MORE CIRCULARITY
LESS CARBON
-25% BY 2025

THE CARBON FOOTPRINT OF WASTE

BRUSSELS

ACR+

ZERO WASTE SCOTLAND

ACR+ is an international network of cities and regions sharing the aim of promoting a sustainable resource management and accelerating the transition towards a circular economy on their territories and beyond.

Circular economy calling for cooperation between all actors, ACR+ is open to other key players in the field of material resource management such as NGOs, academic institutions, consultancy or private organisations.

Find out more at www.acrplus.org

Zero Waste Scotland exists to lead Scotland to use products and resources responsibly, focusing on where we can have the greatest impact on climate change.

Using evidence and insight, our goal is to inform policy, and motivate individuals and businesses to embrace the environmental, economic, and social benefits of a circular economy.

We are a not-for-profit environmental organisation, funded by the Scottish Government and European Regional Development Fund.

Find out more at www.zerowastescotland.org.uk/

Project name: Carbon Metric International – ZWS & ACR+ partnership

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ACR+ 'MORE CIRCULARITY LESS CARBON' CAMPAIGN

The ACR+ has partnered with its member Zero Waste Scotland to launch the 'More Circularity Less Carbon' campaign in November 2019 to reduce the carbon impact of municipal waste among its members by 25 per cent by 2025.

Zero Waste Scotland's Carbon Metric International (CMI) tool, developed from Scotland's ground-breaking Carbon Metric, will enable ACR+ members to measure the carbon impact of their municipal waste, take effective actions to reduce it, and track their progress towards the 2025 target.

Brussels is one of the ACR+ members, along with Pays de la Loire and Genoa, to be part of the first cohort of the campaign to benefit from this project and receive support to use the CMI to quantify the whole-life carbon impacts of its municipal waste. The results are summarised in this report, which has three main objectives:

1. Enable Brussels to establish its 2025 carbon reduction target;
2. Provide a detailed breakdown of waste carbon impacts by materials and management process; and
3. Assess several carbon reduction scenarios that can help Brussel achieve its target.

ZERO WASTE SCOTLAND'S CARBON METRIC INTERNATIONAL

Zero Waste Scotland has developed a ground-breaking tool in the fight against global climate change. The Carbon Metric measures the whole-life carbon impacts of Scotland's waste, from resource extraction and manufacturing emissions right through to waste management emissions, regardless of where in the world these impacts occur (Figure 1).

"The Carbon Metric shows how reducing our waste, and managing what remains in a more sustainable way, is critical to the global fight against climate change."

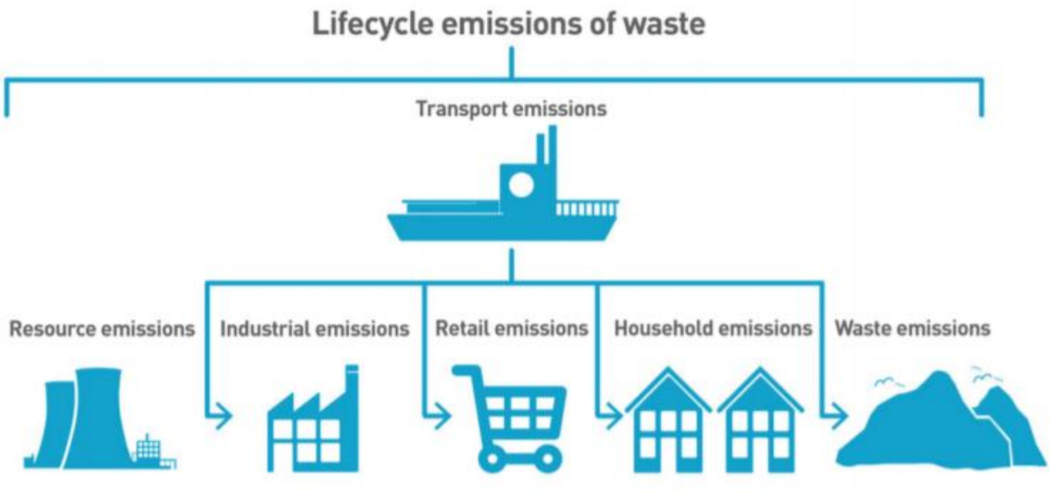

Figure 1 Schematic diagram presenting the lifecycle emissions of waste.

The Carbon Metric provides policymakers and business leaders with an alternative to weight-based waste measurement, allowing them to identify and focus specifically on those waste materials with the highest carbon impacts and greatest potential carbon savings. Scotland's 33% per capita food waste reduction target is an example of a policy informed by the Carbon Metric[1].

Further details on the Carbon Metric methodology can be found on Zero Waste Scotland's website[2].

The Carbon Metric could be adapted to Brussels' data thanks to the collaborative work between Zero Waste Scotland and ACR+. Data collection was conducted by ACR+' member Brussels Environment, the environment and energy administration in the Brussels-Capital Region.

METHOD & DATA SOURCE

The whole-life carbon impacts of **household waste** in Brussels were quantified in this report, based on 2018 data.

Stages covered in the analysis as follow:

- **Waste generated:** all waste generated by households in Brussels during the reporting year (i.e., 2018). Embodied carbon impacts linked to the production of material (resource extraction, manufacturing and transport emissions) are included in this category. Impacts associated with the product's use are excluded.
- **Waste recycled:** all recycled (or reused) materials including biodegradable materials that have been composted or anaerobically digested. The analysis covers all activities linked to recycling waste, namely waste collection, sorting, recycling, and displacement benefits as recycled content substitutes virgin materials.
- **Waste incineration:** all incinerated waste. The analysis covers waste collection and treatment (including carbon benefits of energy recovery when applicable).
- **Waste landfilled:** all landfilled waste, including incinerator ash and any recycling and composting rejects that occur during collection, sorting or further treatment that are landfilled. The analysis covers the carbon impacts of waste collection and disposal.

More information on waste data used in the analysis, assumptions with regards to waste management operations in Brussels, and its limitations can be found in Appendix 1.

ABOUT BRUSSELS

The Brussels-Capital Region is a region of Belgium comprising 19 municipalities, including the City of Brussels with a population of 1.2 million inhabitants. The region is mostly urbanised, with a density of around 7,500 inh/km^2, with a very dense urban centre and less dense areas in the outer area.

RÉGION DE BRUXELLES-CAPITALE
BRUSSELS HOOFDSTEDELIJK GEWEST

Figure 2 Logo of the Brussels-Capital Region.

[1] Scottish Government (2016) Making Things Last
[2] Zero Waste Scotland (2020) Carbon Metric Publications.

Figure 3 Location of the Brussels-Capital Region.

In 2018, the household waste generated amounted to 330,414 tonnes, representing 275 kg/inh[3]. the data only encompass waste generated by households. In the Brussels-Capital Region, commercial activities have to appoint a waste collector, so differentiated data are available for household waste and commercial waste, even if it is believed that some commercial activities wrongly use the household waste service. A breakdown of waste treatment and disposal route is shown in Figure 4.

Table 1 Breakdown of household waste generated in Brussels in 2018.

Waste Category	Waste generated (tonnes)
Household and similar wastes[4]	88,303
Food waste	85,175
Paper and cardboard wastes	35,873
Glass wastes	28,486
Garden wastes	28,286
Plastic wastes	20,460
Textile wastes	14,109
Mixed ferrous and non-ferrous wastes	9,794
Wood wastes	9,013
Discarded electronic equipment	5,575
Rubber wastes	2,267
Mixed and undifferentiated materials	2,137
Chemical wastes	702
Batteries wastes	182
Used oils	51
Grand Total	**330,414**

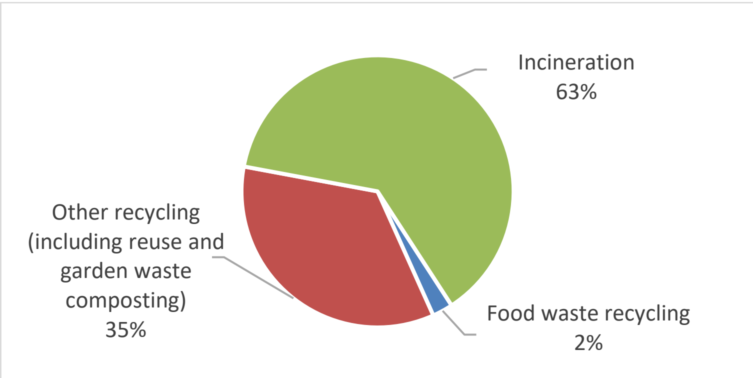

Figure 4 Final destination of household waste in 2018.

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[3] Based on a population of 1.2 million inhabitants (Source: Wikipedia)

[4] Incinerated residual waste, which consists of many different material types, is first reported under 'Household and similar waste' in accordance to the EU EWC standard. For the purpose of this analysis however, these materials have been extracted into their material specific categories where possible using compositional analysis. This means their tonnage and carbon impacts can be assessed separately. Despite this, the household and similar waste category still has the highest waste tonnages as many materials (34%) could not be assigned. Out of the 88,303 tonnes of household and similar waste reported, 72% are the remaining uncategorised fraction of residual waste while the remaining 28% are waste tonnages of reused/recycled bulky waste (e.g., furniture).

RESULTS

5.1 Key findings

The carbon impacts of household waste in Brussels in 2018 were 620,105 tonnes of carbon dioxide equivalent (tCO_2eq.), or 0.5 tCO_2eq./capita[5]. Figure 5 shows that carbon saved through recycling was higher than carbon impacts of waste disposal (i.e., incineration), meaning waste management activities (i.e., collection, treatment, and disposal) in Brussels is carbon negative. Embodied carbon impacts of waste material (i.e. the emissions generated by the extraction of resources, production, manufacturing, etc. of the corresponding products, labelled as "Generated" in Figure 5) are always the highest contributor to the net carbon impacts of waste however, which is why waste prevention, in accordance with the waste hierarchy, always offers the greatest carbon savings. **Accounting for the full lifecycle impacts, Brussels' waste carbon intensity of 1.9 tCO_2eq./tonne of waste. This low carbon intensity is attributed primarily to the diversion of all residual waste from landfill to incineration.**

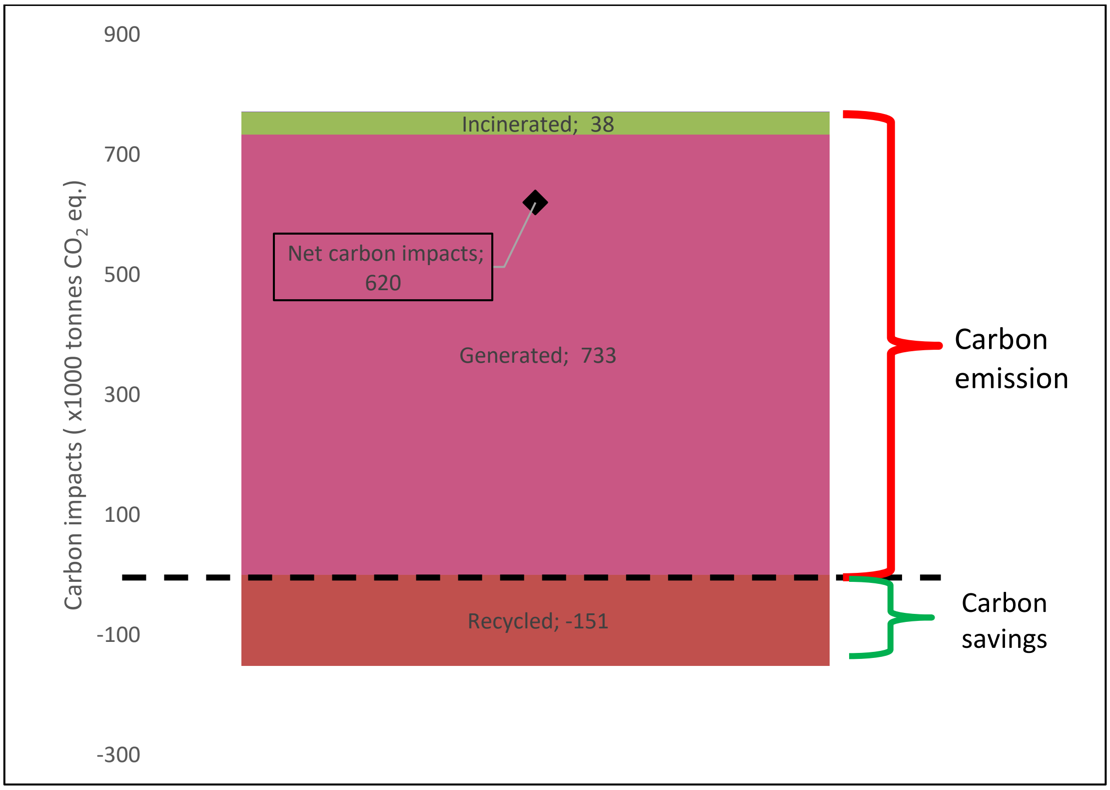


Figure 5 Breakdown of whole-life carbon impacts of waste by stage.

Figure 6 shows that the amount of waste generated by each waste category[6] and their associated carbon impacts. The "Household and Similar Wastes", a pre-defined EUROSTAT EWC-Stat waste category, includes the following categories: a fraction of the residual waste

[5] Based on a population of 1.2 million inhabitants (Source: Wikipedia)

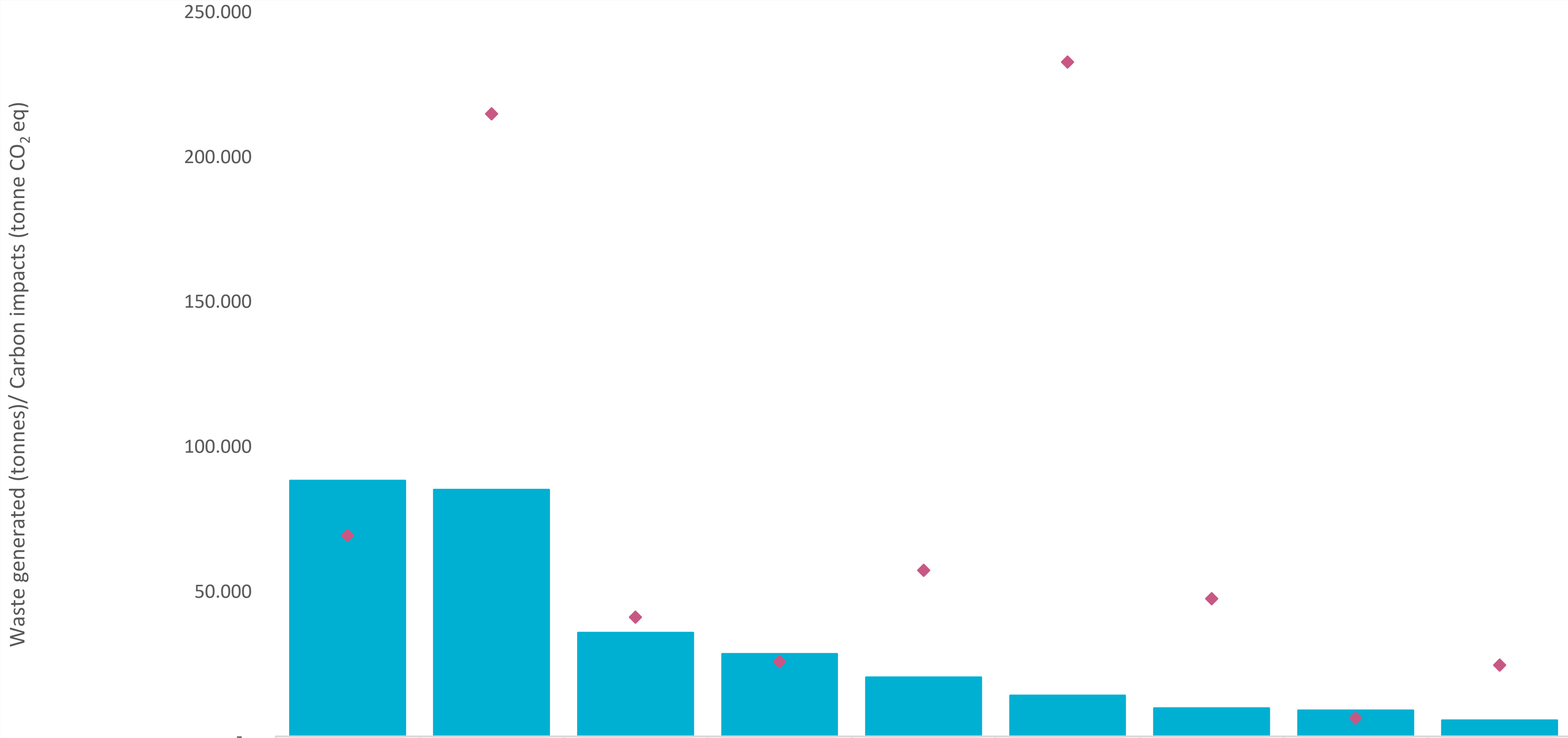
[6] Each category does not refer to waste tonnages in a single stream (e.g. "garden waste collected in civic amenity sites"), but rather to the total waste fraction that encompassed in multiple waste streams (e.g. garden waste collected in civic amenity sites, garden waste collected door-to-door, and garden waste improperly discarded in residual waste

which could not be disaggregated[7] to specific material categories (72%), and bulky waste which is primarily furniture that is either recycled or prepared for reuse (28%).

Figure 6 also shows that textile waste is responsible for substantially higher carbon burdens when compared to the amount of textile waste generated. Further carbon savings can be achieved by capturing more materials (in particular household and similar waste, food and garden wastes) for recycling instead of incineration (Figure 7). Overall, the majority of carbon impacts is attributed to the production of materials (i.e., embodied impacts) in the first place as shown in Figure 8.

A detailed breakdown of waste tonnages and their impacts is available in Appendix 2 and 3 and can be used to identify areas for improvements in terms of both recycling rates and waste reduction.

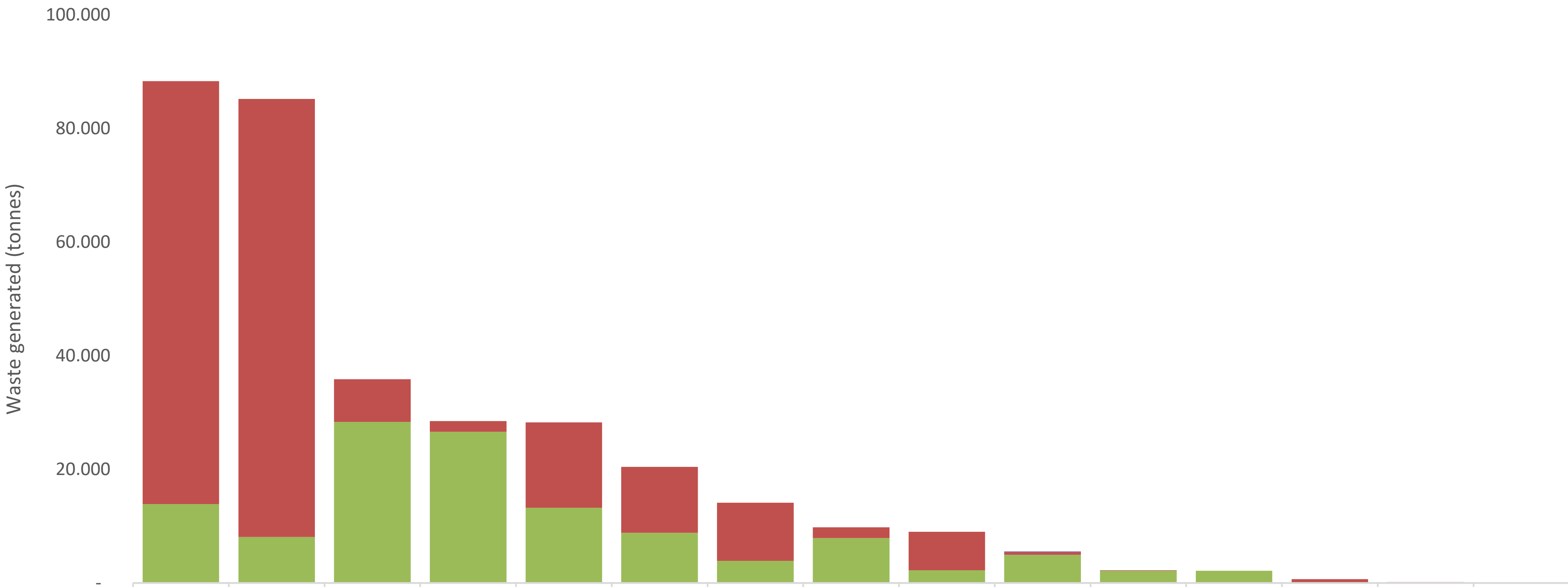
[7] We used an average carbon factor of 0.79 tonne per tonne of uncategorised residual waste. Uncertainty associated with this assumption has not been examined in this report. Nevertheless, we discussed how this limitation can be addressed in Section 5.3.



	Household and similar wastes	Food waste	Paper and cardboard wastes	Glass wastes	Plastic wastes	Textile wastes	Mixed ferrous and non-ferrous wastes	Wood wastes	Discarded electronic equipment
Waste generated (tonnes)	88.303	85.175	35.873	28.486	20.460	14.109	9.794	9.013	5.575
Carbon impacts (tCO2eq.)	69.413	214.900	41.179	25.714	57.358	232.763	47.561	6.291	24.599

Waste category

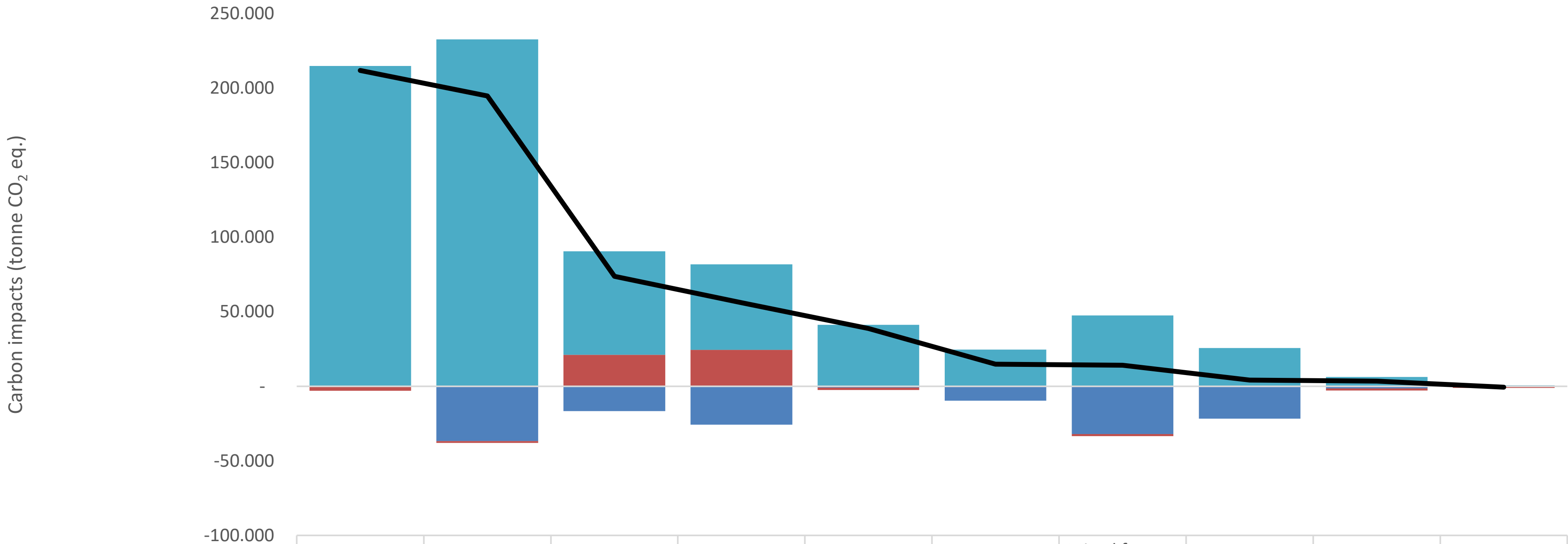
Figure 6 Weight vs carbon impacts of key waste categories in Brussels.



	Household and similar wastes	Food waste	Paper and cardboard wastes	Glass wastes	Garden wastes	Plastic wastes	Textile wastes	Mixed ferrous and non-ferrous wastes	Wood wastes	Discarded electronic equipment	Rubber wastes	Mixed and undifferentiated materials	Chemical wastes	Batteries wastes	Used oils
Landfilled	-	-	-	-	-	-	-	-	-	151	-	-	-	-	4
Incinerated	74.419	77.083	7.520	1.880	15.041	11.644	10.201	1.880	6.788	460	91	-	702	36	4
Recycled	13.884	8.092	28.353	26.606	13.245	8.816	3.908	7.914	2.226	4.964	2.176	2.137	-	146	43
Generated	88.303	85.175	35.873	28.486	28.286	20.460	14.109	9.794	9.013	5.575	2.267	2.137	702	182	51

Waste category

Figure 7 Total tonnages of waste (key categories) in Brussels in 2018 by management route.



	Food waste	Textile wastes	Household and similar wastes	Plastic wastes	Paper and cardboard wastes	Discarded electronic equipment	Mixed ferrous and non-ferrous wastes	Glass wastes	Wood wastes	Garden wastes
Generated	214.900	232.763	69.413	57.358	41.179	24.599	47.561	25.714	6.291	0
Landfilled	-	-	-	-	-	3	-	-	-	-
Incinerated	-2.822	-1.285	21.112	24.447	-1.508	14	-1.384	47	-1.325	-1.130
Recycled	-218	-36.647	-16.701	-25.767	-940	-9.687	-32.096	-21.659	-1.416	546
Total carbon impacts (tCO2)	211.860	194.831	73.823	56.039	38.731	14.929	14.082	4.102	3.550	-584

Waste category

Figure 8 Whole-life carbon impacts of key waste categories by management route.

5.2 The Top Five Waste Materials: Weight vs. Carbon Impacts

Many of the high tonnage materials in Brussels' waste stream have relatively low carbon impacts (e.g. glass waste accounts for 9% of total waste generated, but just 1% of total carbon impacts). To achieve the 2025 carbon savings target, focus should be placed on the most carbon intensive waste materials, such as **food waste and textiles.**

The top five waste materials by weight in 2018 accounted for 81% of Brussels' waste, but only 54% of its waste carbon impacts (Figure 9). On the other hand, the top five most carbon intensive waste materials accounted for 74% of the total weight, but 94% of waste carbon impacts (Figure 10). The waste category with the single greatest carbon impact is food waste, which accounted for 26% of waste by weight but 35% of waste carbon impacts. Other carbon-intensive materials identified are textile waste, plastic wastes, and paper & cardboard wastes.

	Waste by weight (%)	Waste carbon impacts (percentage)
Remaining	19%	46%
Garden wastes	9%	0%
Glass wastes	9%	1%
Paper and cardboard wastes	11%	6%
Food waste	26%	35%
Household and similar wastes	27%	12%

Figure 9 Top five waste materials by weight and their associated carbon impacts.

	Waste by weight (%)	Waste carbon impacts (percentage)
Remaining	26%	6%
Paper and cardboard wastes	11%	6%
Plastic wastes	6%	9%
Household and similar wastes	27%	12%
Textile wastes	4%	32%
Food waste	26%	35%

Figure 10 Top five waste materials by carbon impacts and their associated weight.

In addition to prioritising textile waste for waste prevention and recycling, our analysis reveals that food, and paper & cardboard wastes have both high waste tonnages and significant carbon impacts. Prioritising these categories in future policy interventions will not only reduce carbon impacts but also increase recycling rates in Brussels considerably.

5.3 Scenario analysis

Brussels must reduce its waste carbon impacts by approximately 155,000 tCO_2eq, to a total of 465,000 tCO_2eq by 2025, in order to achieve the 25% ACR+ target. A scenario analysis was carried out to investigate scenarios that Brussels might use to accomplish this.

As part of this project, we looked into a number of waste-reduction scenarios that can help Brussels in achieving the target. Scenarios considered focus on the following carbon-intensive materials:

1. Food waste;
2. Textile waste;
3. Plastic wastes;
4. Paper and cardboard wastes;
5. Mixed ferrous and non-ferrous wastes; and
6. Household and similar waste (residual waste and mixed bulky waste)

Table 2 lists scenarios considered in this analysis and their results, also presented in Figure 11.

Table 2 Summary of the scenario analysis results.

Scenario number	Description	Total carbon impacts (tonnes CO_2eq.)	Reduction rate (%)
Scenario 0	Business as usual	620,105	-
Scenario 1	5 targeted materials - 20% reduction	502,200	-19%
Scenario 2	Textile (30%), food waste (30%), remaining target materials (20%)	461,600	-26%
Scenario 3	Textile (40%), food waste (40%), remaining target materials (20%)	420,900	-32%
Scenario 4	All materials (25%)	465,079	-25%

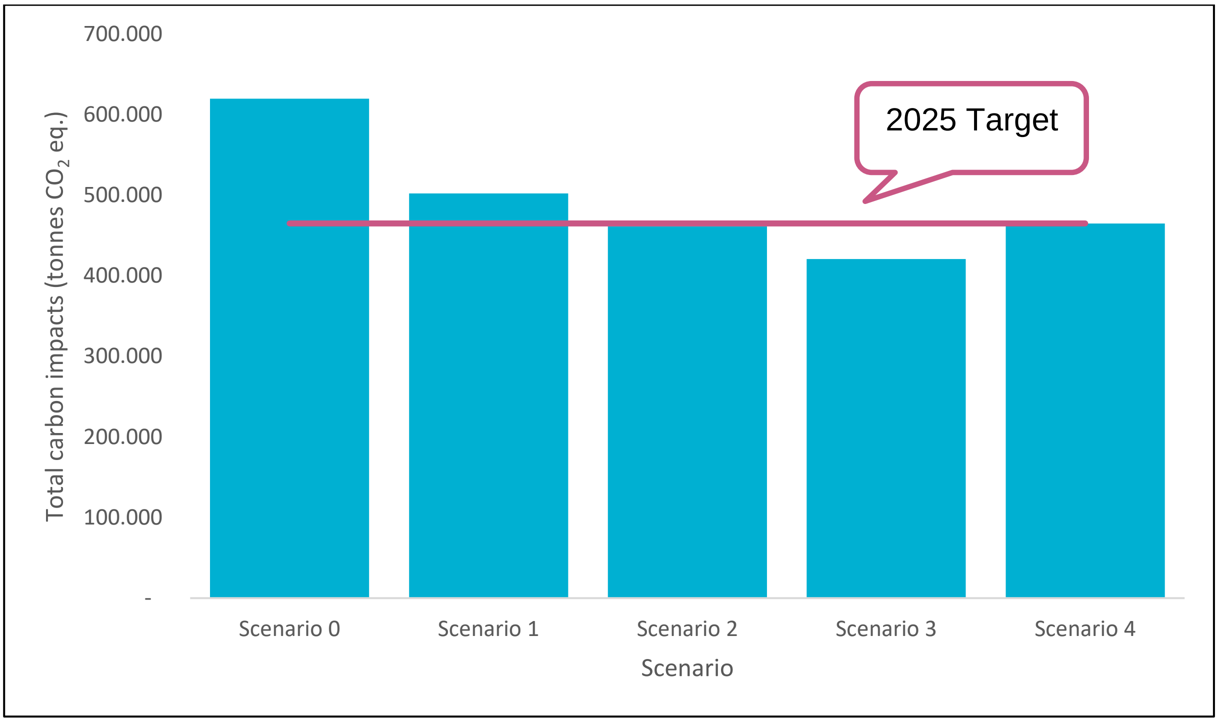


Figure 11 Results of the scenario analysis.

Results, presented in Figure 11, suggest Brussels can meet the 2025 carbon reduction target by adopting one of the following strategies:

1. Reduce the amount of textile and food waste by 30%, and other targeted waste materials (i.e., plastics, paper and cardboard, mixed metals, and household and similar waste) by 20%; or
2. Introduce a waste reduction target of 20% for **all** materials.

It is worth mentioning that our analysis is based on waste reduction strategies without considering any improvements in recycling activities (diverting materials from incineration to recycling). What is more, we only looked at a number of scenarios that prioritise waste reduction over improvements in waste disposal and treatment activities. Brussels seems to have a great opportunity to increase recycling rates, in particular for food waste as only 10% of food waste is currently recycled (see Appendix 2). In addition, our analysis shows the significant portions of garden and plastic waste are still incinerated. Diverting these tonnages for recycling would ultimately lead to high carbon savings.

The paucity of data is a key limitation to this study. The Zero Waste Scotland's analysis team used default assumption and data based on the Scottish Carbon Metric[8] and a similar analysis carried out for Pays de la Loire[9]. Assumptions made by the analysis team include contamination rate, waste-to-energy efficiency rate, substitution rate (amount of virgin material offset by recycling), the composition of mixed waste stream (e.g., residual waste), and transport distances.

[8] Zero Waste Scotland (2020) The Carbon Footprint of Scotland's Waste Technical Report [Online]. Available at: www.zerowastescotland.org.uk/

[9] Zero Waste Scotland & ACR+ (2021) The Carbon Footprint of Waste – Pays de la Loire [Online]. Available at: www.acrplus.org/

It is also strongly recommended to undertake further work to gather Brussels' specific granular data, in particular for high-carbon materials. This will help the analysis team to develop bespoke carbon factors to accurately quantify the carbon impacts of waste generated and managed in the city. Data requirements that should be prioritised are:

1. Highly disaggregated and up-to-date composition of residual waste: 34% of residual waste is currently uncategorised to specific materials. Ideally, all residual materials should be assigned to the right waste category so that relevant carbon factors can be assigned.
2. Detailed breakdown of textile and food wastes by subcategories: Textile and food wastes are carbon intensive categories so it would be key to know the type of materials captured here (e.g., natural vs synthetic textile fibre and meat and vegetables). What's more, these subcategories vary largely when it comes to carbon, in particular difference between meat and plant-based food waste so it would be crucial to consider these differences when estimated embodied carbon impacts.

CONCLUSION

The 2018 carbon impacts of municipal waste in Brussels are assessed by the Carbon Metric at **620,105** tonnes of carbon dioxide equivalent (t CO_2eq.), or **0.5 tonnes CO_2eq./capita**.

To achieve a 25% reduction by 2025 as part of the ACR+ 'More Circularity Less Carbon' campaign, the city must reduce its waste carbon impacts by approximately 155,000 tCO_2eq, to a total of 465,000 tCO_2eq.

A number of scenarios, that focus on waste prevention measures, have been investigated in this report to explore pathways for Brussels to achieve the 2025 target.

Follow-up activities might include further investigation on the actual composition of carbon intensive materials as discussed previously and current management routs of the 5 targeted materials, as well as the identification of actions and policies that could contribute to reach the aforementioned reduction targets. Comparing these figures will the other participants to the MCLC campaign will also help to put these figures in perspective.

APPENDICES

Appendix 1 Waste Data: sources and limitations

Waste data

Waste tonnages were compiled by Bruxelles Environnement – IBGE. A summary of waste collection and treatment activities is provided below.

Collection

- Container parks and recovery centres: 5 Regional Recyparks, 3 municipal container parks (Evere, Ganshoren and Saint-Josse), 2 Recovery Centres (WsP and St Gilles)
- Proxy Chimik dropping sites: designated local sites for the collection of small household chemical waste
- Network of banks for glass, textile and edible oils
- A sorting centre with a capacity of 100,000 tons/year: a sorting line for paper and cardboard and a sorting line for plastic bottles and flasks, metal packaging and beverage cartons.
- A centre for dismantling waste of electrical and electronic equipment (WEEE)
- A few private sorting centres open to companies and individuals.
- Kerbside household waste collection
- More than 160 neighbourhood composting sites in Brussels in 2018.

Waste treatment infrastructure

- The Region's incinerator has an annual capacity of 500.000 tons and produces approximately 280,000,000 KWh per year.
- Brussels-Compost is the composting centre for garden waste. It has an annual capacity of 18,000 tonnes and produces about 5,000 tonnes of compost per year.
- A reuse preparation centre for the sorting of 6.000 tonnes of textiles and 2.000 tonnes of furniture and other miscellaneous items for reuse.

Life cycle assessment modelling data

In order to develop bespoke carbon factors to quantify the impacts of waste generated and managed in Brussels, the Zero Waste Scotland Environmental Analysis team needs to establish good understanding of the type of waste generated (Detailed breakdown) and how it's managed throughout the city. The paucity of data was a critical barrier to develop bespoke factors based on local conditions in Brussels. Instead, we utilised our 7-year experience in managing the Scottish Carbon Metric and our latest ACR+ MCLC projects for Pays de la Loire and Genoa to apply a set of general assumptions to the Brussels' model.

It is also strongly recommended to undertake further work to gather Brussels' specific granular data, in particular for high-carbon materials. In Section 5.3, we list a number of priority areas in order to reduce the uncertainty of the assessment results.

Appendix 2 Total amount of waste generated in Brussels (2018). Unit: tonnes

Waste category	Generated	Recycled	Incinerated	Landfilled
Acid, alkaline or saline wastes	0	0	0	0
Food waste	85,175	8,092	77,083	0
Animal faeces, urine and manure	0	0	0	0
Batteries wastes	182	146	36	0
Chemical wastes	702	0	702	0
Combustion wastes	0	0	0	0
Common sludges	0	0	0	0
Discarded electronic equipment	5,575	4,964	460	151
Discarded vehicles	0	0	0	0
Dredging spoils	0	0	0	0
Glass wastes	28,486	26,606	1,880	0
Health care and biological wastes	0	0	0	0
Household and similar wastes	88,303	13,884	74,419	0
Industrial effluent sludges	0	0	0	0
Ferrous wastes	0	0	0	0
Mixed ferrous and non-ferrous wastes	9,794	7,914	1,880	0
Non-ferrous wastes	0	0	0	0
Mineral waste from C&D	0	0	0	0
Mineral wastes from waste treatment and stabilised wastes	0	0	0	0
Mixed and undifferentiated materials	2,137	2,137	0	0
Other mineral wastes	0	0	0	0
Paper and cardboard wastes	35,873	28,353	7,520	0
Plastic wastes	20,460	8,816	11,644	0
Rubber wastes	2,267	2,176	91	0
Sludges and liquid wastes from waste treatment	0	0	0	0
Soils	0	0	0	0
Sorting residues	0	0	0	0
Spent solvents	0	0	0	0
Textile wastes	14,109	3,908	10,201	0
Used oils	51	43	4	4
Garden wastes	28,286	13,245	15,041	0
Waste containing PCB	0	0	0	0
Wood wastes	9,013	2,226	6,788	0
Grand Total	**330,414**	**122,510**	**207,749**	**154**

Appendix 3 Whole-life carbon impacts of waste generated in Brussels (2018). Unit: tonne CO_2 eq.

Waste category	Generated	Recycled	Incinerated	Landfilled
Acid, alkaline or saline wastes	0	0	0	0
Food waste	214,900	-218	-2,822	0
Animal faeces, urine and manure	0	0	0	0
Batteries wastes	1,314	-135	14	0
Chemical wastes	2,231	0	1,423	0
Combustion wastes	0	0	0	0
Common sludges	0	0	0	0
Discarded electronic equipment	24,599	-9,687	14	3
Discarded vehicles	0	0	0	0
Dredging spoils	0	0	0	0
Glass wastes	25,714	-21,659	47	0
Health care and biological wastes	0	0	0	0
Household and similar wastes	69,413	-16,701	21,112	0
Industrial effluent sludges	0	0	0	0
Ferrous wastes	0	0	0	0
Mixed ferrous and non-ferrous wastes	47,561	-32,096	-1,384	0
Non-ferrous wastes	0	0	0	0
Mineral waste from C&D	0	0	0	0
Mineral wastes from waste treatment and stabilised wastes	0	0	0	0
Mixed and undifferentiated materials	3,625	-1,175	0	0
Other mineral wastes	0	0	0	0
Paper and cardboard wastes	41,179	-940	-1,508	0
Plastic wastes	57,358	-25,767	24,447	0
Rubber wastes	6,248	-4,975	132	0
Sludges and liquid wastes from waste treatment	0	0	0	0
Soils	0	0	0	0
Sorting residues	0	0	0	0
Spent solvents	0	0	0	0
Textile wastes	232,763	-36,647	-1,285	0
Used oils	61	-31	8	0
Garden wastes	0	546	-1,130	0
Waste containing PCB	0	0	0	0
Wood wastes	6,291	-1,416	-1,325	0
Grand Total	**733,259**	**-150,899**	**37,743**	**3**

Appendix 4 Carbon factors for of household waste generated in Brussels (2018). Unit: tonne CO_2 eq. per tonne of waste.

Waste category	Generated	Recycled	Incinerated	Landfilled
Acid, alkaline or saline wastes	2.01	0.00	2.20	0.00
Food waste	2.52	-0.03	-0.04	0.63
Animal faeces, urine and manure	0.00	0.00	0.00	0.00
Batteries wastes	7.21	-0.92	0.40	0.09
Chemical wastes	3.18	5.36	2.03	0.11
Combustion wastes	0.00	0.00	0.00	0.01
Common sludges	0.00	0.00	0.00	0.00
Discarded electronic equipment	4.41	-1.95	0.03	0.02
Discarded vehicles	6.57	-2.38	0.00	0.00
Dredging spoils	0.00	0.00	0.00	0.00
Glass wastes	0.90	-0.81	0.03	0.01
Health care and biological wastes	0.00	0.00	-0.05	0.62
Household and similar wastes	0.79	-1.20	0.28	0.63
Industrial effluent sludges	0.00	0.00	0.00	0.00
Ferrous wastes	4.49	-3.83	-0.80	0.02
Mixed ferrous and non-ferrous wastes	4.86	-4.06	-0.74	0.02
Non-ferrous wastes	10.01	-8.39	-2.13	0.02
Mineral waste from C&D	0.36	0.00	0.02	0.01
Mineral wastes from waste treatment and stabilised wastes	0.00	0.00	0.00	0.00
Mixed and undifferentiated materials	1.70	-0.55	0.29	0.63
Other mineral wastes	0.00	0.00	0.00	0.00
Paper and cardboard wastes	1.15	-0.03	-0.20	1.06
Plastic wastes	2.80	-2.92	2.10	0.01
Rubber wastes	2.76	-2.29	1.46	0.01
Sludges and liquid wastes from waste treatment	0.00	0.00	0.00	0.00
Soils	0.01	0.00	0.00	0.02
Sorting residues	0.00	0.00	0.35	0.56
Spent solvents	0.97	0.00	1.92	0.00
Textile wastes	16.50	-9.38	-0.13	0.63
Used oils	1.22	-0.70	2.19	0.00
Garden wastes	0.00	0.04	-0.08	0.60
Waste containing PCB	0.00	0.00	0.00	0.00
Wood wastes	0.70	-0.64	-0.20	0.83

-25% BY 2025

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