One World Living

Action Plan

LONDON COUNCILS

ONE WORLD LIVING
Reducing London's Consumption Emissions

ACTION PLAN
v5 for TEC, March 2022

Lead Borough: London Borough of Harrow

Contents:

1. Introduction

In recent years climate change has been recognised as the pre-eminent threat to human wellbeing and progress. Polling conducted in 2020 shows that an overwhelming majority of Londoners are concerned about climate change, with a majority already feeling its effects[1]. Londoners are not alone, with the climate shifting across the world leading to a rise in extreme weather events and disruptions to the natural systems that we all depend upon, impacting particularly the world's most vulnerable. Direct emissions from London are relatively low, but its extensive service economy and imports mean that the environmental impact of Londoners' consumption is felt far beyond its borders. As a global city London has a key responsibility not only to bring emissions down to a sustainable level, but also to develop a model of sustainable living that other cities across the world can learn from.

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[1] https://www.londoncouncils.gov.uk/climate-change-poll

In December 2019, London Councils' Transport and Environment Committee (TEC) and the London Environment Directors' Network (LEDNet) published a Joint Statement on Climate Change[2], where a commitment was made to "Act ambitiously to meet the climate challenge that the science sets out, and find political and practical solutions to delivering carbon reductions that also secure the wellbeing of Londoners".

The One World Living programme is one of seven London-wide local authority climate progammes instituted further to the TEC/LedNet Joint Statement. The programmes and the appointed lead boroughs are:

#1 Retrofit London	LB Enfield & LB Waltham Forest
#2 Low Carbon Development	LB Hackney
#3 Low Carbon Transport	RB Kingston & City of Westminster
#4 Renewable Energy	LB Islington
#5 One World Living (Consumption Emissions)	LB Harrow
#6 Green Economy	LB Hounslow
#7 Resilient and Green	LB Southwark

This programme aims to significantly reduce consumption emissions across London, focussing on four initial thematic areas: *electricals, food, plastics,* and *textiles.* A fifth category, aviation, is also potentially within the scope of the programme and will be the subject of further consideration as part of a later phase of the plan's development.

2. Programme target and baseline data

The provisional programme target established by the Joint Statement is to achieve a significant reduction of around 2/3 in households' overall consumption emissions by 2030, with initial focus on the areas of electricals, food, plastics, and textiles. The basis of this target was the report "The Future of Urban Consumption in a 1.5°C World" published by C40[3], which proposed an overall consumption emissions reduction target of two-thirds of 2017 levels by 2030 as a 'fair' contribution for cities in developed countries.

In addition, in 2019 IGES estimated that cities would need to reach 2.5 tonnes CO2e per capita by 2030 to stay within a 1.5 °C temperature rise above pre-industrial levels[4]. Consumption emissions data for London that has recently been produced by the University of Leeds shows that the average per capita household consumption emissions (which also includes those related to transport, heating and power) across all London boroughs in 2018 was 8.28 tonnes CO2e[5]. Achieving the IGES 2030 target for London would therefore represent a reduction of 70% over the 2018 baseline.

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[2] TEC-LEDNet Joint Statement: Climate Change | London Councils

[3] The future of urban consumption in a 1.5°C world (c40knowledgehub.org)

[4] 1.5-Degree Lifestyles: Targets and options for reducing lifestyle carbon footprints | IGES

[5] Consumption-based household emissions profiles for London boroughs | London Councils
(Nb. Consumption emissions across different London boroughs range from 6 to over 11 TC02e per capita, with wealthier areas generally having a higher carbon footprint per resident. Specific reduction pathways will therefore vary from borough to borough.)

It is acknowledged that comprehensive emissions data for all material types in scope is not currently available and targets may need to be further reviewed and revised as new data is made available and reduction pathways are considered. In addition, it is acknowledged that the 2/3 target may not be directly achievable across each thematic area. It is intended that the London consumptions emissions data produced by the University of Leeds will be refreshed annually, with the results integrated into the evolution of this programme.

The carbon targets for this programme are calculated using a household consumption emissions methodology and are separate from the place-based (Scope 1, 2 and 3) carbon targets of individual boroughs and the Mayor of London.

3. Governance and programme management

The London Borough of Harrow, assisted by West London Waste Authority and ReLondon, has been appointed to provide overall programme coordination for at least the first two years of the programme.

In addition, organisations have been appointed to develop and implement actions within each the theme focus areas during this initial period as follows: <u>Electricals:</u> LB Hammersmith & Fulham; <u>Food:</u> LB Hackney; <u>Plastics:</u> LB Richmond; <u>Textiles:</u> WLWA and LB Wandsworth. Each theme lead has established a working group of stakeholders to assist them develop and deliver actions within their thematic area.

A programme steering group has been established to oversee the overall development and delivery of this consolidated action plan, comprising: Harrow Council, West London Waste Authority, Re London, London Councils, Suez Recycling & Recovery (Industry Representative), Ellen MacArthur Foundation, Imperial College, GLA, and the 4 theme lead organisations.

It is envisaged that further members, including community representatives, may be invited to join the programme steering group going forwards.

4. Overall programme approach

One World Living is about implementing new and better ways of living that enable the people of London to thrive, whilst at the same time significantly reducing their collective impact upon the planet.

Achieving this reduction in consumption emissions across London at scale within the next eight years requires far reaching systemic change, and in particular the re-structuring of our economies to enable them to work in circular ways that replicate the 'no waste' model of the natural world. This involves changes to products andlifestyles / consumer habits , ensuring the goods that Londoners need to consume are sustainably produced and transported, kept in use for as long as possible at their highest possible value, and then fully recycled at the end of their life. In this way the extraction of new raw materials, waste and pollution can be minimised and eventually eliminated as we transition to an economy that both minimises greenhouse gas emissions and actively facilitates the regeneration of our planet's natural systems upon which we depend. Systems change of this scale requires the active participation of all of the constituent parts of that system –

government, manufacturing and retailing businesses and the ordinary citzens who create the demand for goods and services.

London local authorities have an important role to play in their own right as large organisations in 'walking the talk' and reducing their own consumption emissions. Indeed, this is essential if we are to be seen as credible proponents of this agenda. However, since the vast majority of London's consumption emssions occur outside our own organisations as a result of resident and business activity, it is clear that this cannot be the limit of the programme's ambition.

Lobbying and influencing activity to create 'upstream' changes to the way that goods are produced, packaged and distributed will be important, engaging both central government and business.

As the programme develops, it will also be necessary to build the vision of what future sustainable lifestyles can be across London, and to embed a wellbeing perspective that makes the low carbon transition, and lower levels of overall consumption, desirable from a personal perspective as well as necessary from a planetary one. There is a growing body of evidence, for example the New Economics Foundation's 5 Ways to Wellbeing research [6] and the more recent work of Ashden on the co-benefits of climate action[7], that helps to demonstrate how lower impact lifestyles can also foster a greater sense of mental and physical wellbeing. It is of course also necessary to acknowledge that London is a very diverse and in some cases very unequal city, with high levels of persistent poverty in some boroughs. This underlines the importance of avoiding a one-size fits all approach and developing different approaches in different contexts that help to ensure a socially just transition to a low carbon future for all.

In order to achieve maximum impact through facilitating change at scale, the Programme Steering Group has therefore agreed a set of core propositions as follows:

- We will facilitate bottom up change by enabling the scaling up of many small individual actions that contribute towards living more sustainably and together make a big change.

- We will identify and act on those points of intervention where local authorities can help remove barriers and enable this bottom up change. This will be both direct actions and lobbying actions to remove upstream barriers.

- We will engage others by telling stories about, and articulating a vision for, future sustainable lifestyles that engage the head, hands and heart.

Successful implementation of the programme will bring together two key outcomes: (i) the establishment of a *culture of sustainability* among Londoners and (ii) the creation of an *enabling environment* in which low impact ways of living can become the default choice for Londoners.

The programme's proposed approach to facilitating bottom up change and normalising new ways of living more sustainably can be demonstrated diagramitically as below:

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[6] https://neweconomics.org/uploads/files/five-ways-to-wellbeing-1.pdf
[7] https://ashden.org/wp-content/uploads/2020/09/CAC-Chapters-all_new-brand.pdf

Bottom up action can build a virtuous circle of change

EXAMPLE LOCAL AUTHORITY POINTS OF LEVERAGE

One World Living - Reducing London's Consumption Emissions

5. Action plan development

Taking into account the overall programme approach, the Steering Group has established a common approach to action development, based upon three stages as follows:

(a) establishing **a baseline** and identifying key challenges / barriers and opportunities in each area;
(b) developing a **vision** for the theme based upon what success would look like in 2030; and
(c) identifying the **key actions** for that theme for the first two years of the programme, grouped via overarching action areas or 'pillars' for each thematic area

All four theme leads have employed this agreed approach in developing the initial programme actions via theme working groups.

In May 2021 we also conducted a programme-wide baseline survey to learn about existing initiatives. The survey was distributed via the existing working group and via LEDNet to London Boroughs and partner organisations. Around 20 organisations, including London boroughs, a university and charity organisations responded detailing nearly 200 projects across the four thematic areas and cross-cutting projects. This data was shared with the theme leads to support the development and prioritisation of key actions for their areas. Additionally, a number of organisations who responded to the survey have participated directly in the theme working groups at which actions have been developed.

6. Theme action plans summaries

The initial action plans for each of the four priority theme areas are set out at Appendices A-D. These detail the findings of the theme specific working groups, including existing data baselines and potential barriers and opportunities. Suggested lobbying asks for each theme are also set out, although at this stage these are to be treated as indicative of the range of potential asks and remain subject to further consultation with stakeholders.

The vision and proposed actions for each area for the first two years of the programme are summarised on the following pages. Each theme's actions is split up into three or four 'pillars', which identify the overall key action areas and which are intended to provide a consistent framework for that theme as further specific actions are developed throughout the programme lifetime. A cost / benefit analysis has been carried out and actions marked with a star represent those that areconsidered to be particular focus areas early in the programme.

Electricals Theme Vision

To slow and close the loop of device lifecycles. This means (in priority order):

- **Caring for our electricals for longer** and slowing their replacement, thereby reducing the emissions and other environmental harms associated with manufacturing new devices. The foremost way to achieve this is by understanding the impact of our devices, and ensuring repair, not replacement, is the first port of call.
- **Giving unwanted devices a second life** wherever possible through refurbishment and donation or sale, helping to bridge the digital divide in the process.
- **Sharing devices** between people that would otherwise be only rarely used.
- **Recycling all devices** at the end of their useable life, at the highest possible value of their components, to be made into new devices and displace the extractive and carbon-intense mining of new materials.

Electrical Theme Action Plan Summary

Extending first life	Reuse	Sharing	Collection and recycling
Focused on keeping devices at their highest-value use, which is generally their first use	Mitigates the impact of devices becoming unwanted while still useable, by refurbishing them if necessary and pairing them with a second owner	Avoids unnecessary device purchases where these are little-used and can be readily shared or hired	A critical last stage in the life cycle of all devices - recycling as much as possible and avoid landfill
Key Actions ☆ Establish a network of repair and reuse hubs ☆ Provide space and funding for repair cafes ☆ Extend and maintain the Repair Directory	**Key Actions** ☆ Establish accessible, trusted and secure location for drop-off (computers and smartphones) - Schools campaign - Training for qualified technicians and basic consumer repair skills	**Key Actions** - Expand the network of Libraries of Things	**Key Actions** ☆ Broadcast the Recycle Your Electricals campaign ☆ Amnesty days - More numerous and accessible 'bring banks' - Expand kerbside collection across London
Other actions - Help consumers make climate-conscious choices - Explore options for a London repair standard - Review council IT policies to slow the replacement cycle	**Other actions** ☆ Promoting buying refurbished devices to residents - Boroughs offer 'reuse credit' payments to reuse organisations - Introduce reuse targets and sorting at Household Waste and Recycling Centres (HWRCs) - Swap events - Work with businesses to promote refurbished devices and donation of old devices	**Other actions** ☆ Promote existing sharing and hiring platforms	**Other actions** - Better signposting of retailer collection schemes - Employee engagement

Food Theme Vision

Londoners will be at the heart of the change in our food system, they will demand food sourced from equitable and agro-ecological local networks, they will discover new diverse tastes that are climate friendly and they will normalise sharing food amongst people and businesses, whilst recovering inedible food into a valuable natural resource.

Food Theme Action Plan Summary

Land use	Diet (healthy/sustainable eating)	Food waste*
Increase the sourcing and production of food grown using agro-ecological practices, and locally where possible within Greater London	Increase the prevalence of healthy and sustainable food items and menus within Greater London	Eliminate avoidable food waste wherever possible and recycle unavoidable food waste back into productive uses within Greater London
Key Action - Implement dynamic procurement models for small food producers ☆ Boroughs to recognise a local food economy within their Economic Strategies ***Long term action*** - Invest in physical infrastructure for 'good food routes'	**Key Actions** ☆ Implement sustainable food procurement policies - Encourage businesses to sign up to existing sustainable food initiatives ☆ Deliver a pan London sustainable and healthy diet awareness campaign (links to 3.1) ☆ Working with existing suppliers on sourcing, diets and waste standards ***Long term action*** - Enabling and actively supporting households with purchasing	**Key Actions** ☆ Deliver a pan london food waste reduction awareness campaign ☆ Promote businesses to monitor food waste via Food Waste Reduction Roadmap or Guardians of Grubs ***Long term action*** - Enable and support creation of viable redistribution hubs

Increasing[8] food waste recycling is already part of all boroughs' Reducing and Recycling Plans reviewed by the Mayor of London every two years. Recycling and recovering of food waste are not included here. These will also be impacted by Defra's Recycling consistency proposals.

(Note: as at March 2022 it is proposed that the Food theme actions will be developed as a joint action plan with ReLondon and the GLA as part of a pan-London initiative on reducing emissions from food consumption. The above draft actions will be reviewed and may be subject to further amendment as part of that initiative)

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[8] 24 out of 33 London boroughs already have a food waste collection service in place (ReLondon, 2021)

Plastics Theme Vision

People are living differently and:
- Refill is the norm and is accessible at all price points for all consumers
- Londoners use 'tiffin boxes' at lunch and when on the go, supported by a London-wide scheme
- The narrative around plastic has changed – it is seen as a limited and precious resource that we cannot produce any more of. It is unthinkable to throw it away
- Our rivers and streets are free of plastic litter
- All plastics in use are reusable, recycled, or compostable

Plastics Theme Action Plan Summary

Innovate	Eliminate	Circulate
Innovate to ensure that the plastics we do need are reusable, recyclable or compostable	Eliminate all problematic and unnecessary plastic items	Circulate all the plastic items we use to keep them in the economy and out of the environment
Key Actions: - Develop better data on plastics - Pan London lobbying of supermarkets and large stores to provide more refill options/reduce plastic packaging	**Key Actions:** ☆ Establish a low plastic communities network ☆ Adopt low plastic policies for councils (procurement, operations, events, schools) ☆ Develop range of support and advice for small businesses on low plastic approaches (purchasing co-ops, business recycling options) ☆ Promote and support refill options across London ☆ Explore ways to incentivise refill	**Priority Actions:** ☆ Set up a pilot cup and container/lunchbox reuse scheme in at least one borough in partnership with a CIC - Support additional soft plastic recycling points across London

Textiles Theme Vision

London residents are making informed decisions on the textiles items they purchase, including the types of materials purchased and the length of the supply chains, to only sustainably consuming, and knowing how to fully care for the items from washing to repair will support this reduction. Once an item is no longer wanted or is at the end of its life, residents know what their options are and no textiles end up in the bin.

Textiles Theme Action Plan Summary

Extend	Recycle	Sustainable Consumption
Improving repair rates and opportunities for re-sale, creating new products from old and reducing impulse shopping and promoting better washing practices	Ensuring recycling is products can be recycled at the end of their life and improved fabrics are used to reduce waste	Consumer awareness and behavioural change in purchasing to reduce overall consumption
Key Actions ☆ Education pack for schools, FE, HE and community groups - Textile events for London Residents - Encourage retailers to hold in-store repair pop-ups - Reuse/Repair hubs - Second-hand events/uniform swaps at schools - Explore innovovative initiatives with retailers to encourage more reuse	**Key Actions** ☆ Convenient home collection services across London - Consistent recycling infrastructure across boroughs, supported by relatable carbon-textile communications - In-store take-back/recycling - Banks at all schools and recycle your clothes days - More accessible collection banks to all Londoners - Expand and promote Recycle Now Locator/Map for in-store take-back	**Key Actions** ☆ Councils' procurement policy review on textiles ☆ A consumer-driven campaign for retailers - Clothing care and benefits campaign - Second-hand events including uniform swaps - Promotion of existing second hand products and services - Creating 'shops' that allow residents to see innovations in materials, circular economy and local products

7. Cross-cutting areas

Looking across the emerging individual theme actions, the Programme Steering Group has identified a range of six common activity types and key points of intervention by local authorities, as follows:

1. PLACES: London boroughs provide / enable physical space and infrastructure across our areas where activity can happen (eg repair / re-use hubs, collection points, spaces for local growing initiatives).

2. SERVICES: London boroughs proactively use their existing waste and other services to incentivise and enable a culture of sustainable consumption (eg via a consistent approach to collection of food waste and flexible packaging, restricting residual waste where appropriate).

3. CIRCULAR ECONOMY AND GREEN SKILLS: London boroughs are supporting the growth across London of green skills and businesses working in the circular economy (eg training in the repair and re-use sectors).

4. INFORMATION & ENGAGEMENT: London boroughs use their networks and convening power to engage with their communities and provide good, consistent and clear information on how residents and organisations can contribute to reducing consumption emissions (eg a pan London healthy and sustainable diet campaign).

5. OUR ORGANISATIONS: London boroughs are 'walking the talk' as organisations and reducing our own consumption emissions (eg via low carbon procurement, best in class organisational policies around resource management).

6. REGULATION & POLICY: One voice for London - boroughs work with stakeholders to develop consistent and united lobbying and policy asks of others to influence upstream changes (eg engagement with local retailers to provide re-fill and no packaging options).

The overall approach is represented diagrammatically as follows:
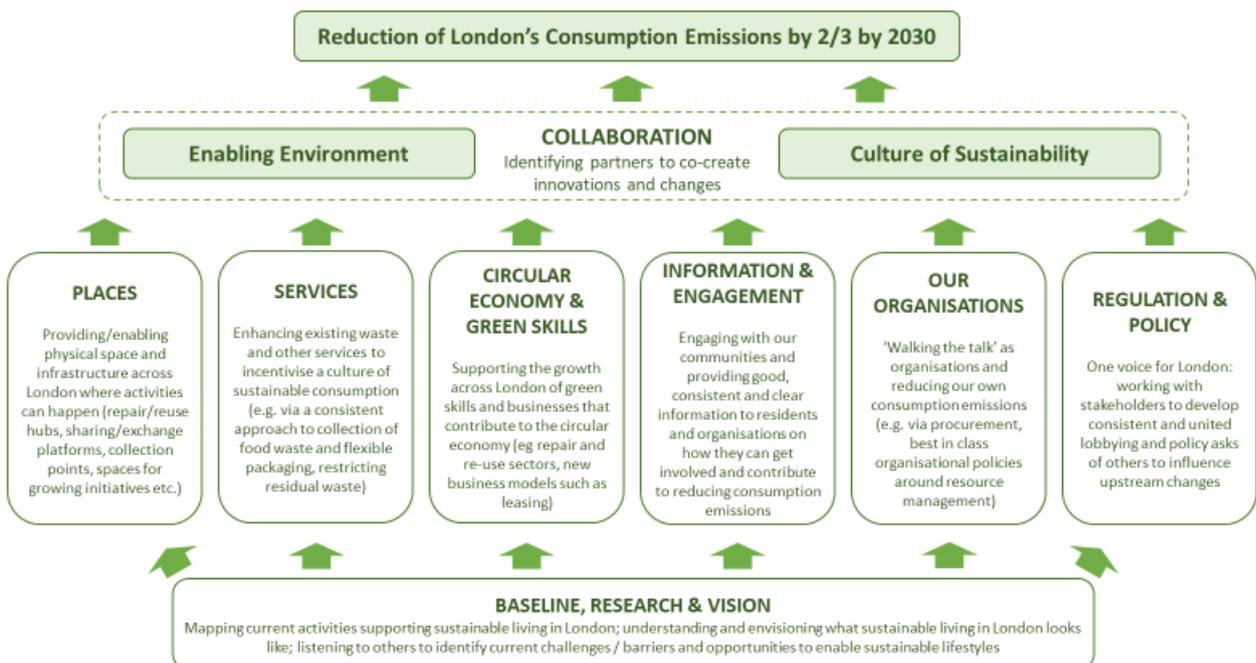
8. Implementation and next steps

Individual actions within the theme areas will be reviewed by the Programme Steering Group in order to identify initial projects across the programme that are suitable for prioritisation, where funding is immediately available or the projects can be delivered within existing resources. Consideration will also be given where appropriate to linking the action areas to existing projects and programmes being undertaken by partners, for example the material flow analysis being commissioned for textiles by ReLondon, the ultra-low waste neighbourhood pilot being conducted by Hounslow, and the sustainable lifestyle apps being trialled by a number of boroughs.

Where possible, opportunities will also be sought to join up action of similar types across the themes having regard to the cross-cutting categories set out above.

Going forwards, in order to meet the programme ambition, it is clear that co-ordination capacity will be required both at an overall programme level and in each of the four initial theme focus areas. In addition, as implementation plans are developed for specific actions and interventions there will be funding requirements to enable particular projects to proceed. In some cases these will be significant.

The development of funding options to meet this need will be an early focus of the programme in 2022, including identification of existing aligned spend within boroughs, partners and the wider London community, both public and private sector.

ONE WORLD LIVING
Reducing London's Consumption Emissions

Appendix A:
Electricals Theme Action Plan

Version: 2.1
Lead Officers(s)/Organisation(s): Hammersmith & Fulham Council

Background / Findings to Date

Headline findings directing the plan

- Personal smart devices (phones, computers, tablets) have the greatest embodied carbon impact among electrical products. The action plan focuses foremost on smart devices, as well as proposing solutions for other small and medium-sized electricals.
- Large appliances are not the focus of this plan, as they represent a small proportion of households' embodied emissions from electricals due to their slow replacement cycle, represent a lesser opportunity to engage consumers as they are only infrequently purchased, and are better captured than smaller devices by existing recycling options.
- Extending the first life of a device offers the greatest potential for carbon reduction, as it helps address high-impact personal smart devices, and directly displaces emissions by delaying the purchase of a new device.
- This is followed by giving devices a second life through reuse. This also addresses high-impact personal devices, and can displace purchases of new devices through the sale or donation of refurbished devices. Some donations focused on tackling digital exclusion may bring devices to those who would not otherwise have them however, rather than displacing a purchase.
- Sharing of electricals is an underexploited opportunity for seldom-used items. This addresses a smaller but still meaningful proportion of emissions from electricals.
- All electrical items should eventually be recycled.
- There is room for significant improvement on the collection of no-longer-wanted electricals from consumers, but this should be geared towards reuse where possible, and only recycling where this is unfeasible.
- High-reach communications and continuity of options for consumers are key to the success of any initiative.
- Repair, reuse, sharing and recycling offer good opportunities to reduce embodied emissions. However, a 2/3 reduction in embodied emissions is unlikely to be achieved by these alone, and will rely on external factors such as the carbon intensity of materials and manufacture, and the business models of suppliers.
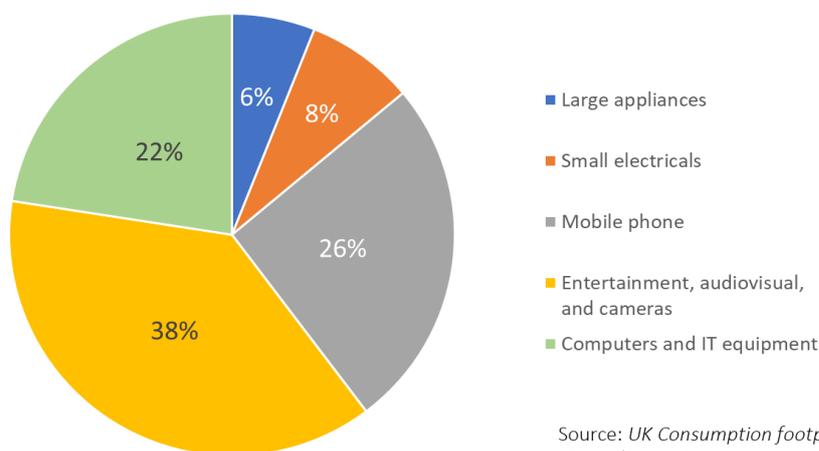
Detailed findings

Together as Londoners we spend £3.3bn on electricals per year: an estimated 273,000 tonnes of devices.[9]

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[9] ReLondon/Restart - LWARB-London-Electrical-report.pdf (relondon.gov.uk)

Embodied emissions from these electricals account for around 138kg of greenhouse gases (CO2e) per person in the UK, or 1.3% of an individual's footprint[10]. This is a small but non-trivial proportion: halving this this for Londoners would save around 620,000 tonnes – close to the entire production-based footprint of a small borough[11].

Emissions from electricals consumption (UK, 2018)

- Large appliances
- Small electricals
- Mobile phone
- Entertainment, audiovisual, and cameras
- Computers and IT equipment

Source: *UK Consumption footprint (Defra/Leeds University)*

Mobile phones, computers and IT equipment account for 48% of this, with another 38% including various entertainment and audiovisual equipment such as televisions, sound systems and games consoles. Smaller proportions of embodied emissions arise from less frequently purchased large appliances and white goods (6%), and less carbon-intensive small electricals (8%).

The overall trend in emissions from the consumption of electricals has been downward over two decades, but the emissions from mobile phones and computers have grown (with considerable variation between years). Reasons for this include:
- the higher specifications of devices (Apple's reported embodied emissions for its iPhone series broadly shows an increase over the last decade as size, memory and other specifications have been augmented- see figure below).
- the market becoming more deeply embedded, with 88% of adults in the UK now estimated to own a smartphone.
- the consolidation of functions into one device that were previously performed by a dedicated device, as phones, tablets and laptops now act as cameras, calculators and tv players among other functions.

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[10] Calculations from *UK Consumption footprint for 2018, Defra/Leeds University*
[11] *Based on: 2020 population of 9.002 million:* London's Population - London Datastore; *London Energy and Greenhouse Gas Inventory (LEGGI)*

iPhone carbon emissions
Average CO2-e per model across internal storage capacities
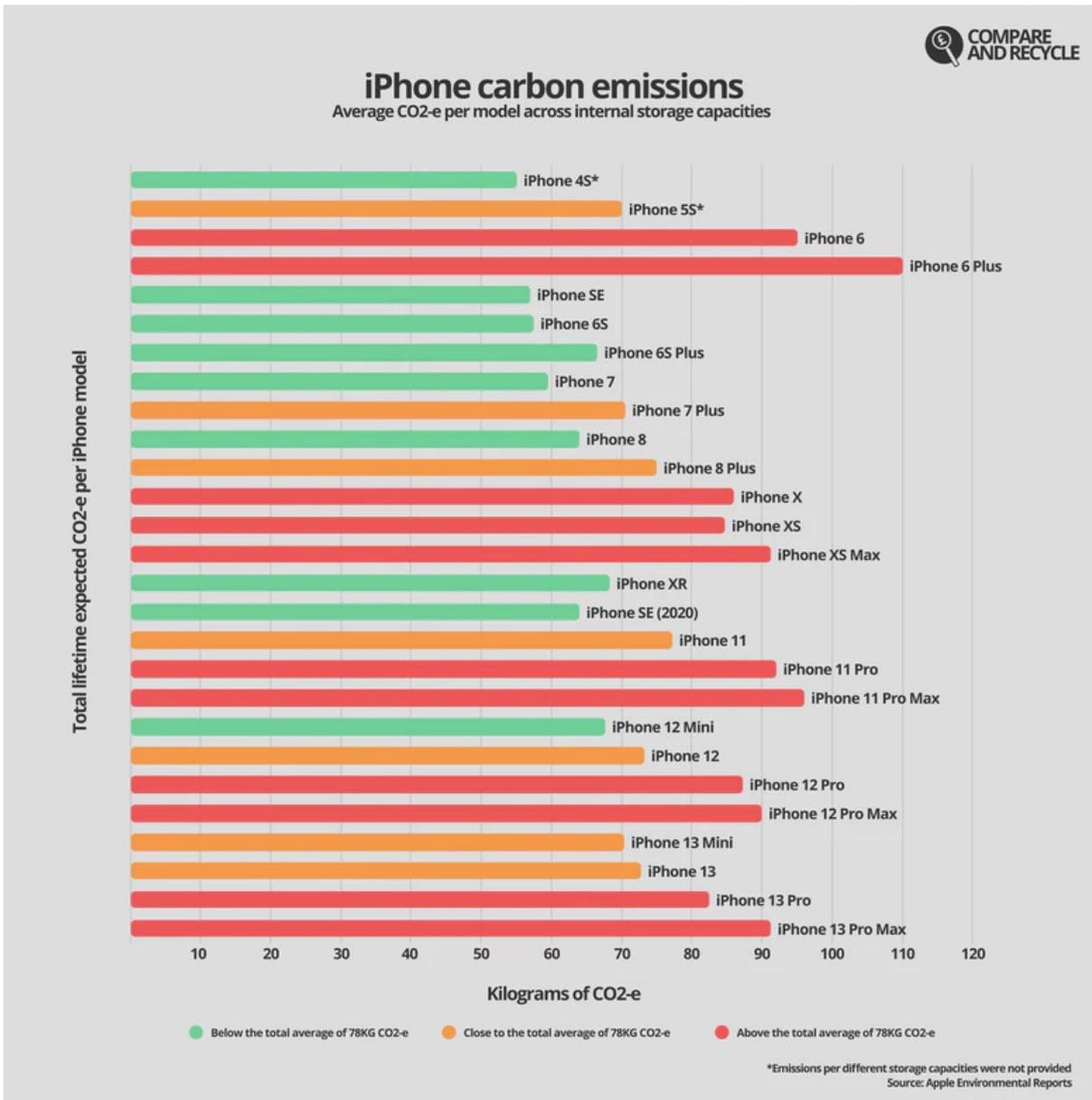
The chart above illustrates the total averages of carbon emissions per iPhone since the iPhone 4S until iPhone 13 Pro Max.[12]

The rapid replacement cycle of devices is at the heart of high embodied emissions. Average lifecycles for smartphones are around two years, where pre-smartphone mobile phones typically lasted over four.[13] There is some evidence we are beginning to keep devices longer in the UK; estimates of smartphones lifecycles have shown increases from 20 months in 2013 to 23.5 months in 2015[14], and as high as 27.7 months in 2018[15], although methodologies for these estimates may vary. Yet maintenance and repair to extend a device's first life is not yet the norm. High costs of repairs and free upgrades on smartphone plans combine to offer a poor incentive for maintenance in the current climate. Frequent new product cycles with advertised advances in technology make upgrading devices before their useable lifetime is spent an attractive proposition. Information about available repairers and trust in their services is often low. Consumers do not necessarily know how to maintain and upgrade existing devices, and may find it hard to

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[12] iPhone Lifecycle: What Is The Carbon Footprint of an iPhone (compareandrecycle.co.uk)
[13] Durability of smartphones: A technical analysis of reliability and repairability aspects - ScienceDirect
[14] UNU - The Global E-Waste Monitor 2017
[15] Smartphone users are waiting longer before upgrading — here's why (cnbc.com)

contextualise the environmental cost of their manufacture. On the supply side, income comes predominantly from new sales, with business models not currently set up for manufacturers to capture the benefits of circularity in their products. Design of devices has increasingly tended away from repairability, with sealed casings and integrated components such as batteries requiring tools and expertise to replace.[16]

Even when no longer wanted by their original owners, many items remain useable and have the potential for a second home. The average household is hiding away 20 once-loved electricals in cupboards[17]. A 2020 survey suggests we may have 55 million unused phones alone languishing in the UK's drawers- equivalent to 5.7 million tonnes of embodied greenhouse gas emissions, or 19% of London's yearly direct footprint[18]. Reusing IT equipment offers 5-20 times the energy savings of recycling.[19] The main barriers to giving our forgotten devices a second life are:
- Fears over the loss and security of data
- Poor understanding of devices' potential
- Lack of knowledge about what to do with them
- Lack of convenient ways to pass them on

Fifty percent of people say they would use a refurbished device under the right conditions, but the uptake of commercially refurbished devices is not as high as it could be.[20] This reflects a number of barriers including availability, misconceptions about the performance of refurbished devices, and a sense of greater risk for the buyer around a product's ongoing performance and warrantee.

Some types of electricals remain useful to their owners but are only infrequently used, spending the vast majority of their life in a cupboard. According to Library of Things, 80% of household items are used less than once per month. The average drill is estimated to be used for only 13 minutes in total throughout its life cycle.[21] Our default approach to fulfilling a need for a device (and sometimes the only option available) is to buy it new, even when it is destined to be seldom used.

Finally, all electrical items contain valuable resources that can be recycled when a device is at the end of its useable life. Carbon emissions estimated for Material Focus from recycling over landfill of small electrical devices (most likely to be captured by amnesties) typically range from 0.26kg less CO2e for a non-rechargeable electric toothbrush to 9.84kg less CO2e for a games console. Smart devices such as phones, tablets and laptops, range from 3.37kg saved over landfill from a smartphone to 31.47kg CO2e for a laptop. Emissions avoided may be even greater still once the displacement of virgin materials in the manufacture of new products is factored in: one analysis estimates there to be negative net greenhouse gas emissions from recycling using this approach, including -1.18kg CO2e per kilogram of small domestic appliances, and -0.8kg per kilogram of large appliances.

Nevertheless, many electricals, especially small electricals, end up in the residual waste stream. Electricals are estimated to represent 0.93% of residual waste in the UK.[22]

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[16] Durability of smartphones: A technical analysis of reliability and repairability aspects - ScienceDirect

[17] Recycle Your Electricals

[18] Giffgaff poll on unused devices; 105kg smartphone footprint estimated in *How Bad are Bananas – Mike Berners-Lee*; LEGGI London footprint for 2018

[19] Marco Meloni (2019), 'A circular economy for consumer electronics' in *Electronics Waste Management*

[20] Ibid.

[21] Ellen MacArthur Foundation - An Average Drill is Only Used for 13 Minutes, How Does This Happen? | The Circular Economy Show Ep1 - YouTube
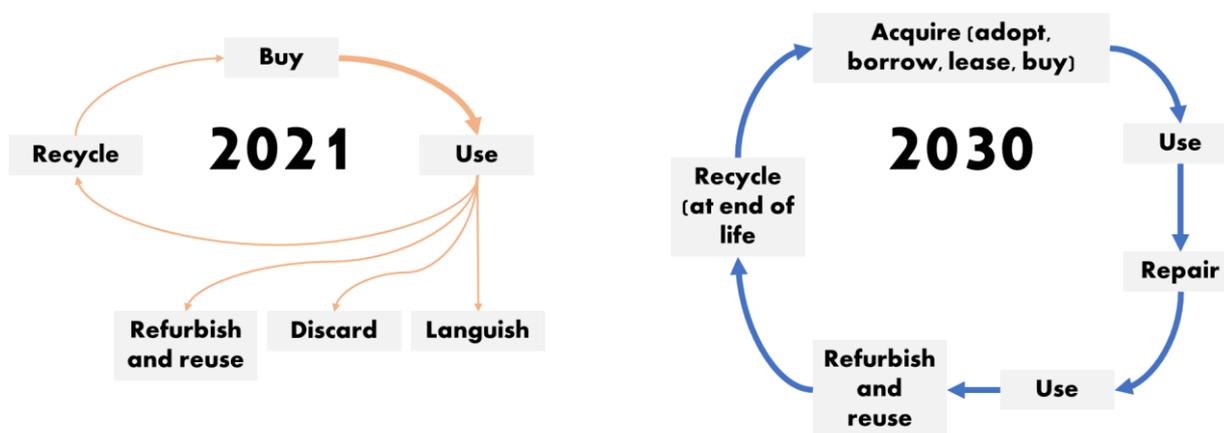
[22] Material Focus/Anthesis - Microsoft Word - Independent study on UK WEEE Flows Report Anthesis_07072020.docx (exactdn.com)

Theme Vision

The vision for this theme is to slow and close the loop of device lifecycles.

In priority order, this means:
- **Caring for our electricals for longer** and slowing their replacement, thereby reducing the emissions and other environmental harms associated with manufacturing new devices. The foremost way to achieve this is by understanding the impact of our devices, and ensuring repair, not replacement, is the first port of call.
- **Giving unwanted devices a second life** wherever possible through refurbishment and donation or sale, helping to bridge the digital divide in the process.
- **Sharing devices** between people that would otherwise be only rarely used.
- **Recycling all devices** at the end of their useable life, at the highest possible value of their components, to be made into new devices and displace the extractive and carbon-intense mining of new materials.

Moving from today's device lifecycle involving rapid replacement and incomplete recovery, to a slower replacement cycle in 2030 involving repair, reuse, and recycling as standard.

Many initiatives already exist in London that enable residents to take part in this vision, and this action plan focuses on scaling these up. Restart promotes the repair sector through its mapping of repair businesses and its support for 'restart parties', where volunteers and residents can share basic skills for maintenance. Organisations like Mer-IT and Ready Tech Go are helping connect Londoners' neglected devices with the people who need them most, helping bridge the digital divide for families, schoolchildren and others. They provide certified data extraction and wiping, training residents in employable repair skills in the process. Library of Things offers a lending library for those items that are too often bought new only to gather dust for most of their existence. And a host of initiatives have been brought in around London to increase collection and recycling rates for unwanted items.

London and the boroughs can help scale up these initiatives by acknowledging the role of reuse in our waste targets, tying these initiatives into improved collection for used electricals, aligning with our skills programmes, and helping find the space needed for refurbishment at scale.

A refurbished device from Ready Tech Go finding a new home.

Some caution is needed as to the likelihood of a 2/3 reduction in emissions from progressing these pillars alone: to achieve a 50% reduction would require all devices to be kept in use more than twice as long as today on average[23]. The overall trend in embodied emissions from electricals has been downward, and we might expect to see some emissions reduction continuing from reducing carbon intensity in aspects of the supply chain. No clear evidence on this has been found in research for the group to date however, and manufacture remains concentrated in China where grid carbon intensity and overall emissions are not expected to peak until later in the decade at the earliest.[24] Increased recovery of materials through recycling will also help to reduce the carbon intensity of new products to some extent by displacing virgin materials.

Achieving accurate data to track success in this area will be challenging: much of the data available are based on best estimates, and based on one-off studies. Collection of unwanted items is generally expressed in tonnages of waste electricals and electronic equipment (WEEE), which is difficult to resolve into a

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[23] Some embodied emissions may still arise from repair and refurbishment, with the most common repairs for smartphones being the replacement of batteries and screens. No data on the precise embodied emissions from specific components were found in researching this action plan.

[24] China's Former Grid Chief Sees Emissions Peaking Early in 2028 - Bloomberg

meaningful picture of trends in particular devices. Some in-house data are collected that can help with an indicative picture, such as those collected by restart parties, but data on the private repair sector are not routinely collected.

Theme Action Plan Summary

This action plan follows four pillars. These are placed in order of priority according to their capacity to prevent emissions:

1. **Extending first life**
2. **Reuse**
3. **Sharing**
4. **Collection and recycling**

Extending first life	Reuse	Sharing	Collection and recycling
Focused on keeping devices at their highest-value use, which is generally their first use	Mitigates the impact of devices becoming unwanted while still useable, by refurbishing them if necessary and pairing them with a second owner	Avoids unnecessary device purchases where these are little-used and can be readily shared or hired	A critical last stage in the life cycle of all devices - recycling as much as possible and avoid landfill
Key Actions ☆ Establish a network of repair and reuse hubs ☆ Provide space and funding for repair cafes ☆ Extend and maintain the Repair Directory	**Key Actions** ☆ Establish accessible, trusted and secure location for drop-off (computers and smartphones) - Schools campaign - Training for qualified technicians and basic consumer repair skills	**Key Actions** - Expand the network of Libraries of Things	**Key Actions** ☆ Broadcast the Recycle Your Electricals campaign ☆ Amnesty days - More numerous and accessible 'bring banks' - Expand kerbside collection across London
Other actions - Help consumers make climate-conscious choices - Explore options for a London repair standard - Review council IT policies to slow the replacement cycle	**Other actions** ☆ Promoting buying refurbished devices to residents - Boroughs offer 'reuse credit' payments to reuse organisations - Introduce reuse targets and sorting at Household Waste and Recycling Centres (HWRCs) - Swap events - Work with businesses to promote the uptake of refurbished devices and donation of old devices	**Other actions** ☆ Promote existing sharing and hiring platforms	**Other actions** - Better signposting of retailer collection schemes - Employee engagement

Progress to Date

The action plan has been developed to date based on the expert input of ten organisations over three two-hour workshops during September – October 2021, along with research and case studies conducted or identified by these organisations. These organisations were:

Organisation	Sector
LB Southwark	Local authority
LB Hounslow	Local authority
LB Hammersmith & Fulham	Local authority
ReLondon	Circular economy organisation for London
WLWA	Waste authority
Material Focus	WEEE Compliance Fee fund
ERP	Producer Compliance Scheme
Mer-IT	Social enterprise: electronics refurbishment and training
Hackney Fixers	Community repair group, linked to Restart
Sofies	Sustainability consultancy with circular economy experience

Input has also been given by the Restart Project, a social enterprise that manages the repair directory, campaigns on the right to repair and supports community repair initiatives. A number of other organisations were invited and expressed support but were unable to join the working group due to prior commitments, and their involvement will be sought in developing the plans towards implementation.

Due to the condensed timescales of this exercise wider input and consultation has so far been limited, and some gaps to resolve during further development of the plan include the input of sharing organisations, young people, and resident groups. Previous survey research with the public on barriers and motivations for achieving a circular economy in electricals has been taken into account in developing this plan.

Next Steps

A number of next steps are needed to develop this high-level action plan into an implementation plan:
1. Sense-checking and consultation with key organisations
2. Detailed baseline of existing repair, reuse and recycling sector in London
3. Identification of programme management resource
4. Formation of a programme team with key partners, including waste authorities and pan-London recycling and sustainability officer groups.
5. Capacity mapping with delivery partners
6. Development of detailed business cases for each action

Resource and cost

This action plan proposes a significant programme which would be substantial for a single borough to implement within its boundaries alone. To coordinate and implement this across London will require at least one programme manager role, as well as project support for individual actions.

A number of early priority actions can be progressed in the short term without securing significant additional funding. This also applies to any information and signposting-based actions, for which an aligned campaign approach should be taken across the OWL programme, including promoting climate-conscious device choices, uptake of refurbished devices, existing sharing platforms, and existing retailer collection schemes; and engaging our council employees on all of the above.

Costs for the full suite of actions identified have been estimated at a high level, and these should be taken only as indicative, prior to any detailed business cases being developed. Total costs for the programme over two years are estimated at £4,366,300, or £69,000 per borough per year. These exclude the action to 'Expand kerbside collection across London', as this represents a significantly higher cost (£10.9m set-up and £3.5m annualised running costs), will be more complex to implement across boroughs, and may be influenced by changes in national recycling regulations.

Funding options will need to be considered for the more substantive actions within the programme as part of the next phase of work.

To conduct a detailed baseline of the relevant sectors, and to develop detailed business cases, consultancy or academic support is also suggested.

Key Policy / Lobbying asks for this theme

Central government:
- Stronger minimum design standards for longevity (including battery lifetimes), preventing obsolescence (including through software/firmware upgrades), and repairability (including the availability of spare parts).[25] The European Commission has been undertaking research on the feasibility of ecodesign standards for smartphones in Europe.[26] New 'right to repair' laws were adopted in July 2021 in the UK, bringing it in line with the European Union, but these exclude crucial devices including smartphones and laptops, and do not address the inaccessibility of spare parts.[27]
- Changes to producer/retailer responsibility in WEEE regulations to fund doorstep collection and reuse. Current requirements for in-store collection do not result in sufficiently high collection rates for small WEEE, which still represents an estimated 0.93% of household residual waste, and much of which is hoarded, with a greater tonnage placed on the market than is collected.
- Carbon labelling of electrical products. As well as design for longevity and repairability, embodied emissions labelling would give visibility of the impact of manufacture to consumers, and allow them to choose less carbon-intense devices, driving competition among manufacturers to reduce the emissions intensity of manufacture.

Any Other Key Points of Note

This action plan focuses on tackling the embodied emissions from electricals, by slowing the cycle of replacement, reducing the need to buy new, and ensuring materials are cycled back into production.

Energy efficiency is also an important aspect to carbon mitigation from electricals, but for most small and medium sized consumer goods this tends to represent a smaller proportion of lifecycle emissions. For larger

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[25] Durability of smartphones: A technical analysis of reliability and repairability aspects - ScienceDirect
[26] Ecodesign preparatory study on mobile phones, smartphones and tablets - Ecodesign smartphones and tablets (ecosmartphones.info)
[27] Do we have a Right to Repair in the UK? Not yet - The Restart Project

appliances energy efficiency is a greater concern, but it is felt this is less within local authorities' influence and is best covered by national regulations.

The action plan focuses particularly on smaller consumer devices, and particularly smart devices such as phones, tablets and computers. This is primarily because these represent the greatest share of embodied emissions due to the slower replacement cycle of large appliances. For this reason also, action to change consumers' behaviour on these smaller devices is likely to see an impact sooner than on larger appliances.

Strong promotion and communication is key to all the initiatives proposed below. In an analysis for Material Focus good promotion was found to be the most significant factor in the success of various different models to increase electricals collection[28]

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[28] WEEE projects funded by the Compliance Fee and DTS - Recycle Your Electricals

Appendix B:
Food Theme Action Plan

(Note: as at March 2022 it is proposed that the Food theme actions will be developed as a joint action plan with ReLondon and the GLA as part of a pan-London initiative on reducing emissions from food consumption. The draft actions set out below will be reviewed and may be subject to further amendment as part of that initiative.)
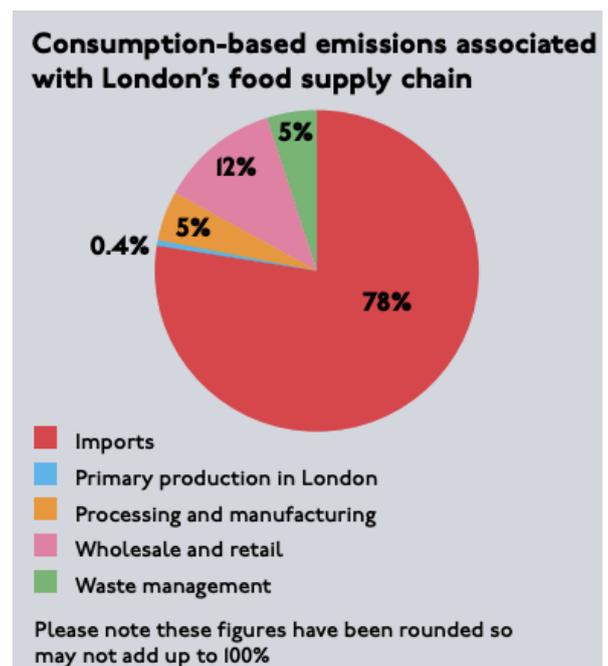
Version: 4 (9/12/2021)
Lead Officers/Organisation: Ander Zabala, Hackney Council

Background / Findings to Date

What the data[29] tell us:

- London's food system (includes beverages) has a total carbon footprint of **15,483 kt CO2eq each year**. About 78% of the supply chain emissions occur outside of the city, which are embodied in these food and drinks items.
- We need to remove over 10,220 kT CO2eq a year by 2030 to achieve a 2/3rd target.
- Over 6 million tonnes of food are produced to supply London's food system each year, but only a tiny fraction, **1%, originates locally**. Of the food imported to London, approximately two-thirds come from the rest of the UK and other European countries, while the remaining one-third is imported from the rest of the world.
- The Fringe Farming in London highlighted that the conversion of 1.4% of land growing cereals and grassland to vegetables around **London could produce an additional 1,300 tonnes of food** for communities ([Sustain, 2020](#)).
- Before it reaches London, 836,000 tonnes of imported food is lost, representing the second largest volume of food that is either lost or wasted across the supply chain, after household waste (931,000 tonne.
- Londoners consume nearly 5 million tonnes of food, and around **1.5 million tonnes is wasted**.
- Even before it reaches London, 836,000 tonnes of **imported food are lost**, representing the second largest volume of food that is either lost or wasted across the supply chain.
- 931,000 tonnes of food waste disposed of by households, **60% is considered avoidable food**, that's 558,600 tonnes or 76 times larger than the current surplus redistribution taking place currently.

Consumption-based emissions associated with London's food supply chain

- Imports — 78%
- Primary production in London — 0.4%
- Processing and manufacturing — 5%
- Wholesale and retail — 12%
- Waste management — 5%

Please note these figures have been rounded so may not add up to 100%

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[29] All the data shown here is from "[ReLondon](#), Report – London's food footprint: An analysis of material flows, consumption-based emissions, and levers for climate action, 2021" If data is not sourced from this document a new reference is shown.

- **7,310 tonnes of food surplus is redistributed** in London a year. More than half originates from wholesale and retail. Processing and manufacturing, and food services provide 37% of the total food redistribution. The vast majority of the food waste originates from households; 60% of their food waste is edible.
- The vast **majority of the food consumed is eaten at home** (86%) or around 460 kg per person a year. The rest, 14%, is eaten in cafes and restaurants. Most of the target gains will come directly from targeting the food that reaches households.
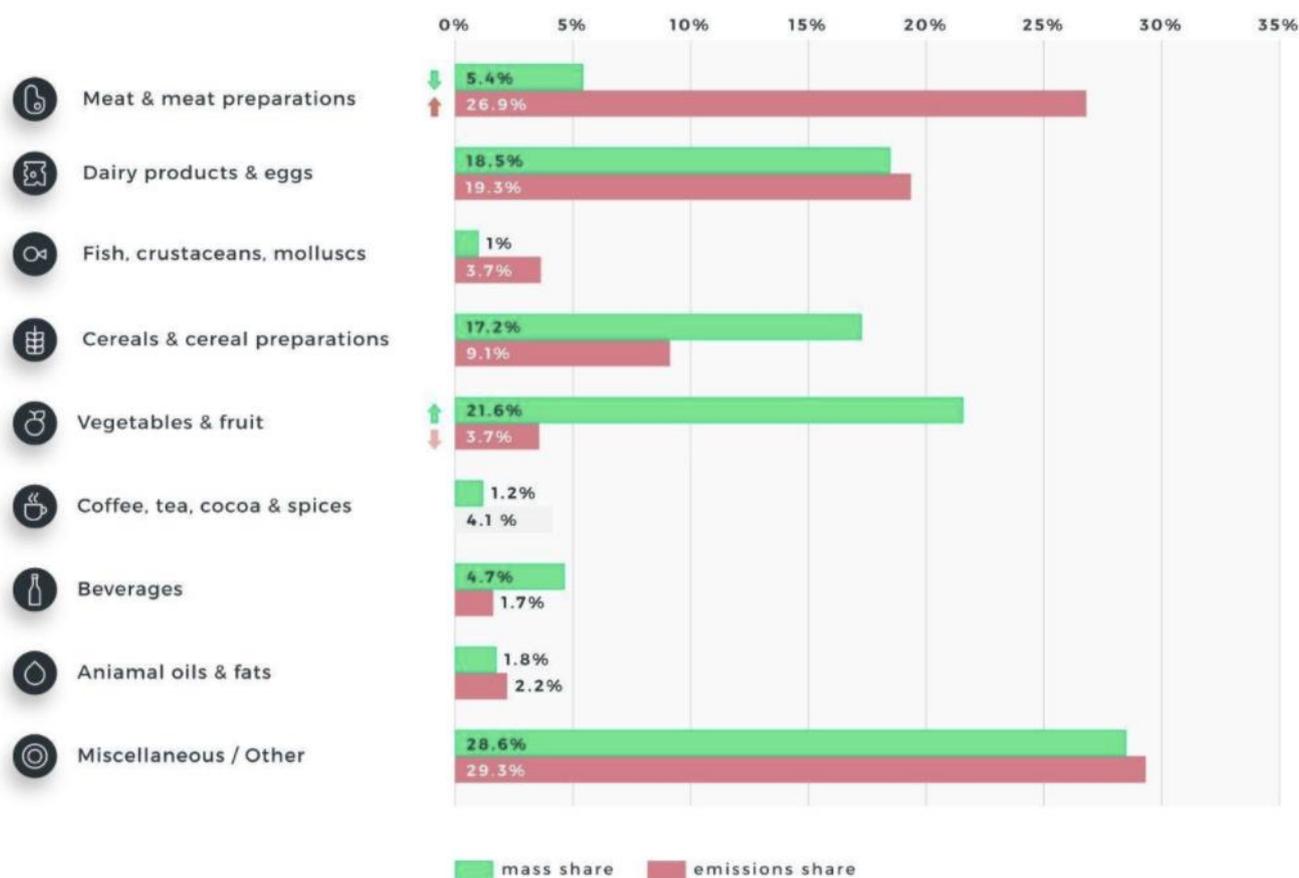
- **Meat is carbon intensive**, which is responsible for nearly a third (27%) of London's food consumption-based emissions, even though they only represent 5% of the households by mass. In contrast, vegetables are only responsible for 4% of households' emissions.
- The UK has reduced meat consumption by 17% in the last decade ([The Guardian](#), 2021).
- In the ambitious scenario, reducing per capita meat consumption by 70% was estimated to yield a 20.1% reduction in the total carbon footprint of London's food system per year.
- Reducing edible food waste by 70% could deliver an estimated 10.5% reduction. Combining this reduction with composting and anaerobic digestion – could bring this emissions reduction potential to 10.9%.
- These are ambitious targets, which show a reduction in emissions of 31% (food related emissions), or less than half of the target set by OneWorldLiving, 2/3rds (66%). (*Note: land pillar emissions reduction data is not available yet and this would add further reductions*)

AMBITIOUS SCENARIO
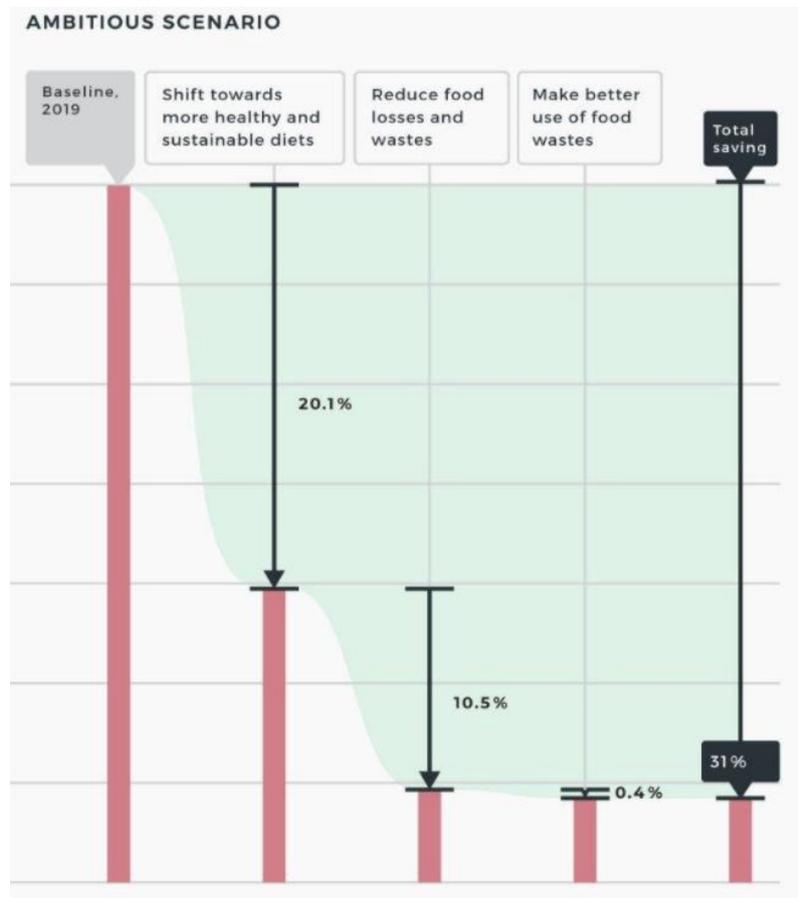
- The majority of London's food waste is incinerated (57%), while 24% is recovered via anaerobic digestion and composting. Even though an approximate 8% of **food waste is still landfilled** this generates a large sizable share (more than 37%) of the greenhouse gas emissions associated with food waste.
- The cost to London Boroughs of reprocessing/disposing of this food waste is estimated at over £50 million per annum (Trifocal EU, 2020).
- It costs London consumers £1.4 billion a year to purchase the food and drink they throw away, generating the equivalent of 2.1 million tonnes of CO_2 (Trifocal EU, 2020).
- London boroughs will also lead by example in reducing the environmental impact of the food served by council services (reducing waste and aligning diets with Planetary Health Diets – ideally sourced locally and from organic agriculture). See London's response to the London's food footprint data, a commitment to act.
- Overall:
  - Increase food produced and supplied within London, currently only 1%;
  - Reduce meat consumption from households, biggest carbon reduction gains;
  - Increase food surplus distribution;
  - Reduce edible food waste from households, target area;
  - Remove food waste from landfills.

Working group feedback:

- **Procurement is key** to achieving a reduction in meat, dairy and processed foods; this **alongside retailer engagement** as they control this source.
- Engagement with retailers needs to be right, we need to be crystal clear about our ask to them, and this needs work. Senior representation from London would help to get the right people in a retailers roundtable, which is a FFI priority.
- Improving sustainable and healthy diets relies on **behaviour change models** such as the Shift Wheel, a framework for shifting consumption.
- Political members, The Mayors and/or Councillors to **lead by example** and commit to reducing meat/dairy in their personal life to act as models to the public.

- We still need more data for evidence and to target the right socio demographics.
- A good public campaign nudge to encourage a sustainable and healthy diet is to **reduce processed foods.** These types of food are relatively carbon intensive alongside meat and dairy. The health message will be a trigger for some residents.
- London food growers need GLA/Boroughs/London Councils understanding and practical support for alternative routes to markets (short food supply chains) they deliver multiple benefits, specially community wealth and green jobs. To scale up they need **support for critical infrastructure** such as the Better Food Shed, (a wholesale hub) that links peri-urban farms and small-scale agro-ecological farmers in areas outside London with ethical traders/alternative routes to market in London.
- **Food surplus** should not be seen as a long term solution to hunger and food poverty. It should only be seen as part of food poverty alleviation policy.
- The current supermarket model produces significant waste. Redistribution is a short term sticking plaster and bringing it in as a solution in the narrative risks embedding it and disempowering those experiencing food insecurity whilstnot addressing the root causes of the issue. .
- Anaerobic digestion or composting is not something that we should be tying ourselves into as a long term solution to food waste, food waste **prevention is key**.
- Although food waste recovery plays a role in dealing with unavoidable and inedible food waste
- Encourage citizens away from the supermarket system.
- People are up for change, they will support governments and businesses being brave on food issues because they know it is the right thing to do. But it is important to **address the challenge of affordability** to them on board. Frame affordability as systems issue, and promote how the system can be 'aligned'. This increases support for other policies, such as reducing meat consumption.
- We can really emphasise that the 'climate friendly' meal change is about supporting better British and high welfare meat, and not emphasise the 'less'.
- Changing the way we grow, eat and share our surplus needs to be normalised and also **highlight their benefits** to individuals. Do not focus on missing out but on what we will all gain. Eg. discover new and amazing plant based flavours, or buying locally sourced food creates new human connections, social interaction is one of the key five themes towards happiness (NEF, 2008)
- We need to be aware of the "**'rebound effect**", how can we ensure residents reducing their food consumption emissions do not increase emissions in other themes. Cross theme holistic education campaign required.
- Discussion on the 2/3rds target by 2030. Further work is required to ascertain how this may be achievable for food. The ambitious scenario modelled by ReLondon gets us to 31% reduction vs our target of 66%.
- We, councils, have been more comfortable engaging in eg a focus on travel infrastructure than approaching climate friendly diet education. We should start the change now and embed food action into local climate planning
- Strong support from working group for a household targeted food waste campaign and London-centric (prevention saves 9x more emissions than recovering with AD (Feedback, 2021)

What surprising / arresting / powerful facts or stories are there about your theme that people can relate to?

- **Grow more locally, build resilience for future extreme events:**
    - Only a tiny fraction, 1%, of London's food supply originates locally. **We need to build resilience to feed the London of the future**. We need to take control of our food supply, especially as the pandemic has shown the fragility of urban food systems and its vulnerability to unexpected shocks and disruptions. Future global extreme weather events will impact the food we put in our plates.
    - Growing Communities' food local network benefits all. For £1 spent an additional £3.70 of value is generated for local residents, sustainable farmers and the environment. Humans and the environment will gain from expanding these healthy and equitable models of food supplies.
    - Scaling up the links between peri-urban farms and small-scale agro-ecological farms outside London with ethical traders routes to market in London is entirely possible.
- **The great food waste scandal, we are only saving 0.5% of edible food:**
    - We are losing **incredible amounts of edible food** (mostly from households) that could alleviate food poverty. We are managing to redistribute 7,310 tonnes of food per year.
    - Redistributing food allows community kitchens to flourish and feed those in need.

- **Households are throwing away nearly 1 million of food waste, and 60% is considered avoidable that with simple behaviour change could reduce further food purchases and save money:**
  - This amount is 76 times larger than the current surplus redistribution taking place currently.
- **Access to quality British meat is a system issue. Eat meat but better meat only possible with right policies:**
  - **People want to eat better meat**, how can we reduce intensive farm meat and reduce costs of good quality meat.
  - Retailer transparency needed for deforestation commitments in their supply chain (WRAP's work).

What are consumers/residents finding difficult at the moment?

- Residents in boroughs **without food waste collections** cannot recycle their food waste.
- To **understand the impact** of food and food waste. There is more concern for plastics than food. 81% of citizens are concerned about climate change, however only 37% realise the connection with wasting food ([WRAP, 2021](#))
- **People's awareness** of meat damaging the environment is increasing but detail is lacking and people are curious to know more.
- The majority of people are open to changing their diets but the **cost of lower-meat** diets remains the biggest barrier.
- People find it **hard to change** but there is a clear public appetite for structural change originating from policy-makers and stakeholders in the food system.
- Most customers are unaware of the impact of the food they eat in restaurants.
- Low-income households can find it difficult to **access food from local food networks** due to affordability, (several organisations are looking at ways to tackle this). Some residents face barriers of accessibility in that there are no outlets near them. Peri-urban farms and alternative routes to market, (e.g. Better Food Traders) have a key role to play in increasing accessibility via farm stalls, veg schemes etc, but need to be more widely adopted in order to provide this resource.

What are the big barriers and enablers (i.e. the key challenges /opportunities for this area)?

Across all pillars: Opportunity to encourage local authorities to join the [Sustainable Food Places](#). Local food partnerships are encouraged to build collaboration and networks between procurement staff and local producers. Ultimately, Sustainable Food Places works across all aspects of the food system.

Land use action:
- Challenge: Available land for growing in competition with building housing targets. Opportunity: Create and review planning frameworks that both secure access to land and buildings for food growing. Ensure new developments have space for growing and managing inedible food waste and review the numbers that meet this guidance
- Challenge: Growers rely on limited funding to maintain networks and to self-sustain themselves and land spaces can be under threat. Opportunity: Designate them as 'assets of community value', allowing communities and local authorities the right to bid for their ownership.
- Challenge: Funding required whilst council resources will shrink from covid recovery. Opportunity: Business rates reduction may help these community growers and/or provide reduced or peppercorn rents.
- Challenge: Growers rely on volunteers to some extent but they often struggle to cover time/hours. Opportunity: Create new jobs, funding for training schemes to train residents in key horticultural and food worker skills (Devon County Council committed to fund 16+ places annually on a local regenerative horticultural). 2nd opportunity: Apply the heart, hand and heart model, where we do a large call out for residents to volunteer at these community farms.
- Challenge: Lack of rent control, distorting land values and planning decisions. Opportunity: Long leases for peri-urban farms and premises for alternative routes to market.
- Opportunities: Consider bringing a *Dynamic Purchasing System* process to councils to open up access to small food producers. Suppliers have flexibility to move in and out of the system depending on availability, compared to conventional framework contracts which tend to limit access.

Diet action:
- Challenge: School's determine their own menus and imposing new approaches is difficult. Opportunity: Opportunity: Share best practice templates amongst boroughs. 2nd opportunity: Food is procured under a framework for multiple schools and care services for quick changes in procurement to impact more schools at once.
- Opportunities: ReLondon can support with food procurement frameworks
- Opportunity: Introduce this action as part of boroughs' climate action plan documents for those being developed and to be updated.
- Challenge: Small sustainable food producers are not able to procure for tenders: Opportunity: Bring a Dynamic Purchasing System process, as per Bath and East Somerset council. (Feedback, 2020)
- Opportunity: Trifocal worked on reducing food waste and increasing sustainable diets training material exists for boroughs to use.
- Challenge: Food has significant ethical and cultural dimensions. Opportunity: Procure specialist contractor to deliver a nudge campaign to minimise unintended consequences OR deliver a diet campaign with the intention to gather data on behaviour within different cultural groups.
- Challenge: Building support for promotion across London. Collaboration between stakeholders, boroughs, communities, GLA etc
- Opportunity: Some local authorities could use climate funds (some funded by CIL/carbon offset) to fund local campaigns.
- Challenge: People will reduce meat if better British meat is made easy and accessible.
- Opportunity: Ban / disincentivise farmed factory meat and dairy products (and ultra processed foods?). Consideration needed though of impacts on affordability.

Surplus/Waste action:
- Challenge: *Space / Venues*: Without venues that can operate as hubs forces a multi-drop delivery model. This will put more vehicles on the road when London is busiest and with the associated negative impact of increasing traffic. This will restrict the amount of food distributed & community groups supported as reliance on charities to secure funding for more vehicles & drivers. Opportunity: Mapping across London for venue availability.
- Challenge: *Transportation*: Onward distribution from hubs relies on vehicles being available to move the food.
- Challenge: *Logistics*: Coordinating food distribution in London's ever evolving and dynamic daily environment takes expertise / knowledge & technology.
- Challenge: *Accessibility to food*: Without the ability to accept / store / process & distribute a wide range of food large volumes of food will continue to be wasted. Opportunity: Mandatory or nudging all London food businesses (of certain size) to register with London Food Alliance partners and redistribute their surpluses.
- Challenge: *Availability of food*: HGV crisis impact on UK-wide supply chain. Movement of food & vital elements of the supply chain in order to produce food. Food Aid VCS opening times. An increasing amount of the surplus food available is short dated. Little onward distribution is possible in evenings when roads are quieter, more capacity is available. How do we make use of this 'quiet over capacity 'to address the challenges found during the day. Brexit impact on UK-wide supply chain. Decrease in European labour expertise impacting harvesting & processing of food.
- Challenge: *Commercial considerations*: Buying surplus food directly from farms will lead to improved nutrition, reduced CO2, and significant cost reductions. Although these cost reductions could potentially impact local market traders and retailers.
- Challenge: *Dignity and Cultural relevance*: Ensuring food is appropriate to the communities in need.
- Challenge: Councils may not necessarily designate space for food selling and markets in their planning policies. Opportunity to ensure all boroughs review their planning policies. Our planning policies should ensure that any new developments have space to grow food, which may be in the form of private gardens, communal spaces on estates or allotments. Where spaces are under threat, it is possible for them to be designated 'assets of community value', which allows communities and local authorities the right to bid for their ownership.
- Challenge: Communities find it difficult to access asset registers to be able to see what land is suitable for food growing. Opportunity: Brighton & Hove's online asset register and Bristol's open data are great examples on how to do it.

Theme Vision

"Londoners will be at the heart of the change in our food system, they will demand food sourced from equitable and agro-ecological local networks, they will discover new diverse tastes that are climate friendly and they will normalise sharing food amongst people and businesses, whilst recovering inedible food into a valuable natural resource."

The Vision. Credit: Made Up Kitchen

The Challenge. Credit: ReLondon

Londoners will be able to pick fruit from free urban orchards, top up their weekly food shopping from an extensive network of co-operatives that source food from carbon positive agro ecological farms. A plant based revolution will bring new tastes to our plates, whilst enhancing the cultural diversity of the city's food hubs. Better quality meat will be made available to more people and intensive farmed meat will be a thing of the past. No edible food will go to waste, and all non edible food will be reutilised as rich nutrients for the vast peri urban farming networks. A true circular food system will be built from the ground up, with public consciousness and demand as the factors for this revolution.

We will build a stronger safety net for all Londoners and inclusive local food networks. We will develop a more resilient food system that can better withstand future challenges. We are ready to rebuild our food and farm economy —to preserve soils and agricultural lands, invest in local food networks farms, and food business. We will ensure that all individuals have the resources they need to nourish themselves and their families.

Theme Action Plan Summary

Key actions/activities/deliverables per pillars that enable and empower our communities to tackle these issues, e.g. enhance what they are already working on, make it easier to do the right thing, removing barriers they are facing.

Distinguish between a limited number of key priority actions where we should put the majority of our time and effort over the next two years and other actions identified that are less of a priority at the moment but may be developed in the future, eg over a longer time period

Prioritising initial low-cost actions:

Land use	Diet (healthy/sustainable eating)	Food waste*
Increase the sourcing and production of food grown using agro-ecological practices, and locally where possible within Greater London	Increase the prevalence of healthy and sustainable food items and menus within Greater London	Eliminate avoidable food waste wherever possible and recycle unavoidable food waste back into productive uses within Greater London
Key Action - Implement dynamic procurement models for small food producers ☆ Boroughs to recognise a local food economy within their Economic Strategies **Long term action** - Invest in physical infrastructure for 'good food routes'	**Key Actions** ☆ Implement sustainable food procurement policies - Encourage businesses to sign up to existing sustainable food initiatives ☆ Deliver a pan London sustainable and healthy diet awareness campaign (links to 3.1) ☆ Working with existing suppliers on sourcing, diets and waste standards **Long term action** - Enabling and actively supporting households with purchasing	**Key Actions** ☆ Deliver a pan london food waste reduction awareness campaign ☆ Promote businesses to monitor food waste via Food Waste Reduction Roadmap or Guardians of Grubs **Long term action** - Enable and support creation of viable redistribution hubs

Increasing[30] food waste recycling is already part of all boroughs' Reducing and Recycling Plans reviewed by the Mayor of London every two years. Recycling and recovering of food waste are not included here. These will also be impacted by Defra's Recycling consistency proposals.

Progress to Date

Working group composed of 15 members across public, charity, social enterprise, academia and private sectors, as follows:

Borough/Public body
- Vicki Kwaczynski, Environment Projects Officer, Sutton Council
- Jon Hastings, Head of Strategy & Development, East London Waste Authority
- Bethany Pepper, Programme and Policy Lead (Climate Change and Sustainability) Richmond and Wandsworth Councils
- Ander Zabala, Recycling Manager, Hackney Council (lead)
- Sam Kirk, Head of Sustainability and Environment, Hackney Council
- Jean Billant, Senior Advisor - Food Lead, ReLondon

Charity/Social Enterprise
- Krysia Woroniecka, Climate and Food Policy Manager, Feedback
- Kerry Rankine, Policy advisor and farmers' market coordinator, Growing Communities
- Taz Khan, Founder & Project Lead, London Community Kitchen
- Ruth Westcott, Climate and Nature Emergency and Sustainable Fish Cities Coordinator, Sustain
- Rachel Ledwith MBE, Head of Community Engagement, The Felix Project and London Food Alliance

Academia
- Dr Caroline Verfuerth, Research Associate, Centre for Climate Change and Social Transformations, Cardiff University

Businesses
- Lucia Perasso, Project Manager, The Sustainable Restaurant Association
- Anne-Charlotte Mornington, Head of Partnerships and Special Projects, Olio

Initial one to ones were held with about half of the working group for an introduction to OneWorldLiving and the actions required as a group. The working group joined the London wide workshop led by FFI and ReLondon on 14 October. It consisted of presentations from various groups such as Growing Communities, Sustain and Olio food sharing with a wide range of groups in the audience, especially borough representatives. The workshop of over 100 members was split into five main themes: procurement, food growing, diets, food waste from households and businesses.

These workshops listed barriers and challenges and shortlisted two actions (for six areas) based on effort and impact levels. Those actions were then split into the following questions: How would you take this intervention forward, who do you need to engage? and What help do you need?

Out of the chosen actions, the working group combined some into actions according to pillars. A draft document with objectives, challenges and opportunities was sent to the working group for reviewing. On the 10 November the group met online and provided further feedback. Written responses were received by those unavailable to attend the workshop. The group voted on a number of vision statements for the food theme.

On 2 December, the food working theme lead met with members of the steering group and prioritise actions further into low cost/easy to do, and high benefits/impacts (top left darker green box)

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[30] 24 out of 33 London boroughs already have a food waste collection service in place (ReLondon, 2021)

Prioritisation

Benefits / Impacts (focusing on removing barriers and enabling changes at scale) — High / Low

Costs & Ease of Implementation — Low cost/Easy → High cost/Hard

Sticky notes (from upper-left, high benefit / low cost area):
- Sustainable Food procurement policy across London, e.g. school meals, meals on wheels - low carbon, sustainabl, healthy meals RE
- Supporting farmer focused enterprises/ organisations by providing affordable space/premises e.g. packing sheds, cold stores
- Pan London food waste reduction Campaign (incl. Food Waste Week, recipe cards, storage tips RE
- Working with existing suppliers on sourcing, diets and waste standards
- Boroughs to recognise a local food economy within their Economic Strategies
- Scale up local infrastruct 'good food routes' and local food network incl. community fridge network
- Increase redistribution hubs for surplus food RE
- Increasing food waste recycle via early adoption of a segregated collection across London (explore a restricted residual waste option)
- Support last mile delivery to local business e.g. fund/loan electric cargo bikes/vans, use of councils' fleet when not in use
- Enable food climate friendly food co-ops in each borough
- Support ethical and sustainable food businesses through the licensing, business rate, accredi... on foo...
- Establish community farming in every borough (potentially adopt a growing land target)
- a Pan London sustainable and healthy diet campaign (incl. outdoor/digital advert, creative ar work etc) Maybe R
- Create a cooperative food procurement list to share discounts/drive costs down for vulnerable population
- Promote climate friendly food businesses, e.g. online business map
- Encourage businesses to sign up to the existing initiatives and/or targets e.g. the Cool Food Pledge, Veg Power, One Planet Plate
- Promote businesses to monitor food waste via Food Waste Reduction Roadmap or Guardians of Grubs
- Establish Local Food Partnerships
- Provide advice and training to small businesses via Env Health Teams (incl training of EH colleagues) RE
- the world's largest climate friendly food festival (or smaller ones in each borough)
- Promote climate friendly food boxes delivery service (and/or assisting residents with bulk/ neighbourhood arrangement)
- London wide online pledge register system
- Promote tools and apps to reduce food waste or facilitate food sharing RE
- Promote gleaning activities to residents

Next Steps

- **Review** action plans with key partners (targets, milestone dates, reviewing opportunities and costs)
- Establish or discuss the **leads** for each action
- **Mapping out** current activities or find existing similar research
- **Business case** or **action workstreams** development for each action
- Consider cost benefits analysis for each business case and if necessary **employ coordinator** posts. Funding to be discussed.
- To be discussed with steering group: Monthly development meetings, quarterly performance review points and 1st and 2nd year annual review reports

Key Policy / Lobbying asks for this theme

Land pillar
- Pushing central govt and DEFRA for more support for peri-urban farming through **Environmental Land Managements** (ELM, the new system to replace the Basic Payment Scheme for farmers) in particular that farms under 5 hectares, (the majority of peri-urban farms) are eligible soon for ELMs funding.
- To Defra: Supporting calls for peri-urban farms to be supported via the **Challenge Fund** suggested by the recent National Food Strategy Report and incorporated into the forthcoming White Paper.
- Support for any social prescribing mechanisms to facilitate funding for the peri-urban and community farms delivering improved physical and mental health and well-being.
- Support for the environment and sustainability to be key in **trade deals** - so UK govt doesn't agree trade deals with countries with weaker environmental legislation which puts sustainable UK farming at a disadvantage and impacts on the food consumed by the most vulnerable.

Diet pillar
- Ask the government to review *health start* **vouchers** to improve diets of those on low incomes.
- Eat and learn programme in schools and community centres that educates on cooking, nutrition, diet, storing, budgeting, and food waste.
- **Mandatory labelling** of food's climate impact.

- **Ban adverts** on tv/radio/outdoor advertising for high emission food from intensive farming.

Surplus & Waste Pilar:
- Consider ULEZ / **Congestion Charge Waiver** for food redistribution organisations.
- **Discounted business rates** for those food partners involved in food redistribution.
- Statutory catering premises to be made available for use outside of regular provision to be mandated (Eg. School Kitchens/Caterers are used in holidays to provide HAF programmes).
- Nudging food aid organisations from dependency upon handouts towards a more sustainable cash first approach.
- Mandatory or nudging all London food businesses (of certain size) **register with London Food Alliance** partners and redistribute their surpluses.
- Statutory food suppliers are signed up to distribute surplus food via recognised food redistribution organisations.
- Backing the direct purchase and delivery of food in bulk from "local" farms (Farmhand).
- A **landfill ban on** household biodegradable waste.
- No surplus food to be collected as waste as [per France](#) (Adopt **'food waste' supermarket law**).
- Mandatory food waste reporting for retailers, and possibly manufacturers, farmers and distributors[31]
- All large businesses to report on their supply chains to increase transparency to tackle **tropical deforestation** links.

Any Other Key Points of Note

The 2/3rd overall emissions reduction target is a very ambitious one and with that ambition investment will be absolutely necessary. Investment is key for (1) scaling up local food networks, (2) surplus distribution and (3) turbocharge a campaign on food prevention targeted at households.

The responsibility for delivering the emerging actions needs further clarification. Ideally we would like to evaluate the impact of all these actions, but it would require staff time or consultants. If resources are not available for all these actions, evaluation will not be as accurate. For example, encouraging schools to procure climate friendly menus can take place at no cost, but evaluation may be patchy across different boroughs and the true monitoring of this action may not be realised.

ReLondon have expressed interest in leading on the following actions:
- Implementing sustainable food procurement policies
- Delivering food waste reduction awareness campaign (and diet campaign)
- Provide support, advice and training to small businesses via Env Health Teams (incl training of EH colleagues)
- Promote tools and apps to reduce food waste or facilitate food sharing RE
- Enable and support creation of viable redistribution hubs

Head, Hands, Heart:
- Land Use:
  - Head: There is evidence to show the cost benefits of investing. Growing Community has proven this via independent research.
  - Hands: Green jobs and volunteer training opportunities for the public. Literally rolling up their sleeves and getting stuck in with soil and carrots on their hands! Do a large call to residents for open days, get corporate teams to do away ways, social prescribing to volunteer at these sites improves mental health and reduces costs to the NHS.

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[31] ReLondon data: *A shocking 836,000 tonnes of imported food is lost or thrown away before it even reaches London, representing over a third of all food waste and loss from London's food system. A further 525,000 tonnes is then wasted by farmers, manufacturers, retailers, distributors and food service businesses within London.*

- ○ Heart: Growing and eating local produce or from peri urban agro-eco farms can lead to greater levels of satisfaction and wellbeing.
- Diets
  - ○ Head: Data has shown over and over the significant climate impact of meat, dairy and processed foods.
  - ○ Hands: Inspiring new eating habits comes from education and by reducing high emissions at source Creating co-ops brings the community physically together, delivering food boxes, volunteering or having jobs to feed your neighbours. Social media engagement can make people interact and physically cook meals.
  - ○ Heart: Eating better British meat, with high welfare standards but affordability remains a big barrier for some.
- Surplus/Waste:
  - ○ Head: The 0.5% figure for distributed edible food is extremely low and originates from well researched data. The 60% figure of avoidable food waste by households is well documented.
  - ○ Hands: Once households understand the link between food waste and the climate, residents can cook new amazing meals with leftovers. Almost everyone wastes food and everyone can participate to learn new ways to reduce their impact.
  - ○ Heart: Olio app sharing food with neighboursto help build community. Feeding households with surplus (although not the solution to food poverty) inspires people to volunteer and work for distributions and community kitchens.

Appendix C:
Plastics Theme Action Plan

Version: 2 (16/12/2021)

Lead Officers(s)/Organisation(s): Andrew Hagger and Bethany Pepper, LB Richmond upon Thames

Background / Findings to Date

What does the data / working group feedback tell us?

Whilst there is lots of data on plastic volumes and some types of plastics, the data on *emissions* from plastics is far patchier, especially for consumption based emissions. This was identified early on as a concern to the steering group, how could we know that our actions led to a 2/3 reduction in consumption based emissions with no baseline?

Most packaging plastics leave use the same year they are produced, whereas plastics used as components leave use after much longer periods. The issue identified is the high throughput of plastics that go from manufacture to use as packaging and then to disposal, driving demand for more plastics. Plastic packaging also makes up a substantial proportion of plastics element of household waste. Therefore the immediate focus should be on packaging and single use plastics.

We need to know more about the plastic currently in the recycling and residual waste streams, in order to better understand flows, impacts of action, develop links for carbon emissions and to develop further actions that focus on particular materials/sectors/producers. Gaps identified include:
- What types of plastic are there other than hard plastic/bottles and tubs/trays?
- Where are these plastics coming from and who is producing them?
- How are they entering the waste stream (domestic or commercial routes)?

There is a patchwork of local action happening across London, but this is lacking a central set of principles and commonality in approach. Often these groups end up starting near enough from scratch. These initiatives are also often lacking in analysis of impact - i.e. they might be able to say how many businesses or individuals had signed up, but not whether these activities had been sustained and the carbon saving/other impact.

There is central government action on plastics taking place. The Environment Bill includes legislation covering deposit return schemes, extended producer responsibility and harmonised recycling collection. In addition, a plastic packaging tax is due to come into place in April 2022 and a consultation on single use plastic is due to launch at some point before the end of 2021.

Plastics are embedded in everything that we buy as consumers, so consumer action can be difficult as options can be limited for individual action unless people are willing to really go the extra mile. There is a need to be realistic that without business/manufacturer action on reducing plastic there will be limitations as people have limited options. There is also the concern that alternatives to plastic, especially for packaging, could end up being more carbon intensive than plastic itself.

What surprising / arresting / powerful facts or stories are there about this theme that people can relate to?

- Without action, greenhouse gas (GHG) emissions associated with plastic production, use and disposal in 2040 would account for 19 per cent of the total emissions budget allowable if we are to limit global heating to 1.5C[32].
- Plastic is a modern phenomenon, the total amount of resins and fibres manufactured from 1950 through 2015 is 7800 Mt. Half of this—3900 Mt—was produced in just the past 13 years. The share of plastics in municipal solid waste (by mass) increased from less than 1% in 1960 to more than 10% by 2005 in middle- and high-income countries.[33]
- In 2015, 42% of primary nonfibre plastics produced entered use as packaging and 19% as construction, whereas nonfibre plastic waste leaving use was 54% packaging and only 5% construction.
- In London, plastic makes up approximately 9% of the household waste stream (by weight) with plastic packaging accounting for nearly 70% of this[2].
- There could be more plastic than fish in the ocean by 2050, globally, plastic production has increased twenty-fold since 1964.
- 11 million metric tons of plastic leaked into the ocean in 2016. By 2040, if nothing changes, this will be 29 million metric tons a year[1].
- If we fail to act, by 2040 the volume of plastic on the market will double.

What are consumers/residents finding difficult at the moment? What are the big barriers and enablers (i.e. the key challenges /opportunities for this area)?

Barriers	Enablers/opportunities
• Low cost of plastic production, and versatility as a material makes it attractive to producers of goods • Higher cost of alternative consumer options such as refill shops limits accessibility • Plastics included with most goods – either as packaging or as part of the product • Convenience of plastic for consumers • Perceived hygiene/cleanliness of plastics and ubiquity in healthcare settings – heightened by Covid-19 • Plastics are systemic, a whole systems approach is needed to tackle them • Local authorities have limited levers over the whole system • Few policy incentives to encourage the adoption of alternative materials, delivery models, or end-of-life technologies. • Consistent definitions and conventions for plastic waste data and metrics are lacking. This includes the absence of a baseline for consumption emissions associated with plastic • Confusion about plastics recycling, different plastic grades, what exactly can be recycled • Fears about ultimate destination of plastic sent to recycling – e.g. the global south • Connection not being made between plastics and emissions – focus often on plastic pollution and not emissions	• The 'Blue Planet effect' – high public consciousness about plastic pollution • Research carried out in 2018 found that seven in eight UK adults were at least "fairly concerned" about the effects of plastic waste on the environment • Enthusiastic and dedicated local refill groups and other community groups focused on plastics, e.g. Plastic Free groups, City to Sea Refill groups • Introduction of extended producer responsibility and bottle return/deposit schemes expected with the Environment Bill, plastic packaging tax

[32] *The Pew Charitable Trusts and SYSTEMIQ (2020) Breaking the Plastic Wave:* A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution

[33] Geyer, R., Jambeck, J. R. & Law, K. L. Production, use, and fate of all plastics ever made. Sci. Adv. 3, e1700782 (2017).

• Plastic often becomes contaminated with other waste, making recycling unviable because it can become too costly to clean and separate • Many product designs are technically problematic for mechanical recycling, for example, composite or multilayer designs made up of different materials or polymer types • Market dominated by large retailers such as supermarkets, small traders have little bargaining power to ask for less plastic packaging	

Theme Vision

There has been a shift in the perception of plastic, from a polluting 'problem' material that is linked to single use and disposability to a material that is a valuable and limited resource that needs to be used in the best possible way. All plastic is reusable or recyclable, with little new plastic production and little to no plastic packaging. Refill, low plastic or recyclable containers are the default options for those containers that are currently plastic, consumers need to actively choose to dispose of plastic. This has led to a drastic reduction in the amount of plastic that is in residual waste collected from households, while plastic in recycling from households is reduced as businesses now appreciate the value of plastic and take ownership of its reuse and recycling.

- Refill is the norm and is accessible at all price points for all consumers
- Londoners use 'tiffin boxes' at lunch and when on the go, supported by a London-wide scheme
- The narrative around plastic has changed – it is seen as a limited and precious resource that we cannot produce any more of. It is unthinkable to throw it away
- Our rivers and streets are free of plastic litter
- All plastics in use are reusable, recycled, or compostable

Caroline Power Photography

Theme Action Plan Summary

Innovate	Eliminate	Circulate
Innovate to ensure that the plastics we do need are reusable, recyclable or compostable	Eliminate all problematic and unnecessary plastic items	Circulate all the plastic items we use to keep them in the economy and out of the environment
Key Actions: - Develop better data on plastics - Pan London lobbying of supermarkets and large stores to provide more refill options/reduce plastic packaging	**Key Actions:** ☆ Establish a low plastic communities network ☆ Adopt low plastic policies for councils (procurement, operations, events, schools) ☆ Develop range of support and advice for small businesses on low plastic approaches (purchasing co-ops, business recycling options) ☆ Promote and support refill options across London ☆ Explore ways to incentivise refill	**Priority Actions:** ☆ Set up a pilot cup and container/lunchbox reuse scheme in at least one borough in partnership with a CIC - Support additional soft plastic recycling points across London

Progress to Date

The following organisations contributed to the development of this vision and action plan:
- LB Richmond upon Thames
- LB Hackney
- LB Waltham Forest
- ReLondon
- Western Riverside Waste Authority
- Friends of the Earth Richmond and Twickenham
- Plastic Free Peckham

City to Sea, the Ellen MacArthur Foundation and The Source Bulk Food Shop were all approached to also join the working group, but declined to participate due to resource limitations.

The first meeting of the group on Friday 1st October discussed the data around plastics and a positive vision for a future where plastic associated consumption emissions reduced by 2/3. The second meeting of the group on Friday 22nd October focused on generating ideas for the action plan. A third meeting held on Monday 8th November considered feedback from the OWL Steering Group and developed the actions further.

Next Steps

Key immediate next steps include:
- Further work to quantify plastics consumption emissions
- Develop a framework for consistent waste composition analysis at the earliest opportunity
- Establish working groups to further develop some of the key actions, with a focus on low plastic communities, low plastic policies for local authorities and pilot for container/lunchbox reuse scheme

Funding may need to be identified to support the pilot of the container/lunchbox reuse scheme if individual borough(s) are unable to identify and provide funding.

Key Policy / Lobbying asks for your theme

There is national legislation due to be put in place, especially with the Environment Act introducing deposit return schemes, extended producer responsibility and harmonised recycling collection.

London-wide and coordinated positions on the expectations of a deposit scheme and the role of local authorities and waste authorities will be needed to ensure any scheme is aligned to the aims of a 2/3 reduction in consumption emissions, especially in relation to plastics.

Likewise, a London-wide and coordinated position on harmonised recycling collection should ensure that any guidance aligns with the aims set out for a 2/3 reduction in consumption emissions, especially around the enhanced clarity for residents on plastics recycling, collection of a wide range of plastics and a drive in the reuse of plastics.

A coordinated response to the forthcoming consultation on single use plastic is also required, to ensure that any forthcoming legislation or regulatory changes based on the consultation are strong and align with the 2/3 reduction in consumption emissions.

Coordination of lobbying and messaging to supermarkets on a London-wide basis to introduce more low plastic alternatives for consumers, reduce plastic packaging, provide refill points and to make refill mainstream.

Appendix D:
Textile Theme Action Plan

Background / Findings to Date

What does the data / working group feedback tell us?

Although some baselining data has been completed, there is a relatively small amount of information available on textiles, data giving only an indication on textile activities, but not covering recycling infrastructure. Finding gaps in recycling infrastructure will be key for completing actions, which can be monitored through recycling rates and waste composition. Local data on emissions from consumption-based analyses does not identify the causes of emissions, such as types, frequency or quantities of items purchased, nor the demographics of those responsible for the greater emissions or how clothing is disposed of, among others. However, within the Textiles Working Group stakeholders have tools that could be used to prepare a more detailed analysis of these relationships as part of implementing the proposed action plan.

The data indicates that Londoners are responsible for more emissions associated with clothing, footwear and home furnishings compared to the rest of the UK. Around 5% of consumption-based emissions for London come from two sectors (clothing/footwear and furnishings/appliances). Just under half of this is associated with clothing, whilst furniture and soft furnishings make up the bulk of emission in the appliances / furnishings category.[34] There are small differences between the boroughs for the percentage of overall emissions attributable to these categories (ranging from 2.89% to 4.74%, and from 1.89% to 2.55% for the clothing and footwear category). Newham residents have the smallest carbon footprint for clothing and footwear, whilst Barnet and City of London residents have the highest, however, these differences between the per capita emissions by final product are small relative to variations in other sectors: per capita emissions range from 140kg to 230kg CO_2 (see appendix A) and there appears to be little correlation between average income and per capita emissions associated with clothing when looking at a borough level. There is no data indicating consumption-based emissions relating to textiles amongst different demographic groups or Lower Layer Super Output Areas (LSOA) areas within each borough. It is expected that more noticeable variations in the carbon footprint associated with textiles purchasing exist within boroughs.

Looking at the emissions associated with the clothing sector more closely, research carried out by WRAP in 2017 indicates that despite improvements in the carbon footprint per tonne of clothing, the total emissions associated with clothes purchased in the UK have increased by 10% between 2012 to 2016, from 24 million tonnes in 2012 to 26.2 million tonnes CO_2e in 2016.

By looking at each stage of a garment's life from production to end of life, we can see that:

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[34] Owen, Anne. 2018. *Consumption-based household emissions profiles for London boroughs* Available at https://www.londoncouncils.gov.uk/our-key-themes/environment/climate-change/consumption-based-greenhouse-gas-household-emissions Accessed 2 November 2021. Includes categories 5.1.1, 5.1.2.1, 5.2.1 and 5.2.2: clothing and footwear, furniture and furnishings, soft floor coverings, other household textiles. Excludes hard flooring. "Furniture" is not separated into hard and soft materials and therefore the data for the textile component of these categories is not not available.

- o The highest contributor to the carbon footprint of clothing is the production of fibre;
- o Impacts from washing are also high, although washing temperatures have reduced overall, as has the frequency of tumble drying;
- o Overall carbon emissions are higher than in 2012 due to the increase in the total amount of new clothing being bought and the type of materials they are comprised of;
- o Re-use and recycling offer some carbon savings, with re-use offering slightly higher savings, because the lifetime of clothing that is re-used or recycled is extended. Where this displaces a sale of a new garment, the effects on the environment from fibre extraction and processing are also avoided.

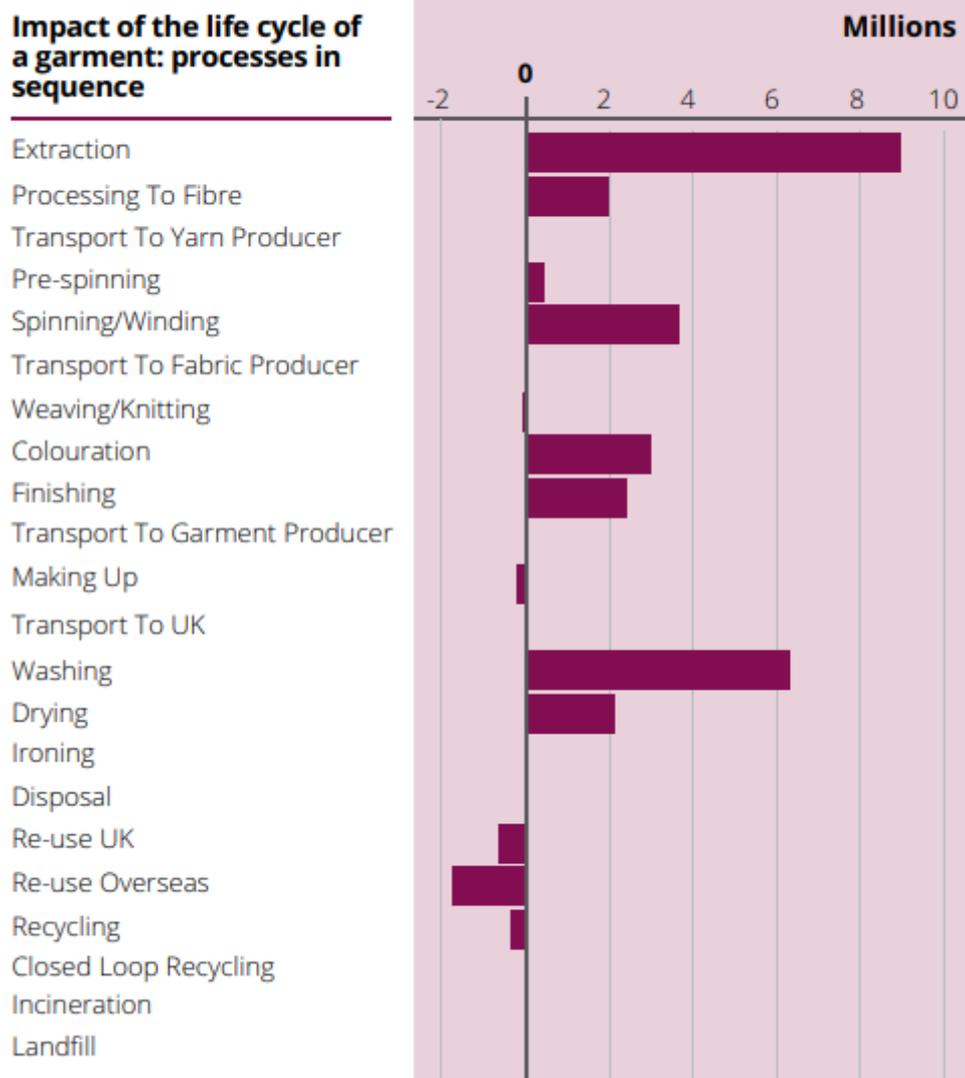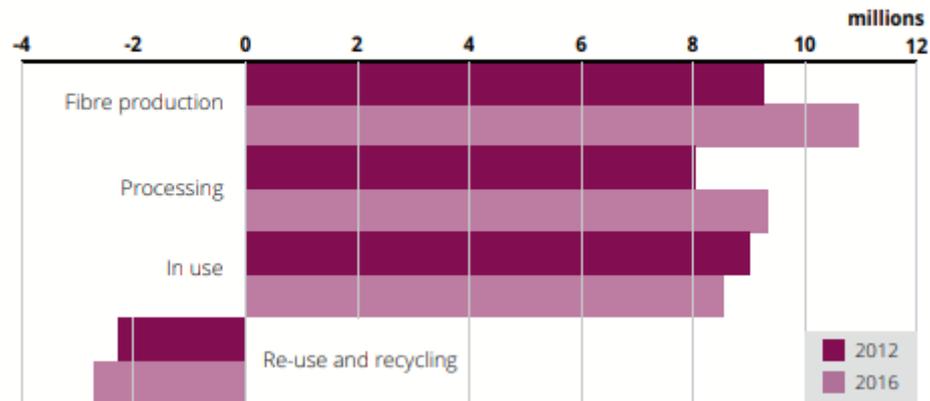**Figure 1:** Carbon footprint of clothing in the UK (t CO_2e) in 2016, by process

Figure 2: Carbon footprint of clothing in the UK (million t CO_2e) in 2012, and in 2016, by life cycle stage

[Source: WRAP, 2017. *Valuing our clothes: The cost of UK fashion*]

The group's participants have additional data and next summer, ReLondon, in collaboration with the University College London and Circle Economy, expect to have completed their research on fashion textiles. This research will combine Material Flow Analysis (MFA) and carbon accounting modelling to quantify material flows associated with fashion textiles in London and estimate direct and embodied emissions associated with these flows. It will also highlight waste flows and shed light on emissions hotspots across the textiles supply chain in London. The report is expected to be launched in September 2022.

Buying less and buying better (buying better quality and second-hand) were key themes the group returned to in discussing possible actions for this work stream. Evidence on behavioural change indicates that raising awareness of the impact of one aspect of lifestyle and making changes in that area, can also influence choices made by residents that reduce their carbon footprint in other areas too. As such, indirect carbon savings could be achieved in areas such as plastics, electricals and food where residents are making more sustainable choices when purchasing clothing or furnishings (and vice-versa). Since the start of the pandemic, the home has become a bigger focus, and the homeware market is predicted to have an annual growth rate of 2.7% between 2021 and 2025. Alongside increases in online shopping patterns, additional data would be helpful to understand how these new purchasing trends are expected to continue relative to other sectors to determine whether fast fashion and fast furniture may make up a largest proportion of the London carbon footprint in future years.

The participants in the working group unanimously agreed that national policy was an essential driver of change in the textiles space and therefore community-based actions must be complemented by advocacy for effective national regulation to create level-playing fields for the industry to generate change within the market. In addition, the group agreed that embedding knowledge around textiles, transparency around materials and supply chains and sustainable choices into education from an early age was an important way to influence attitudes and purchasing. With that in mind, facts relating to children's clothing appeared to resonate highly with wider audiences, including at the London Boroughs' Climate Conference on 19th October 2021.

What surprising / arresting / powerful facts or stories are there about your theme that people can relate to?

- **183 million items of outgrown baby clothing are stored in UK homes**, enough to provide over 250 items for each baby born in the UK each year.
- With the average family spending £11,000 on a child's clothing alone.
- **1/3 of parents have still said they have thrown clothing in the bin** because they did not know what else to do with it.
- 1.4 million wearable school uniforms are thrown away each year
- 81% of parents buy brand new school uniforms
- Nearly half of parents don't want their children in second-hand clothes

- Every second, the equivalent of a rubbish truckload of clothes is burnt or buried in landfill.
- A third of Londoners buy new clothes every six months
- £30 billion worth of clothing is sitting unworn at the back of our wardrobes in the UK
- Making a piece of clothing last an extra 9 months reduces its carbon, waste and water footprint by up to 30%
- The UK's monthly fast fashion habits produce the same emissions as flying a plane around the world 900 times
- In the UK we buy more fashion per person than any other country in Europe
- More than two tonnes of clothing is purchased every minute in the UK
- Around 920,000 textiles goes in household residual waste in the UK (Textile Market Situation Report 2019)

What are consumers/residents finding difficult at the moment? What are the big barriers and enablers (i.e. the key challenges /opportunities for this area)?

Barriers	Opportunities
- Sustainable clothing often means more expensive clothing, especially when considering the overall price of clothing has dropped. - Rental markets are too expensive for the majority of people to consider – tied subscriptions etc. - Residents pre-filtering their clothes and placing deemed 'unacceptable' items in the bin e.g. holey clothes - Inadequate recycling infrastructure meaning it is not easy/convenient for residents to do - Concerns about where recycling goes – charity scammers, shipped abroad - Lost knowledge around repairing items and textile care - Quality of clothing is declining making extending life of items not always feasible. - Finding correct, consistent and relatable information about clothing public are buying - Information about supply chains and their importance is opaque - Industry presents residents with unsustainable options and there are no policy levers to create a level-playing field with minimum levels of material type, quality etc.	- Londoners are engaged with climate action, but might not necessarily connect textile impacts with climate change – as clothing (and furniture) are everyday items, focusing on the carbon footprint of fashion choices can raise awareness of the impact of other choices, such as food miles and transport emissions, plastics. - Companies like Vinted and Depop are connected with young customers who like the idea of second-hand clothes, accessed online – there is a clear window of opportunity to take advantage of this growing trend. - Textiles includes upholstery, but is often only associated with 'fast fashion' - Clear role for education and local authorities who are very well placed to influence awareness building from an early age. Increase in learning how to make own clothes can lead to understanding how long it takes to make them and how much they should cost and their value etc. - There are already pockets of initiatives, but to date few bridges have been made between retailers, educational settings, recycling organisations and residents. - The customer has historically been left behind when looking at materials and supply chain. Working with academia and innovation in the industry, there is a possibility for residents to help shape the upstream activities in this sector. - The sector severely lacks national policy direction, but this pan-London work offers a platform to advocate for agreed improvements in the industry.

Theme Vision

What does success look like (2/3 reduction) in 2030?

In order to achieve a 2/3 reduction in consumption-based carbon emissions from textiles, London residents need to be fully informed on the carbon impact of textiles, from how textiles are made and the length of the supply chain to

buying their textiles right up to end-of-life. Making informed decisions on the items they purchase, including the types of materials purchased and the length of the supply chains, to only sustainably consuming, and knowing how to fully care for the items from washing to repair will support this reduction. Once an item is no longer wanted or is at the end of its life, residents need to know what their options are so we can ensure no textiles end up in the bin. This vision will be underpinned with education packs for schools and community groups, alongside exciting and engaging events to learn and share, run in collaboration with relevant retailers and academia to drive big changes, all supported by national policies to encourage transparency and extended producer responsibility.

How might people be living differently and how can this be articulated as a positive vision of future lifestyles?

Consciously consuming and caring for our possessions will save not only resources and the planet, but it will also save residents' money.

1. In 2030, residents of London will be fully informed to take sustainable actions by keeping textiles in use for longer through repair, reuse or upcycling. Individuals will be educated on how to appropriately care for clothing so that garments last as long as possible.
2. Garments –including preloved ones- are valorised in the media and general culture. Individuals select items based on values and identity as opposed to short-term trends or one-off events. Cultural or societal expectations around fashion, the formality of clothing, or what items should be worn when, are relaxed, so individuals can re-use garments for more purposes, and experiment with re-styling existing items.
3. If clothes are no longer desired, residents will be giving extra life to textiles by buying second-hand or shifting their attitude from ownership to renting and sharing their clothing (so that fewer items need to be produced to meet demand).
4. Residents reduce their consumption of textiles, with textiles improved fabrics meaning items last longer and can have better second-life. Residents choose materials that have lower impact on the planet, shop with ideals such as capsule wardrobes, rental rather than buy and 30 wears.
5. All end of life textiles will be recycled, with none ending up in the bin! Local government have invested in the development of new recycling technologies, and recycling infrastructure is available, clearly signposted and distributed, easy to access for all residents. Sending clothing for recycling will be simpler and more straightforward than throwing it away. Recycled fabrics have a clear market and are all part of a circular economy cycle with improved fabrics stemming from EPR.

Theme Action Plan Summary

The Action Plan is broken down into three pillars and actions are identified for each pillar at the individual, industry and education levels. Responsibilities for each of these actions are set out in the appendices.

1. **Extend:** by extending the life of textiles, carbon, waste and water footprints are reduced. Product life can be extended by creating longer-lasting, higher-quality textiles, by improving repair rates and opportunities for re-sale, by creating new products from old and reducing impulse shopping. Better washing practices can also cut down on emissions from everyday use.
2. **Recycle:** carbon emissions from textiles can be reduced through extended producer responsibility ensuring products can be recycled at the end of their life and improved fabrics are used to reduce waste. The use of recycled materials instead of virgin materials also has a significant impact on carbon emissions reduction.
3. **Sustainable Consumption:** consumer awareness and behavioural change in textiles purchasing are key to reducing the emissions associated with this sector. This pillar aims to shift purchasing habits so that consumers demand the production of better quality fabrics with lower carbon footprints, and overall consumption is reduced including through re-wear initiatives such as rental schemes, second-hand platforms.

Extend	Recycle	Sustainable Consumption
Improving repair rates and opportunities for re-sale, creating new products from old and reducing impulse shopping and promoting better washing practices	Ensuring recycling is products can be recycled at the end of their life and improved fabrics are used to reduce waste	Consumer awareness and behavioural change in purchasing to reduce overall consumption
Key Actions ☆ Education pack for schools, FE, HE and community groups - Textile events for London Residents - Encourage retailers to hold in-store repair pop-ups - Reuse/Repair hubs - Second-hand events/uniform swaps at schools - Explore innovovative initiatives with retailers to encourage more reuse	**Key Actions** ☆ Convenient home collection services across London - Consistent recycling infrastructure across boroughs, supported by relatable carbon-textile communications - In-store take-back/recycling - Banks at all schools and recycle your clothes days - More accessible collection banks to all Londoners - Expand and promote Recycle Now Locator/Map for in-store take-back	**Key Actions** ☆ Councils' procurement policy review on textiles ☆ A consumer-driven campaign for retailers - Clothing care and benefits campaign - Second-hand events including uniform swaps - Promotion of existing second hand products and services - Creating 'shops' that allow residents to see innovations in materials, circular economy and local products

Progress to Date

The textile working group participants covered all areas of the textile industry to get a holistic approach to forming the action plan.

Working Group Members	Sector	Working Group Meeting Dates
WLWA	Public Sector	
Richmond and Wandsworth	Public Sector	27th September 2021
Asda George	Retail	
SOEX UK	Textile Recycler/R&D	
Middlesex University	Education	12th October 2021
TRAID	Textile Recycler/Retail	

ReLondon	Public Sector	
Royal College of Art	Education/R&D	
Ikea	Retail	1st November 2021
Hackney	Public Sector	

Additional organisations have been asked for feedback on the action plan include: Sutton Council, Depop, Ellen MacArthur Foundation and WRAP (Textile 2030).

Next Steps

Baseline Actions:
1. Engage with ReLondon to understand the scope of the Textiles MFA and with WRAP on its collecting, sorting & recycling landscape review, joining the stakeholder workshops, supporting data collection and informing the research which will be launched next summer. If necessary, expand on this to have complete value stream mapping for textiles in all London boroughs (*costs not yet known*)
2. A baseline resident survey to understand 'sustainable' fashion and their 2030 vision. (*£6000*)
3. A baseline survey of companies to understand how carbon data monitoring and targets are set
4. Agree method for accounting for carbon savings from different actions. (*£6000*)
5. Using the data collected, update action plan with evidence-based targets that can be tracked and monitored to measure progress.
6. Work with London waste disposal authorities (WDAs) to collect waste composition data (*£130,000 for all London boroughs, but all boroughs may not need one*).

Middlesex University have offered to help with surveys, as they have a lot expertise in this area. ReLondon has also done several research pieces through Love not Landfill and can support where there is funding to do so.

Key Policy / Lobbying asks for this theme
It became clear through the working group that a number of policy levers need to be defined in greater detail. An early action is therefore to convene relevant stakeholders to discuss and agree top priority policy asks.

Policy Workshops are envisaged to assist individuals, industry and education-related actions: including participants from this Textiles Working Group and beyond, further discussions with relevant stakeholders are proposed to develop a set of policy asks that can be agreed and pushed forward through London Councils and other avenues. These are to be supported by policy feedback surveys and may include proposals such as:
- National platform with accessible information for public
- Requirements around consistency, supply chain and material transparency and a centralised approach, as well as open data sharing
- EPR - tax on virgin only materials used for new clothes etc. clothes required to last a minimum washes.
- Define key policies/targets to be incorporated into all London borough strategies to make carbon a priority by focusing on textiles.

A network to share events, tips and information on retailers, which is easily accessible to the public, and could be developed as part of the actions below, would support these or other advocacy points.

Any Other Key Points of Note
It is anticipated that resource in the form of shared officers across the consumption-based emissions work streams will be required to implement this action plan.Funding options and capacity building will need to be explored.

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