

# Action Plan (key priorities)

## Sustainability



milton keynes council



## **Foreword by Councillor Jenny Marklew, Cabinet Member for Climate Action and Sustainability**

I'm sure I'm not alone in thinking that Milton Keynes is a pretty special place to have grown up. On its redways I learnt to ride a bike, in its woods I found my deep and enduring love of nature and through its balancing lakes saw the genius of its architects in joining natural mechanisms with a highly planned and considered built environment. It is through this experience, being a child of a place like Milton Keynes, that I find myself writing the foreword to this ambitious document, through which we will lay out our plans to make Milton Keynes carbon neutral by 2030.

We now find ourselves facing new challenges. The spectre of climate change is beginning to seep into our lives - it is no longer a concept or something that happens to people in distant lands. The scientific community has reached a level of consensus rarely seen around the dangers of a rising global temperature and its causes. It becomes incumbent upon all of us to take responsibility and play our part in limiting climate change's impact and preserving our home, our country and our planet for future generations. Within this document, we provide the background and context within which we are operating.

That said, it's not an easy thing to tackle - if it was, we'd have done it by now. It requires vast amounts of investment and changes to the way we live our lives. For many, this change is beyond their reach. When it is a struggle to get out of the door in the morning to get the kids to school on time, there often isn't the capacity to change the journey so that it can be done using a bus. When the struggle is being able to get food on the table, as it currently is for far too many, making considered choices about where that food has come from simply isn't an option. The burden cannot simply fall on individuals. There must be strong leadership coming from elsewhere.

Milton Keynes Council believes that it has an important role to play in delivering changes that will push us towards Carbon neutrality through investment, innovation, and strong leadership. This document sets out our plan. Through it, we articulate what we're doing and what we plan to do. It also highlights the invaluable role the Task and Finish Group have played. This document will be updated in six months' time to reflect their findings and recommendations.

This action plan is bold and ambitious. Its' purpose is to crystallise the depth and breadth of commitment we have made to reaching carbon zero. But more than that, it is a document of hope; the hope that we can play our part in making our world a better place for future generations.

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## Our Objectives for Sustainability Action

The evidence is clear that rising temperatures are altering the global climate – we are experiencing prolonged and hotter heat waves, more frequent and lengthier droughts (resulting in extensive wild and forest fires), more extreme and frequent flooding events.

Milton Keynes Council's Sustainability Strategy 2019 – 2050 is our long-term vision to create a world-leading sustainable city, which embraces innovation, creates high quality jobs and recognises it has a vital role in tackling the global challenges of climate change. **Milton Keynes will strive to be carbon neutral by 2030** and carbon negative by 2050 while creating one of the world's most truly sustainable economies and models for growth.

Milton Keynes can be a world leading sustainable city, using the opportunities of growth to tackle the challenges of climate change and resource competition to create a more prosperous city for all our people and future generations.

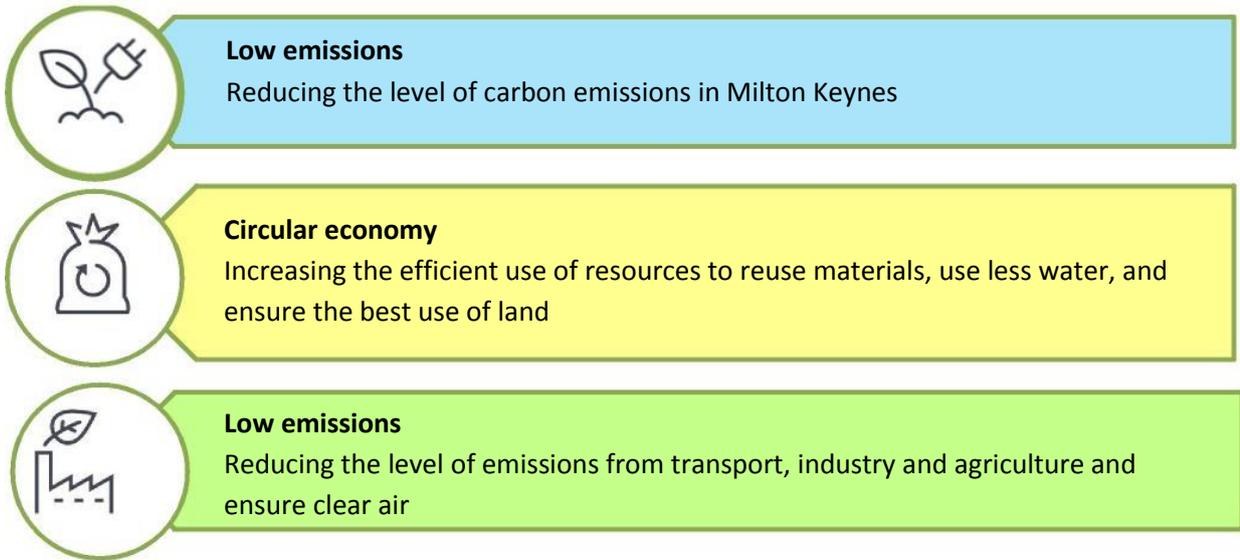
Borough wide CO<sub>2</sub> emissions in Milton Keynes have reduced by 44% since 2005 . The total 2017 emissions were 1,177ktCO - it is estimated Milton Keynes Council as an organisation produced 2% of this (c23.5ktCO).

The challenge for Milton Keynes Council as a civic leader, is to help address the 98% of the city-wide emissions.

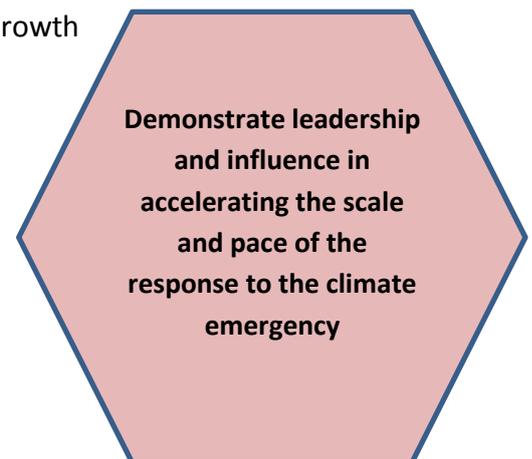
# Principles

From the sustainability strategy, the action plan will centre on the following sustainable principles and the core themes.

**Figure 1: Principles guiding our action plan** (Ref: MKC sustainability strategy)



Both climate and civic leadership are required to deliver the vision that Milton Keynes to be a world leading green and sustainable city, consistently making the most of the advances in technology as they affect our lives; taking the opportunities of growth to tackle the challenges of climate change and resource competition, creating a more prosperous city for all our people and future generations



# Scope of Action Plan

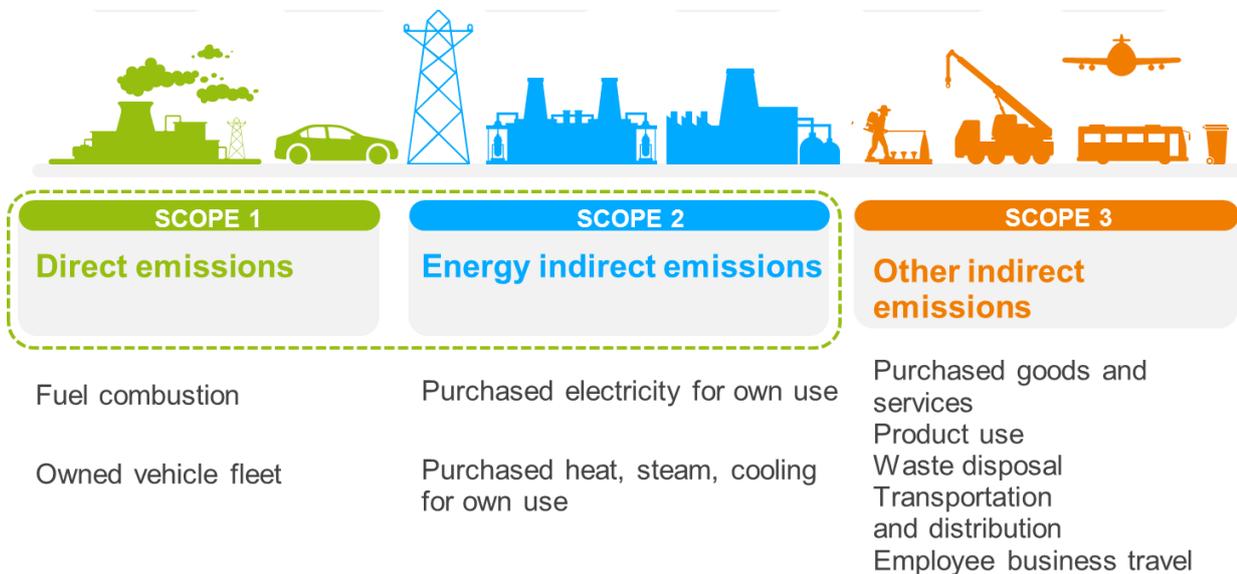
The current breakdown of the sources of CO2 emissions within the Borough is 30% from domestic, 34% from transport and 36% from industrial/commercial activities.

Figure 2 outlines the three scopes of emissions of Carbon Dioxide.

This action plan addresses emissions in each Scope, where Milton Keynes council is directly responsible for those emissions.

However, to meet the objective which covers the entirety of Milton Keynes, it is clear we must go further. We must also seek to influence and accelerate action across the city.

**Figure 2: Emissions are categorised into three scopes (Ref: ENGIE)**



We will report annually on all Scope 1 and 2 emissions from council owned buildings and operations and we will set targets for these emissions as part of the implementation of this plan. A later section of this report outlines this in more detail.

We will work towards being able to report on Scope 1 and Scope 2 emissions from across Milton Keynes.

A review of Scope 3 emissions will be undertaken, and an updated action plan will be provided.

## Emerging recommendation from the TFG

Milton Keynes Council formed a Task and Finish Group (TFG) with cross party-political representation to gather evidence from individuals and organisations.

Over a period of six months and four public meetings covering energy, transport, housing and behaviour many ideas were brought forward, which have culminated in the Task and Finish Group recommendations to Cabinet.

It is important the outcomes of this group and this action plan are aligned soon to create a cohesive and consolidated plan.

We will continue to engage with the TFG and key stakeholders throughout the period of this action plan, including the business community based within the city, and the forthcoming university to inspire positive behaviours.

# Creation of an Energy & Carbon Hub

To facilitate and accelerate the delivery of a programme of energy generation and carbon reducing projects across Milton Keynes, we are focussing on the creation of an 'Energy & Carbon Hub'.

This will lead the development, delivery and operation of low carbon energy generation and other initiatives. It will include the development of strong, strategic energy supply partnerships to share the benefits of local generation, without taking the risk of running an energy supply company.

This approach replaces the creation of a fully licensed or 'white label' energy company. To be viable, the former requires an estimated 120,000 homes to supply power to and the later does not give the required control.

The next stage is to develop a business case for the Energy & Carbon Hub together with the development of an energy prospectus. This will articulate the opportunity that the Energy & Carbon Hub could provide.

The hub will be led by MKC and will initially sit within Environment and Property. It will be designed to ensure the transition to carbon neutrality is possible through a combination of functions that enable rapid low carbon development. Within the hub the focus will be to bring together a package of deliverable projects that fit within the overall priorities – to help MK become the first net zero city.

The Energy & Carbon Hub will report to the Corporate Leadership Team and in the medium to long term it may be appropriate to form an LLP, company or charity to create and hold assets for energy generation. In this event, the organisation would have a purely social purpose.

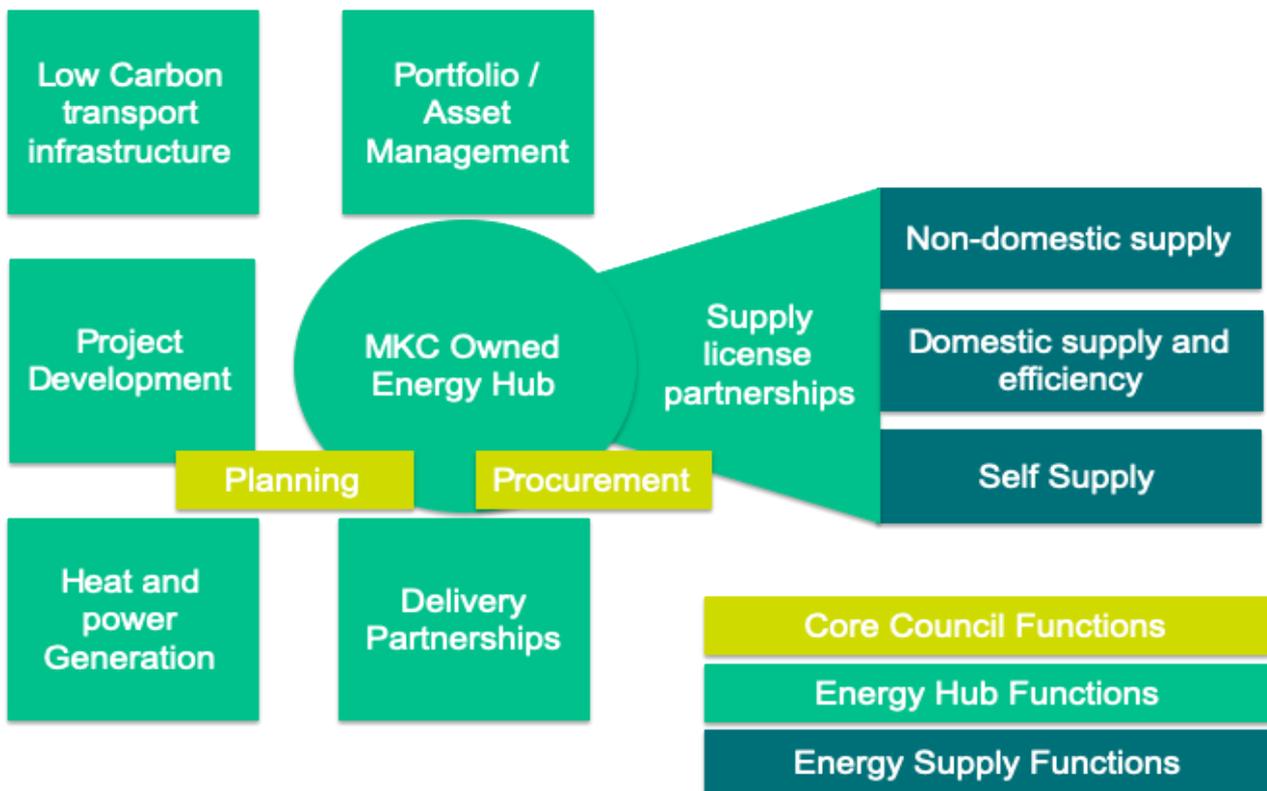
The respective functions will include:

- **Programme leadership** – defining and developing an overall executable masterplan, focused initially on MKC owned assets but being open to working beyond MKC boundaries.
- **Project Development** – developing ready to build, investible projects
- **Heat and Power Generation** – owning / facilitating low carbon heat and power generation
- **Low Carbon Transport** – provision of infrastructure to accelerate low carbon transportation

- **Portfolio / Asset Management** – managing the portfolio of projects for best value return in £'s and social benefit
- **Delivery Partnerships** – developing landowner relationships and building a professional team that ensures best practice and delivers the optimum outputs

**Supply License Partnerships** – partnering to share the benefit of the hub’s work with communities, businesses and the public sector. The Energy and Carbon Hub will be central to the carbon neutral transition and through proactive and positive engagement with the market, the hub will provide assurance to the market by helping to mitigate planning, development and operational risk. It can provide stability through access to market and commercial agreements for the offtake of energy. It will provide a framework for engagement with all types of energy user. It is intended to generate a surplus for MKC improved service provision – including action on fuel poverty and air quality. It will deliver net zero for Milton Keynes.

**Figure 3: Energy & Carbon Hub** (Ref: Local Partnerships)



The Energy and Carbon Hub will work hand in hand with MKC service functions to accelerate development. We have already started work on an Energy Prospectus, which will set out the programme of activity.

At the heart of the prospectus will be the setup of the Energy and Carbon Hub as the route to delivery, alongside the programme of work delivered in partnership with ENGIE and the Re:fit Energy Performance Contract.

The format of the Energy Prospectus is set out as follows:

### **Delivery Mechanisms – (GREEN ENERGY, LOW EMISSIONS, FUEL POVERTY ACTION & CIRCULAR ECONOMY)**

- Energy and Carbon Hub – to facilitate and develop the practical path to Net Zero
- Re:fit – Accelerating the transition of MKC owned property to Net Zero

### **Low Carbon Generation - (GREEN ENERGY, LOW EMISSIONS)**

#### **Actively pursue local low carbon generation opportunities**

- Solar farms – solar thermal (to energy centre or domestic) – micro generation (Re:fit and wider opportunities)
- Wind power – onshore local where possible.
- Energy from waste – gasification, anaerobic digestion (AD), plastics processing, biofuels
- Energy storage – including batteries and hydrogen or ammonia production (Re:fit and wider opportunities)
- Waste heat and low carbon heat development

### **Low Carbon procurement - (GREEN ENERGY)**

#### **Move MKC energy supply to low carbon**

- Examine self-supply options – consider partnerships with zero carbon power suppliers
- Void switching of owned domestic properties.
- Market engagement to encourage low carbon switching or collective switching and efficiency schemes

### **Transportation infrastructure - (LOW EMISSIONS)**

- Extend the ultra-low emissions refuelling infrastructure – electric vehicles (EV) and Hydrogen
- Create the market through switching of owned and influenced vehicles (i.e. buses, refuse trucks, fleet)
- Discourage carbon intensive transportation within City

### **Waste to Energy and Fuel - (LOW EMISSIONS & CIRCULAR ECONOMY)**

- Wrap up all waste products within MKC to energy from waste (EfW) and conversion technologies
- Where possible leverage the output (power, hydrogen, biofuel) for local sale and vehicles

### **Self-Supply / Supply - (GREEN ENERGY, FUEL POVERTY ACTION & CIRCULAR ECONOMY)**

- Take control of the supply market linking local generation to self, non-domestic and domestic supply
- Drive a low local tariff to safeguard citizens from fuel poverty
- At scale of MKC should look at strategic partnership(s) for supply

### **Efficiency Interventions - (FUEL POVERTY ACTION, LOW EMISSIONS & GREEN ENERGY)**

- Re:fit Energy Performance Contract – MKC estate including sheltered accommodation and HRA
- Drive physical interventions to homes – initially target MKC owned
- Microgeneration (rooftop solar), Heat pumps, insulation, low consumption consumables (lighting) and appliances
- Generate soft interventions communications – encouraging MKC residents to use less energy and buy energy more cost effectively
- Leverage any centralised funding pots (e.g. Energy Company Obligation (ECO))

# Carbon Route Map

A carbon route map is how we understand how we will reduce carbon emissions, and how much each of the actions we take will contribute to the overall reduction in emissions.

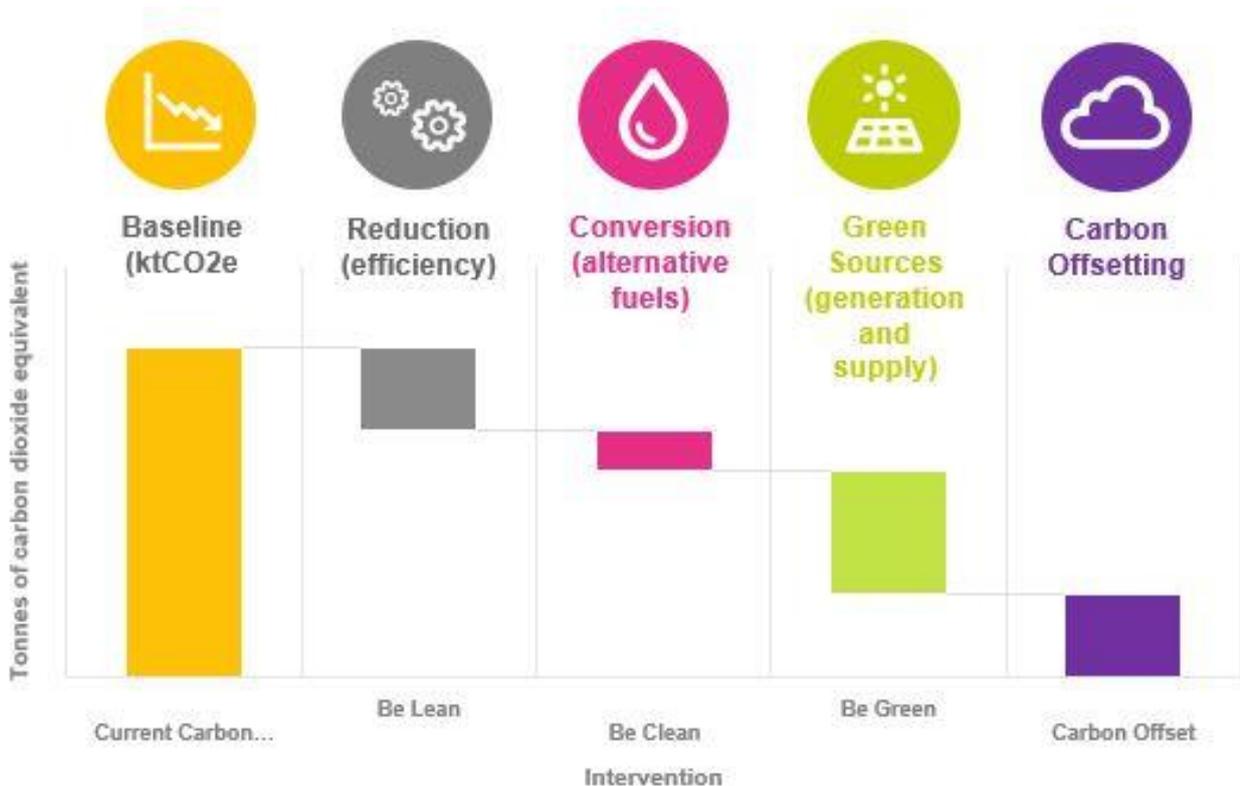
Actions we take can reduce emissions by:

- deliver **energy efficiencies** from existing buildings (e.g. upgrading equipment, fabric insulation)
- **convert** from fossil fuels to alternatives (e.g. electric vehicles, green fuelled fleet),
- produce more **green power** (e.g. solar rooftops, solar farms, wind turbines),
- produce more **green thermal power** (e.g. anaerobic digestion, energy storage)
- but all of these will not complete the transition, so a degree of **compensation** (e.g. carbon and biodiversity offsetting, tree planting) will be required to achieve absolute carbon neutrality.

This follows the diagram in Figure 4.

We will create a carbon route map for this action plan, detailing how each action will contribute to a reduction in carbon emissions. The goal for our carbon route map is to focus our resources and investment to achieve carbon neutrality.

**Figure 4: Framework for Identifying Contribution to Carbon Neutrality** (Ref: ENGIE)



# Monitoring Progress to zero emissions

## Governance

The final governance for the delivery and ongoing monitoring of this action plan will be agreed following consideration of the recommendations of the Task and Finish Group.

Until the recommendations are received, progress against this action plan, including annual milestones and the carbon neutrality target, will be reported within the usual Council's corporate reporting

It is proposed to report to Cabinet at the September meeting to present an updated action plan, which includes all of the recommendations made by the Task and Finish Group that are adopted by Cabinet on 10 March 2020.

An alignment of Council strategies and policies will be required to ensure that there is a consistent theme across the Council. To achieve this, we propose a new MK Council board, comprising director level stakeholders and cabinet members.

## Evidence

To be able to evidence becoming carbon neutral, it is crucial that the baseline of emissions from both the council operations and Milton Keynes is reconfirmed.

BEIS figures are a good benchmark against other UK towns and cities, however we require a **baseline specifically for MK**, covering city wide and council emissions

From this baseline we can create a carbon route map, which will outline the nature of the expected reductions (as per Figure 4).

The overall time to completion of the baseline and energy prospectus will be approximately 4 months (benchmarked against other authorities) and to create a fully costed roadmap to deliver the action plan may take up to a further 12 months – clearly early win projects will be identified and executed as we proceed.

# Opportunities for Funding

The key to implementing many of the required actions to becoming carbon neutral will be funding. Becoming carbon neutral will provide opportunities for both public and private investment but MKC will need to demonstrate climate leadership to provide the reassurance required to attract such investment over the longer term.

Milton Keynes Council can:

- Utilise its own budgets and property portfolio to reduce emissions
- Create a platform to attract green investment to the city
- Bring together all partners for example major organisations and charities across the city to implement the desired outcomes
- Facilitate alternative funding models, including for example initiatives involving our residents, such as crowd funding

Government based funds:

- Innovation funds – e.g. Industrial Strategy Challenge Fund, Innovate UK, UKRI
- Growth funding – e.g. Strength in Places
- Grant funding – e.g. Heat Networks Delivery Unit
- Gap funding – e.g. Heat Network Investment Project
- Commercial funding – e.g. Public Works Loans Board
- Local funding – through Capital Reserves or Revenue
- Local Government Bonds – e.g. UK Municipal Bonds Agency, Green bonds.

External funds:

- Pension funds – seeking renewable investments
- Investor Community / infrastructure funds
- Developers – bringing development funds
- Green bonds / Bond issue secured to cash flow of renewable developments
- Venture Funding – e.g. Venture Capital, Private Equity, Large Corporate Ventures
- Community Funding / Crowdfunding – e.g. Crowdcube, Seedrs.

As well as playing a central role in funding, MKC has a role to play in identifying, developing and de-risking opportunities by acting as the developer, the off-taker, the landowner, the planning authority and the partner for the local community.

There are many potential sources of funding from the public and private markets. With MKC at the heart of the drive to local carbon neutrality, it will be critical to take a strategic and pragmatic approach to raising and deploying funds. The aim of this approach to funding would be to achieve a leveraged and balanced portfolio of public and private investment to maximise opportunities.

# Forward Plan

Our identified key actions against each principle are summarised in the tables below, with a timescale for implementation for each:

- **Short term:** actions starting now and that aim for completion within the first three years of this plan, by 2022
- **Medium term:** actions that will have a longer development time and aim for implementation between 2023 and 2027
- **Long term:** actions that have a feasibility and development time, or with external dependencies that aim for implementation during 2028 and 2030.

Each action, listed within our sustainability strategy, will require a detailed cost benefit and funding analysis and will follow standard Council governance procedures for approval and implementation. As a result, it is likely these actions will evolve, some may fall away, and new actions may come forward to deliver carbon neutrality. It should be noted that the actions may run in parallel, rather than completing all of the short-term actions before moving to the medium term etc.



## Green energy

Maximising the use of renewable energy, reducing carbon and providing resilience to the grid

## GREEN ENERGY – maximising the use of renewable energy, reducing carbon and providing resilience to the grid



### 1 A secure and resilient energy supply and distribution system

Proposed actions

1	Mobilise an energy and carbon hub to facilitate and accelerate energy generation and carbon reduction opportunities	Short term
2	Establish schemes for residents and businesses to reduce energy consumption during peak demand	Medium term
3	Implement electricity storage options including batteries, EV's via the energy and carbon hub	Medium term
4	Create new and expand existing District Heating Networks via the	Medium/Long

	energy and carbon hub	term
5.	Establish options for grid upgrade, battery storage and private wire at Milton Keynes Waste Recovery Park (MKWRP)	Medium term
6.	Consider options for energy use / production at the new Recycling Centre (Materials Recycling Facility) in Old Wolverton	Medium term



## High levels of green energy production

Proposed actions

1	Require all new developments to have green energy generation included as part of the building– Plan:MK and SC1/SC2 SPD development	Short/Medium term
2	Identify sites and develop solar farms – Refit & energy and carbon hub	Medium term
3	Install PV on council owned assets – Re:Fit	Short term



## Diversify energy supply

Proposed actions

1	Use the energy hub to create a local renewable energy supply chain to reduce local dependency on fossil fuels	Medium term
2	Consider option to invest in offshore wind power	Short term
3	Produce and use biogas to help decarbonise the grid	Medium term
4	Install ground source heat pumps under school playing fields, public open spaces	Medium/Long term
5	Smart procurement of alternative sources of energy	Short/Medium



### **Circular economy**

Increasing the efficient use of resources to reuse materials, use less water, and ensure the best use of land

## **CIRCULAR ECONOMY – Increasing the efficient use of resources, use less water and ensure the best use of land**



### **4 Use land to capture and store carbon**

Proposed actions

1	Afforestation of available land, linked to the biodiversity baselining and with partners, such as the Parks Trust	Short/Medium term
2	Maintain grassed areas to retain carbon in the soil	Short/Medium/Long term
3	Investigation of creation of open windrow composting facility to create compost from collected garden waste	Medium term
4	Consideration of green roofs on commercial scale and across Council owned buildings	Short/Medium term



### **5 Inclusive economic growth**

Proposed actions

1	Green job creation and skills training, engaging with our partners in the business and education community	Medium term
2	Develop a sustainable food procurement policy for all council premises including schools, nurseries, care homes	Short term
3	Promote use of decentralised balanced smart energy systems	Short/Medium term

## 6

### Encourage system wide thinking, design and models

Proposed actions

1	Implement a zero-carbon building programme for all MKC buildings and schools	Medium term
2	Retrofit all MKC housing to improve energy efficiency	Short/Medium term
3	Ensure all contracts require low carbon suppliers and deliveries to the buildings	Short/Medium term
4	A consistent theme through all MKC policies and procedures to ensure alignment and which include requirements to indicate contribution to lowering emissions	Short term
5	Provide energy transition advice to individuals, organisations and businesses	Short term

## 7

### Encourage biodiversity

Proposed actions

1	Mobilise and deliver the Biodiversity and Natural Environment Action Plan	Short/Medium term
Please note that the Environment Action Plan has a wide range of actions over short, medium and long term which feed into the Sustainability Action Plan as part of the consistent theme.		

## 8

### Reduce waste and increase reuse of all materials

Proposed actions

1	Reduce landfill to near zero by 2030	Long term
2	Increase rate of re-cycling to 70% by 2030	Long term
3	Reduce contamination rate in recycling through proactive community engagement	Short / Medium term
4	Source local (UK) markets for recycling where possible and use proximity principle for off-taker destination where viable	Medium/Long term
5	Improve quality of recycling in terms of materials	Medium term
6	Create a dedicated 'reuse' facility at one of the current or future Household Waste Recycling Centres	Medium term
7	Investigate potential for open windrow composting facility to process borough garden waste and create community compost	Short term
8	Consider options for bulking up carbon intensive materials for reprocessing (bottom ash into aggregates, mattresses to be recycled etc) via a Transfer Station	Short term
9	Expand the Eco-Warrior education programme to focus on material reuse and waste reduction, as well as expand the programme to Secondary Schools	Short term

10	Support the establishment of the third sector in working to repair and resell items which have gone through 'planned obsolescence' curve	Short/Medium term
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### Low emissions

Reducing the level of emissions from transport, industry and agriculture and ensure clear air

## LOW EMISSIONS – reducing the level of emissions from transport, industry and agriculture and ensure clean air



### 9 Reduce emissions from transport, agriculture and industry

Proposed actions

1	Implement the Mobility Strategy and deliver the behaviour change aims, by encouraging an increase in the proportion of trips made by non-car modes of travel	Medium term
2	Reduce carbon emissions from public transport vehicles through modernisation and electrification of the fleet	Medium term
3	Implement policies and schemes that encourage ride sharing and reduced single occupancy car use	Short term
4	Facilitate the adoption of new forms of e-mobility (e-bikes, e-scooters) that could maximise use of the redways, such as with public charging points, secure storage/parking.	Medium term
5	Create new car parking policy to take account of changes in customer use; new technology and future trends	Medium term
6	Explore how freight transport can reduce its carbon footprint, such as with freight consolidation, cargo bikes etc.	Medium term
7	Implement alternative strategies to reduce car use and promote bus, cycling and other more efficient / sustainable modes of transport	Short/Medium term
8	Deliver a low emissions fleet for category 1 (waste, cleaning, landscaping community transport, highways fleets etc) with options for fuelling lower emissions fleets to be considered for wider offer to domestic logistics industry.	Medium term
9	Complete review of low emission waste, cleansing, landscaping and highways fleet and circular economy fuelling options	Short term

## Minimise water usage

### Proposed actions

1	Reduce household, council and new development water consumption across Milton Keynes by implementing the use of water saving devices	Short/Medium term
2	Fit rainwater collection systems into all new MKC buildings and make use of grey water where appropriate including the consideration of water storage for future developments.	Short/medium term
3	Work with sewage and water processing industry for consideration of resource extraction from sewage (phosphate)	Medium term
4	LLFA coordination with IDB and Water Board to improve drainage and agree attention rates	Short/Medium term
5	Implement and deliver the Environment Action Plan	Short term
Please note that the Biodiversity and Natural Environment Action Plan has a wide range of actions over short, medium and long term, which feed into the Sustainability Action Plan as part of the consistent themes.		

## Clean air

### Proposed actions

1	Continue to robustly monitor emissions and air quality to maintain and improve the current levels	Short term
2	Assessment, market consideration and business cases for all MKC vehicles to migrate to lower carbon, clean fuel provision to reduce carbon impact and improve air quality across the entire borough.	Short/Medium term
3	Implement low emission fleet for Authority fleet(s)	Short/Medium term
4	Implement Environment Action Plan with Clean Air enhancements (i.e. tree planting)	Short term

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