

# C40 TOWARDS ZERO WASTE ACCELERATOR

**How cities are creating cleaner,  
healthier communities and  
circular economies**

© Nico te Laak



2023 Report

**C40  
CITIES**

# ACKNOWLEDGEMENTS

This report was created in collaboration with officials in the C40 Towards Zero Waste Accelerator signatory cities, C40 funders, and C40 staff. Thank you to everyone who has contributed to the report and the actions that are driving forward immediate and inclusive climate solutions to achieve the commitments of the C40 Towards Zero Waste Accelerator. For further information on the C40 Towards Zero Waste Accelerator, please check out the accelerator [webpage](#).

# CONTENTS

<b>Foreword</b>	<b>4</b>
<b>Introduction</b>	<b>5</b>
<b>Signatories</b>	<b>6</b>
<b>Progress Overview</b>	<b>7</b>
<b>Data Analysis</b>	<b>8</b>
<b>City Progress Summaries</b>	<b>9</b>
<b>Barriers to Achieve the Commitments</b>	<b>42</b>
<b>Conclusion</b>	<b>43</b>



© Ahmed Gaber / C40 Cities

# FOREWORD

The C40 Towards Zero Waste Accelerator demonstrates how the world's leading cities are delivering core services essential to the wellbeing and function of their communities, while also addressing the climate crisis. The waste that we produce as a society generates a significant portion of global greenhouse gas (GHG) emissions. Moving towards zero waste not only keeps materials that do have value out of landfill, but also reduces our collective carbon footprint.

That is why I am proud to share the efforts C40 cities are making as signatories of the C40 Towards Zero Waste Accelerator. Whether it is reducing the amount of municipal waste generated and disposed of, or increasing the amount of materials and resources that are diverted away from landfill and incineration, C40 cities are taking action across a number of fronts. For instance, this year New York City rolled out a large-scale organics curbside collection program in a number of its boroughs, and Auckland launched two new key pilots for construction and demolition waste. The Refill London Initiative has also avoided over 5 million single use bottles, and the report includes many more incredible examples of city leadership. These actions are just a few examples of how cities are achieving more liveable and resilient cities that provide their residents with good, green jobs as part of their transition towards a cleaner, more just and inclusive climate future.

The need to reduce the amount of waste we produce globally is more urgent than ever. We know that at its current levels, global waste will increase a staggering 70% by 2050 unless action is taken. The proliferation of single use plastics in particular is problematic given the long-term and accumulating effects these materials are having on our waterways, ecosystems and human health. The climate-related impacts of waste are disproportionately felt by the most marginalised communities. We know that transitioning to a just and circular economy is crucial for us to have sustainable, healthy and inclusive cities and communities around the globe.

I am proud to say that C40 cities continue to lead the way in this area through their participation in the C40 Towards Zero Waste Accelerator. I would like to offer my congratulations to these signatory cities for their leadership, dedication and most importantly, the action that they have taken to drive the change needed today and for future generations.

**Mark Watts**

**Executive Director of C40**



# INTRODUCTION

Around the world, C40 cities are accelerating their transition towards a zero waste future. They are implementing innovative urban waste management practices that reduce greenhouse gas (GHG) emissions, embracing a circular economy and the sustainable economic opportunities that come with it, and promoting equitable and inclusive climate action. When waste and materials management are approached through the lens of circularity and sustainability, waste is seen as a resource, with value in being integrated back into our society and economy. This approach, which focuses primarily on prevention and reduction, followed by reuse, recycling, treatment and offsetting, is good for our climate, as it can help cities reduce their waste related emissions by an estimated 15-20%.

To implement climate action that improves citywide waste management, 21 of C40's leading cities have signed the C40 Towards Zero Waste Accelerator. These signatories have pledged to:

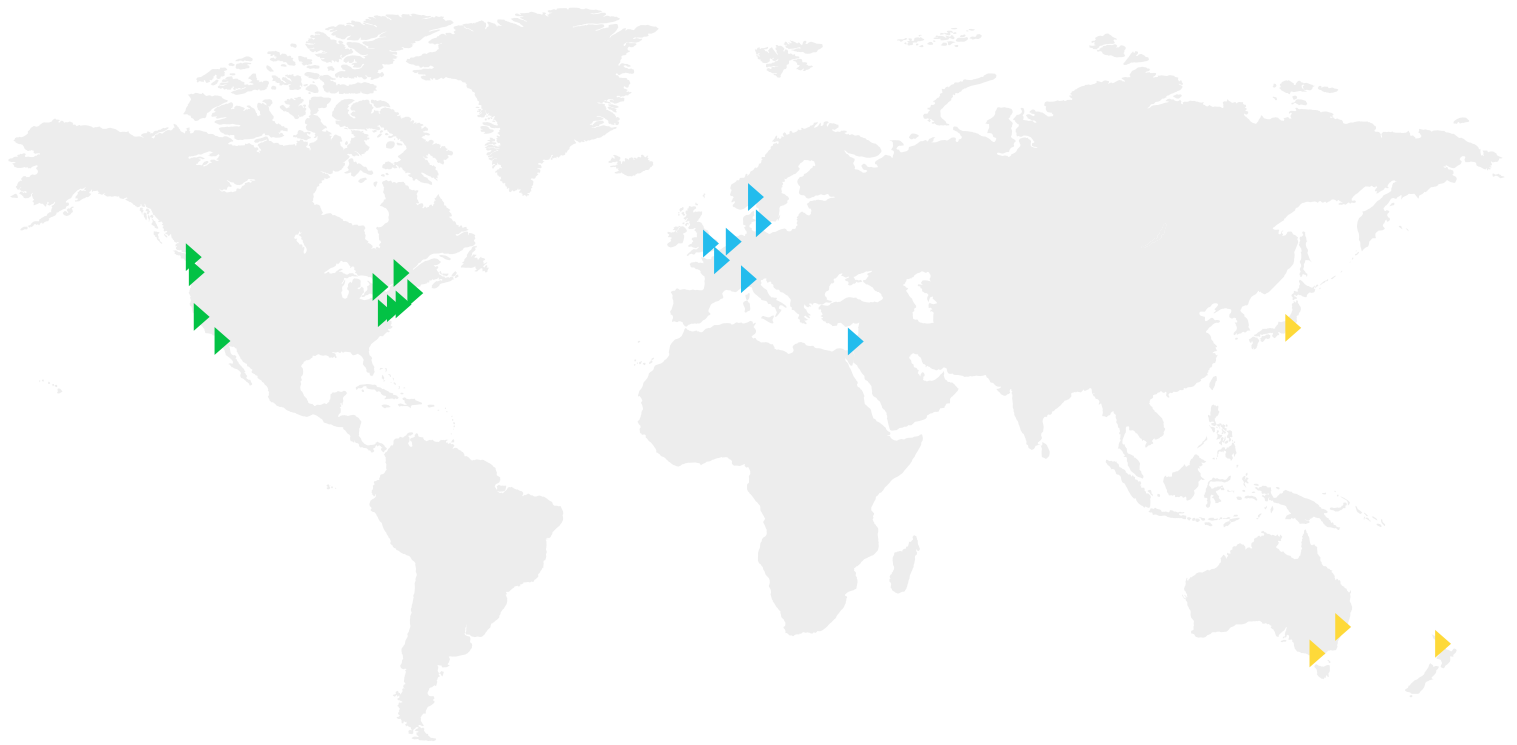
- Reduce the municipal solid waste generation per capita by at least 15% by 2030 compared to 2015
- Reduce the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015
- Increase the diversion rate away from landfill and incineration to at least 70% by 2030

This report outlines the actions that cities have taken to deliver on their C40 Towards Zero Waste Accelerator commitments in 2022-23 and how they plan to keep moving forward to achieve their zero waste goals.



© Monty Rakusen / Getty Images

# SIGNATORIES



- |               |                 |                    |
|---------------|-----------------|--------------------|
| ▶ Auckland    | ▶ Montréal      | ▶ Stockholm        |
| ▶ Boston      | ▶ New York City | ▶ Sydney           |
| ▶ Copenhagen  | ▶ Paris         | ▶ Tel Aviv-Yafo    |
| ▶ London      | ▶ Philadelphia  | ▶ Tokyo            |
| ▶ Los Angeles | ▶ Portland      | ▶ Toronto          |
| ▶ Melbourne   | ▶ Rotterdam     | ▶ Vancouver        |
| ▶ Milan       | ▶ San Francisco | ▶ Washington, D.C. |

# PROGRESS OVERVIEW

C40 cities have made great strides in waste management and material recovery since the launch of the accelerator in 2019. Yet cities continue to face a number of global challenges, from post-pandemic recovery and its aftermath in cities, to inflationary pressures and the impacts of climate breakdown. The climate crisis is resulting in continued rising global temperatures and shifting weather patterns that have taken their toll on cities' infrastructure and their ability to deliver key services like waste management to residents.

At the same time, awareness of the importance of a circular approach to resources consumed and waste generated in our traditionally linear economies also continues to rise.

Food waste and the methane it generates continues to play an important role when it comes to the climate crisis. We know that a third of all food produced globally is wasted worldwide, while nearly 1 in 10 people are undernourished. We also know that when disposed of, food waste decomposes in landfills and generates methane, a greenhouse gas (GHG) that contributes 87 times more to global heating than carbon dioxide. The food we waste is responsible for approximately 6% of global emissions.

Action on food waste is one of the most impactful climate solutions to reduce GHGs and keep global heating to 1.5°C, according to Project Drawdown's Top 100 most impactful interventions.

Action on plastics, and single-use plastics in particular, is of critical importance. The amount of plastics used and generated worldwide continues to rise significantly along with its environmental impact. We know that globally, less than 10% of all plastic is recycled. Global plastic production has increased exponentially since the 1950s, and is expected to reach 1.1 billion tonnes by

2050. Plastic waste produces GHGs during every stage of its lifecycle, and emissions from single-use plastics are expected to grow to 19% of the global carbon budget by 2040.

In light of this, negotiations for a landmark treaty to end global plastic pollution are currently underway. The United Nations Environment Programme has been convening the International Negotiating Committee (INC) process with the aim of completing negotiations by the end of 2024 to create a global plastics treaty with both legally binding and voluntary measures that address the full life cycle of plastics.

Cities across the globe are not only embracing the concept of a circular economy, but also taking action to reduce the amount of waste created and going to landfill. This report is proof of the innovative and important work cities are taking to accelerate their transition towards a zero waste future.

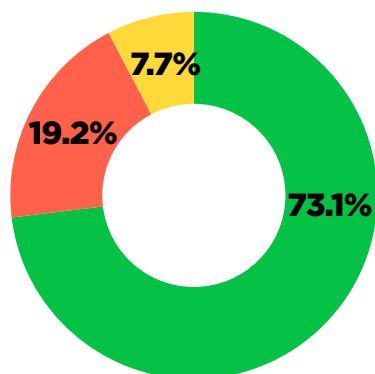
Cities such as New York, Los Angeles, Auckland, Rotterdam, Boston and Washington, D.C. are implementing and expanding their food and organics waste collection efforts. C40 cities are also leading action on plastics as well as facilitating reuse and repair hubs, clinics and events to create circular rather than linear economies including Paris, Sydney, San Francisco, Tel Aviv-Yafo, Tokyo, Montréal and Vancouver. In addition, cities such as Stockholm, Toronto and Paris continue to transition towards extended producer responsibility systems to manage waste upstream more proactively at its source.

We know that sustainable, resilient, inclusive and liveable cities of the future will ultimately need to be zero waste cities. Action on waste management is key to making our urban centres cleaner, healthier and more inclusive, and we are committed to continue to work with ambitious cities to get us there.

# DATA ANALYSIS

Cities continue to take real, concrete action to not only meet their commitments under the Towards Zero Waste Accelerator, but to also make long-term, sustainable impacts to waste management and climate change in their communities. Below are some key areas where C40 cities have demonstrated leadership and are already transitioning towards a zero waste future.

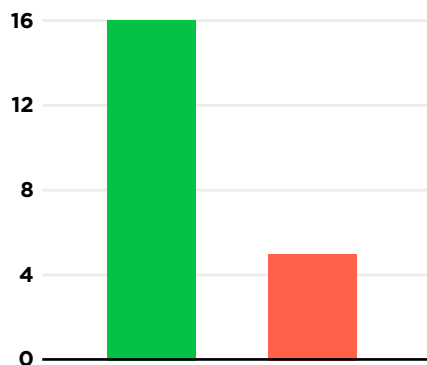
## ► Actions on Single use Plastics and Items



- Bans
- "By-request" requirements
- Fees

All 21 signatory cities have taken action on single use plastics and items. This chart shows the breakdown of types of actions taken and includes measures taken both at the city and national or state level, such as bans on single use items.

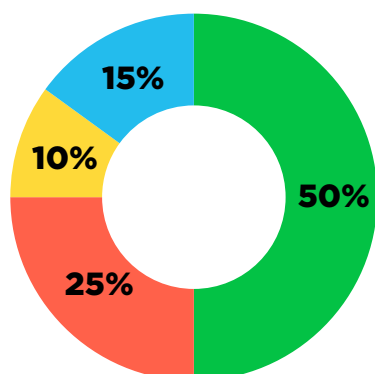
## ► City-wide Source Separation of Food Waste



- City-wide
- "In progress"

A total of 16 signatory cities have source separation programs in place across their cities for the collection and diversion of food waste. The remaining five signatory cities are in the process of taking action on food waste, including Washington, D.C., which launched a pilot programme for food waste collection for its residents in 2023.

## ► Challenges Faced by Cities



- Behaviour change
- High density developments
- Budgetary constraints
- Construction and demolition waste

Signatory cities are facing many common challenges, including affecting behaviour change to reduce waste generation patterns among residents, diverting waste from high density residential developments and businesses and tackling construction and demolition waste, which can make up a significant portion of the waste stream. Cities also noted that they are facing financial and budgetary constraints to implement zero waste actions and initiatives.





© Jacobs Stock Photography Ltd / Getty Images

## CITY PROGRESS SUMMARIES

**The following section of this report contains progress and action summaries that were self-reported by each of the C40 Towards Zero Waste Accelerator signatory cities. The city summaries showcase past, present, and future actions the city is undertaking to achieve the implementation milestones of the Accelerator.**



SIGNATORY CITIES IN

# EAST, SOUTHEAST ASIA AND OCEANIA





© Anastasia Ras / Getty Images

# AUCKLAND

## NEW ZEALAND

Auckland began rolling out source separated collection for food and organics across the city on 4 April 2023. Bin supply, delivery and collections contractors are on target to complete this roll out by the end of November 2023. Food scraps collection is a significant contributor to the reduction in waste-related emissions in Auckland and is anticipated to divert more than 50,000 tonnes of food from landfill each year once fully operational.

Auckland Council's education and engagement programmes are designed to reach all parts of the community. Since July 2022, Council Community WasteWise partners have engaged, informed and inspired 167,045 Aucklanders, run 494 WasteWise initiatives, supported 1,443 zero waste events, been present at 541 markets and stalls, and worked with 7,326 community groups, households and businesses. A total of 1,443 of these groups have been supported in their own waste wise and zero waste projects.

A network of champions and volunteers have also participated in over 50 waste reduction related events and gatherings. The community partners efforts have received attention on social media, reaching over 1.38 million people and engaging new volunteers and champions.

The city has also begun two key projects to minimise construction and demolition waste. The first is a partnership with Naylor Love Construction and Auckland University of Technology (AUT) who are implementing an on-site waste sorting process for a large commercial building project. The second is a collaboration with two major building companies to gain an understanding of what goes into construction waste skips and why. Auckland Council's Waste Minimisation and Innovation Fund supported the project with Naylor Love and AUT and have been delivering great results from the start. The project is testing the method and processes for sorting waste on-site for large-scale building projects, with diversion rates consistently over 90%.

A partnership with the Eastern Busway Alliance will also increase the volume of reusable material salvaged from around 100 houses and has engaged an embedded salvage specialist to increase the volume of materials recovered. To date, the partnership has achieved some encouraging results, including:

- Relocated 25% of houses in their entirety to another location for reuse
- Diverted 80% of residual waste
- Achieved 2-3% reuse of materials



## Parul Sood

*General Manager, Waste Solutions, Auckland Council*

### > What actions have you been involved in with your team that make you proud?

I am proud of all the work my team does every day – from kerbside collections to running facilities managing waste and resources.

The food scraps collection service rollout across Auckland was a major milestone for us. It was a collaborative effort across my team, the wider organisation, our collection processing partners and our community partners who supported and educated the public. The service is set to divert around 50,000 tonnes of organic material from landfill every year.

Another transformational initiative that we have been working on is the development of the Resource Recovery Network, which includes Community Recycling Centres operated by social enterprises. The current network of 13 is planned to expand to 21 community recycling centres and two resource recovery parks by 2031, which will provide most Aucklanders a centre within easy reach. Over the last year collectively they have diverted over 7,000 tonnes, employed approximately 100 people, and simulated \$7.8 million worth of economic activity in the region.

### > What inspires you in the work you do to move towards zero waste in your city in order to achieve the commitments of the Accelerator?

What inspires me the most is the passion and innovative thinking of our partners that operate our community recycling centres and champions from other sectors in New Zealand and other cities, who are determined to minimise waste and reduce emissions. It is only with innovative ideas and a strong desire for things to change that we will get to zero waste.

I believe we need systems change locally but also globally, and that means doing things differently across many areas like regulation, education, product design, manufacturing, material use or dealing with end of life of products. Everyone needs to play their part for us to get to zero waste. We really appreciate the work C40 and the cities committed to the accelerator do, as this has helped us build our ideas and learn from others who have implemented similar initiatives.

### > What impact has your work had on the quality of life of your city's residents, and what does this mean to you?

We have heard from residents that using the food scraps service has made them aware of how much food they waste. This newfound awareness is changing their behaviour. Our community partners have seen people change their habits around reducing waste, to the degree that one person has saved enough money to put together a deposit for a house!







# MELBOURNE

## AUSTRALIA

Since 2022, the City of Melbourne has launched a series of initiatives aimed at boosting waste diversion and minimising the volume of materials sent to landfills within both residential and commercial properties. These efforts involve building upon existing programmes from previous years and implementing novel, customised solutions tailored to address challenges unique to the city.

The High-Rise Residential Dehydrator pilot is currently underway at five sites, aimed at removing 13 tonnes of organics from landfill while also serving as a benchmark for the potential achievements through this method. The pilot is now set to expand to up to four additional high-rise buildings with a hospitality tenant, further enhancing the city's understanding of the complex and unique requirements of high-rises within the city.

In addition to the dehydrator pilot, a Food Organics Butler Service is being piloted at various hospitality venues in the central city, where materials are picked up directly from the venue, resulting in the collection of 240 tonnes of organic waste. This service is planned to be extended to additional precincts soon.

Melbourne is also set to introduce customised miniature compactors in two central city laneways. These compactors are designed to fit seamlessly into narrow laneways, to not only enhance the management of commercial waste collection activities, but also facilitate improved control and engagement over diversion outcomes.

The city is also in the process of reviewing its guidelines for waste management plans, with the intention of incorporating stronger requirements pertaining to Food Organics, Garden Organics (FOGO), and glass services.

Furthermore, the City of Melbourne has initiated a social enterprise grant programme in the circular economy category for 2023. Four grants of A\$ 20,000 (US\$ 13,150) each have been awarded to the following businesses and groups:

- **City Compost Network:** This initiative supports local communities to establish composting and food waste recycling systems on an individual and community level.
- **Wholefoods Unwrapped:** This project focuses on reducing single-use packaging by distributing ethical wholefoods in reusable bulk containers to suppliers and providing stainless steel containers to customers. Since its inception in 2021, it has diverted 14.5 tonnes of waste from landfill.
- **Hanlen Australia:** This initiative encourages customers to continue using their existing glasses frames and replace them only if their eye prescription changes, offering an affordable price. It utilises HOYA frame machines to cut new lenses to customers' existing frames.
- **Brainwave Australia:** Brainwave Bikes receives, refurbishes, and retails used bikes while also donating bikes to low-income and Culturally and Linguistically Diverse (CALD) families, with the aim of reducing landfill and providing affordable bikes for families. The initiative also enables young people with disabilities to transition to mainstream employment through structured work experience and accredited training.





# SYDNEY

## AUSTRALIA

In 2022 and 2023, the City of Sydney continued its dedication to environmental sustainability with practical and continuous improvement of its operations.

The city installed food waste dehydrators at three of its biggest sites. The dehydrators convert food waste into a soil conditioner that is used in city parks, creating a circular solution. This project reduces waste to landfill, avoids future methane emissions from food decomposing in landfill, adds nutrients to the soil, and reduces the amount of water needed to keep the park green.

The city has also provided new options for the community to recycle difficult items such as electronics and household hazardous waste. There is a new recycling pop-up service at the city's central depot and upgraded recycling stations at 16 locations for small electronics, batteries, mobile phones and light bulbs. The city also focused on textile waste reduction, offering clothing reuse and repair events in partnership with local organisations, and supporting reduction in textile waste in the fashion industry with a grant.

The city also continues to advocate for systemic and legislative changes in industries beyond the city's control in order to reduce waste and better manage the material streams it does collect.





© AlpmayoPhoto / Getty Images

# TOKYO

## JAPAN

In December 2019, the Tokyo Metropolitan Government developed its Zero Emission Tokyo Strategy to achieve net zero carbon dioxide (CO<sub>2</sub>) emissions by 2050, with the aim of achieving its goals by 2030 in the area of resource recycling.

The city's recycling rate target of general waste is set to be 37%, noting that general waste does not necessarily correlate with municipal solid waste. According to Japanese laws and statistics, recycled resources that are traded as valuables on the market are excluded from waste. If the definition of waste under the Basel Convention is used, then the city's recycling rate for municipal solid waste would be 50%.

The city has set a goal of halving food loss (compared to 2000) by 2030, with the goal of net zero food loss by 2050. Specific efforts are included in the Tokyo Food Loss Reduction Promotion Plan.

In June 2021, the national government enacted its Law to Promote Plastic Resource Recycling, requiring that businesses rationalise the use of disposable plastics. For plastics in particular, the city has found it necessary to create a new business model for distribution and sales. As a general rule, the city aims to use reusable cups and cutlery in the place of formerly single-use items at events sponsored by prefectures. The city aims to achieve a 40% reduction in incineration of waste plastic from households and large office buildings by 2030 compared to financial year 2017.



SIGNATORY CITIES IN

**EUROPE**





# COPENHAGEN

## DENMARK

Since September 2022, the City of Copenhagen has continued implementing Circular Copenhagen – the city's Resource and Waste Management Plan 2019–2024. The plan's goal is to increase the recycling rate to 70% and the reuse rate to 6,000 tonnes per year. The city is now in the final years of the plan and has implemented a number of innovative initiatives over the last year, all of which contribute to the city's road towards zero waste.

Copenhagen continues to open new urban recycling centres as collection points. These collection points are created in close collaboration with local residents which ensures ongoing engagement and use. The collection points are not only a place for sorting waste, but also a place for events, swapping of reusable items and repairing objects.

Copenhagen has created new locations in the city where residents can sort their household waste known as 'sorting points'. These sorting points can be either underground containers, cubes, or waste shelters, depending on what suits each neighbourhood. The sorting points are an addition to the existing waste collection system and while many sorting points are already in service, a total of 550 sorting points are planned. Textiles are also collected via the sorting points.

Electronic waste is the fastest-growing waste category worldwide, and Denmark ranks third in electronic consumption globally. Danish residents generate 40% more electronic waste than the average EU resident and 210% more

than the global average. To address this issue, the city has placed 15 secure collection boxes throughout Copenhagen, allowing residents to drop off their unwanted, functioning electronic devices such as mobile phones, tablets, laptops, and chargers. All sensitive data is removed, and the electronics are prepared and sold to new users in Europe.

To increase the diversion rate of food waste, the city has provided every household in Copenhagen with a 'holder' device for their food waste bin to make sorting food waste easier, more convenient and to optimise the use of kitchen space.

Copenhagen produces almost 9,400 tons of diaper waste annually, a significant part of the total weight of residual waste collected in the city. While most diapers are designed for single use, they also contain resources, such as fibres, superabsorbent material and plastic, which can be recovered. Copenhagen has set the goal of recycling 2,500 tons of diapers annually by 2024. In September 2023 the city announced a tender for recycling diapers which is still underway.

The ReYarn project ran from May 2021 to April 2022. While the City of Copenhagen has had a collection scheme for textiles since 2016, the ReYarn project was designed to help test local, circular solutions for post-consumer textiles rather than sending them for export. The project was a partnership between the city, local reuse organisations and a recycling company. The [final report](#) has now been released.





© Stewart Marsden / Getty Images

# LONDON

## UNITED KINGDOM

The London Environment Strategy sets out C40 Co-Chair Mayor of London Sadiq Khan's aim to make London a zero waste city – a city that makes best use of all its waste where market opportunities exist to recover value from it. This means ensuring London sends no biodegradable or recyclable waste to landfill by 2026, and by 2030, 65% of London's municipal waste will be recycled.

The amount of waste sent to landfill from London has decreased to 1.1% in 2021/22 (note this figure accounts for all Local Authority Collected Waste, not just biodegradable or recyclable waste). As such, London is the leading region in England in reducing the amount of waste sent to landfill. The mayor is confident, given these figures, that the target for zero biodegradable or recyclable waste to landfill by 2026 will be met. Mayor Khan's focus is on waste minimisation, increasing recycling rates and ensuring that only truly non-recyclable waste is sent for incineration.

London's household recycling rate was 32.7% in 2021/22, which is a 0.3% decrease since 2016/17. Over the same time period, the recycling rate for England has fallen by 1.2%, from 43.7% to 42.3% – so London had a smaller drop than the country as a whole.

In the London Environment Strategy (LES), the mayor set minimum standards of recycling for London and required all London's boroughs and the City of London to produce a Reduction and Recycling Plan (RRP), setting out how they would meet these standards and contribute to the target of 65% municipal waste recycled by 2030. In 2023, boroughs were asked to update their RRP to demonstrate new actions towards meeting the mayor's targets. These new plans have resulted in over 700 local actions and/or commitments to boost recycling, cut waste and/or minimise the environmental impact of waste management. As part of this process, boroughs were asked to consider adopting the ReLondon Flats Recycling toolkit, which targets this challenging housing type and aims to improve recycling rates from flats by up to 25%.

There has been progress in improving recycling services since the LES was published. In 2018, a total of 29 boroughs collected the six key dry recycling materials set out in the LES – now all 33 London boroughs collect these materials.

In 2018, a total of 23 boroughs collected food waste separately from residual waste. This has now increased to 25, with three more boroughs now running trials. Of those currently not providing a food waste service, three are undertaking trials, and four are the constituent authorities of the East London Waste Authority (ELWA) which have contractual and technological constraints which mean the potential for food waste collections services is severely limited. The remaining borough is currently awaiting guidance from the government on how food waste collections may be funded before they look to reintroduce this service.

To reduce single-use plastics and further support London becoming a zero waste city, the mayor launched the Refill London initiative, allowing people to go into shops and businesses and ask for a free water refill instead of buying one, and formed a partnership with the Zoological Society of London (ZSL) and Thames Water to install a network of drinking fountains across London. This has led to over 4,600 refill points across the city, increasing from 200 when the programme started in March 2018. Through the mayor's partnership with Thames Water, 110 drinking



fountains have now been installed in addition to the 28 from ZSL. The available data from Thames Water fountains shows that the fountains installed have dispensed over 2.6 million litres (the equivalent of over 5 million half litre single-use plastic bottles) up to 14 November 2023. The mayor also installed 20 drinking fountains in London schools, to help increase the number of water-only schools in the capital.

London is also working to reduce food waste – these actions have been reported under the [C40 Good Food Cities Accelerator](#).





# MILAN

## ITALY

Milan has actively engaged in a range of waste prevention and diversion efforts in 2023. The Collection and Reuse Center Project in Municipality 5 is in its final stages. A temporary collection centre was tested in September 2023, and now operates on weekends. The city also expanded textile collection to all textile products in its recycling centres, as well as introduced ten collection 'touch points' in various districts for electrical devices and batteries.

Milan has also introduced measures to engage with secondary schools, including the #Ambienteascuola project in the 2022/23 school year. During electrical and electronic waste collection days, 3,983 kg of material was collected in schools across all the city's municipalities. A project with university residences aimed at improving waste sorting in common areas was delivered through engagement with students via paper and social media channels in multiple languages. The City of Milan has also signed a memorandum of understanding with Plastic Free to facilitate and accelerate collection and awareness-raising on the use of plastic in schools.

The city launched a communication campaign on the correct disposal of glass with the nonprofit CO.RE.VE. to target commercial users, primarily 500 businesses in Milan's nightlife areas. The city also has in place 'Milano è più pulita quando sei con noi' ('Milan is cleaner when you stand by us'), a litter campaign for items such as dog waste, cigarette butts and the correct use of street bins.

In addition, the city also has awareness raising campaigns for the correct disposal of food and beverage paper packaging, and a social awareness campaign with tips on different waste sorting practises.

The city also offered support to associations, neighbourhood committees and businesses that organised cleaning and litter pick up days. The city provided the materials needed for the collection of waste upon request and collected the bags of waste at the end of the event. These activities were also the result of the initiative 'Puliamo il Mondo' ('Let's Clean the World') 2023.

The city has also put in place a number of green and inclusive requirements for public and private events, including:

- Adopting a broad inclusive approach for the implementation of the event
- Accessibility and sustainability of the event location
- Promotion of actions to support sustainable mobility

In 2023 the Municipality of Milan organised two big events in line with these green requirements, [Pic Nic Food Wave 2023](#) and [Green Week 2023](#).

An environmental labelling pilot project is currently underway that will promote the environmental and social performance of the [Ho.Re.Ca.](#) sector in Milan. The label is being adopted by businesses on a voluntary basis.

The City of Milan has also included compulsory environmental goals as part of its contracts for urban sanitation services, such as:

- Correct sorting of at least 75% of waste collection
- Reducing waste production to 422 kg per capita
- The quantity of waste sent to materials recovery should amount to at least 95%

The call for tenders also includes the use of a points pricing system.





## Angelo Pascale

*Director of the Environment,  
Department of the Municipality of Milan*

### > What actions have you been involved in with your team that make you proud?

One of the actions I am most proud of is the signing of the agreement with Plastic Free Onlus for the reduction of the use of plastic, with a focus on awareness-raising activities in schools. Another action is the agreement with large-scale retailers for the use of containers that can be reused by consumers (for example, for liquid detergents and food products), currently under discussion.



### > What are you looking forward to achieving as we move toward the 2030 accelerator targets?

My priorities are to expand the typologies of waste subject to segregated collection (such as leaves or sanitary textiles) and to identify cleaning methods of public spaces minimising the use of water.

### > What impact has your work had on the quality of life of your city's residents, and what does this mean to you?

The work of my department has contributed to make the city more resilient by planning and implementing new tree planting to mitigate the impacts of climate change. Citizens enjoy it and this is very gratifying for me as well as for my team.

### > What inspires you in the work you do to move towards zero waste in your city in order to achieve the commitments of the accelerator?

The commitment of my team and citizens' engagement on issues related to environmental sustainability are a great source of motivation and inspiration in my daily work to achieve the accelerator's commitments.





© Alexander Kagan / Unsplash

# PARIS

## FRANCE

Since September 2022, the City of Paris has launched many actions to reduce and prevent waste, including:

- increasing the frequency of door-to-door collection of paper and packaging
- establishing two new zero waste territories – a total of 14 throughout Paris
- testing the use of a deposit for the reuse of takeaway food containers
- voluntary collection of food waste with the installation of 142 volunteer collection points in the Parisian neighbourhood closest to the food markets

The city has also launched away-from-home sorting stations with the installation of 199 sheltered sorting bins in public spaces, and the continuation of the deployment of new bin sorting stations known as Trilib stations, now with 400 installed in public spaces.

The city has also signed contracts with new extended producer responsibility sectors for materials such as cigarette butts, dispersed waste, and waste oil, and launched a new mobile waste sorting centre to increase the sorting and diversion of bulky waste.

Paris has also launched the direct collection of large electrical household appliances by ECOSYSTEM (eco-organisation) from Parisian residents' homes to encourage their reuse.





# ROTTERDAM

## THE NETHERLANDS

In 2022, the City of Rotterdam launched a new waste management policy that builds on its previous plan. The biggest project continues to be the collection of food waste at multi-unit residential dwellings. In Rotterdam, single family households have had access to collection for their food and yard waste for many years, but now multi-unit dwellings will also have access to food waste collection service.

This service is also being paired with a broad scale education campaign aimed at increasing the awareness of residents on the importance of collecting food waste, and how it contributes to achieving the city's goals of waste diversion and prevention. The city estimates that in 2023-24, approximately 65,000 households will have access to food waste collection. This is in addition to the 22,000 multi-unit residential households already separating their food waste.



## Daan van den Elzen

*Waste Collection Systems Manager of Rotterdam*

### > What is your role within the city, and what actions have you been involved in with your team that make you proud?

My role for the City of Rotterdam is Manager Waste Collection Systems – together with my team I'm responsible for the locations and maintenance of all our container systems and wheelie bins. In that regard I also oversee the project team that rolls out the containers for food waste for example. I'm very proud of the team in general but in particular for the design of the container we made, that made sure our container is also accessible for people in a wheelchair for example (first design to do so available on the market). It also won a Dutch Design Award a few years back when it was developed.

### > What are you looking forward to achieving as we move toward the 2030 accelerator targets?

I look forward the most to achieving the point where every household in Rotterdam has access to a separate collection of food waste. Given that is a large part in terms of weight of our residual waste that we collect now this will make a great impact on achieving our goals. Food (and garden) waste also makes a very valuable resource as compost, therefore it is such a shame if it ends up as waste to energy instead of on the fields.



© Jan van der Ploeg

### > What have you learned from another city official that has changed the way you approach your work?

In 2019 I had the chance to take part in the Waste to Resources Network study tour with C40 where we had other city officials over in Rotterdam and we also travelled to Milan. There I was very impressed by their food waste collection system, and I saw how their high service level led to a high participation rate with the inhabitants. Our cities are too different to just copy what Milan is doing, but we've definitely learned from them for our approach to communication, service and frequency of collection for example.





© scanrail / Getty Images

# STOCKHOLM

## SWEDEN

In Stockholm, all households and businesses have had mandatory food waste collection since 1 January 2023. In 2022, approximately 31% of Stockholm's food waste was converted into biogas and biofertilizer. The city has already seen a decrease in the amount of food waste being generated by households compared to its 2022 results.

A new fully electrical rear loading collection vehicle is in place in a pilot area in central Stockholm to test the technology and performance in a dense city environment. All other collection vehicles are procured to run on biogas or other non-fossil fuels.

New national legislation introduced in summer 2022 stipulates that municipalities will take over the collection of packaging materials for

recycling from 1 January 2024. This is a very tight timeframe and considerable work has been done to meet these new requirements. Prioritising this work has been crucial for the city.

In 2022, the number of stops for pop-up reuse facilities almost doubled compared to the previous year and is still increasing during 2023. Work will continue during 2023 to introduce a mobile recycling centre, which will be able to stop at places the bulkier pop-ups are unable to reach. Visitor numbers and collected material at our reuse and recycling centres continue to increase by each month.

The city has also tailored communication materials to different target groups for waste reduction and diversion, such as real estate owners and businesses.





# TEL AVIV - YAFO

## ISRAEL

Since 2022 Tel Aviv-Yafo has been busy in the waste sector. Two large initiatives were expanded to shift the city toward a zero waste future. The first is increasing recycling and separation at the source, and the second is reducing waste production by minimising consumption and encouraging the reuse of products.

A tailored plan was completed for dense neighbourhoods to provide recycling bins within the existing infrastructure. As a result, new orange recycling bins (for packaging) were placed near residents' homes, allowing 140,000 households to separate packaging waste. By the end of 2023, every household in the city will have access to recycling bins. In 2022, Tel Aviv-Yafo was also the recipient of a national recycling award.

Proactive reduction at the source has been achieved by establishing community-based local platforms and infrastructure that promote product exchange, lending, and repair. These initiatives were carried out with local non-governmental organisations (NGOs), residents, and volunteers. Within this framework, key initiatives were promoted, such as:

- Giving Closets: 17 design community stands in public spaces where clothes, household goods, and childrens items are exchanged. Similar initiatives operate in the food sector – four communal refrigerators and pantries

were placed in underserved neighbourhoods to reduce food waste and increase access to healthy food.

- AutoBegy: an electric van travelling around the city collecting and distributing second-hand clothing.
- Boomerang Project: a project managed by a group of women who refurbish children's toys. In order to receive a 'new' toy a child needs to bring an old one for other children to use.
- Borrowing warehouses: three warehouses open to the public to borrow camping gear, tools, gardening equipment, and hospitality accessories. Multi-use dining wear toolkits were distributed in community centres and educational institutions to reduce single-use plastic consumption.
- Fix-it programme: regular public events where people can bring items for repair while learning fix and repair techniques.
- Bicycle repair: an urban mechanism for collecting abandoned bikes. Instead of being scrapped, these bikes are used for repair workshops and then offered to residents.

These initiatives help produce less waste and divert it from landfills and are also part of a broader effort to promote justice and wellbeing in the city.



**SIGNATORY CITIES IN**

**NORTH AMERICA**





© DenisTangneyJr / iStock

# BOSTON

## UNITED STATES

The City of Boston is implementing recommendations from its 2019 Zero Waste Plan to reduce waste generation and disposal. The Zero Waste Boston initiative aims to divert at least 80% of Boston's waste from landfill and municipal solid waste combustors by 2035. Achieving these goals will support Boston's transition to becoming a carbon neutral, zero waste, Green New Deal city.

This year, Boston has expanded its residential curbside food scrap collection services from 10,000 to 30,000 households. The city is also expanding community composting programmes, as well as launching a residential curbside collection programme for mattress recycling. Boston Public Schools has also launched a food waste composting programme in four schools and is adding 11 schools during the 2023–24 school year.

Through the Mayor's Office of Food Justice, Boston is participating as a city partner in the Natural Resource Defense Council (NRDC) 'Food Matters' initiative, which supports the execution of municipal food waste reduction strategies.

As part of its Deconstruction Initiative, the city has provided technical assistance for the deconstruction of a university science building, a hotel, a seven-unit residential building, and a public housing redevelopment project.

In the coming year, Boston's Zero Waste programme is exploring additional strategies for building and building materials reuse, to connect food insecure residents with fresh, healthy recovered food, and for furthering residential waste reduction efforts.



# LOS ANGELES

## UNITED STATES

Since 2022, the City of Los Angeles has made impressive progress to accelerate the transition to a zero waste future by working to reduce waste generation, divert organics from landfill, support food rescue and increase public awareness on reducing food waste.

To reduce per capita solid waste generation, Los Angeles is eliminating certain materials from the waste stream by banning harmful, single-use products, encouraging zero waste facilities and events, and providing incentives and grants to local businesses to switch from single-use and hard-to-recycle products.

In December 2022, the city adopted two ordinances, the Citywide EPS Ban Ordinance and the Plastic Ban Ordinance to Shops. These ordinances ban the sale or distribution of styrofoam and expands the ban on single-use plastic bags to include retail stores and other shops (previously the ban only covered supermarkets, drug stores, and convenience stores).

In December 2022, the city also adopted the Zero Waste City Facilities and Events Ordinance, which requires city facilities and events held on city property to recycle food scraps and donate surplus food to food rescue organisations. In addition, it bans many plastic items, including styrofoam foodware, plastic bags and promotional items.

In April 2023, the city launched the Reusable Foodware Program, which provides small grants for dine-in food establishments to transition away from single-use foodware by purchasing reusable foodware, such as cups, plates, and bowls.

In November 2022, Los Angeles approved the Organics Ordinance, requiring all residents to participate in organics recycling. Curbside residential collection of organics launched citywide for 750,000 households in January 2023. The city provided eligible residents with kitchen pails to collect food scraps with over 122,500 kitchen pails distributed to date. The city is also engaging in public outreach initiatives and strategic partnerships to increase residents' participation and understanding of the programme. Organics collection is also expanding for multifamily residences and commercial customers. As of October 2023, roughly 20% of multifamily and commercial accounts have started participating in organics recycling. Outreach to increase participation rates in these sectors is ongoing.

In September 2022, Los Angeles launched a Food Rescue Transportation Services Pilot Program to deliver and transport rescued food. As part of this pilot, the city provided funding for two electric delivery vans and staff to rescue nearly 625,000 meals over the course of nine months. Additionally, in June 2023 the city funded 13 food rescue microgrant awards to help non-profit food rescue organisations rescue surplus edible food to feed underserved and marginalised communities.

Over the coming year, Los Angeles plans to increase organics recycling in multifamily and commercial sectors. The city will also continue its efforts to grow the Comprehensive Plastics Reduction programme, which aims to employ upstream and downstream efforts to eliminate plastics waste.





# MONTREAL

## CANADA

In 2022 and 2023, the City of Montréal continued to implement its waste material management master plan (PDGMR) 2020-2025, with more than 81% of the actions either underway or completed. The actions carried out revolve around three priorities for the city – source reduction, the diversion of all organic materials from landfills, and the mobilisation of stakeholders.

In 2022 and 2023, three regulations targeting the reduction of single-use plastics and promotional items came into effect:

- A regulation prohibiting the distribution of single-use plastic shopping bags in retail outlets
- A regulation prohibiting the distribution of single-use items including cups, straws and utensils
- A regulation authorising the delivery of advertising leaflets only to addresses which have opted in

Merchants distributing items targeted by these regulations must comply and offer alternative solutions to their customers. The city has supported merchants throughout the transition phase with information and awareness tools and support programmes which concern sustainable practices. Financial support has also been given to the Guichet Unique pour la Transition Alimentaire – the One-Stop for Food Transition – a platform which offers merchants solutions to take on the challenges regarding food waste or packaging.

In 2022, the City of Montréal implemented food waste collection in 34,000 multi-unit residential buildings with nine residential units or more, and in nearly 4,000 commercial establishments. To help property and trade managers, a guide has been written for the municipalities of the Metropolitan Community of Montréal. In addition, the construction of two organic material treatment plants is moving forward after some initial delays due to COVID-19. By 2025, it is anticipated that 100% of residential buildings in Montréal will have access to food waste collection.

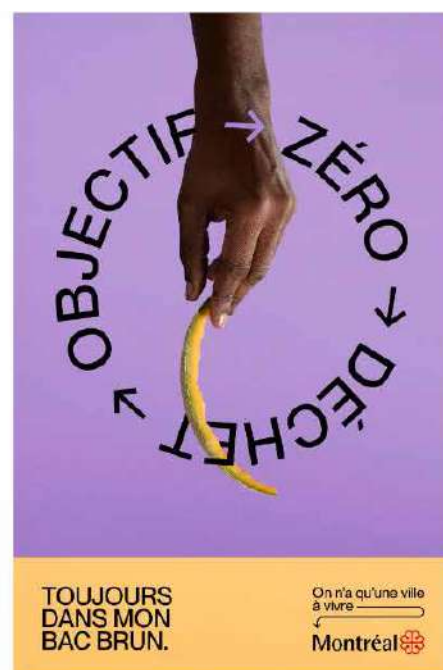


A plan of action to reduce food waste will also be deployed over the next few months, which should lead to the implementation of regulatory solutions developed in consultation with businesses and institutions that create food waste.

In 2022, the City of Montréal also initiated a pilot project for a change to biweekly household waste collection with one of its 19 districts, which consisted of 8,000 households and 120 businesses, commercial entities and institutions. Among these, approximately one quarter of them were living in multi-unit buildings of nine units or more. The switch to a bi-weekly schedule resulted in an average reduction of 4.6% in the generation of waste materials over a period of six months, and a 19% increase in participation in the food waste collection. As a result, the district changed the collection schedule so that the whole territory would be served every two weeks by the end of 2024.

The City of Montréal has developed a circular economy roadmap which targets the bio-food, textile and building sectors among others. In addition, works are underway to optimise the management of construction, renovation and demolition waste at municipal construction sites.

In terms of textiles, a project was recently initiated to develop strategies based on a behavioural approach to reduce the elimination of post-consumer textiles. The objective is to encourage residents to reduce at source, then encourage the reuse of textiles, for example by donating rather than disposing of them. In addition to the behavioural study on textiles, a call for proposals has been launched by the cities of Montréal and Gatineau, to find technological solutions to reduce the textile quantities sent to landfills by encouraging their reuse or recycling.



© Ville de Montréal



© Marco Bottigelli / Getty Images

# NEW YORK CITY

## UNITED STATES

New York City (NYC) has made significant progress in diverting waste from landfills and improving access to recycling and composting for both residents and businesses. In 2023, NYC implemented several new policies and programmes aimed at promoting sustainable waste management practices throughout the city.

NYC introduced curbside composting to Queens and Brooklyn, which has provided an easy and consistent way for nearly 5 million New Yorkers to compost food scraps and yard waste. The programme is set to expand in the coming months, with universal access for all New Yorkers expected by October 2024.

In addition to expanding curbside collection of organics, NYC introduced new convenient drop-off options for food scraps and yard waste known as Smart Composting Bins. These controlled access bins allow residents to use a smartphone app to open a bin and dispose of their organic waste, making it easier than ever for New Yorkers to compost. Placed strategically throughout the city, Smart Composting Bins provide an alternative composting solution for residents.

Expanding composting services is also a priority in the commercial and institutional sectors. In 2023, every NYC school had access to curbside composting collection services for their food scraps and yard waste. In the commercial sector,

NYC is gearing up for the launch of Commercial Waste Zones, which will standardise commercial waste collections citywide and require carters to provide recycling and organics services, along with offering incentives to recycle.

Besides diverting organic material, NYC is steadfast in its commitment to waste reduction. In 2023, NYC implemented a local law known as Skip the Stuff. This legislation prohibits food service establishments from automatically providing utensils, condiment packets, napkins, or extra containers to customers, unless specifically requested. Online ordering and delivery apps must also default to not include these items.

Since last year, the city has also released its strategic climate plan, PlaNYC: Getting Sustainability Done, which notes that 76% of the 24 million pounds of waste collected every day by the Department of Sanitation can be recycled, reused or manufactured into new, usable products. The city has committed to create a circular economy starting with organics and asphalt by:

- Expanding production and use of recycled asphalt
- Collecting organic materials and turn into energy and reusable assets
- Developing new markets and expanding recycling and reuse





© bonniej / Getty Images

# PHILADELPHIA

## UNITED STATES

Through a combination of residential and commercial education, the City of Philadelphia has reduced its recycling contamination levels by an average of 8%. The city has also managed to increase the amount collected by 22%, thereby increasing their diversion rate to just over 40%.

This has resulted in the city saving US\$ 1.5 million per year. The Department of Streets, which is responsible for the city's infrastructure, waste and diversion services, continues to educate the public on engaging in further diversion efforts.

The city's Department of Streets is also responsible for implementing the Curb Your Waste initiative, an educational programme to encourage and explain the importance of waste reduction to residents. As a result, Curb Your Waste reduced the amount of waste generated by 14% between 2022 and 2023.





© Thomas Kurmeier / Getty Images

# PORTLAND

## UNITED STATES

Portland's waste diversion history is a meaningful part of the city's climate leadership. Since September 2022, Portland has continued to expand the implementation of the city's requirement that food waste from the commercial sector must be separated for either composting or anaerobic digestion.

During this time, the city has moved through two phases to engage even more businesses based on the amount of food waste they generate.

- As of March 2023, businesses generating more than 1,000 pounds of food waste per week are required to separate food waste from the garbage.
- As of September 2023, businesses generating more than 500 pounds of food waste per week are also required to separate their food waste.

In parallel, the city aims to ensure that the food waste separation and waste reduction work with businesses is broadly inclusive. Through its Community Engagement Liaisons programme,

Portland provides targeted food waste reduction and composting technical assistance to business owners with English as their second language, as well as creating professional development opportunities for the most marginalised low-income and unhoused community members.

The city has also entered into a partnership with Oregon Department of Environmental Quality (DEQ), the National Resources Defence Council (NRDC) and Washington County to support the development and co-creation of effective food waste reduction messaging and assistance within its Spanish-speaking communities.

In September 2024, the city will reach its next business food waste collection milestone, covering businesses generating at least 250 pounds of food waste per week. The city is also developing food waste composting pilots for residents in multi-unit residential buildings. Finally, within the next year the city anticipates launching curbside collection of alkaline and lithium household batteries for recycling.



# SAN FRANCISCO

## UNITED STATES

Since 2022, San Francisco has continued to integrate waste prevention and recovery strategies as outlined in its Climate Action Plan. The strategies include:

- Conducting racial equity scans to assess the impact of waste-related actions on different groups of residents
- Adopting a citywide reusable foodware policy
- Hosting Fix-it Clinics repairing clothing and bikes in collaboration with public libraries. The clinics brought in 150 resident participants who repaired 98 bikes and 70 articles of clothing
- Expanding the city's Virtual Warehouse Program, an online reuse exchange system for city agencies, nonprofit organisations, and schools through the Rheaply Platform
- Engaging multiple stakeholders around building material reuse and deconstruction
- Adopting regulations that enable the city to issue fines for large waste generators to improve source separation of recoverable materials

The city has also been working with key institutions, such as the two main public hospitals and the unified school district, to focus on sustainable food procurement through the Good Food Purchasing programme, with the goal of reducing carbon intensity of food and supporting local agriculture.

The city has also furthered its commitment to inclusivity and equity, through the implementation of its new construction and demolition transporter permit programme. This includes hiring staff for increased field monitoring and compliance for projects, transporters and facilities, as well as conducting a racial equity scan that informed the adoption of regulations to improve enforcement, including tiered permitted transporter fees and fines.

Key planned activities for the city in the coming year include:

- Conducting outreach and implementation and scaling up technical and financial assistance for reusables
- Scaling up the Fix-It Clinics programme with the goal of hosting ten to 12 clinics in collaboration with public libraries
- Expanding implementation of the edible food donation programme, outlined in the state ordinance, to generators such as restaurants, hotels, health facilities, schools and large event venues to bring them into compliance (previously generators such as grocery stores, food service providers, distributors and wholesalers were obliged under the first phase)
- Improving enforcement source separation for large refuse generators through fines developed in regulations
- Drafting a building material reuse and deconstruction policy





# TORONTO

## CANADA

The City of Toronto continues to advance its goals of achieving a zero waste future by implementing recommendations in its [Long Term Waste Management Strategy](#) and transitioning towards a circular economy.

The city is working with local non-profits to deliver [Community Reduce and Reuse Programs](#) (CRRPs). These programmes provide repair and reuse opportunities for residents, as well as community composting and the redistribution of surplus food. These efforts reduce the amount of waste going to landfill as well as greenhouse gas (GHG) emissions generated from food waste.

Between 2018 and 2022 CRRPs have:

- redistributed 17,517 kg of surplus fruits and vegetables
- reduced 632,610 kg of carbon dioxide through community composting
- repaired or repurposed 4,603 items including electronics, bicycles and textiles

The Reducing Single-Use programme, launched in June 2022, is part of the [City's Single-Use and Takeaway Item Strategy](#) and supports businesses to voluntarily reduce single-use items in their operations. The city is also developing mandatory measures to legislate these items for reduction.

Toronto also transitioned its Blue Box Program on 1 July 2023 to extended producer responsibility as per provincial regulations. When fully transitioned in 2026, the Blue Box Program will include a broader suite of recyclable materials than the existing system with potential to further reduce waste going to landfill.

The city also runs various waste reduction public education campaigns to raise awareness around recycling, donation and textile diversion, and continues to partner on the Love Food Hate Waste Campaign, a national effort to reduce food waste. The city also holds a number of [Community Environment Days](#) each year where residents can drop off their household hazardous wastes. In 2022, in-person events resumed and are also taking place at Drop-Off Depots.





The city also has a Green Bin programme that diverts food and organic waste away from landfill. Toronto plans to increase its local organic waste processing capacity by 2028, which will reduce the need to haul organic material outside the city, thereby reducing fuel consumption and GHG emissions.

Regular waste composition audits of residential and non-residential waste are conducted to help the city measure its diversion and recovery rates. Toronto's residential diversion rate for the past five years has been 53% and the city's annual solid waste generation decreased 1.8% from 2021-22.

Toronto will be conducting a review and update of its Long Term Waste Management Strategy and developing a Circular Economy Road Map.

The city will also be installing renewable natural gas (RNG) infrastructure at its Disco Solid Waste Management Facility and is in the process of exploring a gas-to-RNG facility at its Green Lane Landfill.

The city is also developing a Stakeholder and Community Outreach Roadmap (2023-26) to guide outreach related to waste and diversion. The plan will encompass communication, outreach and engagement tactics and activities for Toronto residents, in collaboration with stakeholders and Rights Holders – primarily Indigenous peoples.

Toronto also plans to conduct waste audits of its commercial customers in 2024. Insight from the audits could help the city develop new strategies to reduce and divert waste from the sector.



© LeonU / Getty Images

# VANCOUVER

## CANADA

The Government of British Columbia announced a regulation to phase out certain single-use plastic items and reduce single-use item waste, taking effect in December 2023. The single-use item by-laws developed and implemented by the City of Vancouver in 2020–22 helped lay the groundwork for province-wide harmonisation. The provincial regulation meets or exceeds most of the bans and reduction measures already adopted in Vancouver.

The product stewardship organisation Return-It, in partnership with four quick-service restaurant chains, the City of Vancouver, Metro Vancouver and Merlin Plastics, launched a pilot in downtown Vancouver to give consumers convenient ways to return borrowed reusable cups and recycle single-use cups, through bins located on sidewalks, plazas, office buildings and restaurants. The city provided in-kind support by locating bins in four plazas and four sidewalk locations. The pilot recently expanded to include additional bin locations.

The city also partnered with the Vancouver Economic Commission and Emily Carr University to recruit 18 businesses from Vancouver's food supply chain to participate in a Circular Food Innovation Lab (CFIL). Businesses co-developed and tested nine prototype concepts to reduce

the waste of edible food within their operations. The city is also developing a draft wasted food reduction strategy, including working with food value chain stakeholders to identify possible actions.

The city is transforming a former recycling materials receiving yard into a Zero Waste Demonstration Site. The site will serve as an industrial-sized incubator and demonstration space that supports zero waste and clean technology companies to commercialise by gaining partners, investment and customers. Innovators have been selected and site development is in progress.

Vancouver also introduced new zero waste outreach events and expanded existing events, including free swaps, repair cafés and a zero waste ambassador programme in multi-family buildings.

For the last 20 years, Vancouver Landfill has utilised landfill gas fuel using a combined heat and power (CHP) facility, which reached its end of life in 2023. The city has signed new agreements to supply landfill gas to two new gas utilisation facilities, which will deliver renewable natural gas into the FortisBC distribution network.





# WASHINGTON, D.C.

## UNITED STATES

The DC Department of Energy and Environment (DOEE) awarded seven grants through the Donation and Reuse Grants programme to small, new, and/or historically excluded entities totalling US\$ 58,674. Funded projects include donation and reuse centred projects, services, outreach, and education.

DC DOEE also awarded eight grants totalling US\$ 173,843 through the Ditch the Disposables Grant Program. The grant aims to reduce the use of disposable foodware throughout the district by providing grants to support transitions to reusable foodware at restaurants and food-serving entities.

In 2023, DC DOEE held ten Fix-It DC events at three public libraries and two community gardens and offered textile repair at two partner events. In total, 206 attendees participated, and 478 pounds of material was repaired and diverted from the trash. DC Department of Energy and Environment (DOEE) also supported four large district colleges and universities in their 2023 Green Move-Out programmes to enable students to donate their unwanted but still usable items.

The District's Department of Small and Local Business Development (DSLBD) also launched Food Waste Innovation Grants to provide financial grants, free food scrap collection, and technical assistance to district food businesses. A total of US\$ 300,000 was distributed to 23 food businesses.

In terms of household hazardous or special waste, Call2Recycle, the District's battery stewardship organisation, launched the nation's first all-battery Extended Producer Responsibility (EPR) recycling programme on 1 November 2023. As of 1 August 2023, DC banned the disposal of single-use and rechargeable household batteries.

In 2022, manufacturer groups held 64 electronics collection events as part of the District's electronic stewardship programme for residents, small businesses, and small nonprofits to drop off electronics for recycling or reuse free of charge.

Washington, D.C.'s PaintCare partnership also collected 36,903 gallons of paint in 2022, of which 68% were able to be reused or recycled. In 2023, the District of Columbia Department of Public Works (DC DPW) held 43 Special Waste Collection Events where residents can drop off household hazardous waste, electronics for recycling and/or safe disposal.

In August 2023, DC DPW launched a curbside composting pilot programme which will provide weekly food waste collection from 9,000 residential homes for one year. DPW was also awarded US\$ 491,000 from the Environmental Protection Agency (EPA) to complete a waste characterisation study and organics management plan which will outline how the district will manage residential and commercial compostable materials including plans for rolling out a compost collection programme.

Washington, D.C. also implemented the first set of requirements for food waste source separation for covered commercial food waste generating entities, beginning 1 January 2023. Covered entities include large format grocery stores and university campuses.

In 2023, DC DPW hired new staff to conduct education and outreach to residents and commercial establishments, as well as monitors to screen incoming recycling loads at the district's transfer station for contamination. Data collected through this programme is being used to inform education opportunities and target outreach to routes which consistently show higher rates of contamination. The district also hired new staff to support zero waste education and initiative coordination for government buildings.

In March 2023, an Interagency Waste Reduction Working Group submitted a Zero Waste Plan to the mayor's office as per state requirements. The plan, which was developed as a result of research, analysis and public engagement, outlines the steps the district must take to reach an 80% waste diversion rate. The plan is currently under review with the mayor's office.







## Sarah Hofman-Graham

*Program Analyst, Office of Waste Diversion of Washington, D.C.*

### > What is your role within the city, and what actions have you been involved in with your team that make you proud?

I am a program analyst in the D.C. Department of Public Works' Office of Waste Diversion. I am especially proud of two things our office has been working on. We're focusing on food waste diversion across the city through multiple programs and education and outreach efforts. Most notably this year, our team launched a pilot program for curbside food waste collection. We are investing in collaborative interagency partnerships to break down silos and promote a "whole of government" approach to waste reduction and diversion.

### > What inspires you in the work you do to work towards zero waste in your city and achieve the commitments of the C40 Towards Zero Waste Accelerator?

I'm inspired by the cohort of cities that have committed to the C40 Towards Zero Waste Accelerator. In each city, there are teams of smart, passionate people working hard towards similar goals and it's inspiring to learn and grow together as we experience similar challenges and share ideas on successes. Achieving zero waste is a big challenge with a global impact and knowing that I'm working alongside motivated city employees all over the world definitely inspires me to keep at it.

### > What have you learned from another city official that has changed the way you approach your work?

During the C40 Food Waste Reduction Study Tour in Milan this year, another city official reminded me that, even though government work can feel slow and reaching an entire city's population can seem daunting, we are making incremental changes that will add up over time and can lead to windows of opportunity for larger changes. In the meantime, celebrate the incremental wins and impact of your work!

# BARRIERS TO ACHIEVE THE COMMITMENTS

Cities face a number of challenges in their efforts to transition towards a zero waste future. For instance, while cities are often directly involved in the management of residential waste, businesses, institutions and other commercial enterprises tend to be out of a city's scope of responsibility and as a result, much harder to divert and engage. Waste generated by these sectors is often handled privately, which means cities have little access to data and information on this sector's waste management and diversion practices in order to influence change.

In addition, there is often a level of complexity in servicing high rise and multi-unit residential developments given the age and design of the buildings and a changing rental population. Engaging residents in these diverse residential settings which can often house some of the most marginalised communities poses its own set of challenges. However, cities continue to look for ways to effectively engage its residents across all housing types and provide services to buildings not designed with diversion and recycling in mind.

In a society where a linear economy and its make-take-waste approach that prioritises convenience, online shopping and single-use packaging, cities often cite that the single biggest challenge to implementing a more circular, zero waste approach is behaviour change. Effectively engaging residents to change consumption patterns and normalise a culture of circularity is a key challenge to overcome to transition our cities into zero waste, sustainable communities. Within the current economic climate where inflationary pressures remain high, cities are also being asked to do more with less, which can make investing in circular solutions a more difficult proposition.



# CONCLUSION

Despite the challenges faced by C40 cities, they continue to innovate and be at the forefront of the changes needed to create more liveable, healthy, inclusive and sustainable cities. Significant progress has been made since the launch of the C40 Towards Zero Waste Accelerator. Cities are not only reducing the amount of waste produced and sending less to disposal and incineration, they are also tackling the challenges they face head on, by taking action on food and organic waste and its associated climate crisis implications, and continuing to push for the highest order of action to prevent unnecessary waste from being generated in the first place.

C40 will continue to support cities to meet their accelerator targets by sharing best practices, fostering collaboration, convening cities with other change makers, and continuing to raise circularity on the global agenda. Particularly through the C40 Waste to Resources Network via in person or online events, C40 will connect cities with the latest evidence based research, their peers and other subject matter experts, to foster learning, accelerate change towards a zero waste future, and be part of the solution to the climate crisis.

