

# Sustainable Consumption & Production Plan 2021-2025

GREATER MANCHESTER COMBINED AUTHORITY

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# 1. Introduction, Scope and Recommendations

## 1.1 Introduction

Greater Manchester's Environment Plan was launched at the Green Summit in March 2019 setting out ambitious proposals to be carbon neutral by 2038.

As part of that Plan, it recognised that in order to build a thriving and sustainable city region we need to work together to promote economic and resource productivity, eliminate waste and increase business opportunities through innovation. UN's Sustainable Development Goal (SDG) 12 is Sustainable Consumption and Production, recognising that it is critical for achieving transformative change.

The Sustainable Consumption and Production (SCP) Plan sets out how Greater Manchester (GM) can contribute to becoming carbon neutral primarily focusing on scope 3 emissions (figure 1).

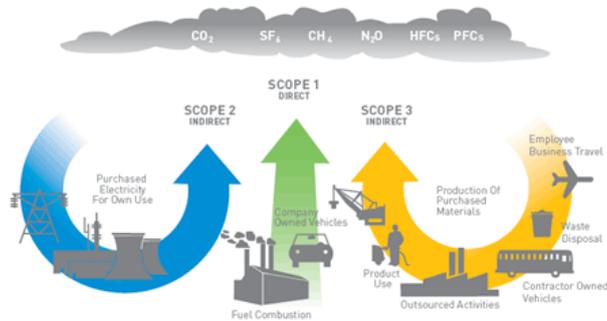


Figure 1: Scope 1, 2 and 3 emissions

Source: United Nations Environment Programme

There are many components that are covered within SCP. These include waste management, sustainable resource management, sustainable lifestyles, sustainable marketing, sustainable procurement, eco-labelling and certification, sustainable transport, cleaner production and resource efficiency and design and sustainability (see figure 2).



Figure 2: Components of SCP

Source: United Nations Environment Programme

The SCP Plan, except for sustainable transport and eco-labelling/certification will focus on all elements that make up sustainable consumption and production through 4 key priority areas.

- **Priority 1.** Moving to a Circular Economy focusing on sustainable resource management; design, production and resource efficiency; and sustainable procurement.
- **Priority 2.** Managing Waste Sustainably focusing on waste management and sustainable resource management.
- **Priority 3.** Reducing Food Waste focusing on waste management, sustainable procurement, and sustainable lifestyles
- **Priority 4.** Sustainable Lifestyles solely focusing on sustainable lifestyles

To aid the delivery of the plan a range of techniques, drivers and tools will be used to drive change. Techniques include closed loop production, life cycle assessment and resource efficiency. Enablers include stakeholder engagement, product, and policy mapping. Drivers include customer demand, markets and competition, and costs and penalties (see figure 3 below).

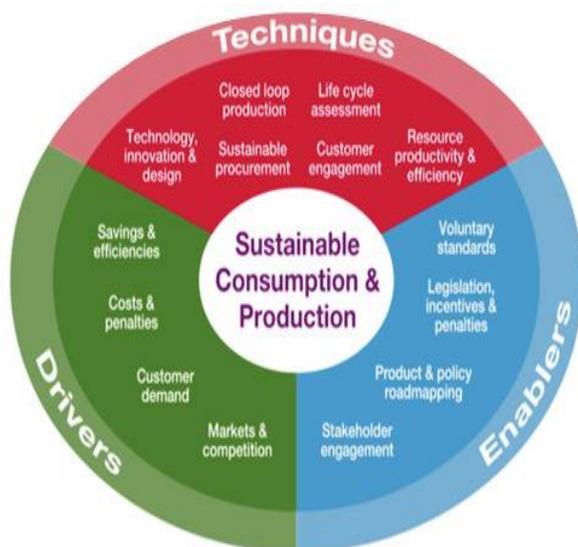


Figure 3: Techniques, Enablers and Drivers to achieve SCP  
Source: United Nations Environment Programme

## 1.2 Scope

This report focusses on the actions needed to move businesses to circular economy models and enable its citizens to make changes to become more sustainable. Both can deliver multiple benefits. The report focuses on the priorities and actions required to impact on CO<sub>2</sub> and Greenhouse Gas (GHG) emissions, but also recognises that the sustainable living priority, through promotion of behaviour change initiatives and campaigns, will aid the delivery of other key plans such as Greater Manchester’s Smart Energy Plan and Decarbonising Greater Manchester’s existing buildings report.

In terms of the priorities related to sustainable consumption and production, the report sets out four priority areas, which have been developed with partners to achieve Greater Manchester's aspirations, these are:

1. Moving to a circular economy
2. Managing waste as sustainably as possible
3. Reducing avoidable food waste
4. Moving to a sustainable lifestyle

### 1.3 Structure of this report

The subsequent sections of this report are structured as follows:

- Section 2: Why Greater Manchester needs to act now.
- Sections 3, 4, 5 and 6: Looks at each priority area.
- Section 7: How recommendations set out in this report should be taken forward by the GMCA and key stakeholders.

### 1.4 List of recommendations

1. To explore the development of a GM ecosystem for Circular Economy (CE) including cross industry resource efficiency through design and production, commercial trading of materials, energy, sharing assets, logistics and expertise, to reduce the volume of raw materials used and eliminate waste.
2. To work with stakeholders to build a collaborative platform that covers a range of CE aspects with leadership and delivery of key areas such as legislation, business to business (B2B) and procurement.
3. The GMCA and local authorities and the public sector raise environmental priorities through a Greater Manchester Sustainable Procurement Strategy promoting circular economy procurement principles, the social value framework, commissioning strategies, policy development and decision-making toolkits.
4. To explore the feasibility of resource and consumption mapping to enable a sector approach to becoming a circular city region.
5. To continue to work with industry, academia, and other stakeholders to drive innovation to reduce raw material consumption, value resources and stimulate sustainable end markets.
6. The GMCA, local authorities and key partners continue to work towards the European Union's Directive target to increase the municipal waste recycling rate. This will include evaluating and assessing the environmental and financial implications of implementing the requirements of the new Environmental Bill and statutory guidelines.

7. Partners across Greater Manchester should work together to develop and deliver of a programme of campaigns to promote the waste hierarchy (reduce, reuse and recycle).
8. The GMCA, local authorities and key partners should develop and implement a pathway to lead to the reduction of waste crime within Greater Manchester.
9. Partners across Greater Manchester should carry out further research to identify whether there are opportunities to develop a GM wide recycling collection and disposal solution for businesses within Greater Manchester.
10. Partners across Greater Manchester should collaborate and carry out further research and pilots to drive innovation and explore new ways of working to reduce waste and maximise reuse and recycling in the commercial sector.
11. The GMCA, local authorities and key partners should develop and implement a programme of Greater Manchester wide campaigns focusing on the co-benefits of reducing and then recycling food waste.
12. Partners across Greater Manchester should collaborate to create a delivery model to enable Greater Manchester to become a sustainable food city region.
13. Partners across Greater Manchester should work together to promote sustainable lifestyles within their organisation and through media campaigns.
14. The GMCA should create a new website to demonstrate and showcase the progress the city region is making in achieving its long-term environmental vision and becoming carbon neutral by 2038.
15. The GMCA, the public sector and stakeholders should raise awareness, through climate change impact awareness training, to embed sustainable working and living.
16. To work with communities to develop and promote SCP initiatives which also improve social, environmental, and economic well-being.
17. To continue to work together with local authorities, partners, and stakeholders to effectively implement the Plan through the 5-Year Environment Plan's ambitions to establish a mission-oriented approach to tackling Greater Manchester's environmental challenges.

## 2. Why does Greater Manchester need to act?

### 2.1 There are multiple benefits

Taking action within the scope of SCP can have multiple benefits across numerous areas:

1. For people: for citizen's health, education, jobs, income, and productivity
2. For the economy: improved productivity and the potential for creation of new jobs and new skills as well as reduced pressures on public finance.
3. For the environment: contributing to reducing CO<sub>2</sub> and GHG emissions.

These are set out in further detail below.

### 2.2 Benefits for Greater Manchester's residents

By moving to sustainable lifestyle there are numerous benefits for residents:

#### 1. Health and Well-Being Benefits

- Reducing energy demand by making improvements to a building's fabric can have substantial benefits; winter deaths are three times higher in the coldest quarter of homes compared to the warmest quarter.
- Reducing utility bills can have positive health benefits including on nutrition (for example, how well a household can afford to eat) and mental (less stress of the financial burdens of household bills and expenses).
- Bringing people from communities together to carry out works that improve social, environmental, and economic wellbeing.

#### 2. Economic Benefits, for example:

- Switching to renewable energy, improving installation within homes and monitoring water consumption can reduce household bills.
- Upcycling and using products for longer will reduce expenditure and extend a products lifecycle.
- Improving energy efficiency can also have a positive impact on public spending, both in terms of demands on health-related illnesses on the NHS and in undertaking energy efficiency programmes within the public sector estate to redirect potential savings into other public services.
- Reducing food waste; an average of £730 per family per year of household food waste (excluding inedible parts) is wasted each year<sup>1</sup>.
- Moving prominently to the five CE Business Model types: Renewability; Product Life Extension; Recycling and Resource Efficiency; Sharing Platforms; and Product as a Service can minimise waste and increase economy within GM.

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<sup>1</sup> <https://wrap.org.uk/sites/default/files/2020-11/Food-surplus-and-waste-in-the-UK-key-facts-Jan-2020.pdf>

## 2.3 Benefits to the Environment

### 2.3.1 The scale of the challenge

The vision of how the city region will become carbon neutral is set out within the 5-Year Environment Plan. The Plan is based on research by the Tyndall Centre for Climate Research, which calculated a carbon budget for Greater Manchester that is compatible with the Paris Agreement. During the development of the Plan, research was commissioned setting city area targets and trajectories for emissions reductions (SCATTER)<sup>2</sup> to understand potential CO<sub>2</sub> emission reduction pathways.

The graph below (figure 4) sets out the potential carbon reduction pathways for Greater Manchester from the SCATTER model, which the actions within the 5-Year Environment Plan are based, against the budget recommended by the Tyndall Centre's research. The SCATTER model provides different emission reduction pathways depending on local decisions taken across 40 different interventions, which can each be implemented to 4 different extents.

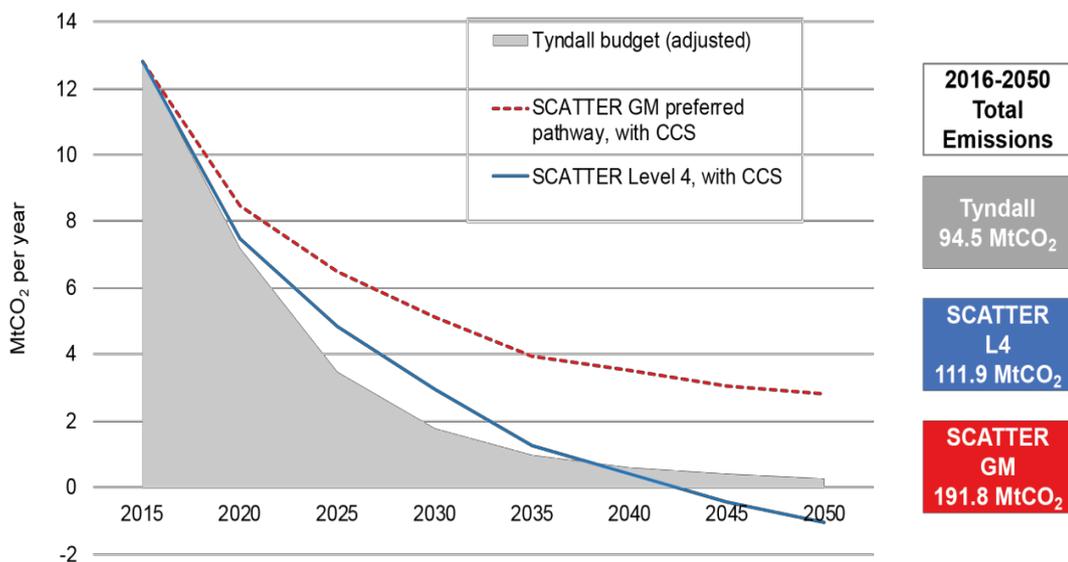


Figure 4: Potential Carbon Reduction Pathways for Greater Manchester  
Source: Anthesis

This sets out two scenarios:

- A 'SCATTER Level 4' pathway (each of the 40+ interventions pulled to maximum extent), where carbon neutrality is possible to achieve but even under this scenario emissions of nearly 20% above the Tyndall Centre's recommended budget<sup>3</sup> are produced in Greater Manchester by 2050.

<sup>2</sup> <https://www.anthesisgroup.com/scatter-carbon-footprint-reduction-tool>

<sup>3</sup> Extrapolated to cover 2015-2050 from 2018-2050 in Tyndall Centre's original report

- Under 'SCATTER GM' pathway (an estimate of what is currently planned and what might be achievable in the future in Greater Manchester) emissions of over double the Tyndall's recommended budget are produced by 2050.

### 2.3.2 SCP and CO<sub>2</sub> emissions

Underpinning those trajectories, the models show us the scale of change required and an indication of actions required to achieve the level of reduction.

Figure 5 below shows how Greater Manchester's CO<sub>2</sub> emissions is broken down by sector and the level of change required in each of those sectors to achieve the SCATTER GM pathway.

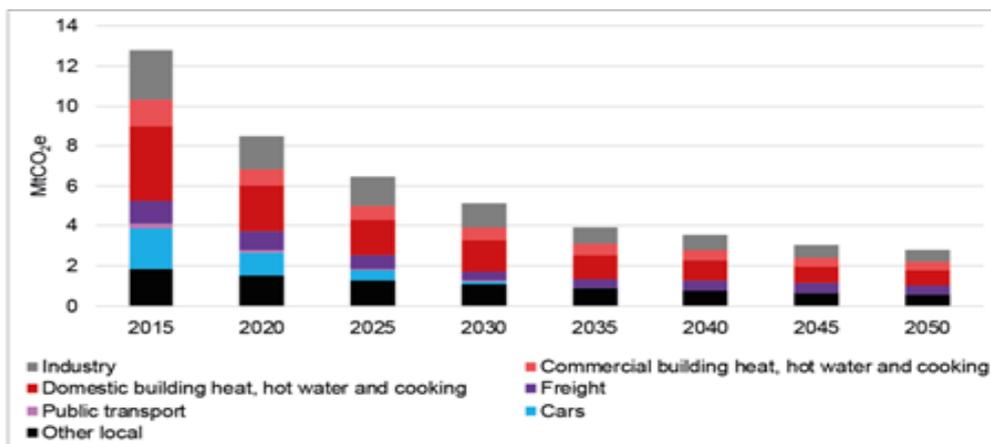


Figure 5 – sectors where emission reductions come from ('SCATTER GM' pathway).

Source: Anthesis

The SCP Plan cuts across all sectors, from reducing industrial and commercial emissions to reducing waste to households. Along with other key performance indicators outlined within the Plan, the number of levers from THE SCATTER model will also be monitored.

#### Industrial and commercial emissions

One of the levers within the SCATTER model is industrial and commercial emissions. The model is based on those emissions reducing by 38%. Based on 2018 baseline data of 1,856 ktCO<sub>2</sub> industrial emissions, a 38% reduction by 2025 would be 1,150ktCO<sub>2</sub>. The graph below (figure 6) shows a forecast of 1,115 ktCO<sub>2</sub> which exceeds its current target.

The 2019 fuel breakdown of industrial emissions was reported as:

- 37.1% gas
- 36.9% electricity
- 26.0% 'other' fuels

However, the trajectory industrial emissions below may be impacted on electricity grid decarbonisation, meaning rate of reduction may slow as grid becomes increasingly decarbonised.

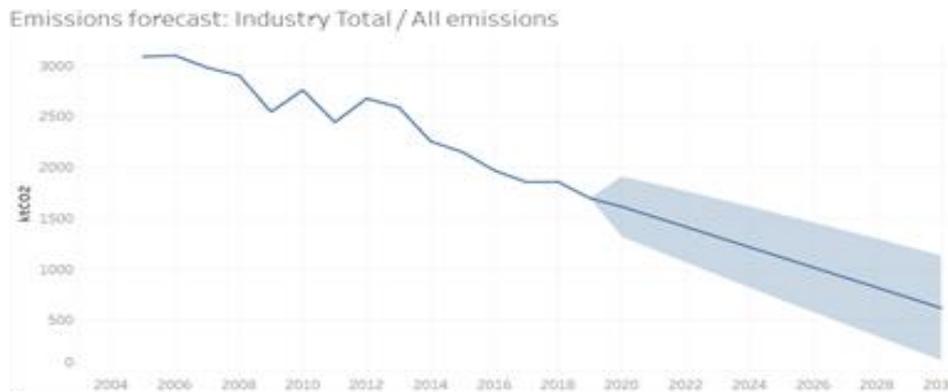


Figure 6: Industrial and Commercial emissions:  
 Source: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018>

### Waste Prevention

To protect our natural capital, we need to reduce waste. Whilst it is recognised that some amount of waste is inevitable, we need to do as much as we possibly can to manage it in the most effect way.

Waste prevention is critical to becoming more resource efficient as it addresses pressures of reducing unnecessary production and processing and therefore costs, as well as carbon emissions associated with those processes. Figure 7 shows how waste prevention can be achieved within each stage of production and consumption through to end of life.

1. Production – Design, remanufacture, use of secondary materials.
2. Consumption – Purchasing sustainable products, sharing/leasing/renting, reuse and repair, refill, dispose for recycling.
3. End of life – Collection, reprocessing, treatment.



Figure 7: Waste Prevention and Circular Economy  
 Source: Defra Waste Prevention Programme 2021

To monitor the city regions progress in reducing the waste produced, two key indicators will be used:

1. Raw material consumption – currently this indicator is only available at a UK level so we are assessing how this can be best proportioned to Greater Manchester; and
2. Domestic residual waste – this indicator is available at a Greater Manchester level and will enable us to monitor the amount of general waste being produced, and the amount of waste not being recycled, reused, or repaired.

The SCATTER model uses a lever that waste arisings should not exceed 20%, figure 8, shows the current kilogrammes per household per year that has been collected along with the waste increase limit.



Figure 8: Domestic Residual Waste (Kg/hh/yr) and Recycling Rates  
 Source: Waste Data Flow

### Recycling Rates

Another lever used in SCATTER is recycling rates. This is based on the European Union’s Circular Economy directive which is being transposed into English law through the Environment Bill and sets the requirement to achieve 65% municipal waste recycling rate by 2035. Recycling is an important factor in the waste hierarchy and enables resources to be reprocessed and made into new products. This spares the environment the carbon impact of extracting and processing virgin materials. Greater Manchester’s current recycling rate is just below 48% (see figure 8) so there is still a long way to go to achieve this target.

## Reducing Food Waste

Within the UK over 10 million tonnes of food and drink<sup>4</sup> are wasted post-farm gate annually. This waste is both costly and is damaging the environment. Currently a fifth of UK greenhouse gas (GHG) emissions are associated with food and drink.

In 2014, a study was undertaken by Environmental Sustainability Technical Assistance (ESTA) 'Understanding and reducing GHG emissions for food consumption and production: Greater Manchester' which provided a range of options to reduce emissions within the city region. Figure 10 below shows the impact on emissions by eliminating avoidable food waste from the catering sector and households. The highest reduction of 13% was seen in eliminating avoidable food waste in households. If all avoidable household and catering food waste was reduced by 50%, this would see a reduction in emissions of 8%. The lowest reduction of 2% was found in eliminating avoidable food waste in the catering sector.

Mitigation measure (100% adoption)	Food consumption Greenhouse Gas emissions reduction
Eliminate avoidable food waste in catering sector	2%
Eliminate avoidable food waste in households	13%
Reduce all avoidable household and catering food waste by 50%	8%

Figure 10: Potential Greenhouse Gas Emissions

Source: ESTA: Understanding and reducing greenhouse gas emissions from food consumption and production – Greater Manchester

As with the 5-Year Environment Plan, Greater Manchester needs to base its ambitions, approaches, and targets on the scale of action required within the SCATTER model to lower emissions, increase resource efficiency, and reduce waste. The following sections, taking the priorities of the Plan in turn, are informed by this modelling work.

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<sup>4</sup> WRAP (2016) <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/food-waste/written/38003.html>

### 3. To embed Circular Economy business models in the City Region

#### 3.1 Where we are now and where Greater Manchester needs to get to?

The products and goods we consume, and the waste produced after their use has a significant impact on our local environment and on CO<sub>2</sub> emissions produced inside and outside the city region. We need to increase action to reduce the energy and resources that goes into making goods and services, along with ensuring that once goods are at the end of their life they can be reused or recycled, thus reducing raw materials used and creating a circular economy.

Greater Manchester is a vibrant city region with a range of diverse businesses, with the most intensive users located at industrial sites such as Trafford Park. However, there is little data available to estimate how efficient businesses are in relation to the finite raw materials and energy they consume.

To move Greater Manchester to becoming a circular city there are 3 main areas in which we will need to focus on:

##### 1. Industry:

- **Sustainable Product Design** – we need to make more sustainable products that move us away from a ‘throw away’ society and enable resources to be in use for as long as possible. To achieve this, we need to increase the reusability and recyclability of all components created.
- **Resource Efficiency** – to maximise resource efficiency by moving away from linear business models to circular economy models, minimising the use of raw materials and reducing waste at source.
- **Business to Business Approach (B2B)** – to create a circular economy we need to engage with all organisations within the supply chain.

##### 2. Policy Development & Innovation:

- **Sustainable Procurement** – we need to ensure that we are procuring the most environmentally sustainable products by embedding environment criteria and promoting circular economic procurement principles within procurement policy and throughout our decision-making processes.
- **Resource/Consumption Mapping** – to fully understand the scale of change required we need to understand the resources we are using.
- **Innovation** – to ensure we can reduce the use of all raw materials innovation will be critical to find solutions throughout the lifecycle of products and drive circular economy.

### 3. Consumers

- Sustainable Lifestyles – as consumers we all have a role to play in valuing resources. Priority 4 within this plan sets out how we aim to empower citizens to make more sustainable lifestyle choices.

### 3.2 What action is needed over the next 5 years?

#### 3.2.1 Industry

##### a. Sustainable Design

As part of building a thriving and sustainable city region, we need to promote economic and resource productivity whilst eliminating waste and increasing business opportunities through innovation. This, in turn will stimulate skills development and jobs.

We need to keep products and materials in use for longer to reduce pressure on the natural environment, as globally, we currently extract three times the number of natural resources than we did over 30 years ago. This figure is expected to more than double by 2060.

The current linear model of ‘make, use and dispose’ has both high environmental and financial costs, with products on the market that break prematurely and are not easily repairable or recyclable, or the costs of repair are more than replacing with new products. Research shows that 80% of the damage done to our environment by excessive amounts of waste could be avoided if more sustainable decisions were made at the design and production stage.

With approximately 118,720 businesses in Greater Manchester (2017) the potential to stimulate change is substantial. To reduce the number of materials wasted we need to work with industry to encourage more resource efficient business models by using more sustainable materials in the manufacturing process, maximising resource productivity and energy efficiency. By moving to a circular city region our aim is to reduce the number of raw materials within what we make, build, and produce and reduce the amount of waste disposed.



Figure 11: Components of a circular economy  
Source: Defra

b. Resource Efficiency

To become resource efficient, we need to use the planet's limited resources in a sustainable manner whilst minimising the impact on the environment. Transforming our consumption patterns will help drive resource efficiency and could generate direct net cost savings

This means we need to move away from the standard linear business models to promoting the benefits of different, more circular business models that maximise resource efficiency such as reuse and repair, product-service systems, hire and leasing and incentivised return schemes. WRAP estimated that widespread roll-out of such models across the UK economy could add up to £75 billion to GVA by 2030. Increasing resource efficiency will not only increase productivity, but also reduce carbon emissions and can enhance resource security.

Building on the work of the resource efficiency programme delivered by the Growth Company which works with small and medium sized businesses to provide help and advice on their current operations, explaining how they can become more efficient within their businesses to reduce energy and waste, will enable companies to access the right tools to make an impact to overall emissions generated in Greater Manchester.

c. Business to Business (B2B)

To become a circular city region we need to move away from linear business models (make – use – dispose) and embrace circular business models such as:

1. Circular supplies – replacing scarce resources with fully renewable, recyclable, or biodegradable resources.
2. Resource recovery – uses technological innovations and capabilities to recover and reuse outputs that eliminate material leakage and maximises economic value.
3. Product life extension - helps companies extend the lifecycle of their products and assets to ensure they remain economically useful
4. Sharing platforms – is centered on the sharing of products and assets that have a low ownership or use rate.
5. Product as a service – customers use products through a lease or pay-for-use arrangement versus the conventional buy-to-own approach.

By creating a B2B platform we can bring organisations together to promote the economic and environmental benefits of circular economy models and stimulate new ways of working within the conurbation and create resilience within supply chains. The first B2B platform we are proposing to create is

from the textile industry to explore the feasibility of creating a circular economy within the UK.

### 3.2.2 Policy Development and Innovation

#### a. Sustainable Procurement

To meet the ambitions of Greater Manchester it's recognised that we need to initiate and drive forward environmental improvements and economic gains. To achieve this, we need to change how GM currently procure works, services and goods and move to a full life cycle approach to ensure that we reduce as much as possible the negative impacts on the environment. By taking an end-of-life cycle approach to future procurements it will not only enable the consideration of environmental impacts of processes within direct control, but also direct attention can be given to the raw materials used, supply chains, product use and finally the effects of disposal and possibilities for re-use or recycling. It will also be beneficial to:

- Gather baseline environmental impact information.
- Provide greater understanding of supply chains and where best to influence the chain; and
- Develop resource strategies and optimise waste management.

Therefore, to maximise the impact of change, we plan to initially focus on embedding circular economy procurement principles and decarbonisation within our procurement and commissioning strategies.

To support embedding sustainable procurement within the public sector it is also recognised that decision making processes need to change so that an assessment is undertaken as to whether the decisions we make have a positive or negative impact on the environment. To achieve this step change educating decision makers, through carbon awareness programmes and decision-making processes, will be essential.

#### b. Resource/Consumption Mapping

To fully understand the raw materials being consumed within the city region we need to engage on a sector-by-sector basis, to build up a true picture. With commercial consumption and waste data not being publicly available, we will start with public sector bodies and then explore how we can build data available through initiatives such as race to zero, SCAP (Sustainable Clothing Action Plan) and Courtauld commitments and then expand further through our B2B platforms.

#### c. Innovation

Innovation is also key to creating a circular economy, studies and research will be critical to tackling concern waste streams such as plastics, construction materials and textiles, to ensure those that those materials can either be reused or recycled, with sustainable end markets.

## *Plastics*

Whilst there is a sustainable solution for plastic bottles, the same cannot be said for plastic tubs, pots, and trays. Currently 9 of the 10 Districts within the city region don't collect these materials as there are very limited sustainable end markets for this commodity. With the mandatory collection of these materials being introduced in 2023, innovation is critical to developing sustainable solutions and promoting circular economy rather than sending these materials to energy from waste facilities. Work has already commenced with industry and academia to look for sustainable solutions that can turn these low-grade products into a valued resource.

## *Textiles*

The waste compositional analysis undertaken in 2018/19 shows that, on average, 5% of the residual bin within GMCA household kerbside collected waste is textiles and this is replicated at our HWRC's, meaning that we are collecting over 21,000 tonnes (excludes Wigan) of textile waste. Of that collected, over 83% of the weight of items in this category were classified as linen, clothing and shoes, items that technically could be reused or recycled. Additionally, there are approximately 2,000 tonnes collected that is sent to a specialist processor for reuse/recycling which is generally sent overseas.

With much of this commodity currently being exported overseas we need to provide resilience within the UK should those end markets no longer be available. We plan to work with government, WRAP (Waste & Resources Action Programme), academia and industry to explore the feasibility of creating a circular economy for textiles within the UK.

## Recommendations

1. To explore the development of a GM ecosystem for CE including cross industry resource efficiency through design and production, commercial trading of materials, energy, sharing assets, logistics and expertise, to reduce the volume of raw materials used and eliminate waste.
2. To work with stakeholders to build a collaborative platform that covers a range of CE aspects with leadership and delivery of key areas such as legislation, business to business (B2B) and procurement.
3. The GMCA and local authorities and the public sector raise environmental priorities through a Greater Manchester Sustainable Procurement Strategy promoting circular economy procurement principles, the social value framework, commissioning strategies, policy development and decision-making toolkits.
4. To explore the feasibility of resource and consumption mapping to enable a sector approach to becoming a circular city region.

5. To continue to work with industry, academia, and other stakeholders to drive innovation to reduce raw material consumption, value resources and stimulate sustainable end markets.

## 4. Managing our Waste as Sustainably as possible

### 4.1 Introduction

Turning all the waste produced into valuable resources is critical to Greater Manchester becoming a circular city region, so we need to manage our waste as sustainably as possible. This means that we need to reduce the amount of waste produced (through prevention and reuse), recycle as much as possible whilst increasing the quality/value of materials so raw materials used is minimised.

This section will focus on the following areas:

- Household waste
- Commercial waste
- Impact of England's Waste Strategy
- Innovation

### 4.2 Where does Greater Manchester need to get to?

#### 4.2.1 Priorities for managing our waste sustainably

The challenges for managing our waste sustainably will focus on the following priorities:

1. Promoting the waste hierarchy, ensuring that as little waste is sent to landfill as possible.
2. Undertaking analysis of the implications to Greater Manchester in implementing England's Resource and Waste Strategy.
3. Using innovation to tackle difficult waste streams which currently have limited sustainable end markets.

### 4.3 Where is Greater Manchester now and what Action is needed over the next 5 years?

#### 4.3.1 Reducing Household Waste Generation through Prevention, Reuse and Recycling

The Combined Authority is England's largest Waste Disposal Authority dealing with around 1.1 million tonnes of waste produced each year from over 1,017,000 households and resident population of over 2.8 million (AGMA 2018). This waste comes from Council's kerbside collection services and 20 Household Waste Recycling Centres (HWRCs). We handle around 4% of England's waste. Wigan Council whilst part of the Combined Authority is a unitary council and deals with the collection and disposal of its own municipal household waste and is responsible for its own infrastructure.

To process Greater Manchester's municipal household waste, there are the following facilities to deliver a consistent approach to collection and disposal of waste through the 4-bin waste system (figure 11) set out below:

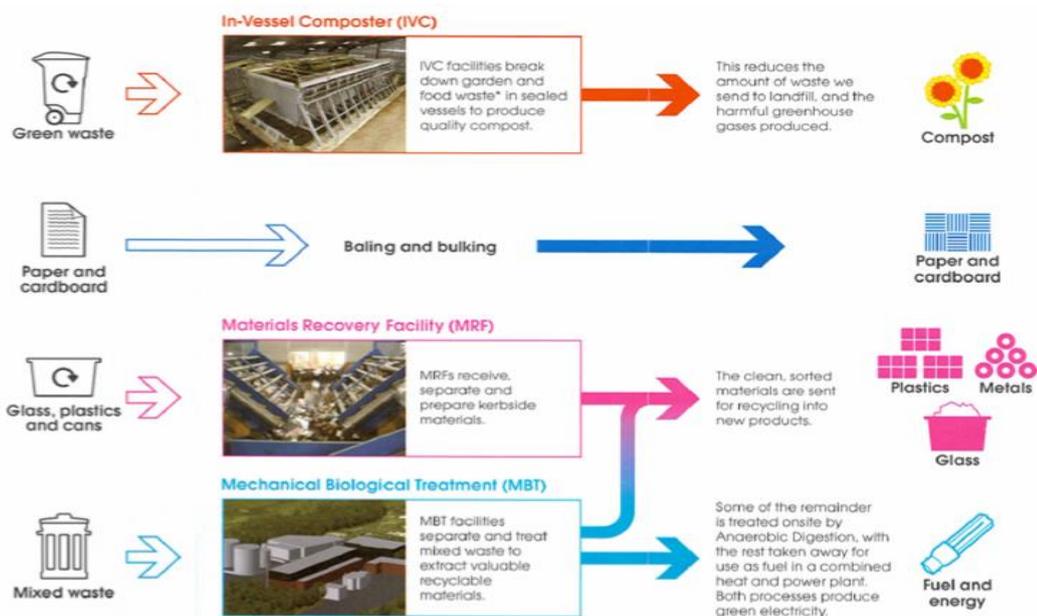


Figure 11: Four Bin system in Greater Manchester  
Source: GMCA, Waste Strategy

The implementation of this system has seen recycling increase from 27.45% in 2008/09 to 48% in 2020/21 and enabled the introduction of new collections such as reducing residual waste capacity to promote and increase recycling by actively promoting the waste hierarchy (see below), meaning that we will do everything possible to divert waste from landfill.

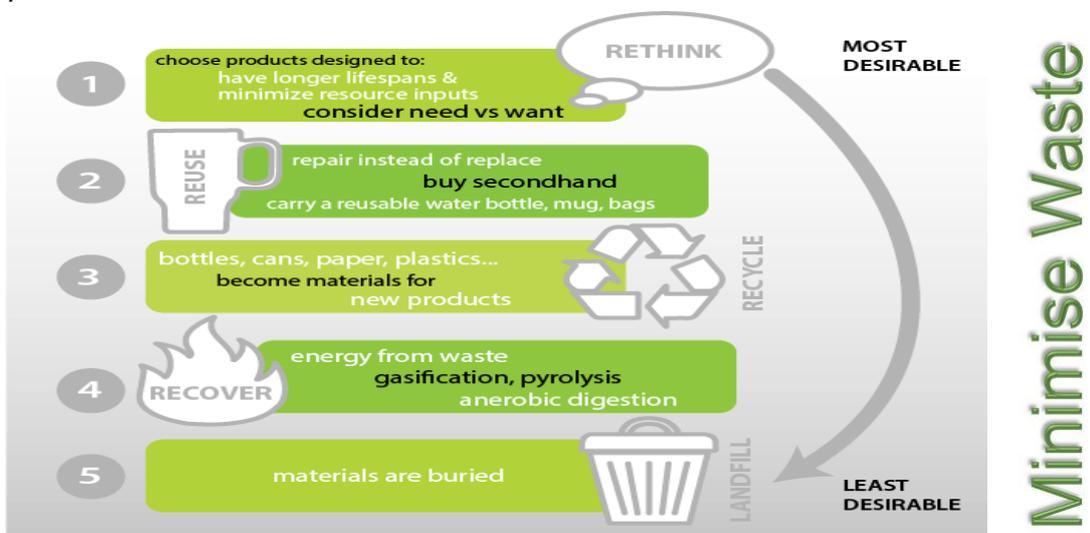


Figure 12: The Waste Hierarchy  
Source: WRAP

The Combined Authority is committed to delivering a high quality, environmentally sustainable, cost-effective service that manages residents' household waste. To achieve this, it is extremely important that residents continue to reduce waste generated (reuse and waste prevention) and recycle accurately at the kerbside. The graph below shows that, over the last five years, whilst there has been good progress in diverting waste from landfill (88% to 98%), recycling has remained static since 2016/17 to 2020/21 at 47- 48%.

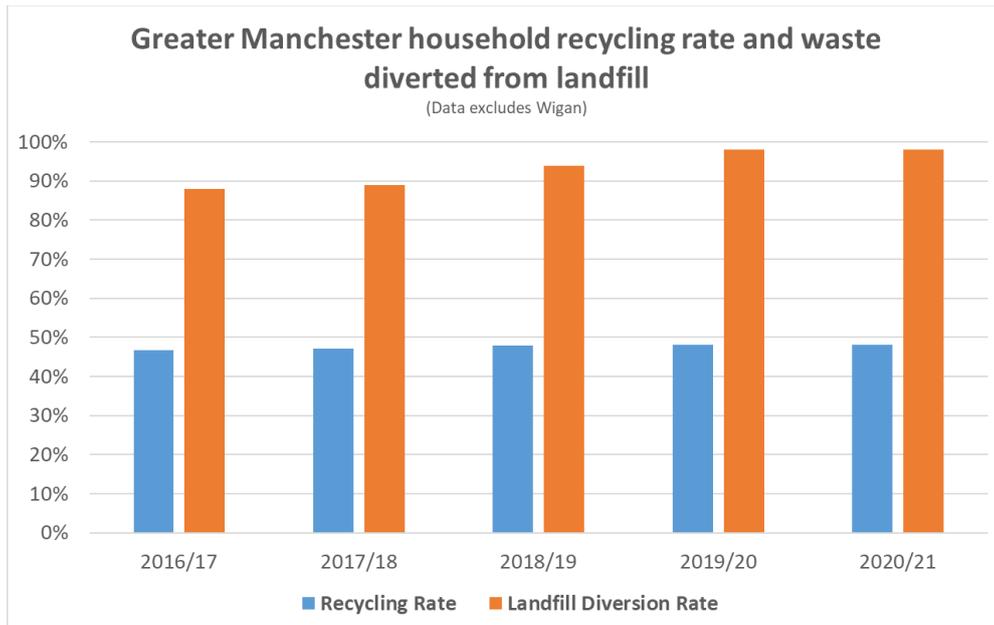


Figure 13: Recycling rates and waste diverted from landfill 2016/17-2020/21  
 Source: Waste Data Flow

The waste composition analysis (2018) demonstrated that still over 40% of the residual waste stream contains recyclable materials, meaning that there is still a tremendous amount of work to done to drive as many recyclables as possible out of that waste stream.

Research undertaken by WRAP (Waste and Resource Action Programme) explains that recycling has generally become the ‘social norm’ since their initial research in 2008, meaning that the emphasis has switched from ‘recycle more things more often’ to a new paradigm centred on ‘effective recycling for quality recycle’, as removing contamination within recycling waste streams will increase the reuse/recyclability of the materials collected.

Good communication is therefore vital to ensuring that residents know what we are doing and making sure we understand what those barriers are. The science-based approach within the Environment Plan, shows that to move to a carbon neutral city region recycling needs to increase to 65% by 2035. To deliver these targets a three-pronged approach is recommended:



## 1. Restrict Residual Waste Capacity

Currently all collection services within Greater Manchester operate restricted residual waste capacity by either moving from fortnightly to 3 weekly collection services or have reduced the capacity of residual waste through providing households with a smaller bin. Even with these changes, the Authority is unlikely to achieve the total Contract recycling target of 55%, therefore doing nothing further is not an option.

## 2. Behavioural Change

With restricting the residual waste capacity not being fully effective alone to achieve these targets, additional behavioural change work will also be required with residents of Greater Manchester to ensure that all residents are participating fully in recycling and that they are recycling accurately. The latest waste composition analysis (2018) shows that 40% of materials within the residual bin is recyclable therefore work still needs to be done to educate residents to recycle all recyclable products.

To achieve this we need to engage with communities and residents of Greater Manchester and ensure the citizens have the right tools and knowledge to make the right choices and work with partners to promote the benefits of waste as a resource along with potential efficiency savings of waste prevention and recycling.

## 3. Targeted Enforcement

Targeted enforcement could also be considered to work as a deterrent to residents who are not participating in recycling, if the first two approaches are not working effectively. Currently this method is not pro-actively used by Districts but will be reviewed at a Greater Manchester level as part of this plan.

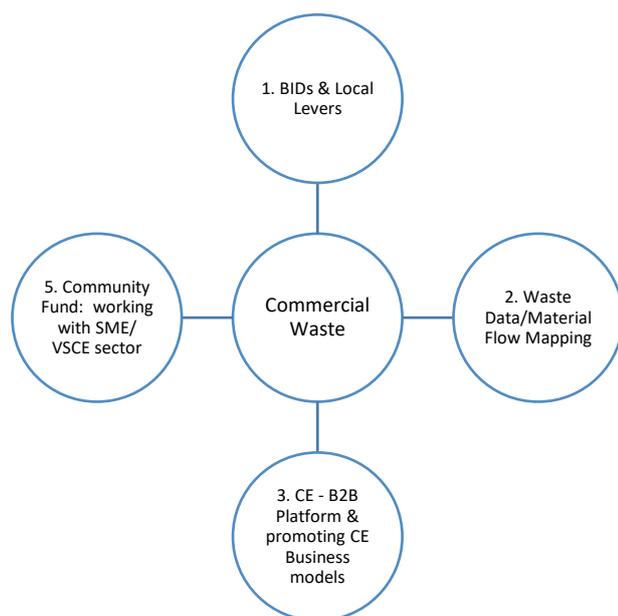
With the city region's ambitions to embed circular economy within Greater Manchester it's important to reduce the volume of household residual waste and maximise recyclable materials so that as many materials are reused and recycled as possible.

### 4.3.2 Reducing Commercial Waste Generation through Prevention, Reuse and Recycling

With our aspirations to become a circular city and England's Waste and Resources Strategy targets focusing on municipal waste and not just household waste, its important that we encourage businesses to reduce, reuse and recycle as much as they possibly can.

As highlighted in Priority 1, data at a Greater Manchester level is very limited and whilst Defra (Department for Environment, Food and Rural Affairs) are currently consulting on the introduction of mandatory digital waste tracking, this potentially will not go live until 2024. Therefore, we need to work with sectors to fully

understand the resources they are consuming and the waste they are producing and how they are disposing of that waste.



1. Business Improvement Districts (BIDs) and Local Levers – we plan to explore with GM BIDs how additional tax could be used to provide leverage in establishing competitive waste contracts and upcycling schemes to establish a working circular economy within the conurbation. Using local levers, such as GM’s Social Value Framework within procurement to drive change to reduce waste and recyclability of products procured. We also plan to investigate the feasibility of a material swap shop/surplus supply platform to reduce waste of materials.
2. Waste Data/Material Flow mapping – with no digital waste tracking available prior to 2024, we need to understand consumption and waste within the commercial sector to reduce waste, explore circular economy possibilities and ensure that waste is managed as sustainably as possible within the conurbation.
3. Business to Business (B2B) Platform – to stimulate change and move businesses away from linear business models to more circular businesses we plan, in partnership with Manchester Metropolitan University (MMU), to develop a B2B platform to bring sectors together, to identify opportunities and strengthen resilience and circularity within their supply chains.
4. Community Fund – Using the Community Fund within the Waste Management Contract with Suez, we can support Small Medium Enterprises (SMEs) and the Voluntary Community and Social Enterprise (VCSE) sector to stimulate and deliver in local communities.

#### 4.3.3 Explore the potential impact of England’s Waste Strategy

England’s Resource and Waste Strategy sets out five strategic ambitions, which align broadly with the Combined Authority’s:

1. To work towards all plastic packaging placed on the market being recyclable, reusable or composable by 2025.
2. To work towards eliminating food waste to landfill by 2030.
3. To eliminate avoidable plastic waste over the lifetime of the 25-year Environment Plan.
4. To double resource productivity by 2050; and
5. To eliminate avoidable waste of all kinds by 2050.

In addition, there's specific targets regarding:

- a. Introduction of a deposit return scheme by 2023.
- b. Legislation for mandatory separate food waste collections by 2023.
- c. 75% recycling rate of packaging by 2030.
- d. 65% recycling rate for municipal solid waste by 2035; and
- e. Municipal waste to landfill 10% or less by 2035

To deliver these strategic ambitions several consultations, along with a draft Environment Bill (currently going through Parliament) have been published. These relate to:

1. Extended Producer Responsibility (EPR)

The UK's EPR currently covers four waste streams: packaging, end of life vehicles (ELV), batteries and accumulators and waste electrical and electronic equipment (WEEE). Packaging EPR regulations have been consulted upon, which look to substantially change existing regulations, placing the full net costs of managing their products at the end of life, to encourage design of products to be more reusable and recyclable. The use of EPR will also be explored with the textile industry.

2. Plastic Packaging Tax

To encourage manufacturers to produce more sustainable packaging and create greater demand for recycled material, from April 2022, a £200 per tonne tax will be introduced to all manufacturers who produce more than 10,000 tonnes of plastic packaging with less than 30% recycled content.

3. Recovering resources & managing waste

The strategy confirms government's commitment to adopt EU's Circular Economy targets for recycling and landfill diversion for municipal waste; 65% recycling and no more than 10% to landfill by 2035. To achieve these targets, several consultations have taken place on:

- a) Consistent collection regimes with a core set of mandatory materials to be collected, including weekly food waste collections;
- b) Introduction of a deposit return scheme;

- c) Mandatory recycling for businesses and greater reporting and data collection; and
- d) Introduction of mandatory digital waste tracking.

Whilst England's Resource and Waste Strategy and Environment Bill are welcomed by the Combined Authority the requirements and potential financial burden of implementing some of the ambitions of the strategy could be costly. To ensure that the true costs to Greater Manchester are known, several cost and environmental assessments will be undertaken. The first to be undertaken is the potential impact of implementing separate weekly food and garden waste collection services, as currently food and garden waste is collected together throughout Greater Manchester along with scenario waste modelling of potential collection and disposal services.

The outcome of these consultations and how they are set out in legislation will enable Greater Manchester's Zero Waste Strategy to be produced in the near future.

#### 4.3.4 Encourage and embrace innovation, exploring new ways of solving existing challenges

To meet the ambitions of this plan and England's Resource and Waste Strategy, innovation will be required to ensure that the waste hierarchy is at the forefront of our waste management services. Prime examples within this plan are covered within Priority 1: Moving to a circular economy and Priority 3: Reducing Food Waste.

## Recommendations

6. The GMCA, local authorities and key partners continue to work towards the European Union's Directive target to increase the municipal waste recycling rate. This will include evaluating and assessing the environmental and financial implications of implementing the requirements of the new Environmental Bill and statutory guidelines.
7. Partners across Greater Manchester should work together to develop and deliver a programme of campaigns to promote the waste hierarchy (reduce, reuse and recycle).
8. The GMCA, local authorities and key partners should develop and implement a pathway to lead to the reduction of waste crime within Greater Manchester.
9. Partners across Greater Manchester should carry out further research to identify whether there are opportunities to develop a GM wide recycling collection and disposal solution for businesses within Greater Manchester.

10. Partners across Greater Manchester should collaborate and carry out further research, pilots to drive innovation and explore new ways of working to reduce waste and maximise reuse and recycling in the commercial sector.

## 5. Reduce Food Waste

### 5.1 Where does Greater Manchester need to get to?

We need to reduce the overall amount of food waste generated, ensure we maximise redistribution to ensure that those who are living in poverty can access such services, increase home growing and composting and stimulate local markets, through a full system approach.

### 5.2 Where is Greater Manchester now and what Action is needed over the next 5 years?

#### 5.2.1 Reduce food waste within households

In the UK alone, an estimated 10 million tonnes of food and drink are wasted annually after the farm gate, equating to a value of approximately £20 billion. Within those figures, 7.1 million tonnes (£15 billion) is waste from households.

A GM wide (ex. Wigan) waste composition analysis was undertaken in 2018/19 which confirmed that food waste is currently the largest waste stream that remains within the residual bin, with over 28% (66.5kg/hh/yr). Additionally, of the 34% of food waste within the collected organics (food and garden) stream (58.9kg/hh/yr), a staggering 58% of that is avoidable food waste.<sup>5</sup>

	<b>Kg/hh/yr</b>
Avoidable food waste – unused fully packaged	0.6
Avoidable food waste – part used in packaging	1.7
Avoidable food waste – loose	31.8
Potentially avoidable food waste <sup>6</sup>	4.4
Unavoidable food waste	20.5
<b>Total Food Waste</b>	<b>58.9</b>
% Avoidable food waste	57.9%
% Potentially Avoidable	7.4%

Figure 14: Food waste placed into the organic waste collected within GM, based on kg/hh/yr

Source: GM Waste Composition Analysis 2019

Based on capture rate data for GM, it's estimated that currently 129kg/hh/yr of recyclable food is disposed of at the kerbside of which 58.9kg/hh/yr is correctly recycled meaning that 70kg/hh/yr of potentially recyclable food is not being captured in the organic recycling stream.

The level of food waste within households needs to be reduced, firstly through waste minimisation initiatives and households understanding why so much food is

<sup>5</sup> Avoidable food waste – food thrown away that was, at some point, prior to disposal, edible (eg slice of bread, apples, meat). This includes unused fully packaged food waste; part used food waste in packaging and loose food waste.

<sup>6</sup> Potentially avoidable - food that some people eat and others do not (eg bread crusts), or that be eaten when a food is prepared in one way but not in another (eg potato and vegetable peelings)

being generated and then secondly, we need to promote getting food waste into the recycling waste stream.

WRAP's research explores the barriers specifically associated with food waste recycling. These include:

- a) Residents do not always understand what is done with food waste, why it is worth recycling it, and what types of food waste are wanted in the collection system. For example whilst plate scrapings and food preparation/offcuts are commonly understood to be food waste, there is a much greater barrier in the public recognising unopened (out of date) packaged or half eaten food products as food waste; and
- b) People also do not recognise non-edible items such as coffee grounds and eggshell as food waste.

As well as known knowledge barriers misconceptions, attitudinal barriers have also been identified that deter participation in food waste collection services. These include:

- a) Concerns about smells and hygiene, especially if caddies are stored near the food preparation area;
- b) Concerns about vermin, flies, and cross-contamination of fresh food; and
- c) People finding the contents of the food waste caddy unpleasant.

To enable greater participation in food waste collection services, effective communications need to be designed to make it clear what can be recycled as well as myth busting residents' concerns relating to food hygiene.

### 5.2.2 Sustainable Food System

At the Green Summit in 2018, Good Food GM was launched to set a vision on what a sustainable food system would look like for Greater Manchester. Additionally, the Mayor of Greater Manchester signed the Milan Urban Food Pact committing to the voluntary framework to take action in 6 key categories: Governance, sustainable diets and nutrition, social and economic equity, food production, food supply and distribution.

Based on that commitment, a Good Food GM Board has been established and through partnership working a sustainable food vision has been finalised and was launched at the Green Summit 2021. The vision has been based on the following general principles, that food should be:

- Ecologically responsible
- Fair and accessible
- Local (where possible)
- Healthy
- No waste

To help disseminate the vision and create a 'good food' movement, a toolkit will be developed to sit along the vision to not only showcase the amount of work that is happening across Greater Manchester.

Alongside the toolkit, several working groups have been created to drive change in the food system. These range from tackling food poverty, to promoting sustainable diets and nutrition, resilience with local supply chains and eradicating food waste from the food system.

## Recommendations

11. Working with key partners a programme of Greater Manchester wide campaigns will be developed focusing on the co-benefits of reducing and then recycling food waste.
12. Partners across Greater Manchester should collaborate to create a delivery model to enable Greater Manchester to become a sustainable food city region.

## 6. Empower residents to make more sustainable lifestyle choices

### 6.1 Where does Greater Manchester need to get to?

To enable the city region to become carbon neutral it's recognised that, as citizens of Greater Manchester, we all have a role to play to reduce our personal carbon footprint by making more sustainable lifestyle choices.

### 6.2 Where is Greater Manchester now and what Action is needed over the next 5 years?

#### 6.2.1 Making more sustainable lifestyle choices

So what do we mean by sustainable lifestyles? Sustainability means meeting our own needs without compromising the ability of future generations to meet theirs, so living more sustainable looks to reduce waste, reduce our carbon footprint and choose products that are environmentally and socially responsible. It's recognising that no one can do everything, but everyone can do something; small changes can make a difference.

With 75% of our carbon emissions being attributed to households this means climate change is impacted by the food we eat, the things we buy and throw away, how we travel and how we heat and power our homes.

To enable the city region to become carbon neutral we need residents to make more sustainable lifestyles and make a conscious effort to reduce their own carbon footprint.

#### 6.2.2 Showcasing the achievements within Greater Manchester and how citizens and businesses can become involved in the City Region tackling Climate Change and becoming Carbon Neutral

To showcase the progress Greater Manchester is making to become carbon neutral it is recommended that a new website be created to provide information on how to become more sustainable as well as demonstrate the vast amount of work which is happening within the city region.

#### 6.2.3 To embed a programme of climate change awareness initiatives, promoting sustainable working and lifestyles within day to day lives

As an organisation, and as demonstrated within the new Greater Manchester Strategy, our environment touches everybody's day to day lives, both in and out of work. To ensure we are raising awareness on the impact of the decisions we make, we need embed, starting with compulsory climate change awareness training, a suite of initiatives which enable colleagues and citizens to make informed decisions to enable the conurbation to actively move to more sustainable working practices and lifestyles.

6.2.4 To work with communities to develop and promote SCP initiatives which also improve social, environmental, and economic well-being

It is recognised within the 5-Year Environment Plan that the Combined Authority and public sector bodies cannot combat climate change alone, we need everyone to play their part too. Engagement with local communities has an important role to help create change. By utilising the Suez and Recycle for Greater Manchester (R4GM) Community Fund, we aim to engage with local communities to become involved in local initiatives to improve our environment, whilst delivering social and economic well-being.

### Recommendations

13. Partners across Greater Manchester work together to promote sustainable lifestyles within their organisation and through media campaigns.
14. That GMCA should create a new website to demonstrate and showcase the progress the city region is making in becoming carbon neutral by 2038.
15. The GMCA and local authorities and the public sector should raise awareness, through climate change impact awareness training, to embed sustainable working and living.
16. To work with communities to develop and promote SCP initiatives which also improve social, environmental, and economic well-being.

## 7. Bringing it together

### 7.1 Where does Greater Manchester need to get to?

#### 7.1.1 Mission-oriented approach

The 5-Year Environment Plan for Greater Manchester sets out the scale of the challenge in achieving the CO<sub>2</sub> emission reductions required to meet its international climate change obligations, of which Sustainable Consumption and Production will be an integral part. To deliver its environmental vision and aims the plan sets out to close the gap between what is needed and where Greater Manchester is now. To do that it points to taking new and different approaches in the following areas:

- Supporting innovation
- Finance and funding
- Building partnerships between the public, private and voluntary, community and social enterprise organisations
- Showing leadership
- Engaging and educating residents, communities, and businesses
- Upskilling its workforce

In this report, these themes are key to tackling the challenges associated with sustainable consumption and production and have been covered in various sections and recommendations.

### 7.2 Where is Greater Manchester now and what action is needed?

#### 7.2.1 The roles of different organisations within Greater Manchester

No single organisation in Greater Manchester can tackle the priorities and implement the recommendations in this report alone. Doing so requires joint working across different types of organisations and sectors, which should build upon the strength of existing partnerships in Greater Manchester. These have been developed strategically, for example in the lead up to all the Green Summits and in the development of the 5-Year Environment Plan, enabling each sector to bring different abilities and expertise – these are set out below:

- GMCA and Local Authorities – providing the right policy framework, including setting ambition and direction, providing evidence to inform action, and implementing policy where levers are held locally (e.g., local levers such as taxation, planning policy), convening key stakeholders and engaging more widely across Greater Manchester.
- Wider public sector – leading by example in areas where organisations (health, national government etc) have direct operation and financial control (e.g. assets, procurement).
- Community, voluntary and campaign sector groups – building greater public

- understanding and awareness of SCP there is the potential to participate in more community-based social marketing activity.
- Businesses – carrying out innovative research and development, developing new supply chains and business diversification as well as raising awareness.

### 7.2.2 Building on existing partnerships to work together in new ways

GMCA and key partners need to build on this foundation and move to focus on delivery against the priorities set out in the 5-Year Environment Plan and within this report. This should be done in a way that reflects the ambition for a mission-oriented approach and links to other Greater Manchester strategies.

Since the launch of the 5-Year Environment Plan and its mission-based approach, several Challenge Groups have been established to help the delivery of the Plan. It is recommended that the SCP (Aims 1 and 2) and Communications and Behavioural Change (Aims 3 and 4) Challenge Groups should continue to be responsible for driving progress towards the ambitions set out in this report and the 5-Year Environment Plan.

It is also recommended that the Challenge Groups and Task and Finish Groups beneath it continue to be:

- Action-focussed – focussed on implementation and delivery, driving forward the recommendations in this report rather than focussing on or discussing issues or barriers.
- Agile – should not necessarily be long-standing and should be able to change their remit and focus to ensure the most significant issues are prioritised given limited resources.
- Cross-sectoral – approaching issues in a way that allows for them to be tackled bottom up most effectively rather than on traditional top-down sectoral lines.

### 7.2.3 Next steps

Working across organisations in the way set out above offers the potential for stakeholders to come together in new ways to deliver on the ambitions set out in this report and the 5-Year Environment Plan for Greater Manchester. Both Challenge Groups have been established along with various Task and Finish Groups to drive action in this area forward.

## Recommendations

18. To continue to work together with local authorities, partners, and stakeholders to effectively implement the Plan through the 5-Year Environment Plan's ambitions to establish a mission-oriented approach to tackling Greater Manchester's environmental challenges.