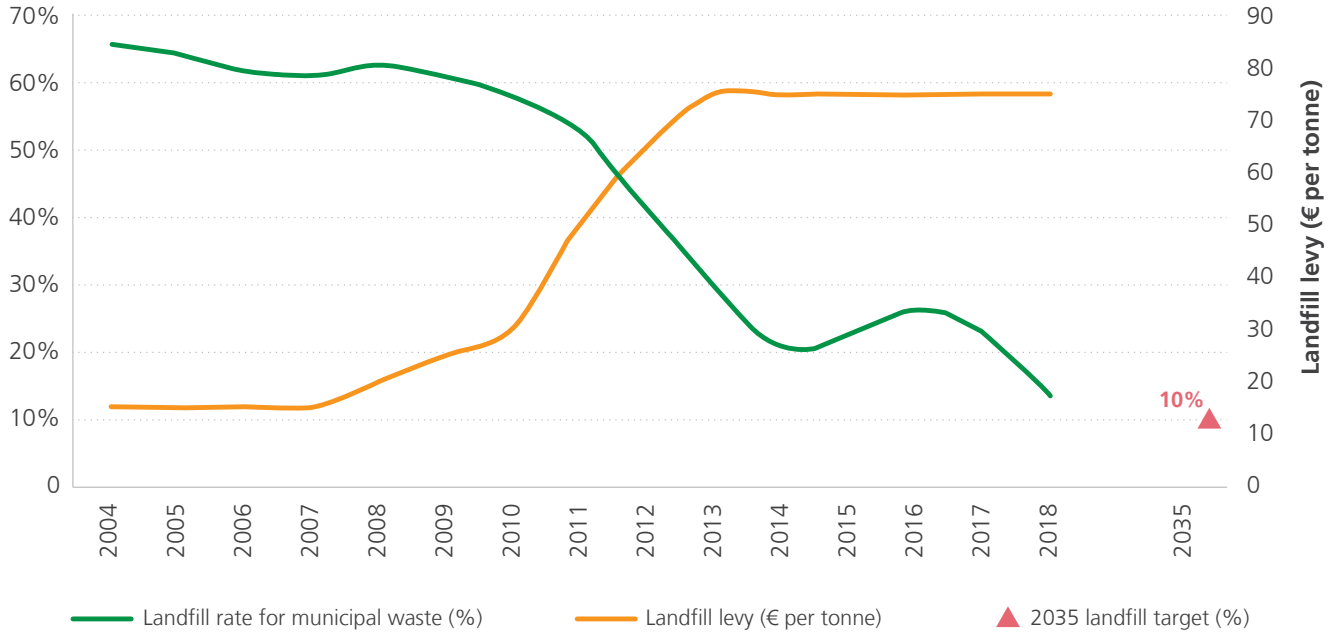


Figure 6 - Changes in the share of municipal waste landfilled in Ireland compared with changes in the landfill levy. The 2035 landfill target is also shown. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Of the municipal waste diverted from landfill in recent years, it is clear from *Figure 5* that the majority went to energy recovery. The share of municipal waste sent for energy recovery increased from 0% in 2007 to 43% in 2018. Ireland's first municipal waste incinerator came into operation in 2011 and the second during 2017. In addition, three cement kilns are now licensed to co-fire municipal waste as an alternative to fossil fuels.

Figure 5 shows that recycling, by contrast, has largely plateaued since 2010 and rates have now in fact started to slip, following strong improvements in the early 2000s. Ireland's recycling rate for municipal waste was 38% in 2018, down from 40% in 2017, using the EPA's preferred calculation approach based on the OECD-Eurostat sustainable development indicator on municipal waste. This puts Ireland's recycling rate below the European average of 47% and significantly behind the leading EU country, Germany, where 67% of municipal waste was recycled in 2018[2].

For the purpose of reporting on compliance with the Waste Framework Directive's 2020 recycling target for municipal waste, a separate calculation method is used (based on household derived paper, metal, plastic and glass), as provided for under the Directive, which puts Ireland's municipal recycling rate at 51% in 2018, just in compliance with the Directive's 2020 target. However, future Waste Framework Directive targets for 2025 onwards, shown in *Figure 7*, will use a calculation methodology more comparable with the OECD-Eurostat Indicator, making compliance with the new targets even more challenging.

[2] **https://ec.europa.eu/eurostat**

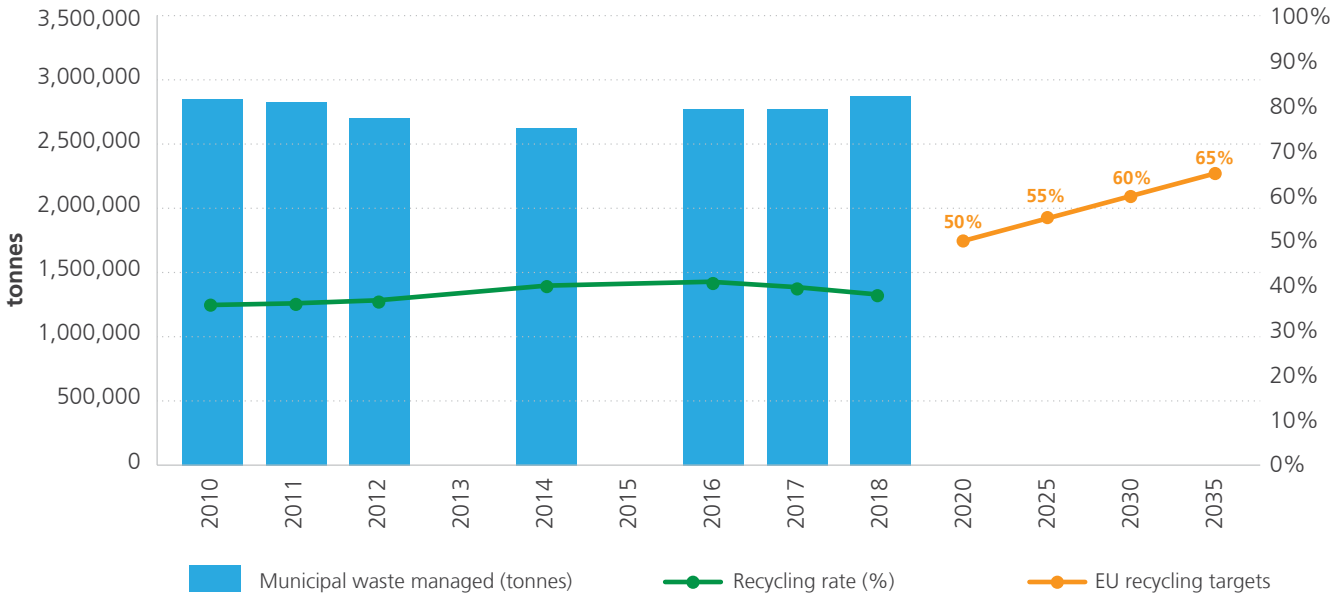


Figure 7 - Generation and recycling of municipal in Ireland and future EU targets for 2020 to 2035. Source: EPA.

Check **www.epa.ie/nationalwastestatistics** for latest data

Ireland is heavily reliant on export markets, particularly for recycling: In 2018, over 654,000 tonnes of municipal waste was exported for recycling. A further 287,000 tonnes was exported for energy recovery and 75,000 tonnes was exported for composting. This means that altogether 35% of Ireland's municipal waste was exported for recycling or recovery in 2018.

Overall, the current trends indicate that further policy measures will be needed to drive up recycling rates in Ireland in order to meet the far more stringent Circular Economy Package recycling targets, outlined earlier on page 8.

5. Household Waste

A total of 1.5 million tonnes of household waste was managed in Ireland in 2018, a slight increase of 2% on 2017 *(Figure 8)*. The increase reflects small increases across all waste types, in particular mixed residual waste. The quantity of household waste managed in Ireland in 2018 equates to 315 kilogrammes per person, up from 312 kg/person in 2017 and 305 kg/person in 2016. The general trend in household waste correlates closely with CSO data on personal consumption of goods and services, both of which have shown a predominantly upward trend since 2012 *(Figure 8)*. These data indicate that waste generation in Ireland continues to be closely linked with lifestyle and consumption patterns.

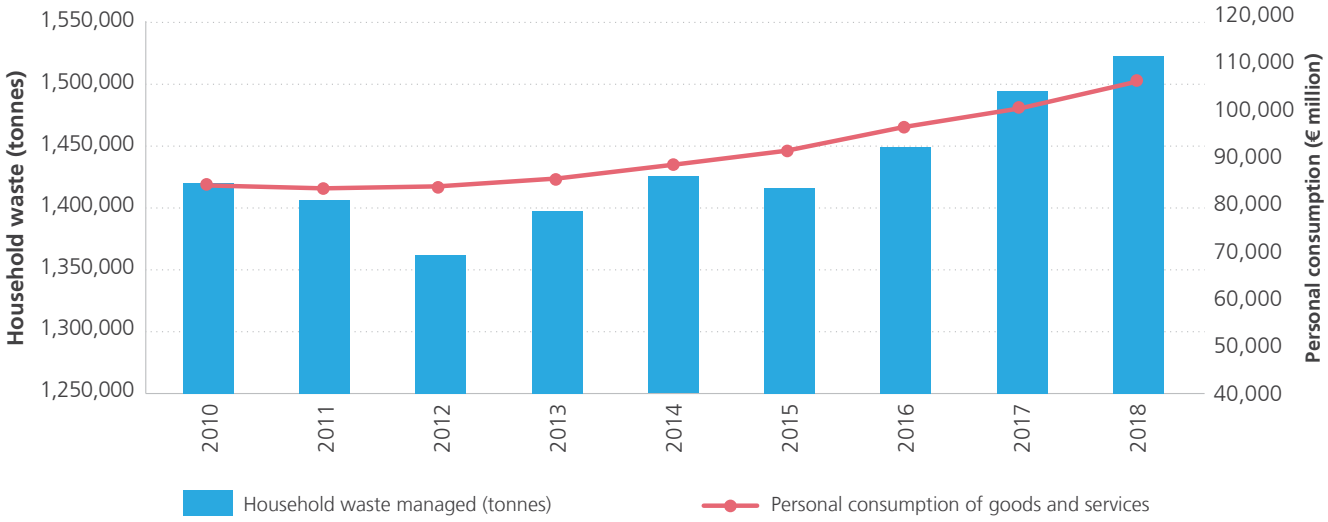


Figure 8 - Trend in household waste from 2010 to 2018 compared with CSO data on personal consumption of goods and services. Source: EPA and CSO.
Check **www.epa.ie/nationalwastestatistics** for latest data.

An estimated further 47,307 t of household waste was unmanaged in Ireland in 2018. 'Unmanaged waste' is waste that is not collected by kerbside collections or brought to waste collection centres and is therefore likely to cause pollution in the environment because it may be fly tipped or disposed of through backyard burning.

The vast majority of household waste managed in Ireland in 2018 was collected at kerbside (70%), with smaller quantities collected via civic amenity sites, skips and bring banks *(Figure 9)*. Almost half (44%) of all waste collected from households in 2018 was placed in the residual waste (black) bin, amounting to 676,000 tonnes. Residual waste in Ireland is generally incinerated for energy recovery or landfilled. The EPA estimates that the amount of residual waste could be reduced by approximately 50% with proper segregation of recyclable and organic waste.

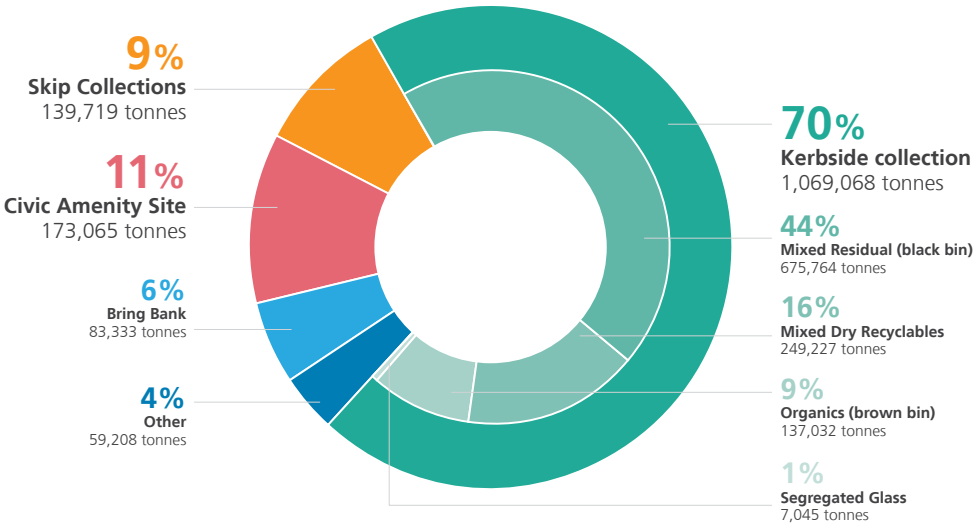


Figure 9 - Collection of household waste in Ireland in 2018.
Check **www.epa.ie/nationalwastestatistics** for latest data.

While almost 250,000 tonnes or 17% of household waste was collected in the recycling bin in 2018, the EPA's most recent waste characterisation[3] study found that almost a third of the waste placed in household recycling bins is not in fact recyclable and belongs in the residual waste or organic bin.

Organic waste collected in the brown bin accounted for 9% of all household waste managed in 2018 (137,032 tonnes), the same proportion as in 2017. When properly segregated, this waste gets composted or digested to make biogas. However, EPA studies have shown that most household organic waste (over 60%) continues to be placed in the residual (black) or recycling bins and therefore not recycled. Only 43% of Irish households had a brown bin in 2018.

Figure 10 illustrates clear regional differences in the quantity of household waste collected per person by bin type. These variations can be attributed to differences in the types of waste collection services and infrastructure provided (for example, prevalence of 2-bin or 3-bin systems in rural vs. urban areas), large variations between counties in the share of the population using authorised waste collectors, and behavioural factors such as bin sharing.

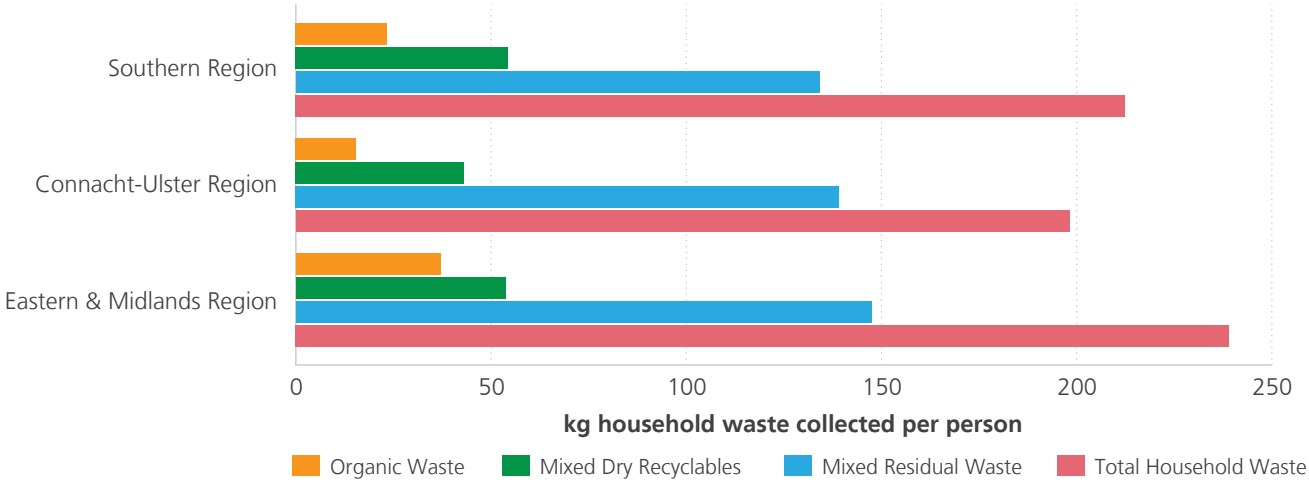


Figure 10 - Regional variations in the quantity of household waste collected per person, by bin type, in 2018.
Check **www.epa.ie/nationalwastestatistics** for latest data.

[3] Waste characterisation reports are available at: **www.epa.ie/pubs/reports/waste/wastecharacterisation/**

6. Food Waste

Food waste is a global problem that has environmental, social and economic consequences. More than one quarter of food produced is wasted globally. Growing, processing, transporting food all use significant amounts of resources and food waste contributes 8-10% of total anthropogenic GHG emissions. The urgency and challenge of addressing food waste is highlighted at international level and EU level through the UN Sustainable Development Goals and the Circular Economy Package. The EU aims to reduce food waste by 50% by 2030 and Ireland will be required to report to the EU on food waste generated at each stage of the food supply chain from 2020. The Irish Government's Climate Action Plan also includes food waste as a priority waste stream and articulates a 50% reduction. The reframed National Waste Prevention Programme (NWPP) aims to raise awareness of food waste and target behavioural change through its Stop Food Waste programme and Food Waste Charter.

Initial EPA estimates, shown in *Figure 11*, indicate that Ireland generated approximately 1.05 million tonnes of food waste in 2018. About half of this came from the processing and manufacturing sector, with the remainder arising from households (252,500 tonnes per year) and the commercial sector including restaurants/food service and retail/distribution (203,300 tonnes per year). These figures exclude food waste arising at the primary production stage, for which data are not currently available.

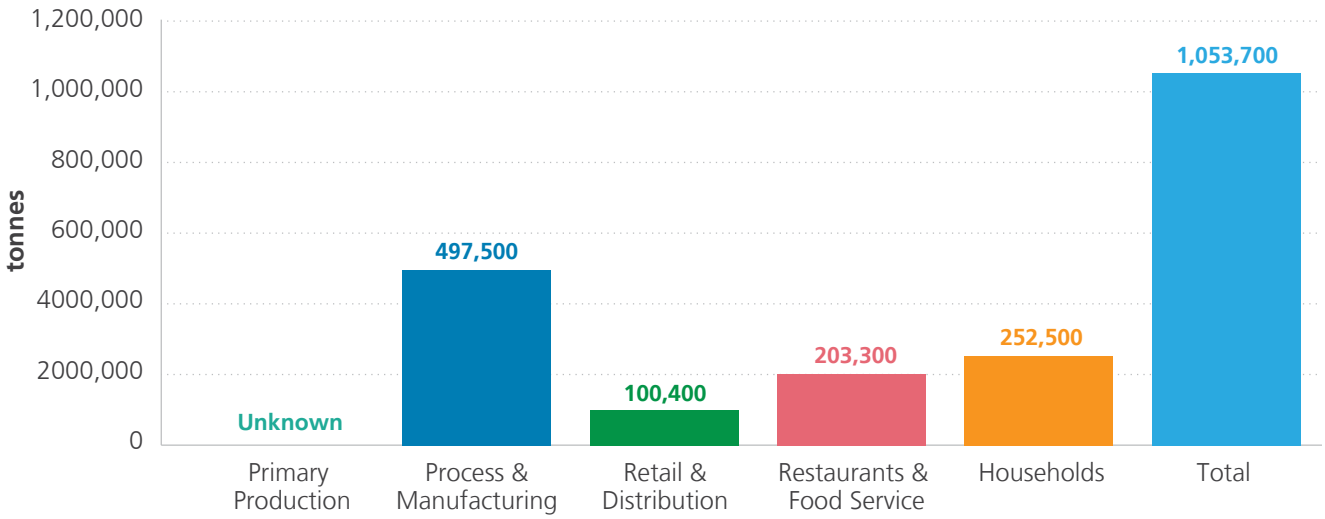


Figure 11 - Estimated food waste generated in Ireland in 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Current household food waste amounts to approximately a quarter of a million tonnes per annum (excluding home composting). The average Irish household throws out 153 kg of food waste each year, at a cost of approximately 700 euro. There is considerable uncertainty over food waste amounts in the processing and manufacturing sector, as well as at the primary production stage, and the EPA will undertake further analysis of these sectors during 2020 and 2021.

A significant amount of food waste in Ireland is not currently being segregated for separate collection and ends up in residual and recycling bins. Under the revised Waste Framework Directive, separate collection of biowaste will be mandatory from the end of 2023. Food waste management has improved with an increase in brown bin collections over the last decade but from a low base. Brown bin use by householders has increased from 19,000 tonnes in 2008 to 137,000 tonnes in 2018. This has resulted in a decrease of food waste in the household residual waste bin; but in 2018 there was still approximately 187,000 tonnes of food waste in the residual waste bin that should that should be diverted either to the brown bin or to home composting. As discussed in Chapter 5 Household Waste, less than half of Irish households had a brown bin in 2018. A recent survey on brown bin use in the commercial sector[4] found that over 30% of businesses did not use a food waste bin despite a decade of legislation requiring it. These findings align with the EPA's most recent waste characterisation study[5] which found that over one-third of the waste in commercial residual waste bins consists of food waste (amounting to approximately 169,200 tonnes of food waste in 2018).

Collectively these findings illustrate the scale of the challenges that Ireland faces to reduce food waste and improve biowaste management in the years ahead.

[4] **www.cre.ie/web/wp-content/uploads/2019/10/RED-C-Commercial-Food-Waste-Survey-Sept-2019.pdf**

[5] Waste characterisation reports are available at: **www.epa.ie/pubs/reports/waste/wastecharacterisation/**

7. Composting & Anaerobic Digestion

436k	tonnes of waste went for composting / AD in 2018
56%	of this consisted of municipal biowaste such as kitchen/canteen food waste and garden/park green waste
43%	of Irish households had access to a brown bin in 2018

The quantity of Irish waste treated by composting and anaerobic digestion rose to 436,000 tonnes in 2018, an increase of 15% on the previous year. The majority of this consisted of municipal waste (56%), such as kitchen/canteen food waste and garden/park green waste. Other sources of waste accepted for composting/anaerobic digestion in 2018 included wastes from agriculture, horticulture, forestry and food preparation and processing (26%), and waste from waste management facilities and water/waste water treatment sludges (14%) *(Figure 12)*. Most of this waste was composted/digested at facilities in Ireland (83%) while 17% was transferred to facilities in Northern Ireland.

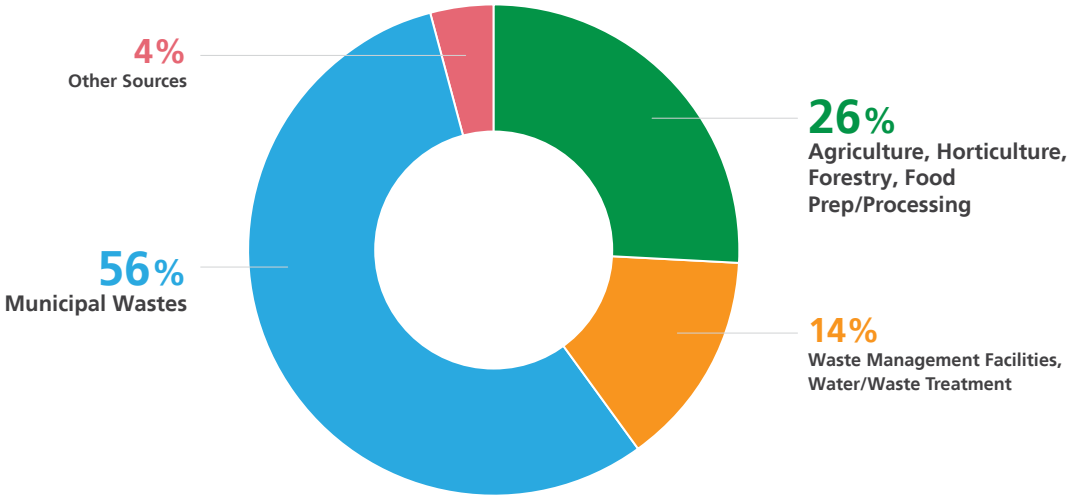


Figure 12 - Types of wastes treated by composting / anaerobic digestion in 2018. Source: EPA. Check **www.epa.ie/nationalwastestatistics** for latest data.

Municipal Biowaste

The bulk of biodegradable municipal waste consists of food waste and garden/park waste. Two key pieces of EU legislation deal with biodegradable municipal waste:

> the Landfill Directive, which requires the diversion of biodegradable municipal waste from landfill, and

> the Waste Framework Directive, which requires measures to encourage the separate collection and recovery of food waste and garden and park waste (biowaste).

The Landfill Directive sets a limit on the quantity of biodegradable municipal waste going to landfill; by 2020, it must be reduced to 35% of the total quantity (by weight) of biodegradable municipal waste produced in 1995. Ireland has been in compliance with this target for some time *(Figure 13)*.

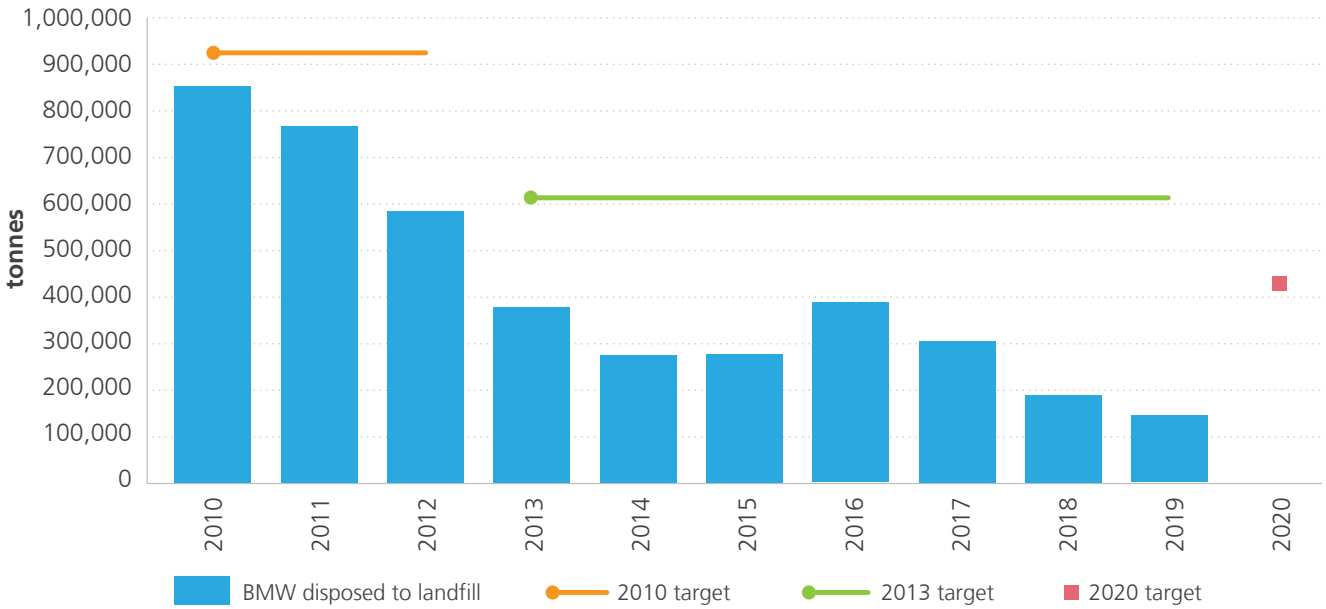


Figure 13 - Quantity of Biodegradable Municipal Waste disposed to landfill, compared with Landfill Directive limits. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

In Ireland, separate collection of food waste was introduced for commercial premises in 2010 and for households in 2013; this currently applies to those living in population centers with of 500 or more residents. In 2018, 43% of all Irish households had access to a brown bin. New EU waste legislation means that the separate collection of biowaste will be mandatory from end- 2023.

Figure 14 shows that the Food Waste Regulations and the associated brown bin roll out have led to large increases in the quantity of municipal biowaste composted/anaerobic digested, from less than 50,000 tonnes in 2005 to 245,000 tonnes in 2018. The fact that more organic waste is now being separately collected and treated in Ireland is also evidenced in the EPA's latest waste characterisation study, which found that the fraction of food and garden waste in household residual bins has fallen from 24% in 2008 to 16% in 2018. Despite these improvements, the EPA waste characterisation study also found that 71% of household food waste is still being disposed of in the residual bin (either because residents don't have a brown bin or they are not using it correctly). The latest data for 2018, shown in *Figure 14*, indicates that the quantities of municipal biowaste treated by composting/anaerobic digestion appears to be plateauing.

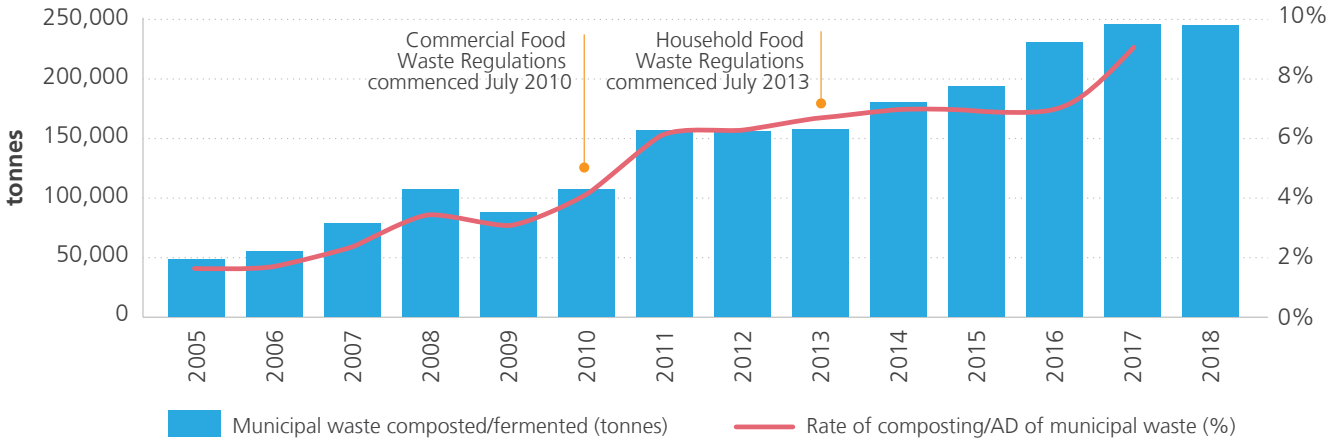


Figure 14 - Municipal biowaste treated by composting/anaerobic digestion. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Organic Fines

In addition to separately-collected organic waste, there has also been a notable rise in the treatment of organic fines at composting plants, up from around 50,000 tonnes in 2013 to 138,000 tonnes in 2018. This increase reflects the fact that most residual waste in Ireland is now pre-treated mechanically at waste facilities, for example by trommelling, before it is sent for recovery or disposal. The organic fines arising from this pre-treatment process undergo composting to reduce their biological activity to an EPA-approved standard. The biostabilised fines can then be used as landfill cover or an alternative agreed use without giving rise to odour and greenhouse gas emissions.

COMPOSITION OF HOUSEHOLD WASTE

The EPA conducts waste compositional analysis in order to categorise mixed wastes into individual waste types. The EPA's latest waste characterisation study in 2018 shows notable changes in the makeup of Irish household waste since the previous study a decade earlier (the 2008 figures are shown in red in *Figure 15* below). The amount of food and garden waste in household residual waste bins has fallen, reflecting the rollout of brown bins since 2013, while the proportion of plastics has increased significantly. The full waste characterisation reports are available at: **www.epa.ie/pubs/reports/waste/wastecharacterisation/**

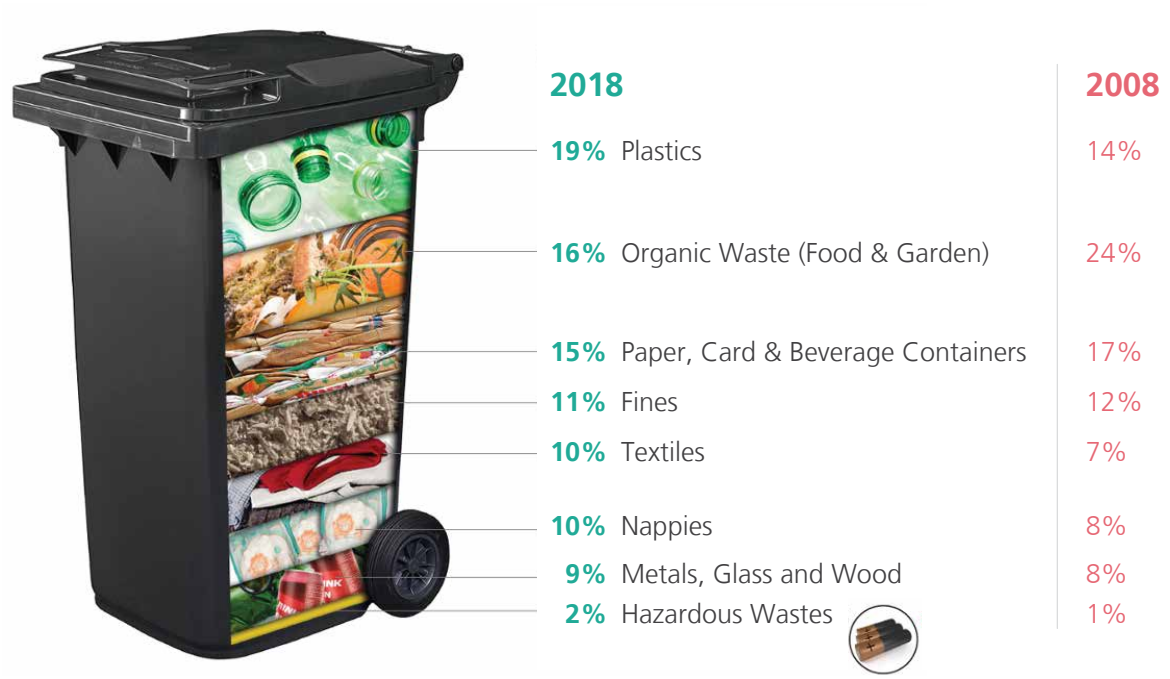


Figure 15 - Average composition of an Irish household residual (black) bin. The figures in red show the average composition a decade earlier, for comparison. Source: EPA.

8. Packaging Waste

1m	tonnes of packaging waste generated in 2018
64%	of all packaging waste was recycled in 2018
31%	The share of plastic packaging waste recycled in 2018

Ireland generated 1,038,200 tonnes of packaging waste in 2018, the second year in a row when the quantity of packaging waste exceeded 1 million tonnes. The majority of this packaging waste was paper and cardboard (40%) and plastic (25%), with smaller amounts of glass, wood and metal and textiles *(Figure 16)*.

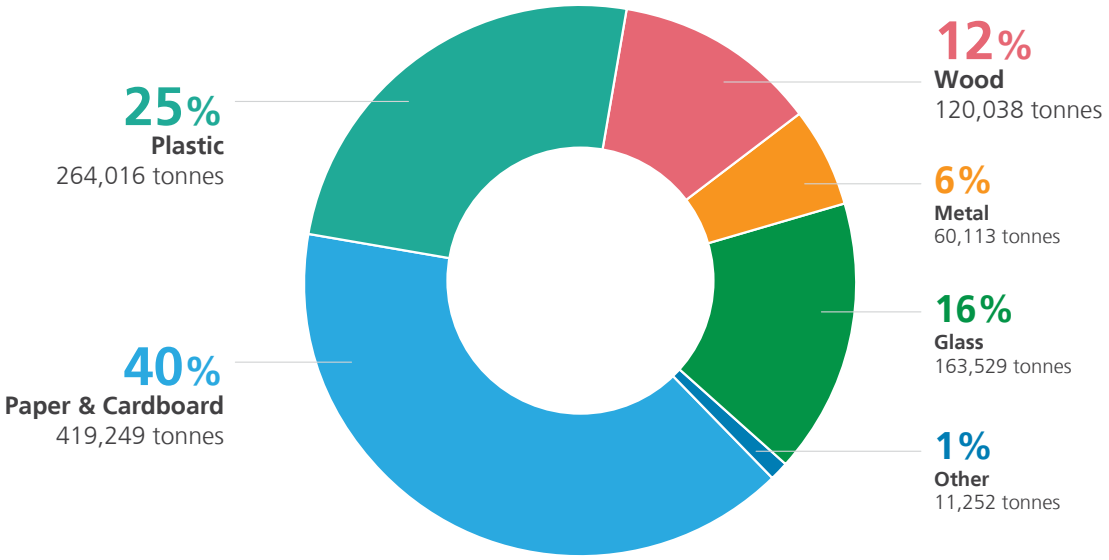


Figure 16 - Breakdown of packaging waste generated in 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

The EPA's 2018 waste characterisation study[6] found that packaging now accounts for one-third (33%) of all household waste collected at kerbside[7]. Comparing with the previous waste characterisation study a decade earlier, the share of packaging waste has increased between 2008 and 2018 in both the recycling bin (from 41% to 55%) and in the residual waste bin (from 23% to 29%)[8]. Ireland reports one of the highest per capita generation rates of plastic packaging in Europe, at 59 kg per person compared with the EU average of 33 kg per person. This can be partially explained by differences in how waste packaging generation figures are compiled across Europe. New reporting rules under the revised Packaging Directive will improve consistency and comparability in reporting between member states. Notwithstanding measurement differences, it is clear that Ireland generates significant quantities

[6] Waste characterisation reports are available at: **www.epa.ie/pubs/reports/waste/wastecharacterisation/**

[7] Percentage before contamination factors are applied. Contamination factors take account of the amount of residual waste left on target materials, for example residual food left in a food container.

[8] Percentages before contamination factors are applied. Contamination factors take account of the amount of residual waste left on target materials, for example residual food left in a food container.

of packaging waste. The EPA is currently funding a UCD-led research project 'Re-Wrapped' to better understand the influence of different measurement approaches and the role of behaviour, both of producers and households, in explaining these trends.

Ireland's producer responsibility initiative for packaging waste, in place since 1997, has been successful in achieving the recycling and recovery targets set down in the Packaging Directive. Most Irish packaging producers are members of the packaging compliance scheme Repak. In 2018, Ireland recycled 64% of all packaging waste generated (some 0.66 million tonnes) and recovered 91% (including incineration with energy recovery). Ireland has been in compliance with packaging recycling and recovery targets set for 2017 since their introduction in 2011, as shown in *Figure 17*; it is evident, however, that packaging recycling rates have been declining since 2012 *(Figure 17)*. Under the revised Packaging Directive, the recycling target for packaging waste increases to 65% by 2025 and to 70% by 2030 and there are also ambitious new targets for individual packaging streams, as shown in *Figure 18*. In particular, the new recycling targets for plastic packaging (50% by 2025 and 55% by 2030) will present a significant challenge for Ireland, considering only 31% of plastic packaging was recycled in Ireland in 2018, down from 34% in 2017. More than twice as much of Ireland's plastic packaging waste was sent for incineration/energy recovery than was recycled in 2018 (170,000 tonnes vs. 82,000 tonnes). The EPA's 2018 characterisation study found that two-thirds of the plastic waste that ends up in our bins is not currently being targeted by Ireland's recycling list. A broadening of the scope of what can be recycled by Irish homes and businesses will be an important part of enabling us to meet our future targets.

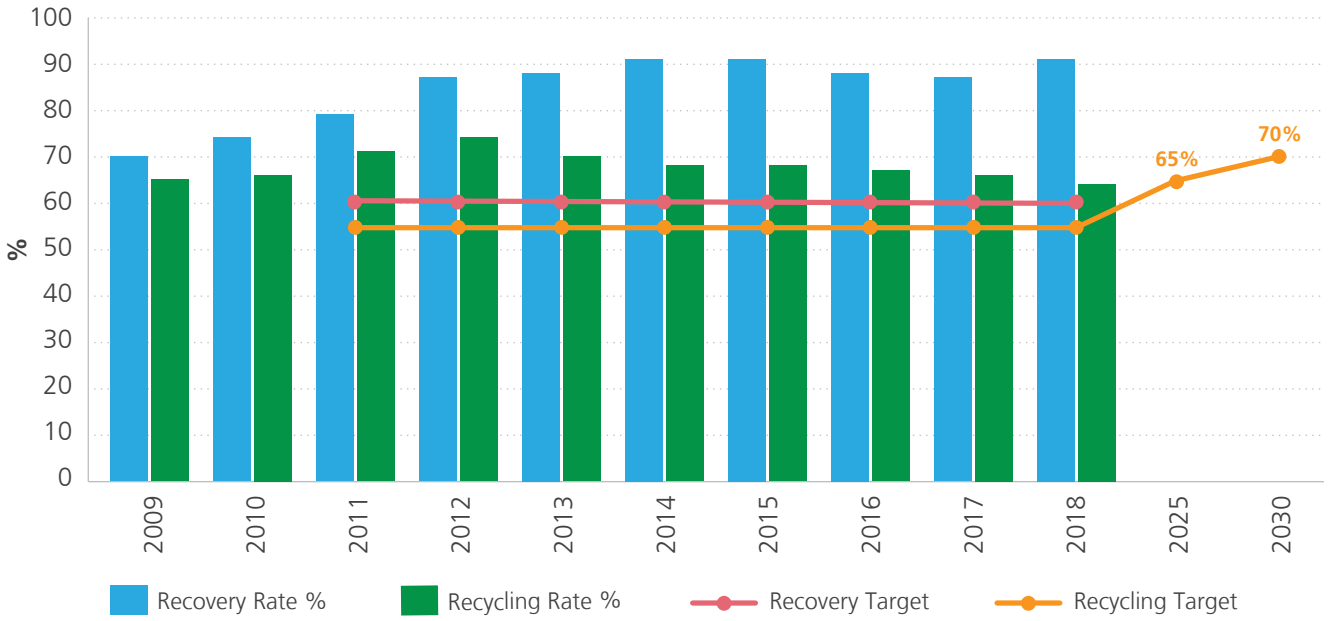


Figure 17 - Trend in recovery and recycling of packaging waste, 2009 to 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

Figure 18 - Recycling of packaging waste in 2018, relative to current and future recycling targets. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.


WASTE
MIX
GLASS

9. Hazardous Waste

0.5m	tonnes of hazardous waste was generated in 2018
70%	rise in hazardous waste since 2012
73%	of hazardous waste was exported for treatment in 2018

Hazardous waste is produced from a wide variety of sources and covers many waste types. Industry is the largest generator of hazardous waste in Ireland, producing solvents, sludges, oils and chemicals, but other sectors such as businesses, construction, healthcare, waste incinerators, farms and households also produce a range of hazardous wastes, including paints, oils, batteries, pesticides and asbestos and contaminated soils. A total of 526,397 tonnes of hazardous waste was generated in Ireland in 2018, an increase of over 90,000 tonnes since 2017 *(Figure 19)*. This increase was driven by an increase in the quantity of incinerator ash generated in 2018 arising from increased incinerator capacity nationally. As shown in *Figure 19* the quantity of hazardous waste generated in Ireland has been rising since 2012; larger quantities of incinerator ash and contaminated soils are the main sources of the increase.

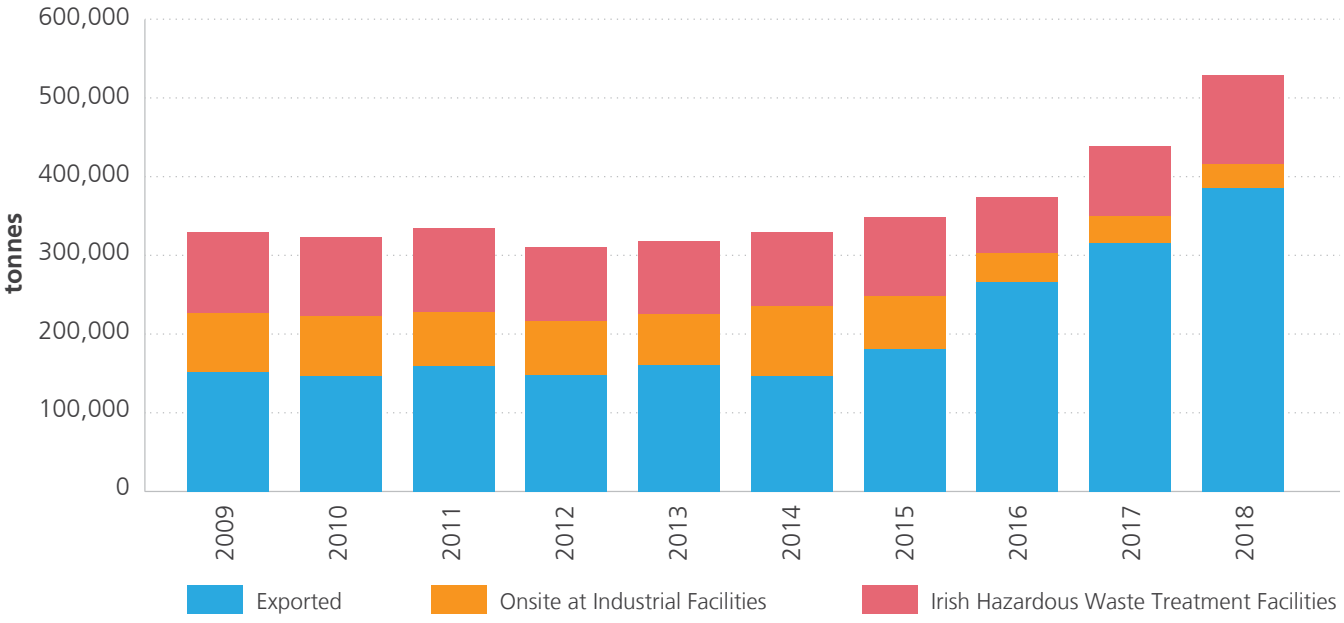


Figure 19 - Generation and treatment of hazardous waste in Ireland, 2009 to 2018. Source: EPA. Check **www.epa.ie/nationalwastestatistics** for latest data.

The vast majority (73%) of Ireland's hazardous waste was exported for treatment in 2018 *(Figure 20)*, mainly to the Netherlands, the UK, Germany and Belgium. This reflects the fact that Ireland does not have the range of facilities to deal with all of the hazardous waste generated. Striving for more self-sufficiency nationally in the management of Ireland's hazardous waste is a key action of the National Hazardous Waste Management Plan. The continuing growth in exports of hazardous waste highlights the need for an end-to-end approach to waste management practices in Ireland and a reduced reliance on waste exports.

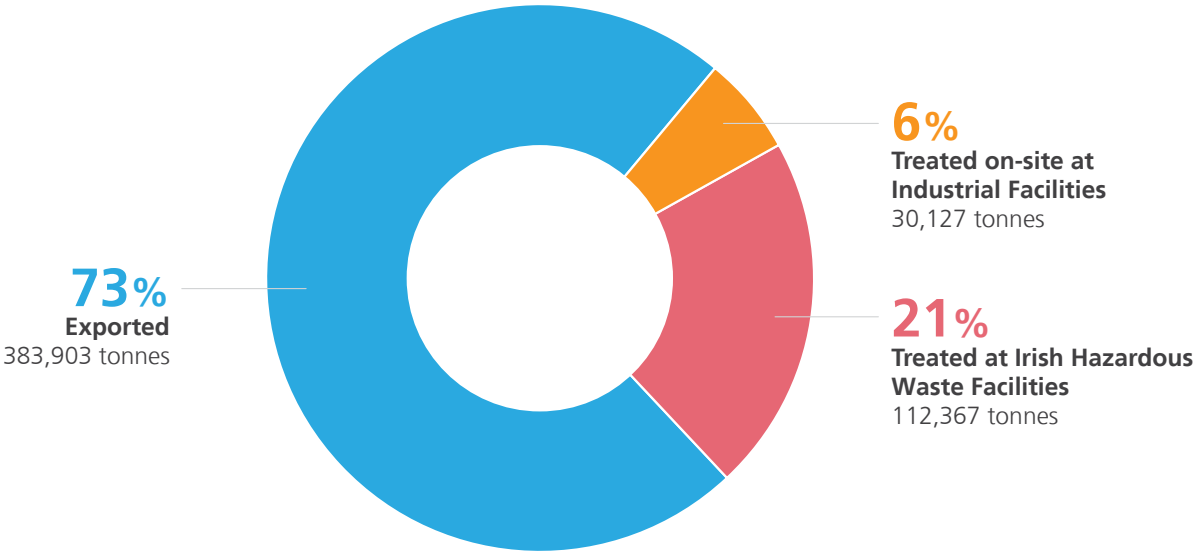


Figure 20 - Location of treatment of Ireland's hazardous waste in Ireland in 2018. Source: EPA. Check **www.epa.ie/nationalwastestatistics** for latest data.

The current National Hazardous Waste Management Plan for 2014-2020 identifies three strategic needs to be addressed if additional hazardous waste is to be treated in Ireland:

1. expansion of physico-chemical treatment,
2. addressing the deficit in thermal treatment capacity, and
3. securing long-term disposal arrangements for hazardous waste streams not suitable for thermal treatment or recovery.

The EPA carried out a progress review of the National Hazardous Waste Management Plan in 2018[9], which found that considerable progress had been made in implementing the Plan, with 23 of the 27 recommended actions in progress or completed. Notable achievements included:

> the successful farm hazardous waste collections,

> the introduction of collection days for household hazardous waste, and

> completion of the inventory of the national hazardous waste recovery and disposal capacity and guidance for the management of household hazardous waste at civic amenity sites.

[9] Ireland's National Hazardous Waste Management Plan. 2014-2020. Environmental Protection Agency. 2014

However, the progress review also identifies where further work is needed:

- Focused engagement with a diverse range of stakeholders to ensure hazardous waste prevention remains a priority;
- Promotion of Ireland's self-sufficiency goals regarding the treatment and management of hazardous waste;
- Continued development of hazardous waste collection infrastructure for small scale hazardous waste from households and small businesses.

As the data in *Figure 20* indicate, the often more favourable cost option of treatment and disposal abroad means that export continues to be a significant treatment route for Ireland's hazardous wastes.

Under the National Waste Prevention Programme, the EPA promotes the use of cleaner technologies and the prevention of waste, including hazardous waste. In the area of waste collection, producer responsibility initiatives have led to increased collections of WEEE and batteries and one-off collections. In addition, household and farm waste have resulted in controlled management of specific hazardous waste streams. In the regulatory area, the EPA led market surveillance campaigns carried out in the period 2014-2017 has increased compliance with the RoHS, POPs and REACH directives and regulations.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RE526557
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RE546336
DRAIN WATER REGULARLY
MANN FILTER
JOHN DEERE

10. Waste Electrical & Electronic Equipment (WEEE)

63k	tonnes of WEEE collected for treatment in 2018
61%	collection rate in 2018, compared with 45% target; however, a much higher target of 65% applies from 2019
73%	of WEEE collected in 2018 was treated in Ireland (although not necessarily final treatment)

Electronic waste (e-waste) is the world's fastest growing waste stream and can be potentially toxic. The Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EC) aims to ensure that e-waste is collected and managed in an environmentally friendly way. It sets an overall collection target for e-waste and individual targets for the reuse, recovery and recycling of ten separate categories of equipment including large and small household appliances, IT and telecommunications equipment, and medical devices. While these targets have increased considerably over the last few years, Ireland has continued to achieve them, as set out in Appendix I. Most collection and treatment of e-waste and waste batteries in Ireland is organised and financed by the producer compliance schemes WEEE Ireland and European Recycling Platform (ERP) Ireland.

In 2018, Ireland collected over 62,700 tonnes of WEEE for treatment *(Figure 21)*, a 20% increase on the 52,300 tonnes collected the previous year. Some 55,754 tonnes of WEEE were recovered and 52,010 tonnes were prepared for reuse or recycling in 2018 (increases of 17% and 19%, respectively, on the 2017 quantities). The increases in 2018 are partially attributable to the inclusion for the first time of a substantiated estimate of WEEE collected and processed from mixed metal streams in the 2018 figures[10].

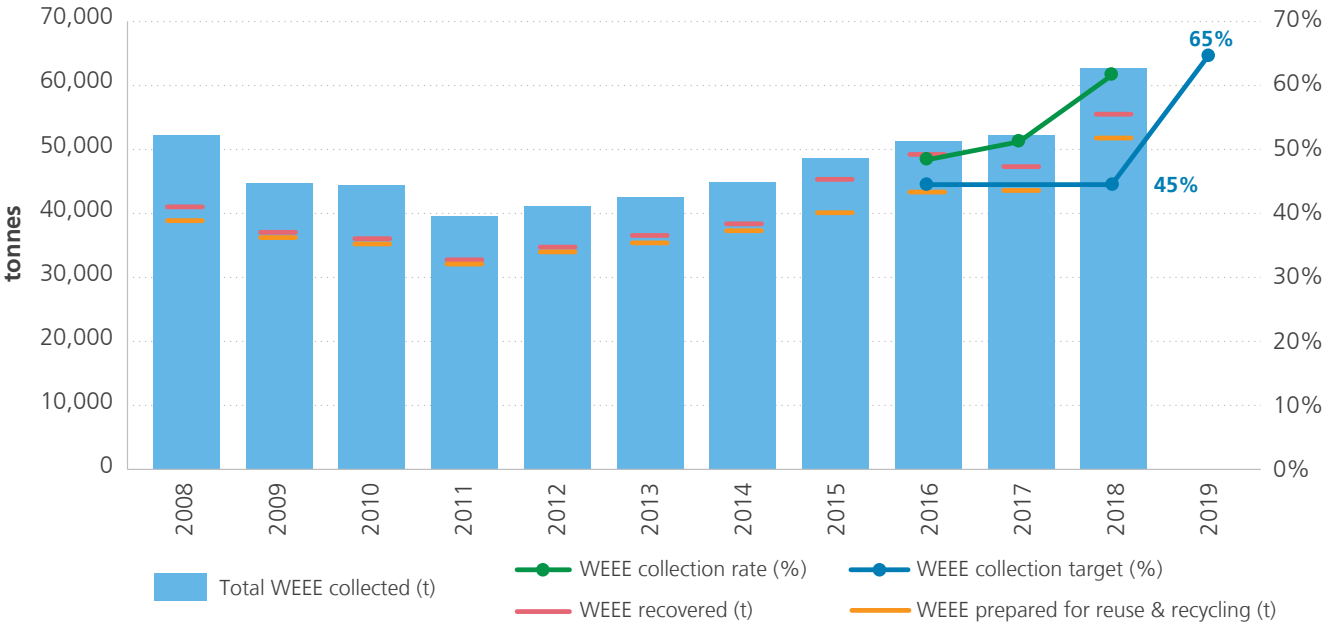

Figure 21 - WEEE collection, recovery and recycling in Ireland from 2009 to 2018, and EU collection targets. Source: EPA.

Check **www.epa.ie/nationalwastestatistics** for latest data.

[10] Ryan-Fogarty, Y., Casey, K., Coughlan, D., Lichrou, M., O'Malley, L., Fitzpatrick, C., (in press). An Investigation into WEEE Arising & Not Arising in Ireland (EEE2WEEE), 2017-RE-MS-9 **http://erc.epa.ie/safer/reports**

The collection rate of WEEE in 2018, based on the tonnage placed on the market, was 61%, surpassing the current collection target of 45%. However, achieving the much higher collection target of 65% that applies from 2019 on will be a significant challenge for Ireland. Some 73% of the WEEE collected in 2018 was treated in Ireland (although not necessarily final treatment).

In terms of the types of e-waste collected in Ireland, large household appliances accounted for 63% (by weight) of all the WEEE collected in 2018 *(Figure 22).*

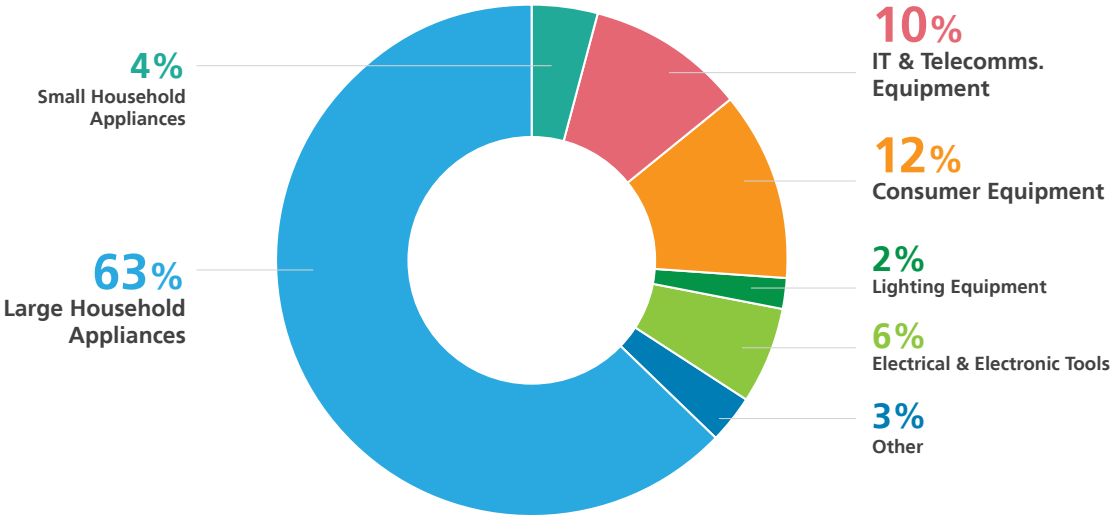

Figure 22 - Breakdown of WEEE collected in 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

It is evident from *Figure 21* that there was a notable decline in the quantities of WEEE collected in Ireland during the economic recession between 2008 and 2011, when householders and businesses did not replace electrical and electronic equipment as frequently. The recovering economy since 2012 has coincided with a rise in e-waste collected, illustrating the link between economic wealth and consumption of electronic goods.

The EPA's most recent waste characterisation study found that substantial amounts of WEEE were still present in the household bins, accounting for 0.9% of waste in the residual bin and 0.7% of waste in the recycling bin. There is clearly further room for improvement in terms of ensuring this material is separately collected through the available channels, to allow the maximum value to be extracted from these valuable materials.

11. End-of-Life Vehicles (ELVs)

163k	ELVs treated in Ireland in 2018
86%	rate of ELV reuse and recycling in 2018

End-of-Life Vehicles (ELVs) refer to cars or light commercial vehicles weighing less than 3.5 tonnes that are no longer suitable for use and are discarded as waste. The ELV Directive (2000/53/EC) sets binding targets for the reuse, recovery and recycling of ELVs. The current targets, effective from 1st January 2015, require a minimum 85% reuse and recycling and a minimum of 95% reuse and recovery. The latest data indicates that more than 162,500 ELVs were treated in Ireland in 2018, an increase of almost 22,000 vehicles (or 16%) on the previous year. Ireland achieved full compliance with the current targets for the first time in 2018, achieving a reuse and recycling rate of 86.4% and a reuse and recovery rate of 95.2% *(Figure 23)*.

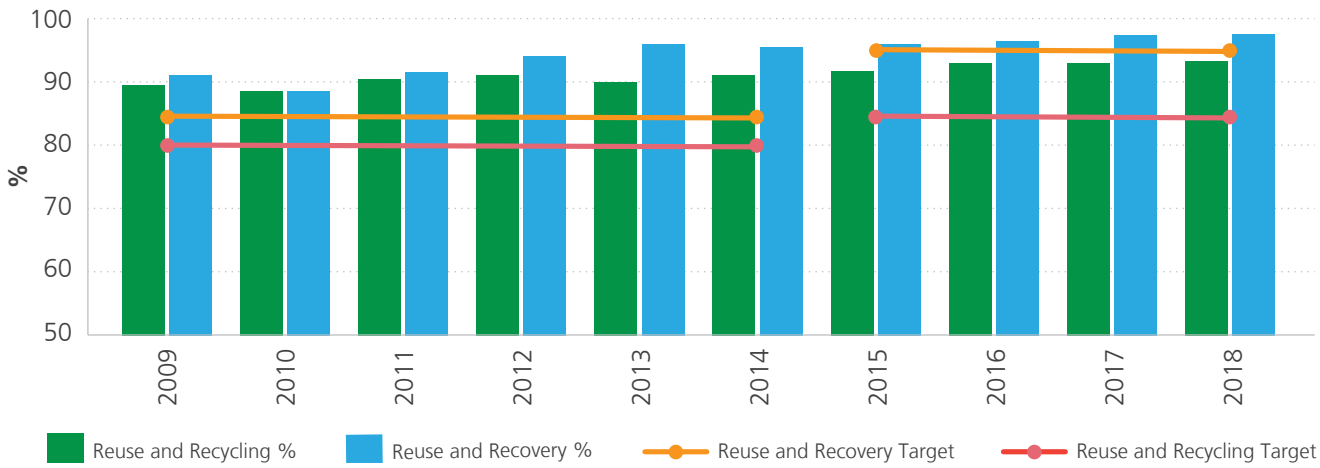

Figure 23 - ELV reuse, recycling and recovery 2009-2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

While rates of reuse, recycling and recovery of ELVs have improved significantly in Ireland since 2010, the rate of improvement has slowed in recent years *(Figure 23)*. The rate of reuse and recycling has remained stable at 86% since 2016, while reuse and recovery rates have shown gradual year-on-year improvements since 2014. Ireland's ELV producer compliance scheme, ELV Environmental Services (ELVES), was established in 2017 and works with ELV treatment facilities and shredders to improve the recycling and recovery of scrap vehicles.

12. Construction & Demolition Waste

6.2m	tonnes of C&D waste collected & managed in 2018, up 1.5 million tonnes on the quantity of C&D waste generated in 2017 (4.7 millions tonnes), corresponding with an increase in construction activity nationally.
78%	material recovery rate for C&D waste in 2018

C&D Waste Generation

Construction and demolition (C&D) waste represents a substantial waste stream in Ireland in terms of both volume and weight. Approximately 6.2 million tonnes of C&D waste was collected by authorised waste collectors for treatment in 2018, up significantly from 4.7 million tonnes in 2017. This increase in C&D waste corresponded with an increase in construction activity nationally *(Figure 24)*. The majority of this consisted of soil and stones (77%), with the remainder made up of mixed C&D waste, concrete, bricks, tiles and metals.

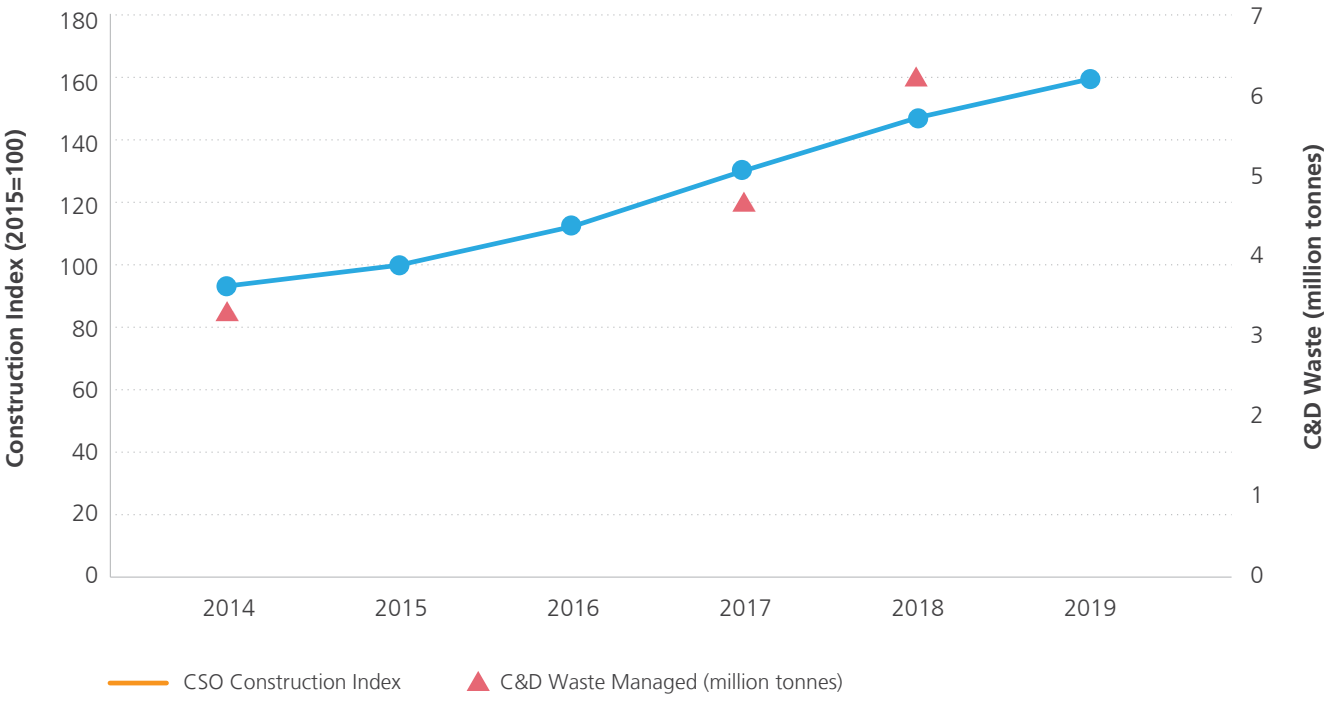

Figure 24 - Quantity of construction waste managed in Ireland, compared with CSO construction index. Source: EPA and CSO.

Only 3% of C&D waste was collected separately as single material streams (wood, glass, plastic or metal) *(Figure 25)*.

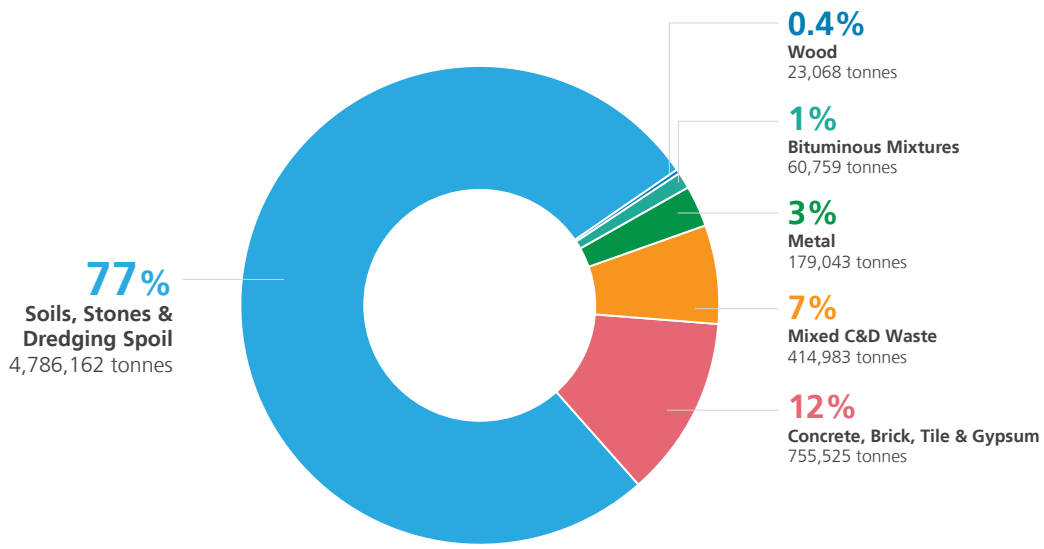

Figure 25 - Composition of C&D waste collected in Ireland in 2018. Source: EPA. Check **www.epa.ie/nationalwastestatistics** for latest data.

C&D Waste Treatment

The vast majority (96%) of C&D waste underwent final treatment in Ireland in 2018 and only 4% was exported abroad for final treatment. Most of the C&D waste undergoing final treatment in Ireland was recovered by backfilling (89%), while only 9% was recycled *(Figure 26)*.

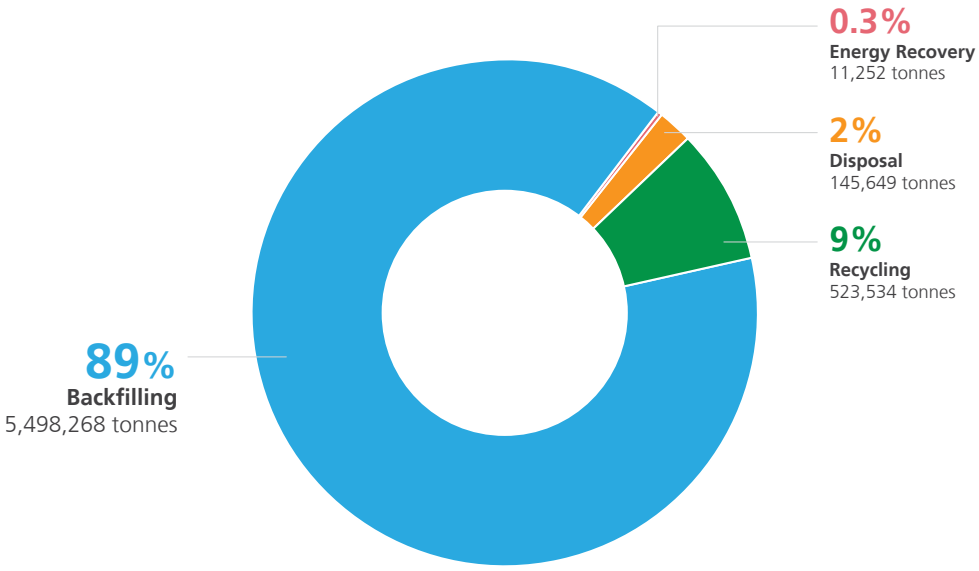

Figure 26 - Treatment of C&D waste in Ireland in 2018. Check **www.epa.ie/nationalwastestatistics** for latest data.

The prominence of backfilling as a final treatment operation reflects the high tonnages of waste soil, stones, concrete, bricks and tiles managed. Recycling was the main treatment operation for the smaller metal, plastic, glass and wood fractions of C&D waste, while disposal was mainly used for C&D waste treatment residues *(Figure 27)*. Recycling rates for C&D waste could be improved by greater segregation of C&D waste into individual material streams, either at source or at waste processing facilities.

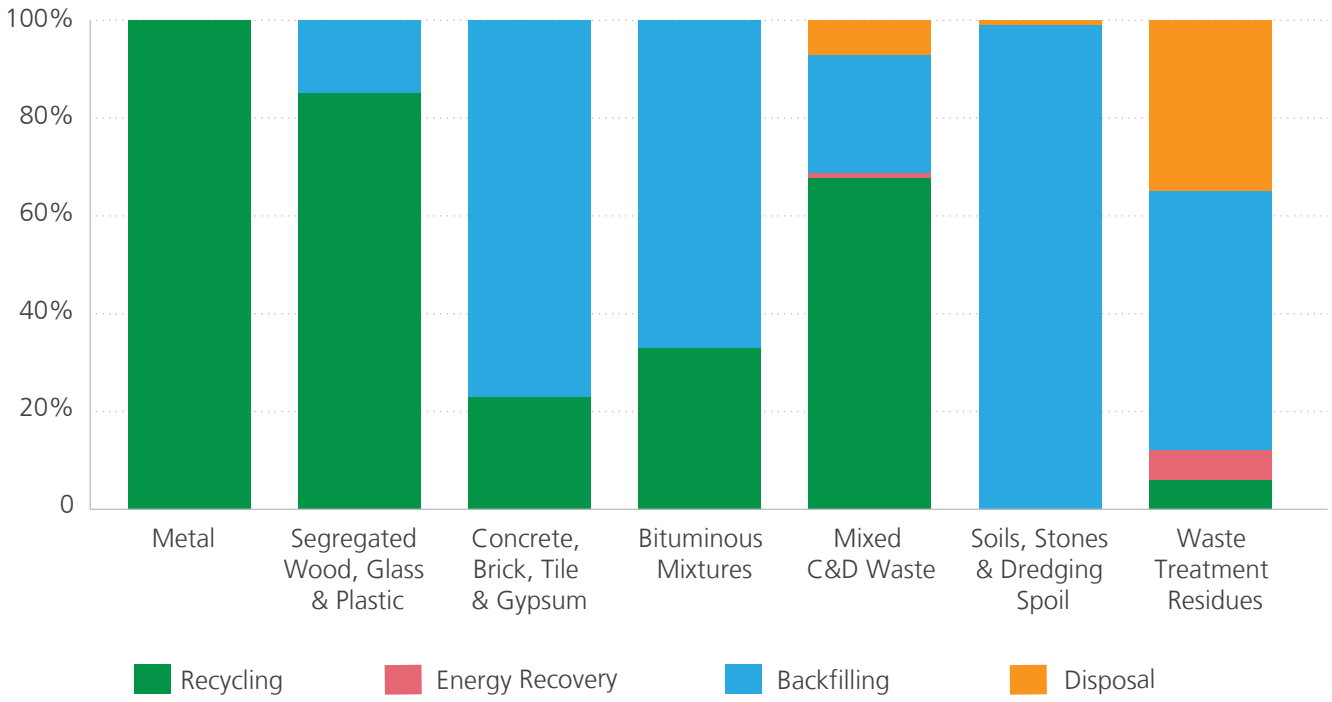

Figure 27 - Final treatment operation by C&D waste stream in 2018. Source: EPA.
Check **www.epa.ie/nationalwastestatistics** for latest data.

The Waste Framework Directive requires Member States to achieve 70% recovery of C&D waste by 2020 – this target excludes hazardous waste and the soil and stone portion of C&D waste. In 2018, Ireland achieved 77% material recovery of non-hazardous, non-soil-and-stone C&D waste, surpassing the 2020 EU target. This represents an improvement on the C&D recovery rate of 71% achieved by Ireland in 2016.

Waste Prevention

Preventing waste and promoting re-use are integral to the circular economy. While this applies to all economic sectors, it is particularly relevant for the construction sector which handles large volumes of materials. Successful activation of the circular economy in this sector could see millions of tonnes of resources being re-used in construction projects every year, reducing demand for virgin raw materials and lowering the carbon footprint of C&D activity.

Following the 2018 review of the National Waste Prevention Programme (NWPP), C&D waste prevention was included as a new priority area for the programme. The NWPP will work collaboratively with public bodies and the construction industry to develop and implement best practices on waste prevention at all stages from design to demolition. In 2018, EPA provided Green Enterprise funding for the development of a resource management and materials circularity protocol for the Irish construction sector.

C&D By-product Notifications

The Waste Framework Directive provides for uncontaminated excavated soil and other naturally occurring materials (used on sites other than the one from which they were excavated) to be considered as by-products rather than waste under certain circumstances. Decisions on by-product status are made by economic operators who must then notify their decision to the EPA. The EPA may determine to agree with the economic operator's decision, as notified; alternatively, after consultation with the economic operator and the relevant local authority, the EPA may determine that the notified material is waste.

In 2018, the EPA received by-product notifications for 6,251,396 tonnes of C&D material. Notifications for 2,605,878 tonnes were withdrawn. The EPA determined that 907,000 tonnes of the soil and stones notified were by-product, as notified. The estimated quantity of C&D material for which no determination has been made to date amounted to 2,738,518 tonnes. By-product notifications do not necessarily mean that the activities proceeded; however, if they did, material classed as a by-product would not have entered the waste management network or be included in the 2018 waste statistics data. In 2019, the EPA published *Guidance on Soil and Stone By-Products*[11] to assist operators in determining if soil and stone is a waste or a by-product.

[11] **www.epa.ie/pubs/advice/waste/product/Guidance_on_Soil_and_Stone_By_Product.pdf**

13. Outlook

While Ireland has made strides in many areas of waste management, the latest EPA data show that further improvements are needed. Ireland has not yet succeeded in breaking the link between economic growth, consumption levels and waste generation and is missing valuable opportunities to maximise the beneficial and efficient use of waste materials. The latest data underscore the need for Ireland to do far more to prevent waste, improve recycling, increase self-sufficiency and move towards a more integrated approach to waste management, as part of our implementation of the EU Circular Economy Package and the European Green Deal.

Ireland currently has some significant waste infrastructure deficits, as evidenced in our high dependence on export for a number of key waste streams. The vast majority of our segregated municipal waste, including plastic packaging, is exported for recycling, mainly to Asian countries, while almost three-quarters of our hazardous waste is sent to other European countries for disposal or recovery. The proximity principle is one of the central tenets of EU waste policy, requiring that member states take appropriate steps to manage waste close as possible to where it is produced. China's sudden decision to ban the import of waste packaging in 2017 highlighted the vulnerability of countries dependent on export markets.

Incineration capacity in Ireland has expanded significantly in recent years, in tandem with the shift away from landfill. The increase in the landfill levy has been a key policy driver in discouraging the least desirable waste management option and moving waste management further up the waste hierarchy. Energy recovery is undoubtedly a preferable waste management option to disposal, however there is a risk it may disincentivise the maximum extraction of recyclables from residual waste. Ireland's packaging recycling rates have shown a gradual decline since 2012 and our municipal recycling rate has stagnated at ~40% since 2010 and slipped to 38% in 2018. In its latest Environmental Implementation Review of Ireland[12], the European Commission cautioned that the increased use of incineration must not prevent Ireland from meeting post-2020 recycling targets. The processing and storage of residual wastes for use as a fuel can also present problems such as odour complaints and increased fire risk.

Developing new recycling industries and markets in Ireland would help drive our management of waste further up the waste hierarchy, ensuring we extract the maximum value from waste materials in line with the circular economy principles and improve recycling rates. It would also build up self-sufficiency and promote an end-to-end approach to waste management in Ireland with lower transport-related greenhouse gas emissions, aligning with national policies on climate action and sustainability.

Significant improvement in national recycling rates could be achieved through improved segregation. The EPA's most recent national municipal waste characterisation study in 2018[13] found that over 20% of material in the household recycling bin should not be there and that packaging material in the recycling bin is now less clean now than it was ten years ago. Two-thirds of the plastic waste that ends up in our bins is not currently being targeted by Ireland's recycling list. While there has been a significant reduction in organic waste in the household residual bin thanks to the introduction of the brown bin, still only 43% of Irish households now have a brown bin and about half of household organic waste is still being disposed of in the 'wrong' bins (i.e., the recycling or residual bin). In the commercial sector, almost 70% of the content of the residual waste bins could potentially be diverted either to recycling or to brown

[12] European Commission, 2019. The Environmental Implementation Review 2019, Country Report Ireland.

[13] Waste characterisation reports are available at: **www.epa.ie/pubs/reports/waste/wastecharacterisation/**

bins. Improvements in segregation behaviour, including a greater role for waste collection companies in ensuring their customers segregate correctly and use the appropriate bin; expanded provision of brown bins to households; and a broadening of the scope of what can be recycled by Irish homes and businesses will be among the measures needed to improve our recycling rates in line with future recycling targets.

While the reduction in landfilling is welcome, Ireland has experienced critically low landfill capacity for municipal waste in recent years. Proactive planning for adequate future treatment capacity in the State is essential to ensure that there are no negative environmental impacts from waste management. The continuing lack of a hazardous waste landfill contributes to Ireland's high reliance on export of hazardous waste for treatment abroad.

An overarching goal of European waste management is to prevent the occurrence of waste, with Member States required to develop 'waste prevention programmes' under the Waste Framework Directive to identify waste prevention measures and targets. Prevention of waste and reuse must also remain central to Ireland's waste management policy. The latest data show that plastic waste generation, particularly packaging, has become much more significant and requires measures to address it, including through the promotion of reusable over single-use packaging. Ireland has pioneered economic initiatives that have changed consumer behaviour and prevented waste, such as the plastic bag levy. Ireland should seek to be innovative and productive at this time of opportunity while the concept of the circular economy is taking root, being planned and implemented.

Ireland's newly published National Waste Policy 2020-2025, *A Waste Action Plan for a Circular Economy*, sets out a roadmap that aims to ensure that Ireland not only meets our legal targets but also takes full advantage of the opportunities of the new economy. The full and early implementation of these policy measures will be needed to address the challenges highlighted in this report.

14. Further information

Further information and the latest national waste data are available on the EPA's National Waste Statistics web resource: **www.epa.ie/nationalwastestatistics/**.

In 2019, the EPA started a new 'First Look' tab on the National Waste Statistics web resource, designed to provide more timely indicators of waste generation and management. The section currently shows preliminary annual information on waste accepted at Irish landfills and quarterly figures on municipal waste accepted at Irish landfills and thermal treatment facilities. The EPA will continue to develop our 'First Look' tab and add more early waste indicators as data becomes available.

Appendix 1: Progress to EU Waste Targets

EU Directive	Target Date	Target Specifics	Reference Year	Rate	Indicator
Waste Framework Directive (2008/98/EC)	12/12/2020	Preparing for reuse and recycling of 50% by weight of household derived paper, metal, plastic & glass (calculation method 1)	2018	51%	ON TRACK
	12/12/2020	Preparing for reuse, recycling and other material recovery (incl. beneficial backfilling operations using waste as a substitute) of 70% by weight of C&D non-hazardous waste (excluding natural soils & stone)	2018	78%	ON TRACK
	12/12/2013	Establishment of a National Waste Prevention Programme (NWPP)	NWPP established in 2004		ACHIEVED
Packaging Directive (94/62/EC as amended)	31/12/2011	60% as a minimum by weight of packaging waste will be recovered or incinerated at waste incineration plants with energy recovery.	2018	92%	ACHIEVED
		55% as a minimum by weight of packaging waste will be recycled.	2018	64%	ACHIEVED
		No later than 31st December 2011 the following minimum recycling targets for materials contained in packaging waste will be attained:			
		(i) 60% by weight for glass;	2018	82%	ACHIEVED
		(ii) 60% by weight for paper and board;	2018	79%	ACHIEVED
		(iii) 50% by weight for metals;	2018	64%	ACHIEVED
		(iv) 22.5% by weight for plastics, counting exclusively material that is recycled back into plastics;	2018	31%	ACHIEVED
		(v) 15% by weight for wood.	2018	64%	ACHIEVED
End of Life Vehicles Directive (2000/53/EC)	01/01/2015	Reuse and recovery to a minimum of 95% by average weight of vehicle and year.	2018	95%	ACHIEVED
		Reuse and recycling to a minimum of 85% by average weight of vehicle and year.	2018	86%	ACHIEVED
Batteries Directive (2006/66/EC)	26/09/2016	Minimum 45% collection rate for batteries & accumulators.	2019	47%	ACHIEVED
	26/09/2011	Recycling processes shall achieve the following minimum recycling efficiencies:			
		(i) recycling of 65% by average weight of lead-acid batteries and accumulators, including recycling of the lead content to the highest degree that is technically feasible while avoiding excessive costs;	2019	87%	ACHIEVED
		(ii) recycling of 75% by average weight of nickel-cadmium batteries and accumulators, including recycling of the cadmium content to the highest degree that is technically feasible while avoiding excessive costs; and	2019	78%	ACHIEVED
		(iii) recycling of 50% by average weight of other waste batteries and accumulators.	2019	83%	ACHIEVED

Check **www.epa.ie/nationalwastestatistics** for latest data

EU Directive	Target Date	Target Specifics	Reference Year	Rate	Indicator
Landfill Directive (1999/31/EC)	16/12/2020	Biodegradable municipal waste going to landfills must be reduced to 35% of the total quantity (by weight) biodegradable municipal waste produced in 1995 (427,000 t).	2019	145,000 t	ON TRACK
WEEE Directive (2012/19/EC)	14/8/2016	Separate collection of ≥ 45% of WEEE in reference to electrical and electronic equipment placed on the market.	2018	61%	ACHIEVED
	15/8/2015	**For large household appliances:** Recovery shall be increased to a minimum of 85% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 80% by an average weight per appliance.	2018	90% 84%	ACHIEVED
	15/8/2015	**For small household appliances:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	82% 71%	ACHIEVED
	15/8/2015	**For IT and telecommunications equipment:** Recovery shall be increased to a minimum of 80% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 70% by an average weight per appliance.	2018	90% 85%	ACHIEVED
	15/8/2015	**For consumer equipment:** Recovery shall be increased to a minimum of 80% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 70% by an average weight per appliance.	2018	90% 84%	ACHIEVED
	15/8/2015	**For lighting equipment:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	95% 83%	ACHIEVED
	15/8/2015	**For gas discharge lamps:** the rate of component, material and substance reuse and recycling shall reach a minimum of 80% by weight of the lamps.	2018	84%	ACHIEVED
	15/8/2015	**For electrical & electronic tools:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	79% 72%	ACHIEVED

EU Directive	Target Date	Target Specifics	Reference Year	Rate	Indicator
WEEE Directive (2012/19/EC)	15/8/2015	**For toys, leisure and sports equipment:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	83% 72%	ACHIEVED
	15/8/2015	**For medical devices:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	77% 60%	ACHIEVED
	15/8/2015	**For monitoring and control instruments:** Recovery shall be increased to a minimum of 75% by an average weight per appliance; and Component, material and substance reuse and recycling shall be increased to a minimum of 55% by an average weight per appliance.	2018	83% 72%	ACHIEVED
	15/8/2015	**For automatic dispensers:** Recovery shall be increased to a minimum of 85% by an average weight per appliance; Component, material and substance reuse and recycling shall be increased to a minimum of 80% by an average weight per appliance.	2018	89% 82%	ACHIEVED

An Ghníomhaireacht um Chaomhnú Comhshaoil

Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

Eolas: Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

Tacaíocht: Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.

Ár bhFreagrachtaí

Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:

> saoráidí dramhaíola (m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola);
> gníomhaíochtaí tionsclaíocha ar scála mór (m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
> an diantalmhaíocht (m.sh. muca, éanlaith);
> úsáid ghlanscartha agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (OGanna);
> foinsí radaíochta ianúcháin (m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha);
> áiseanna móra stórála peitril;
> sceitheadh fuíolluisce;
> gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta I Leith Cúrsaí Comhshaoil

> Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
> Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
> Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
> Obair le húdaráis áitiúla agus gníomhaireachtaí eile chun dul i ngleic le coireacht chomhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, díriú ar chiontóirí, agus maoirsiú a dhéanamh ar fheabhsúchán.
> Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (WEEE), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
> An dlí a chur orthu siúd a bhriseann dlí an cho

Bainistíocht Uisce

> Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchreasa agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
> Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
> Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol

> Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
> Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus áitiúil (m.sh. tuairisciú tréimhsiúil ar Staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí).

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

> Fardail agus réamh-mheastacháin na hÉireann maidir le gás ceaptha teasa a ullmhú.
> An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil

> Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnú Straitéiseach Comhshaoil

> Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn (m.sh. mórphleananna forbartha).

Cosaint Raideolaíoch

> Monatóireacht a dhéanamh ar leibhéil radaíochta, agus measúnacht a dhéanamh ar a oiread is atá muintir na hÉireann gan chosaint ar an radaíocht ianúcháin.
> Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
> Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
> Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas

> Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
> Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol (m.sh. Timpeall an Tí, Mapaí Radóin).
> Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
> Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta

> GeFeasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
> Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus Struchtúr an Gcc

Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

> An Oifig um Inbhuanaitheacht Comhshaoil
> An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
> An Oifig um Fhianaise agus Measúnú
> An Oifig um Chosaint Radaíochta agus Monatóireacht Comhshaoil
> An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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