



2022 Commercial Municipal Waste Characterisation

SEPTEMBER 2023



THE CIRCULAR ECONOMY PROGRAMME
The Driving Force for Ireland's Move to a Circular Economy



Riailtas na hÉireann
Government of Ireland

Introduction

In our everyday lives, we all produce waste in our homes, offices, shops and schools. This type of waste is called municipal waste. The composition of this municipal waste placed in household and commercial bins varies over time.

The EPA carries out a national municipal waste characterisation project every four years to provide up-to-date information on the composition of Ireland's municipal waste.

The information is used for waste statistics reporting, inform circular economy policy and waste management planning. The results of the 2022 Commercial Municipal Waste Characterisation (CMWC) are summarised in this booklet.

Further MWC information can be found [here](#) on the EPA Waste Statistics webpage.

Overview of 2022 Commercial Municipal Waste Surveys

Collected waste from 14 different business sectors

 Wholesale	 Retail	 Transportation
 Storage	 Accommodation	 Food Services
 Business Services	 Public Services	 Education
 Healthcare	 Social Care	 Sport
 Arts & Entertainment	 Other	

38
waste surveys completed



1,200
hours on-site




1,500
dirty recyclables samples sorted, weighed, cleaned, dried and re-weighed to assess contamination.



650
waste samples
(a waste sample is a minimum of 5kgs)



From **THREE** Bin Types

-  Black Bin General Waste
-  Green Bin Recyclables
-  Brown Bin Organic Waste

Hand sorted into...



81
DIFFERENT MATERIAL CATEGORIES

How the waste data was collected



1

Bins are examined at businesses around the country. The different waste types are sorted by hand.



2

10 to 15 samples taken from each bin



3

Each sample emptied and sorted into buckets for weighing



4

The weight of over 81 waste types was measured



5

All the weights were recorded onto data sheets



6

All data sheets input to reporting spreadsheet

What is in the commercial general waste bin?



Materials of Note

Organic Waste

27% Food Waste

3% Liquid Wastes



Plastic

11% Plastic Packaging

4% Other Plastic Non-Packaging

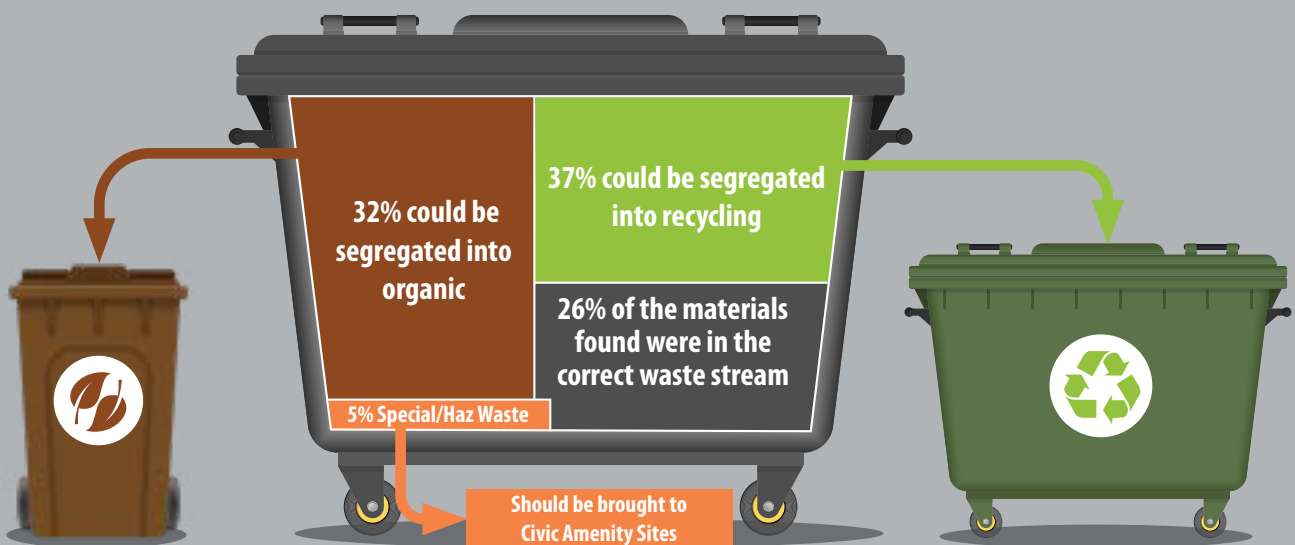


Paper

Mainly Tissue Paper



Where should the waste be placed?



* Contamination = leftover & residual food & liquids on paper, cardboard, composites, plastic and metal materials.



What is in the commercial recycling bin?



Materials of Note

Organic Waste

- 7% Food Waste
- 2% Liquid Wastes



Cardboard

- 19% Packaging



Composites

- 2% Coffee Cups

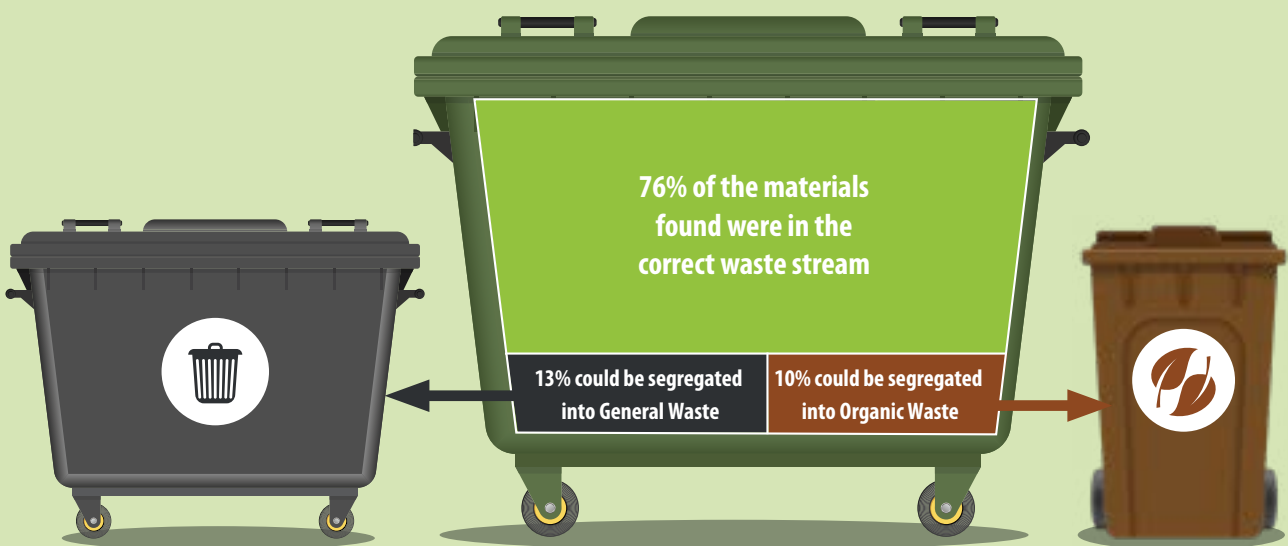


Contamination

- 9% contamination



Where should the waste be placed?



* Contamination = leftover & residual food & liquids on paper, cardboard, composites, plastic and metal materials.

What is in the commercial organic waste bin?



Materials of Note

Organic Waste

91% Food Waste



Compostable

2% Compostable Wares



Combustibles

2% Unclassified Combustibles



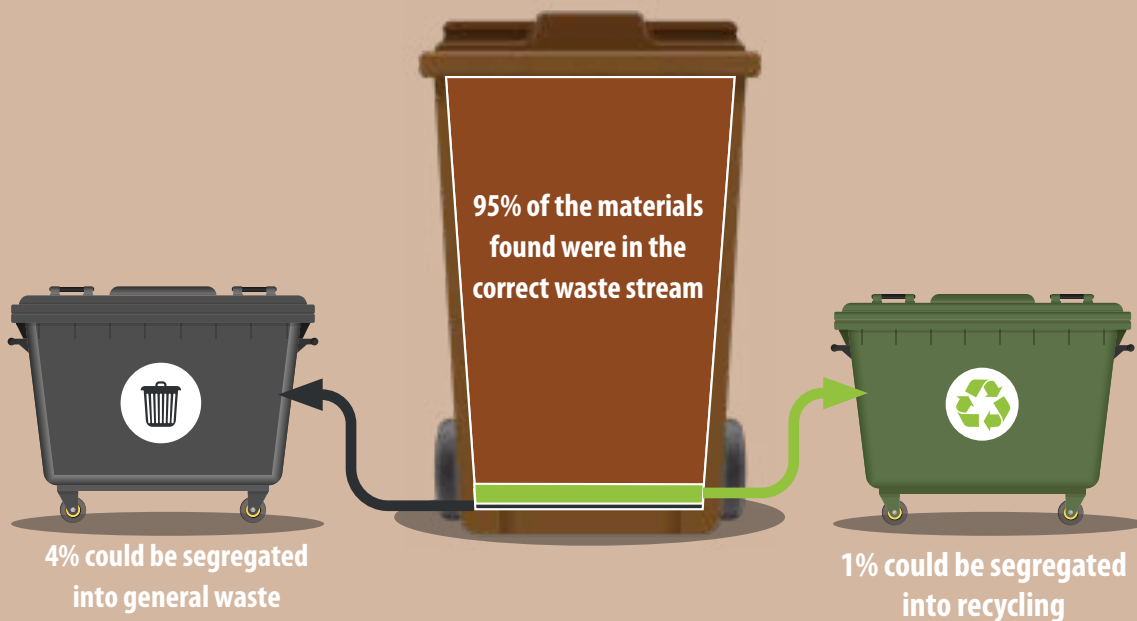
Glass

0% Glass



- 2% CARDBOARD
- 2% UNCLASSIFIED COMBUSTIBLES
- 2% COMPOSTABLES
- 1% PAPER
- < 1% EVERYTHING ELSE

Where should the waste be placed?



Overall segregation

Where the waste is **ACTUALLY** going...

Where the waste **SHOULD** be going...

General Waste



69% of items in General Waste should be in Recycling or Organic waste



Recycling



24% of items in recycling should be in General Waste or Organic Waste



Organic Waste

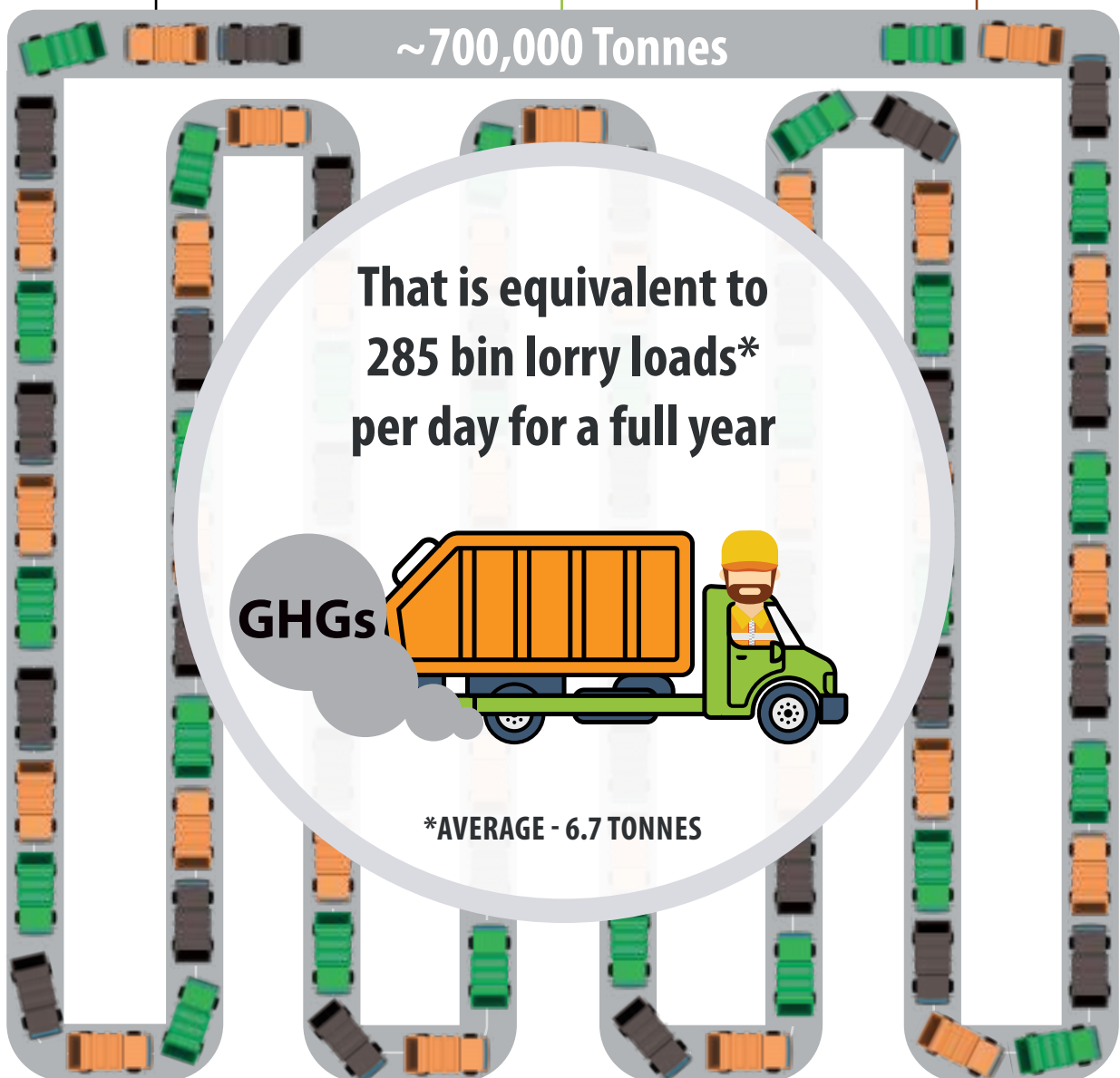
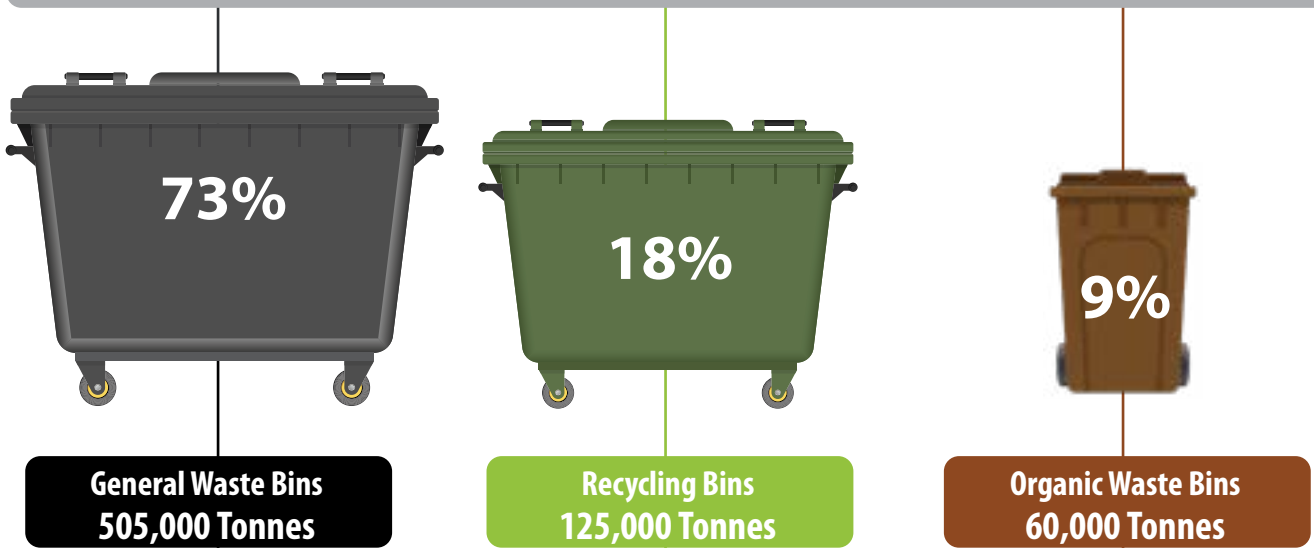


ONLY 5% of items in Organic Waste should be in General Waste or Recycling.

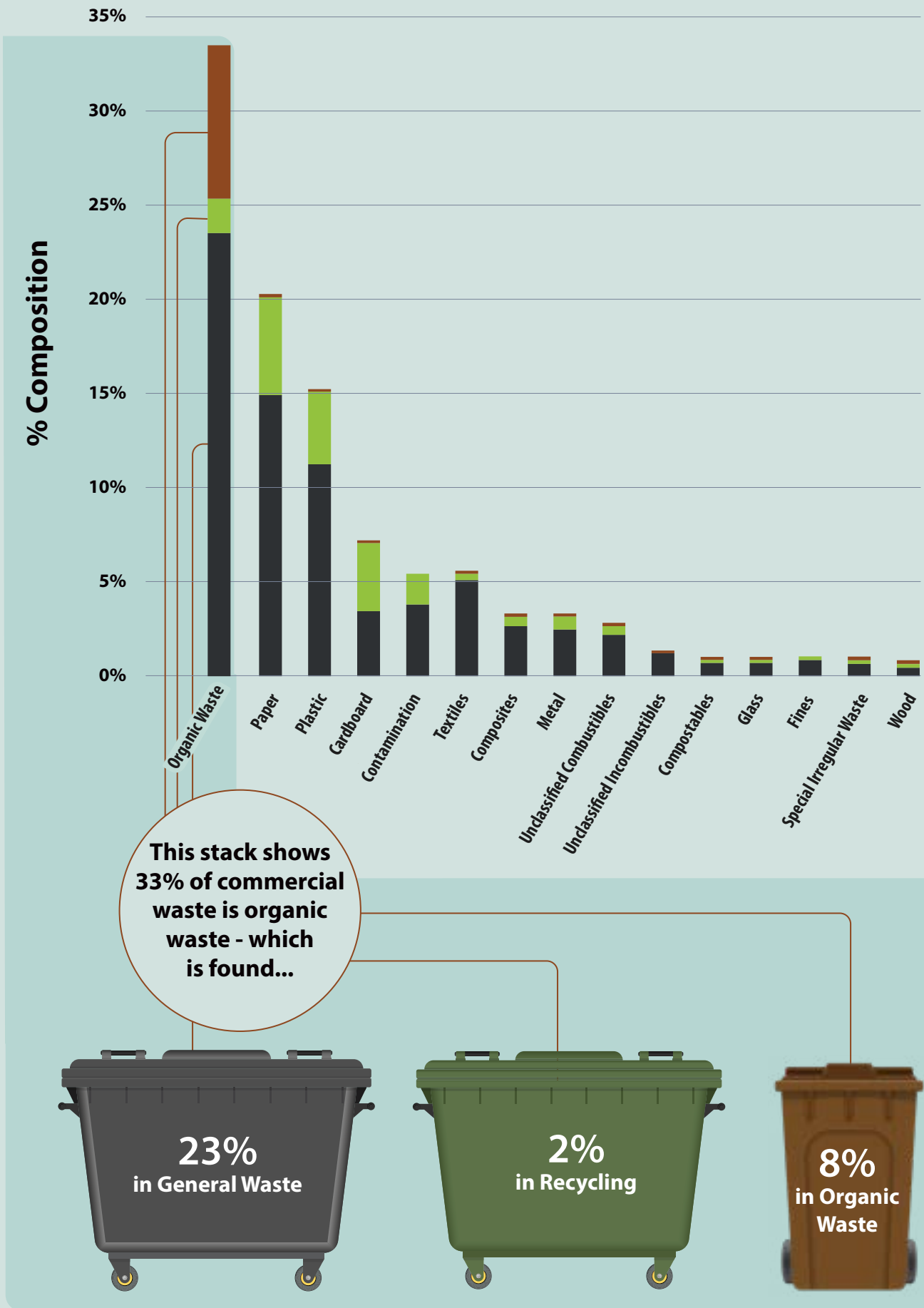


Overall weight of our commercial waste

National Commercial Waste Tonnage 2021* *collected at kerbside



Overall composition of our commercial waste



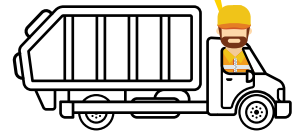
How commercial waste has changed since 2018

Overall there has been very little change in the composition of Ireland's commercial waste since 2018.

Overall Commercial Waste Down 27,300 Tonnes

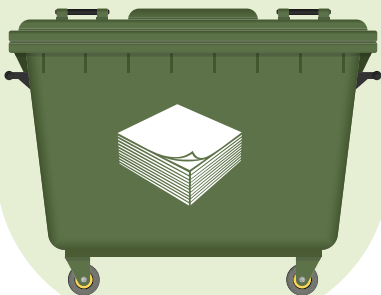


**THE COVID EFFECT
WORKING FROM HOME =
LESS WASTE IN WORK PLACE**



**Recyclables
Down -24,500
Tonnes**

**Paper is
down
by 2.3%**



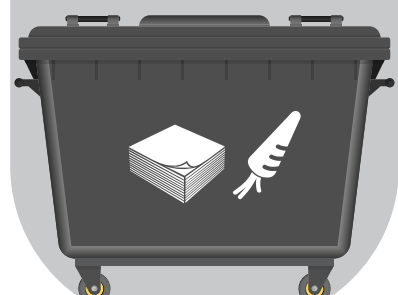
**Organic Waste
Down -10,000
Tonnes**

**Organic waste
still accounts
for over 30%
of commercial
waste**



**General Waste
Up +7,500
Tonnes**

**Segregation
of organic
wastes and
recyclables is
still very poor**



Everyday waste materials of interest

Paper

Down -21,500 Tonnes

Magazines & Glossy – **6,300 Tonnes**

Office Paper – **4,600 Tonnes**

Newspapers – **3,400 Tonnes**

This is potentially due to increased in working from home and digitalisation of office document, newspapers & magazines.



Single Use Plastic accounts for **18% of the Total Commercial Municipal Waste (125,000 tonnes)**



17,200 Tonnes of Liquid Waste Left in Plastic bottles

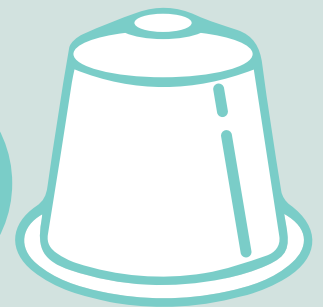
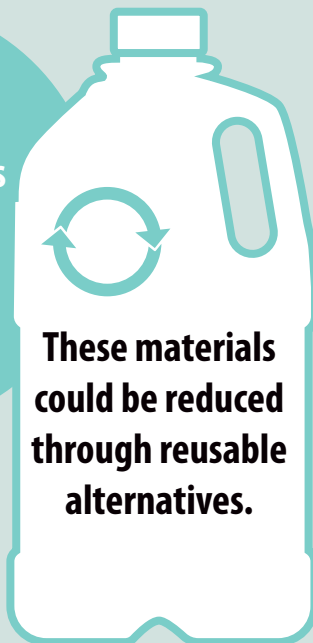
9,000 Tonnes of Plastic Milk Bottles

9,000 Tonnes of Disposable Cups

These materials could be reduced through reusable alternatives.

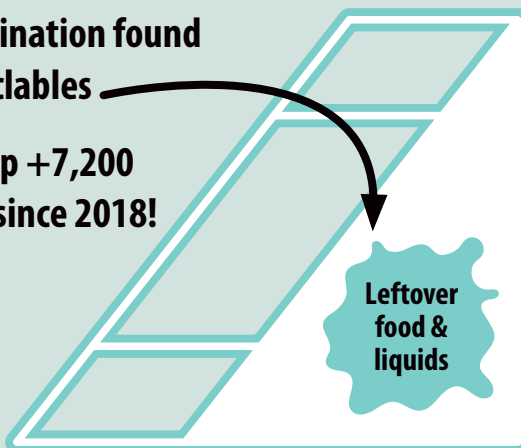
505 Tonnes of Coffee Pods are throw into commercial bins each year.

That's approx 30 million pods!

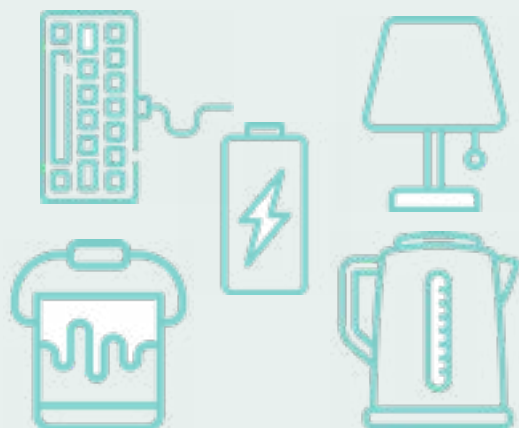


37,200 Tonnes of Contamination found on recyclables

This is up +7,200 tonnes since 2018!



4,700 Tonnes of Special Wastes including Hazardous Wastes



These items should be managed through civic amenity sites or collected separately

What the waste industry needs to do

The commercial sector needs more support from the waste industry to improve segregation.



Provide organic waste bins to all commercial premises to make food waste segregation easier.



Targeted awareness and education campaigns to motivate the commercial sector to reduce and segregate their waste particularly food waste and other recyclables.



Improved and more transparent waste collection charging to incentivise and reward waste segregation.

What Government needs to do

Enforcement of food waste segregation, initially in the food services sector and then across all sectors.



What the commercial sector should do to improve waste segregation



Use different coloured bins/bags for each waste stream



Have clear consistent signage on all bins (internal & external)



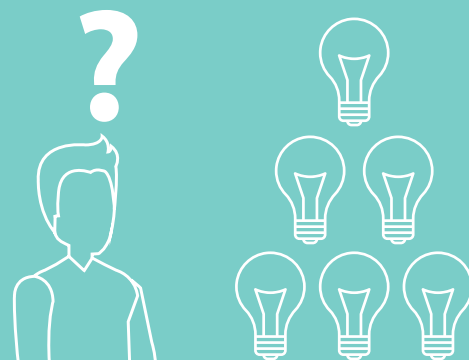
All external bins should be placed in a well designated, accessible location



Visually check for incorrect segregation



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



If unsure about certain wastes, engage with waste collectors for advice on proper management and staff training

The food waste factor

Urgent action is needed to reduce the amount of food waste in Ireland's commercial bin (33%). Food Waste has environmental, social and economic consequences.

The how and why...



If food wastes are put into the general waste or recycling bin they cost more to dispose of* and harmful to the environment**



All food waste should be separated from other materials that can be recycled, that includes emptying liquids from all containers.



Separately collected food waste can be treated by composting or anaerobic digestion as part of our circular economy.



10% of global carbon emissions are caused by food waste.



Knowledge is key, so know your food waste!

The below tools will help you measure your food waste changes and make improvements to reduce it.



The Food Waste Charter
Businesses and organisations can sign up to the Food Waste Charter and tackle issue of food waste.



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EPA Food Service Pathway Tool
Measure how much food waste in a consistent way, track performance & identify how to reduce food waste.

* Organic wastes weigh more and cost more to dispose of.

** They contaminate otherwise recyclable materials and release greenhouse gases during treatment.



Currently in our linear economy **OVER 70%** of commercial wastes are disposed of in general waste bins and are then **INCINERATED** or **LANDFILLED**.

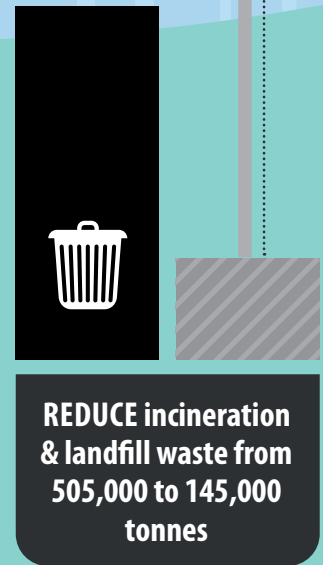


With correct segregation, more waste materials could be diverted to the circular economy, reducing raw material & resource use.



ENERGY RECOVERY

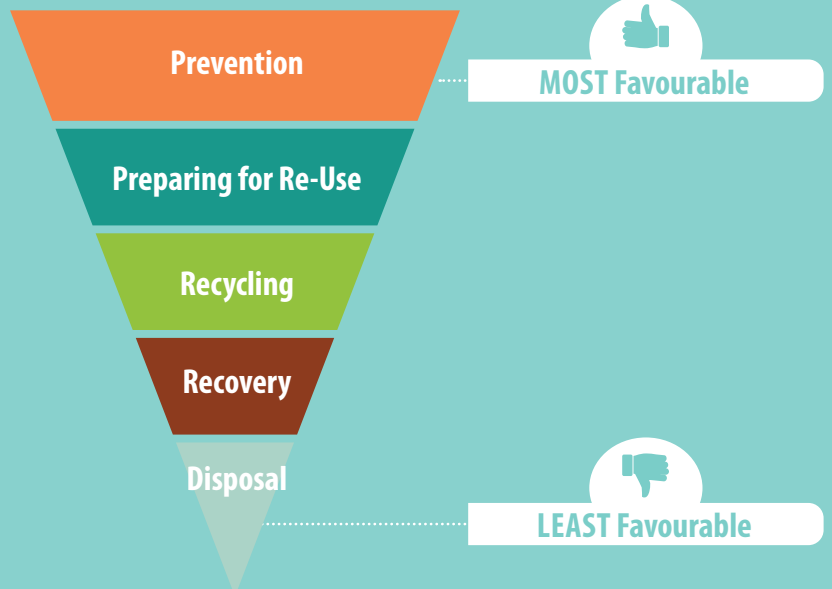
Existing Segregation
Correct Segregation



FOR THE FUTURE

Prevention is better than cure. This is especially true when it comes to waste management.

The waste hierarchy shows us that prevention of waste in the first instance is essential to a more sustainable circular economy.





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This booklet was produced by the Clean Technology Centre (CTC),
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