



# **A Wasted Opportunity: Reducing and Managing London's Food Waste**



February 2020 · Leonie Cooper AM

# A Wasted Opportunity

Reducing and managing London's food waste



London produces nearly 2 million tonnes of food waste every year, with a cash value of over £2.5bn.<sup>1</sup>

Without realising, individual households waste £600 worth of food every year,<sup>2</sup> most of which is edible.

All this wasted food has a devastating impact on the planet, which suffers from the extraction of finite resources, for example through over-fishing, and contributes to the climate emergency due to its oversized carbon footprint.

When this waste is processed, too much ends up in landfill or is sent for incineration.



Without realising, individual households waste £600 worth of food every year.

London's waste therefore produces 250,000 tonnes of unnecessary CO<sub>2</sub> emissions every year.<sup>3</sup>

However, there are practical steps that the Mayor can take to help us reduce our food waste and make better use of the waste that does arise. London's households and businesses need to be supported to take advantage of innovative solutions to reduce their food waste, as well as separately collect any waste that does arise, so that it can be disposed of in the most sustainable manner.

The benefits of reducing the amount of food waste are huge. If all of London's food waste was sent to produce biogas, this could power approximately 75,000 homes for a year.<sup>4</sup> The reduction in emissions from incineration and landfill, combined with the reduction in fossil fuel energy consumption by these homes, would save around 375,000 tonnes of CO<sub>2</sub> emissions each year, equivalent to the emissions of nearly 110,000 homes.<sup>5</sup>



## Recommendations to the Mayor

1. The Mayor should update the Food Strategy with a greater emphasis on reducing and better managing food waste.
2. The Mayor should partner with, and support, the wide range of organisations promoting innovative solutions for London's households and businesses to reduce their food waste, including via a food waste 'challenge fund' competition.
3. The Mayor should lobby for Government funding to expand programmes like the TRiFOCAL programme in London, to support businesses in sharing best practice and promoting innovative alternatives to prevent food going to waste. Businesses who sign up to the WRAP Food Waste Reduction Roadmap should be celebrated.
4. The Mayor should set a target for and draw up an action plan to move towards all of London's food waste being sent for anaerobic digestion.
5. The Mayor should introduce a planning requirement for large developments to incorporate an anaerobic digester and/or in-vessel composting.
6. The Mayor should use his planning powers to ensure that all new developments offer easy arrangements for food waste segregation and collection, ensuring sufficient hygienic space for storage of food waste in homes and easily accessible, yet secure, food waste collection points in common areas.
7. The Mayor should urgently research how a pan-London waste authority for disposal could be implemented.

### Tonnes of trouble: London's food waste problem

London's households produce 780,000 tonnes of food waste each year.<sup>6</sup> If food packaging and some waste from businesses is included, this rises to a staggering 1.5-1.75 million tonnes of food waste, with a value of £2.55bn.<sup>7</sup>

<sup>8</sup> The Mayor has set a Londonwide target to cut food waste by 20 per cent per person by 2025 and 50 per cent by 2030.

Primarily, the Mayor is cutting food waste via proposals set out in the London Environment Strategy. These consist of working with the Boroughs and businesses to cut food waste, as well as campaigns so that Londoners are aware of the benefits of reducing food waste. For instance, he has promoted the Love Food, Hate Waste campaign, by working with Boroughs to tailor behaviour change

campaigns for local residents to find out about some steps they can take easily and quickly to reduce their food waste.<sup>9</sup> The Mayor has also set a target for all Boroughs to collect food waste by the beginning of this year, although some Boroughs have missed this.<sup>10</sup>

The Mayor's Food Strategy, published in December 2018, also contains some proposals to reduce London's food waste. The Food Strategy sets out his plans to help all Londoners access healthy, affordable and sustainable food - regardless of their background and circumstances. It echoes the commitments made in the Environment Strategy, while also setting out some specific roles for external partners. For instance, the Mayor encourages other public sector bodies to lead by example, by sourcing low waste and sustainable supplies. However, given the financial benefit to Londoners of reducing





their food waste, the Food Strategy should have gone further to include this as an integral part of ensuring a food system that works for all.<sup>11</sup> Just over one year on, this is an opportunity to build on the Food Strategy and make progress towards eliminating avoidable food waste in London altogether.

The Mayor delivers his waste programmes, including food waste reduction, via the London Waste and Recycling Board (LWARB). LWARB is a partnership between the key actors involved in handling London's waste, chaired by the Deputy Mayor and with representatives from London Boroughs. They work in collaboration across London and with waste processing companies to ensure London's waste is collected and disposed of effectively and sustainably.

### **Recommendation 1:**

The Mayor should update the Food Strategy with a greater emphasis on reducing and better managing food waste.



**London's food waste could power 75,000 homes**

Food is at the heart of many environmental issues – it's a significant contributor to climate change and responsible for almost 60 per cent of global biodiversity loss.<sup>12</sup> 20 per cent of global direct carbon emissions come from food production, primarily beef,<sup>13</sup> and, if global food wastage were a country, it would be the third largest emitting country in the world.<sup>14</sup>

When food waste is disposed of badly, if it is sent for landfill or incineration, this releases toxic air pollution and carbon dioxide. In fact, Project Drawdown, one of the most comprehensive assessments of available climate change mitigation options, estimated that cutting food waste has the third greatest potential for cutting carbon, after reforming refrigeration and air conditioning, and building onshore wind turbines.<sup>15</sup>

### *What is food waste?*

According to the Government's waste reduction advisers, food waste can be defined as 'food and the inedible parts of food removed from the food supply chain (or household) to be recovered or disposed of (including - composted, anaerobic digestion, incineration, disposal to sewer or landfill). There are a number of reasons why this occurs. At a household level, it could be that people don't realise they can use their 'offcuts' like potato peelings, or it can be that food isn't finished before going off. Restaurants, supermarkets, cafes and workplaces also produce food waste when their stock isn't sold in time or isn't up to saleable quality. Finally the production and processing line, including farms and transportation, leads to food being damaged and wasted on a large scale.



Food waste is also bad for our bank balance. The Government's waste reduction body WRAP (Waste and Resources Action Programme) estimates that wasted food costs households around £50 per month.<sup>16</sup> Given that around a third of food bought is thrown away, most of which is still edible,<sup>17</sup> Londoners could be saving money as well as saving the planet.

There are simple solutions to household food waste. For example, by connecting with others in their area, the Olio app allows households and businesses with surplus food to divert it to others who can make use of it to ensure it does not get wasted, at an affordable price. Another example is Bio-Bean, which works with businesses and households to collect and recycle coffee grounds and send them for anaerobic digestion to create biogas. Bio-Bean has even joined up with the Mayor to power some of London's iconic red buses using a blend of biogas and natural gas. London is the ideal location to support such innovative solutions for household food waste, and the Mayor could play a key role in supporting small businesses and social enterprises in this area to thrive.

The Urban Food Awards are a good way to recognise and celebrate organisations

championing good food in London.<sup>18</sup> This year, I am pleased to see a category for 'Climate Champions', open to cafes and restaurants working to embed climate and nature friendly practices into their menus and ethos. This could include working toward zero waste, embracing less but better meat and dairy, and sourcing food in a nature-friendly way. The winners will receive a portion of a £5,000 prize fund to invest in continuing their work.

I would like to see a similar 'challenge fund' scheme open to all organisations, campaign groups and individuals coming up with innovative ideas for reducing household waste, as well as cafes and restaurants. Winners could benefit from financial and organisational support to scale up their ideas.

### **Recommendation 2:**

The Mayor should partner with and support the wide range of organisations promoting innovative solutions for London's households and businesses to reduce their food waste, including via a food waste 'challenge fund' competition.

## **The true cost of waste**

Food waste is expensive for people and the planet



London produces nearly **two million tonnes** of food waste every year...

...with a value of over **£2.5 billion**

**250,000 tonnes of CO2**



from inefficient food waste disposal in London every year

## From farm to fork: the role of businesses

Whilst households need to be supported to reduce their food waste, the fact is that the majority of food waste never reaches the checkout. Across Europe, almost half of wasted food occurs on farms, in transit, or after being discarded by retailers and restaurants.<sup>19</sup> Due to complex global supply chains, it is difficult to estimate how much food destined for London ends up being wasted.

However, G's Fresh, one of Tesco's largest suppliers of fresh fruit and vegetables and a supplier of other UK supermarkets, recently released data showing that they were wasting a staggering nearly 40,000 tonnes each year.<sup>20</sup> This is food wasted if it does not meet high

supermarket standards for sale, goes off in production or transit or is damaged before it reaches the shop.

It has been shown that working together is one of the best ways to reduce business food waste. WRAP estimate that by working collaboratively to take action on these issues, organisations in the sector can achieve a 14:1 positive return on investment.<sup>21</sup>

For instance, over 100 businesses have signed up to WRAP's Food Waste Reduction Roadmap, which sets a target for businesses to cut their food waste by 50 per cent by 2030.<sup>22</sup> However, the organisations so far registered only represent 56 per cent of the industry,<sup>23</sup> showing there is huge potential for this programme to reach across the food production and supply sector.

## TRiFOCAL - Transforming City Food Habits for Life

TRiFOCAL London is an initiative being led by Resource London - the partnership between WRAP and LWARB - together with Groundwork London. The organisations won a bid from the European Commission to deliver the €3.2million initiative in London, which will be a test bed for other European cities.

The overall aim of the TRiFOCAL London project is to pilot an innovative approach to encourage:

- Prevent food waste by changing planning, shopping, storage and meal preparation habits
- Promote healthy and sustainable eating by changing purchasing and preparation practices
- Encourage recycling of unavoidable food waste

In total, TRiFOCAL is aiming engage 1,000 individuals, 1,000 food service businesses, 30 large employers and 24 schools across the 8 participating Boroughs in London.<sup>24</sup> At the time of writing, TRiFOCAL is on track to meet its targets and is scheduled to come to an end during 2020.

TRiFOCAL engages with different groups in a number of different ways. For instance, to support the hospitality and restaurant industry to reduce their waste, they have worked with leading businesses to pioneer and cascade good practice and knowledge across London to the different audiences by establishing:

- Mentor businesses to demonstrate savings and reinforce the business case for change.
- A London-wide working group of businesses to encourage and embed change on the ground.

To work with schools, the programme curated an award-winning education programme designed for KS2 pupils which was delivered in 24 schools. Each school was given a choice between a variety of campaign day approaches which involved hosting an event for the whole school including parents, pupils, teachers and kitchen staff. Each school received a £500 budget to spend on their campaign day and a team of Small Change Big Difference staff were on hand to manage logistics on the day.

Funding to complete the TRiFOCAL programme up to its scheduled end in 2020 is guaranteed, regardless of the UK's exit from the EU. However, given the programme's proven success, the Government should commit to funding it to continue.

The good news is that Londoners have options to prevent food waste by supporting businesses leading the way in reducing their impact on the planet. Our innovative food tech sector has generated a number of alternative solutions to divert food from becoming waste, at different stages of the supply chain. For instance, veg delivery service OddBox sources surplus, wonky and off-colour fruit and veg that otherwise would not be sold in supermarkets and risk going to waste, delivering it to customers and workplaces.

We are also seeing increasing numbers of cafes and restaurants which source supplies that would have otherwise gone to waste and which are reducing the waste they produce. Many of these took part in FoodSave (now incorporated into the Mayor's TRiFOCAL programme – see below), which showed that reducing food waste is good for business. For example, Moshi Moshi, in Liverpool Street station, was able to save £14,837 by cutting their food waste by 1.2 tonnes per year.<sup>25</sup>

### **Recommendation 3:**

The Mayor should lobby for Government funding to expand programmes like the TRiFOCAL programme in London, to support businesses in sharing best practice and promoting innovative alternatives to prevent food going to waste. Businesses who sign up to the WRAP Food Waste Reduction Roadmap should be celebrated.

## Food for fuel: making good use of waste

In line with the Government's waste hierarchy, preventing and reducing food waste must be a priority. Any remaining food waste in London needs to be disposed of in the most environmentally sustainable way possible.

However, currently, most of our food waste goes for incineration, producing around 250,000 tonnes of CO2 emissions.<sup>26</sup> Around 1% of food waste still ends up in landfill, and the emissions as food decomposes in landfill continue for decades. The amount of food waste recycled is very poor, with food waste making up around 25 per cent of non-recycled household waste, 60 per cent of which is completely avoidable.

If all of London's food waste was collected separately the most environmentally beneficial way to treat the material would be through anaerobic digestion. Anaerobic digestion produces biogas (a methane-rich gas) suitable for energy production. This is often referred to as 'green gas'.

At current levels, sending all of London's household food waste to anaerobic digestion would produce approximately 624 tonnes of biogas, which can be put back into the gas network to power homes. This volume of biogas is sufficient to power approximately 75,000 homes for a year.<sup>27</sup> WRAP estimate that 60 per cent of household food waste is avoidable,<sup>28</sup> but even if all this waste was eliminated London's food waste could power 30,000 homes using biogas.

The Mayor has set a target for 65 per cent of municipal and 50 per cent of household waste in London to be recycled by 2030. While this includes food waste, the Mayor has not broken down recycling targets by different types of waste. Given the huge potential to make the best use of food waste, and the clear need to act, the Mayor should set a separate target to send all unavoidable food waste for anaerobic digestion and provide incentives for companies to provide additional anaerobic digestion capacity.



**Recommendation 4:**

The Mayor should set a target for and draw up an action plan to move towards all of London's food waste being sent for anaerobic digestion.

Not a lot to digest: the importance of food waste collections

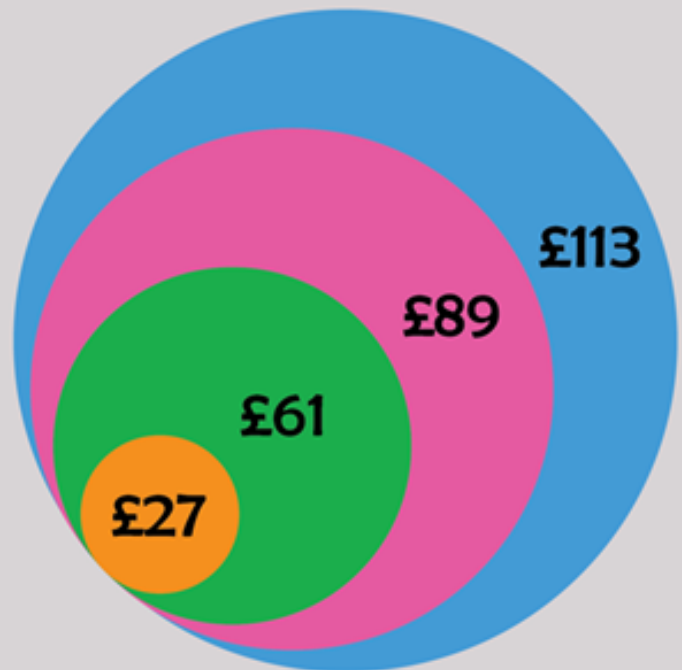
London's waste collection arrangements are fragmented and inconsistent across Boroughs. At the time of writing (January 2020), twenty four boroughs collect segregated food waste from households. The Mayor has set a target for all boroughs to offer separate food waste services for all kerbside properties by 2020.<sup>29</sup>

Local authorities would save considerable sums by diverting their food waste away from landfill and prioritising sustainable methods of disposal. For each tonne of waste processed, councils have to pay a 'Gate Fee' to waste disposal companies to be allowed to dispose of their waste at these sites.

In 2018/19, the median gate fee for anaerobic digestion was £27 per tonne, while the median In-Vessel Composting (IVC) gate fee per tonne ranged between £61 for food waste only, £50 for mixed food waste and garden waste and £33 for green waste only.<sup>30</sup> In the same year, the median gate fees for Energy from Waste and Landfill (including landfill tax, 2018/19 tax year) were £89 and £113 per tonne respectively.

Therefore, at current levels, if all London's household food waste was sent to landfill this would cost Boroughs almost £90 million (£88,140,000), compared to just nearly £70 million (£69,420,000) if all the food waste went for incineration and over £21 million if it was sent for anaerobic digestion (£21,060,000). This represents a total saving of nearly £70 million for anaerobic digestion against landfill and £50 million for anaerobic digestion against incineration.

At £113 a tonne, **landfill** is the most expensive form of food waste disposal, followed by **energy from waste** and **in-vessel composting**. The best value method at just £27 a tonne is **anaerobic digestion**.



Median cost of different disposal methods for waste





A recent report by WRAP found that separate food waste collections were significantly associated with lower total food waste arisings.<sup>31</sup> WRAP estimate that food waste could fall by up to 30 kg per household per year, just by introducing segregated food waste collections. Although it is difficult to say exactly why this happens, one likely reason is that, when households collect their food waste separately, they are more aware of the amount going to waste and make an effort to reduce it. On average, local authorities with a separate food waste collection produced an average of 16.1 kg per household per year less food waste than those without.

The Mayor has established a requirement for all Boroughs to collect segregated food waste by the end of 2019. Twenty four Boroughs met this target. While he needs to continue to take all necessary steps to ensure Boroughs can meet this as soon as possible, there are steps he could take within City Hall to cut the amount of food waste that ends up in general rubbish in Boroughs that already provide segregated collections. In particular, he should use his planning powers to help end the trend of far lower recycling rates for flats.

Recycling collections from flats tend to yield 50 per cent less recyclable material than average low-rise properties.<sup>32</sup> One of the key issues is space for storing food waste in the home and in common areas awaiting collection. For most London households, but especially for families, the space under the sink typically is simply not enough to hold a week's worth of food waste. Moreover, ensuring flats have hygienic waste storage areas is even more important for food waste than other types of recycling. These issues often lead to Londoners living in flats disposing of their old food in the general waste bin.



London produces nearly two tonnes of food waste a year  
(photo by Alan Levine)

This is one area where the Mayor could take action now. He has the planning powers to ensure that no new large developments are built in London without adequate food waste storage provision. However, the provisions in his draft new London Plan could be strengthened to achieve this, so he needs to do more by strengthening them and providing clear Supplementary Planning Guidance for developers, on how to meet these requirements. For example, while the London Plan does require developers to include some space for food waste and recycling storage in new homes, the space allocated to this is likely to be far too small, particularly for large families. Additionally, there needs to be more thought given to how food waste is stored in common areas before being collected by the local authority in a hygienic and easily accessible location. In-vessel composting and on-site anaerobic digestion should be considered where space allows.

#### **Recommendation 5:**

The Mayor should introduce a planning requirement for large developments to incorporate an anaerobic digester and/or in-vessel composting.



Working alongside boroughs to increase food waste collections will help the Mayor to achieve his other recycling goals, making it a particularly beneficial intervention. Milan increased their municipal recycling rate from less than one third in 2011 to over 50 per cent in less than five years.<sup>33</sup> One of the key measures that enabled this was a significant expansion in food waste collection, including twice weekly collection schedules. 80 per cent of Milan's residents live in high rise buildings, so their high rates of recycling success show it can be achieved despite this. Improving food waste storage for residents in flats, combined with extensive communication and education campaigns, was a significant element of the programme's success. At the start, residents were provided with a 10 litre vented kitchen bin along with a roll of 25 compostable bags. The programme has been a major success, with 90 per cent of residents involved satisfied with the new collection scheme. London should learn from and emulate Milan.

#### **Recommendation 6:**

The Mayor should use his planning powers to ensure that all new developments offer easy arrangements for food waste segregation and collection, ensuring sufficient hygienic space for storage of food waste in homes and easily accessible, yet secure, food waste collection points in common areas.

The recommendations and analysis in this report highlight the importance of Boroughs working together with one another and with businesses, households and waste disposal companies to ensure effective management of London's food waste. However, it can be difficult to ensure that all food waste is being disposed of in the best way when different arrangements exist across London for food waste disposal and Boroughs are unable to coordinate as effectively as they would like.

#### **Recommendation 7:**

The Mayor should urgently research how a pan-London waste authority for disposal could be implemented.



## Endnotes

- 1 Mayor of London, London Environment Strategy, May 2018
- 2 ibid
- 3 ibid
- 4 Question by Leonie Cooper AM to the Mayor, question 2019/9164, May 2019
- 5 Question by Leonie Cooper AM to the Mayor, question 2019/9163, May 2019
- 6 Question by Leonie Cooper AM to the Mayor, question 2019/14491, July 2019
- 7 Mayor of London, London Environment Strategy, May 2018
- 8 Note: this includes all waste collected by councils. Many businesses, such as supermarkets, some restaurants and offices operate private waste contracts which are dealt with separately.
- 9 Resource London, What we do - behaviour change, accessed January 2020
- 10 The Borough not collecting food waste as of January 2020 are Barking and Dagenham, Barnet, Hammersmith and Fulham, Havering, Kensington and Chelsea, Newham, Redbridge, Wandsworth and Westminster.
- 11 WWF, Area of work - food, accessed June 2019
- 12 WWF, Area of work - food, accessed June 2019
- 13 Carbon Brief, UK could cut food emissions by 17% by sticking to a healthy diet, December 2017
- 14 Food and Agriculture Organization of the UN (FAO), Food wastage footprint & Climate Change,
- 15 Project Drawdown, solutions by rank, accessed October 2019  
accessed January 2020
- 16 Mayor of London, London Environment Strategy, May 2018
- 17 ibid
- 18 Mayor of London, Urban Food Awards 2020, accessed January 2020
- 19 Food and Agriculture Organization of the UN (FAO), Global food losses and food waste, 2011



- 20 **G's Fresh, Food Waste Commitment, October 2019**
- 21 **WRAP, The Business Case for Reducing Food Loss and Waste, March 2017**
- 22 **WRAP, The Food Waste Reduction Roadmap Progress Report, September 2019**
- 23 **ibid**
- 24 **The participating Boroughs are Hounslow, Merton, Sutton, Lambeth, Islington, Hackney, Tower Hamlets and Bexley.**
- 25 **FoodSave, Moshi Moshi Case Study, 2014**
- 26 **Mayor of London, London Environment Strategy, May 2018**
- 27 **Question by Leonie Cooper AM to the Mayor, question 2019/9164, May 2019**
- 28 **WRAP, Estimates of Food Surplus and Waste Arisings in the UK, January 2017**
- 29 **Question by Leonie Cooper AM to the Mayor, question 2019/9162, May 2019**
- 30 **WRAP, Comparing the costs of alternative waste treatment options - 2018/19, July 2019**
- 31 **WRAP, The impact of food waste collections on household food waste arisings, January 2020**
- 32 **London Waste & Recycling Board, Flats Recycling Programme Evaluation Report, August 2013**
- 33 **Milano Recycle City, Food waste recycling: the case study of Milan - Milano Recycling City, February 2016**

