A town-wide vision for

Luton 2040

A Net Zero Town

Luton 2040

A place to thrive

Our Shared Vision for Luton

Luton will be a healthy, fair and sustainable town, where everyone can thrive and no-one has to live in the poverty.

At the beginning of 2020, Luton Council declared a climate emergency and set out its ambition for Luton to be a **net zero town by 2040.** This document sets out Luton's roadmap to reducing the carbon emissions that arise from activities occurring across the town. It identifies a set of actions for the next five years to begin the transition to net zero.

The future prosperity of our town and its residents relies on everyone taking bold and decisive action to ensure that Luton is a sustainable place for years to come.

Achieving our ambition will require action and innovation from residents and organisations across Luton to reduce our carbon emissions over the next two decades. With this commitment at the heart of our vision, we will need to work together to ensure that our homes, our infrastructure, our businesses and our airport are all sustainable.

This roadmap sets out Luton Council's commitments to:

- Achieving net zero emission for the council and town by 2040
- Becoming the most sustainable airport in the UK
- Increasing climate resilience in our buildings, public spaces and infrastructure
- Foster partnerships with local anchor organisations, businesses and community groups to deliver a fair transition to net zero

Luton 2040
A place to thrive

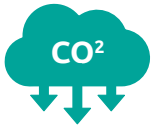
Contents

Net Zero: Definitions and Principles

"Put simply, net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance." – UN

Net zero emissions will be achieved when emissions are reduced so much that any remaining emissions are balanced by carbon removals from the atmosphere or through offsetting.

Carbon neutral is similar but does not strictly require significant emission reduction. Carbon neutral could be achieved earlier by purchasing larger carbon offsets, but in order to achieve meaningful environmental benefit emissions need to be reduced everywhere.



Reducing carbon emissions will be a result of actions such as using renewable energy, improving home insulation and using public transport.

Carbon offsetting is the removal of carbon from the atmosphere in a different location or point in time from an emissions source to counter sources of emissions that cannot be avoided. For example, the UK Woodland Carbon Code is an accredited offset programme.[1]

Co-benefits are positive actions resulting from reducing carbon emissions locally. For example, cycling instead of driving improves mental and physical health, improves local air quality and reduces noise pollution.

Guiding principles

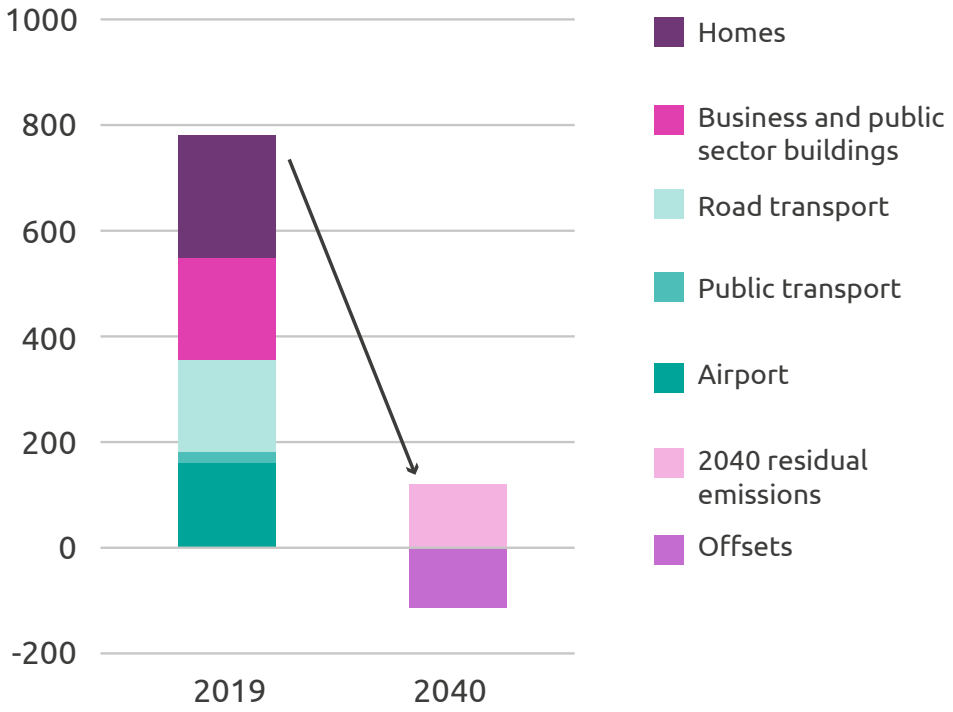
- Emissions should be reduced as early as possible to reduce total cumulative emissions
- Offsetting should only occur to balance emissions that are difficult to reduce
- The transition to net zero should be fair and inclusive
- Action should be taken locally so that the social, economic and environmental benefits can be experienced by the community

1 The UK Woodland Carbon Code is an accredited quality assurance standard for woodland projects in the UK https://woodlandcarboncode.org.uk/

The emission reduction challenge

Emissions in Luton are 790 kt CO_2e per year.

Emissions need to be reduced to near zero by 2040, with any remaining emissions balanced by offsets. This significant challenge can be achieved through improved energy efficiency, changes in behaviour to reduce the need for fuel and to reduce waste, and replacement of almost all fossil fuel use (gas, road fuels and aviation fuel) with electricity and renewable fuels.



1 tonne carbon is equivalent to driving 6000km in a diesel car

Where do the emissions come from?

Emissions in the home are due to:

- Heating and using hot water in the home
- Powering appliances such as ovens, washing machines or kettles

Emissions from commercial buildings are from:

- Heating, cooling and using hot water in buildings
- Powering appliances and operations

Transport-related emissions are from:

- Private and public road vehicles running on petrol and diesel
- Diesel trains

Airport emissions are from:

- Airport buildings
- Airside activities and aviation

Emissions from waste are from:

- Vehicles collecting waste
- Carbon released from waste (waste processing)

Everyone has a role to play

Everyone has a role to play in reducing carbon emissions.

Luton will achieve net zero with everyone actively involved. Local businesses, community groups, schools and colleges all have a role to play. Each of us individually can make choices that make our lives more sustainable. By working together, we can transform Luton into a net zero town where everyone can thrive. To enable this, the council will reduce its own emissions, lead by example and make it easier for other people to act to reduce their carbon footprints. Support will be required from outside Luton – through regional partnerships and also through national policy to enable investment.

Luton Council: Putting the response to climate change at the heart of all council activities; ensuring that it is within key policies and taken into account in all decisions. The council will lead by example and enable others in Luton to take action.

Regional: Learning from other local councils in the region and working together to maximise our capacity to respond to the climate challenge.

Education and Skills: Making sure that children in our schools are carbon literate and that people are given the skills to thrive in a low carbon economy.

Business: Reducing their emissions from energy, transport and operations, and offering new, low carbon products and services to the community.

The Public: Insulating homes, saving energy and investing in renewable energy; less carbon intensive diets; walking and cycling more. Sharing ideas for low carbon living with friends and neighbours and working together to transform Luton.

Community Groups: Bringing people together to invest in renewable energy, to learn new ways to use less energy, and to grow and cook low carbon food.

The role of the council

'Luton 2020-2040: A place to thrive' sets out the overall vision for the future of Luton, to make it a fairer, healthier and more sustainable town where everyone can thrive and no-one has to live in poverty. It includes the aim to be a climate resilient and net zero town by 2040. There is significant crossover between the Population Wellbeing and Inclusive Economy activities in the vision and the actions required to deliver carbon net zero and sustainable growth for the town.

Carbon emission reduction and climate resilience are central themes that will be addressed across multiple plans and strategies across the council and will become a part of many council officers' day to day work.

Housing Strategy: recognises the importance of reducing carbon emissions from homes.

Local Transport Plan: carbon emissions reduction is a key theme of the local transport plan (LTP4).

Local Plan: due to be updated; it covers a broad range of relevant areas and offers the opportunity to ensure that all development in the town helps meet climate aims.

Climate Change Policy and Action Plan: sets out the actions planned by the council for the next five years.

An integrated approach across various strategies and plans will enable the changes we need to see in the town. The council will encourage and drive wide and varied communication of the actions required and how the wider benefits of these actions will help to meet our aims in the 2040 vision. A wide range of organisations and individuals will need to make changes, so the council will enable collaboration to share best practice and work on joint solutions.

The council will develop a pipeline of projects to reduce emissions (outlined in the Climate Change Action Plan), and work with the community and local businesses to create delivery partnerships and draw in funding. However, the council will not lead all of these activities. **There will be a need for individuals, businesses and communities to accept shared responsibility for implementing actions.**

A Net Zero Vision for Luton

Luton is facing multiple local challenges in addition to climate change: the need to reduce poverty, improve housing and invest in economic growth and COVID recovery. Solving each of these challenges can be supported by actions that will also contribute to the net zero carbon target by 2040. Changes are required at many levels to achieve the vision – through technology as well as changes in consumer and community behaviour and expectations. The council can enable change through support for these actions and through leadership, co-ordination and identifying funding linked to regional and national policy initiatives.

The following pages present Luton Council's roadmap for net zero to 2040, including priority actions by sector for the next 5 years.

Homes

Warm and energy efficient homes for all

Reduced energy bills and improved health outcomes for residents

More comfortable homes, better adapted to heatwaves

Generation of local jobs

Non-residential buildings

Improving the energy efficiency of buildings, reduced energy bills for businesses and organisations

Partnership working with businesses across the borough

Transport

High quality walking and cycling infrastructure, reduced congestion and improved air quality

Improvements to make the town accessible for all

Supporting the transition to electric vehicles

Airport

Aiming to be the UK's most sustainable airport

Low carbon transport to and from the airport for passengers and employees

Maximise benefits of economic development to bring low carbon solutions to the town

Waste and consumption

Reduction in purchasing unnecessary goods

Improved reuse, repair and recycling

Biodiversity and Resilience

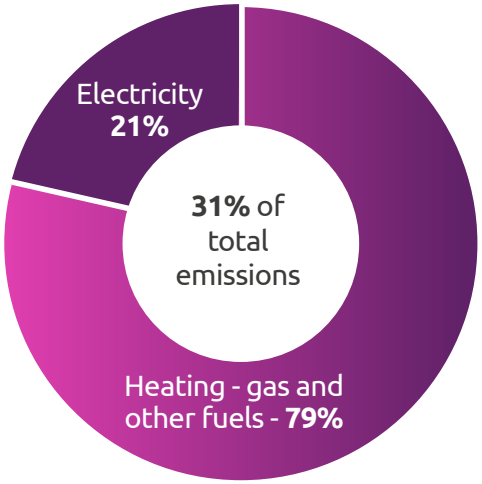
Improved access to green space for increased wellbeing for all residents

Improved urban design to reduce flood risk and improve heat tolerance

Engaged and active community that is prepared for the future climate

Our Homes

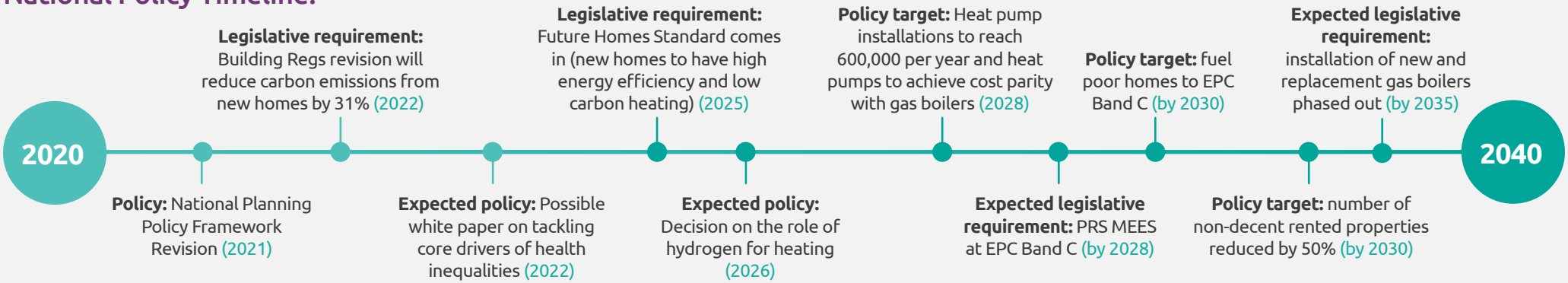
- Improve building fabric such as walls and roofs to reduce energy needs (the "fabric first" approach)
- Replace gas fired heating systems with electric heating including heat pumps
- Increase the amount of renewable electricity through roof solar photovoltaics (PV)
- Enable new jobs through providing training for new skills (such as whole house retrofit, installing heat pumps, EV chargers etc)



Electricity and gas used in homes make up around 31% of emissions in Luton. The amount of energy consumed in our homes is influenced both by the efficiency of our homes and how we live in them. A large number of households within Luton are on lower incomes and are therefore more vulnerable to fuel poverty as fuel prices rise. Energy efficiency improvements reduce carbon emissions and energy bills as well as improving health and wellbeing for many people.

Luton has high demand for more social housing and a large proportion of homes are owned by private landlords. The investments required for net zero present a significant challenge which needs to be solved through the availability of funds and effective communications about the benefits.

National Policy Timeline:



Key actions for our homes for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• Draft Local Plan to promote net zero carbon development • Develop local skills for housing improvements • Zero carbon show homes • Landlord licencing to encourage energy efficiency and low carbon homes	• Resident engagement • Local universities and colleges • Local builders and developers • Local landlords and letting agents
Scaling up	• Inform residents to make low carbon decisions for their homes • Whole street retrofit projects taking advantage of available financial opportunities	• Local businesses • Local builders and developers • Housing associations
Reaching net zero	• Widespread retrofit of houses including zero carbon heating and on-site electricity generation	• Local builders • Housing associations • Distribution Network Operator, energy companies

Best Practice Example

A £34M High Rise Insulation programme is improving 1,000 properties in the council stock. In addition to safe external cladding, the works include heat recovery fans, energy efficient lighting and solar panels. The estimated carbon savings from the scheme are around 8,000 tCO_2 per annum.

Future work includes

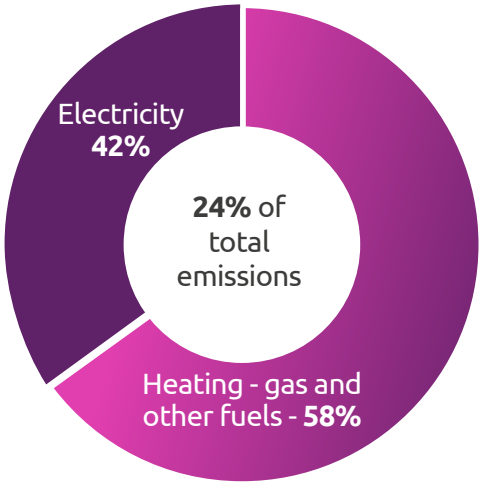
- 566 energy efficient boilers to be installed in 2022/23 with expected carbon savings per property are expected at 0.8 t CO_2
- Triple glazing programme covering 200 properties (0.1 t CO_2 per property per year)
- Solar PV with battery storage – 18 properties installed to date with expected annual savings carbon of 0.9 t CO_2 per install

Co-benefits of Action

- Energy efficiency improvements will reduce fuel bills and the risk of fuel poverty, as well as improving the quality of homes to reduce damp and draughts
- Improvements to homes can create jobs for builders, plumbers and electricians locally as well as for the upstream suppliers

Non-residential buildings

- Improve energy efficiency and increase on site renewable electricity generation
- Replace gas fired heating systems to zero carbon sources including heat pumps
- Increase the amount of renewable electricity through rooftop solar PV
- Improve efficiencies in manufacturing systems

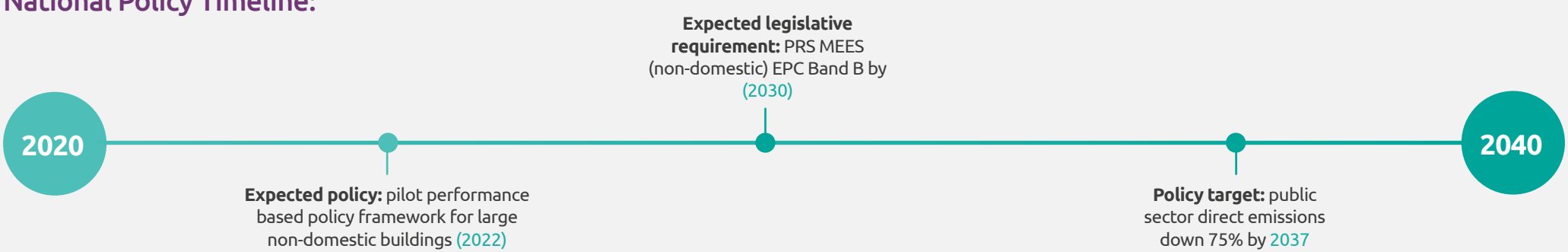


Non-residential buildings include business premises, public sector buildings and community and voluntary sector buildings. Electricity and gas used in non-residential buildings make up around 24% of emissions in Luton.

A key challenge in the decarbonisation of this sector is the high investment required by private businesses and the public and community sector. As in the case of residential buildings, good information needs to be available to enable decisions to be made by building owners and occupiers for carbon reduction. Support from national government is crucial to make finance available for the investments required.

Luton Council will provide a leading role through the decarbonisation of its buildings.

National Policy Timeline:



Key actions for **non-residential buildings** for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• Decarbonisation of council buildings to show leadership and develop supply chain skills • Town centre development to provide leadership for change: to meet best practice design standards • Establish a Luton climate change delivery partnership to collaborate on building improvements • Identify skills gaps for low carbon retrofit of commercial and public sector buildings, including listed buildings	• Resident engagement • Local architects and builders
Scaling up	• Inform building owners to make low carbon decisions for their portfolios • Develop a local heat network for key commercial energy users in the town	• Local businesses and investors • Local builders and developers
Reaching net zero	• Widespread retrofit of existing buildings using zero carbon heating technologies in-cluding further heat network connections and on-site electricity generation	• Local builders and developers • Housing associations, commercial landlords

Best Practice Example

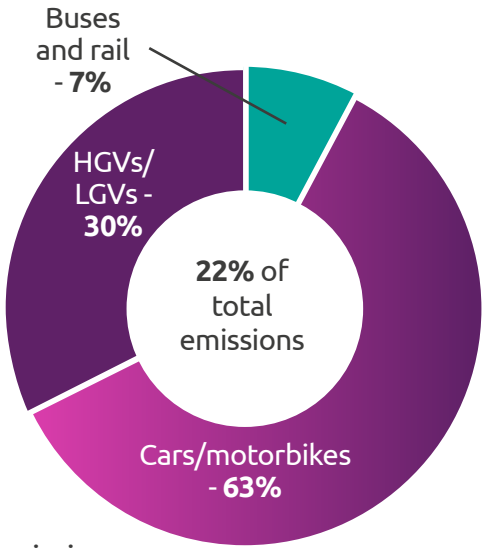
The council has been successful in securing a £7.7M grant from Public Sector Decarbonisation Fund (PSDF1) for decarbonisation works in office buildings, libraries, schools and community centres. The interventions included Internet of Things (IoT) lighting controls, LED lights, heat pumps and PV system. Collectively, the interventions result in an annual carbon reduction of 1,216 tCO_2 per annum.

Co-benefits of Action

- Saving money on fuel allows investments elsewhere
- Improved working environments will be warmer in winter and less prone to overheating in summer
- Through changes in procurement, having a wider influence on emissions in the supply chain

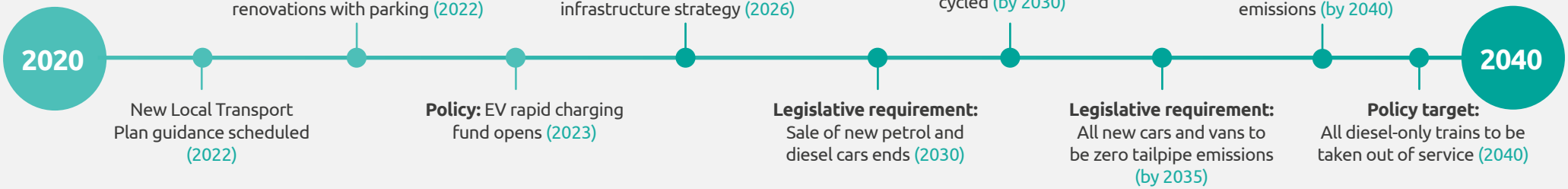
Transport and active travel

- Promote walking and cycling for shorter trips
- Promote public transport for longer journeys and accessing the airport
- Increase electric vehicle charging network for public, council and taxi use
- Use of biofuels in place of petrol and diesel where electric vehicles are not yet available



Luton town has a high reliance on car usage with private vehicle usage making up 63% of Luton's total transport emissions. There are also many Luton residents who do not own cars and who make daily use of our public transport network and cycling and walking infrastructure. The net zero vision requires a shift in the way we travel in and around Luton which ensures equal access to high quality and low emission transport modes for all. Luton Council has set out the commitment to leading the way in improving efficiency of transport both for its own fleet and for residents of the town through ensuring adequate infrastructure for electric vehicles (EVs), investing in public transport networks and improving access to cycling and walking. Whilst technology changes will be needed and can reduce emissions from transport, reaching net zero will require people in Luton to make changes in the way they travel by choosing to walk and cycle more.

National Policy Timeline:



Key actions for transport and active travel for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• Work with schools, colleges and large employers to develop travel plans which decrease use of the car and increase walking and cycling • Invest in network improvements to create safe cycling routes and cycle parking • Undertake a fleet review of the council and taxi fleets to identify pathways to electrify these vehicles and inform a procurement strategy for the council fleet based on whole life costs	• Schools, Colleges, Luton employers • Taxi companies • Luton Residents
Scaling up	• Widespread EV infrastructure across the council estate for both council and public charging, starting with a phased roll-out of EV charge points at key council housing car parks • Road user charging schemes to fund transport improvement • Deliver bus priority measures to support the uptake of public transport methods over private vehicles • Implement a local delivery hub to maximise the efficiency of deliveries / enable green 'last mile' services	• Bus operators • Luton Residents
Reaching net zero	• Enforce pedestrianisation of key areas such as High Town and Bury Park High Street and extend vehicle-free spaces across Luton town centre • Include zero (or low) emissions policy in taxi licensing, with a phased approach until 2040 • Ensure all residents and businesses have access to EV charging points across Luton town	• Luton residents and businesses. Taxi companies

Best Practice Example

Luton has a comprehensive bus service improvement plan, which will enable the implementation of bus lanes, park and ride facilities and more sustainable vehicles. The whole council fleet transitioned to gas to liquids (GTL) fuel. The impact on carbon emissions in 2020/21 was estimated at 1,431 tCO_2e. GTL has also substantially lower NOx emissions the diesel, bringing additional health benefits.

Co-benefits of Action

- People will be healthier as a result of more active travel and cleaner air. Walking and cycling will be accessible and become the default choice for most local journeys
- Fewer people will own cars and all vehicles will be electric or use other low carbon fuels. Many neighborhoods and the town centre will be car free
- Public transport will be clean and provide an excellent, reliable and accessible service

Luton Airport

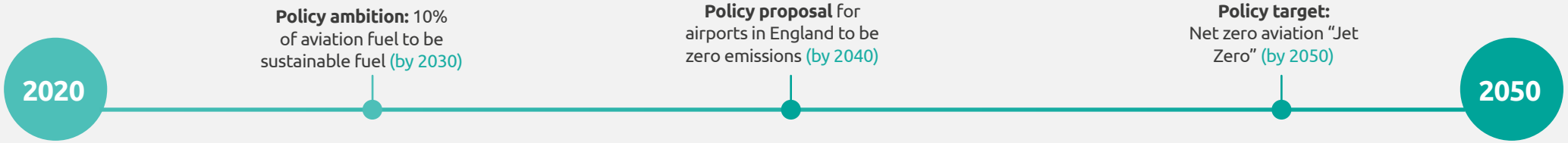
- Work with the Airport Operator to deliver airport ground operations net zero by 2040
- Play our part in delivering the Government's ambition of net zero aviation through supporting the airlines in the uptake of sutainable aviation fuels and electric aircrafts.

Luton Council owns the airport through Luton Rising. The day-to-day operations are managed under a long term concession by London Luton Airport Operations Ltd (LLAOL). The airport and associated activities and aviation represent a significant amount of carbon emissions within Luton. The town benefits significantly from the airport, both in terms of existing economic activity but also transport links and the potential for further economic development.

The council's priority action will be to work closely with the airport company, Luton Rising, and the airport operator to ensure that transport connectivity is improved. This will enable further integration of low carbon travel within the town and to the airport. This co-operation will also aim to maximise benefits of economic development to bring low carbon solutions to the town.

The Luton Rising Sustainability Strategy covers multiple aspects of sustainability including carbon reduction. This includes contributing to innovations to enable low or zero carbon aviation technologies whilst expanding the airport. It includes a target of a minimum 45% public transport mode share for passengers by 2039. This sits within the national policy context for Jet Zero (aviation net zero) by 2050, through technological innovations such as sustainable aviation fuels and zero emission flights.[2]

National Policy Timeline:



2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1079042/flightpath-to-the-future.pdf

Key actions for **Luton airport** for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• **Airport operations:** Lighting upgrades and heating equipment, introduce occupancy-led building management systems and purchase gas from renewable sources e.g. biogas • **Surface access:** Promote the number of trips to the Airport estates using active and sustainable transport modes	
Scaling up	• **Airport operations:** Establish a Community Carbon Offset Fund • **Surface Access:** Promote the use of low emission vehicles and zero emission vehicles by providing infra-structure to support the use of low emissions public transport and freight vehicles	
Reaching net zero	• **Airport operations:** Generate energy from on-site sources, including waste e.g. solar farm development, research and implement, where feasible carbon removal opportunities • **Aviation:** Support the airlines in update of sustainable aviation fuels and electric aircraft	

Best Practice Example

The £243 million Luton DART is a new fully-automated light rail link. It is designed to transport travelers from the Luton Airport Parkway railway station to the terminal of London Luton Airport in well under four minutes. Currently, passengers making the journey use a shuttle bus service which can be unreliable, especially in heavy traffic. This project will solve that problem. The DART supports sustainable growth of the airport and employs an energy-efficient cable-pulled system.

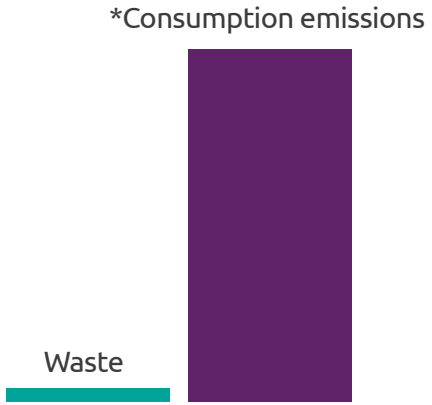
Green Controlled Growth (GCG) is a new, environmentally-focused approach to managing growth at the airport that is advocated by Luton Rising. It will introduce binding limits for the airport's noise, carbon, air quality and surface access impacts. These impact areas had been selected due the biggest scope to increase in line with growth of the airport infrastructure and passenger numbers.

Co-benefits of Action

- Investment in decarbonisation of landside activities and airport transport links could bring new jobs locally
- Potential for economic growth and further new jobs related to new aviation technologies

Waste and consumer choices

- A thriving green and circular economy, with businesses providing accessible low carbon services and offering sustainable, local and healthy products.
- Residents are aware of best practice waste management and are empowered to prevent waste and to recycle.



Emissions from consumption are those related to the production of the things we buy and sell, such as furniture, food or clothing. These emissions often arise from factories overseas. We can reduce this by changing what we eat, how we decide how to buy and use products and services, and how we avoid waste through prevention, reuse, repair and recycling. Emissions from consumption are far more significant than the direct emissions from waste disposal.

The challenge in reducing emissions from waste disposal is in changing behaviour to prevent and reduce waste in the first place. It is also important to improve waste separation to enable more recycling of materials to take place.

Reducing food waste is a particular priority, for saving money for householders and businesses, reducing emissions in food production and cutting emissions from waste disposal. National legislation on food waste collection is expected in around 2025.

National Policy Timeline:

*Consumption emissions were calculated using a Ratio between UK consumption and production emissions taken from page 5 of WWF UK Carbon Footprint Analysis Report: https://www.wwf.org.uk/sites/default/files/2020-04/FINAL-WWF UK_Carbon_Footprint_Analysis_Report_March_2020%20%28003%29.pdf

Key actions for **waste and consumer choices** for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• Public awareness campaign on waste prevention through changing patterns of consumption and its connection to climate change • Improve waste separation by engaging with residents and through enforcement • Subject to national legislation, provide separate food waste collection for residential waste, with consideration of a schools' food waste collection service	• Waste contractor • Private sector landlords • Schools and school food suppliers
Scaling up	• Review and procure waste disposal contact to incentivise waste reduction and increase recycling rates • Community and business partnership initiatives such as repair cafes and swap shops, applying waste minimisation and circular economy principles • Promote a more plant-based and low food miles diet within the council culture and working directly with schools	• Waste contractor • Community groups and local businesses • Schools and school food suppliers
Reaching net zero	• Installation of carbon capture and storage technology to energy from waste plants	• Waste contractor

Best Practice Example

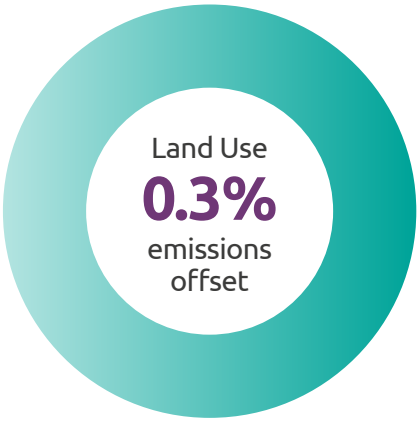
Cawley's is a Luton-based waste recycling company that uses a Materials Recycling Facility to increase the amount of waste recycled. Residual waste is supplied to Covanta's Rookery South Energy from Waste (EfW) plant.

Co-benefits of Action

- Environmental and health benefits from eating less meat and dairy more plant-based products
- Reduced litter
- Less land needed for landfill
- Environmental and health benefits from reduced plastic waste

Biodiversity and Resilience

- Work towards increasing tree canopy by 1 hectare.
- Increase access to green space for residents and improve biodiversity in gardens and public spaces.
- Connect the Town Centre more to nature, with residents feeling ownership over green space.
- Improve climate resilience to reduce the impact of extreme weather: heatwaves and heavy rainfall.

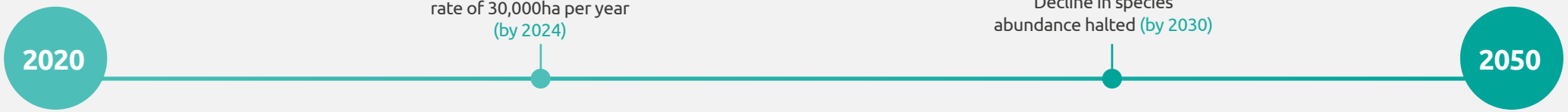


Luton's current tree canopy captures a small fraction (0.3%) of Luton's current emissions. Caring for the current tree stock and increasing tree cover, whilst simultaneously improving residents' access to green space, will support Luton's transition to net zero. Trees can also play an important role in climate adaptation, providing shade and a cooling effect to counter urban overheating, slowing down rainwater runoff, reducing the impacts of air pollution and providing wildlife habitats which can maintain and increase biodiversity.

Climate risks in Luton include:

- Health risks from summer heatwaves
- Risks to health, property and businesses from flooding
- Lack of available green space, and lack of access to green space for many communities
- Lack of space for tree planting projects
- Risks to biodiversity in a very modified urban environment

National Policy Timeline:



Key actions for **biodiversity and climate resilience** required within the phases for net zero

Roadmap Phase	Priority Actions	Partnerships
Foundations	• Review and update the Local Plan to ensure policies to increase demands on developers that support resilience • Identify tree planting opportunities across the borough to work towards increasing the tree canopy by 1 hectare • Establish the River Lea Linear Park to make the river a walkway through the town	• Residents and local developers • Local landowners • River Lea Catchment Partnership; Environment Agency, Water Companies
Scaling up	• Work with the community to manage risks of flooding, through public awareness campaigns and better infrastructure, building community's ability to prepare for and react to surface water flooding events • Develop a borough-wide assessment of climate vulnerability (a climate risk assessment), and use this as the basis for action planning for improved resilience	• Local Resilience Forum • Community groups • Schools • Multiple local organisations, emergency services and health care trusts
Reaching net zero	• Improve access to green spaces through low traffic routes to connect residents with nature and enable active travel as part of daily life • Improvements to the built environment enable residents and businesses to adapt to climate changes	• Local developers, residents' associations and community groups

Best Practice Example

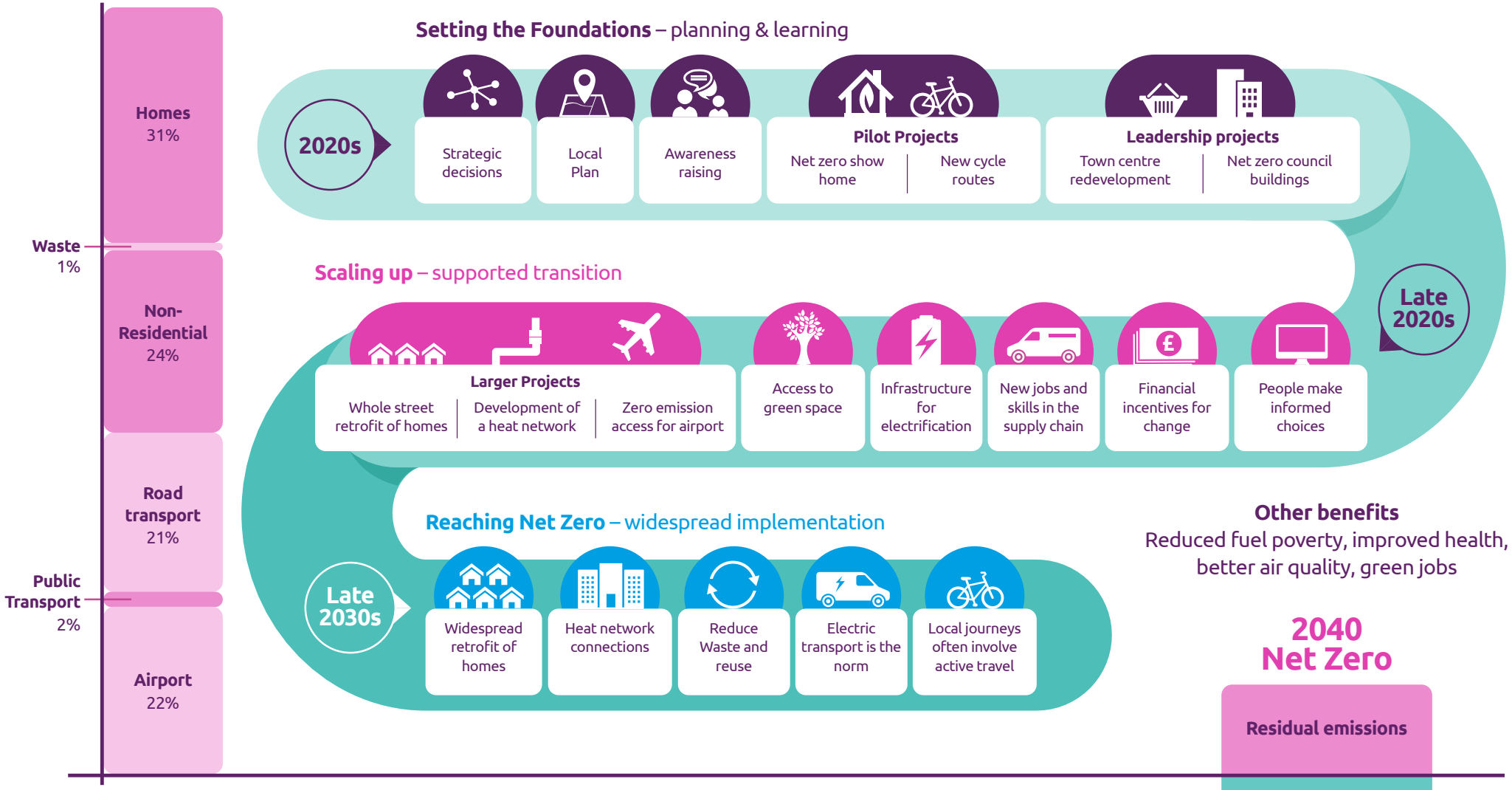
The council has secured funding which will be used to open up parts of the River Lea and add new green space, a popular proposal for improving the look and feel on the town centre as part of the recently agreed masterplan. The opening up of the river in Hat Gardens created an attractive area for people to enjoy. It will help reduce potential flooding risk and work towards developing a natural chalk stream, which is ideal to improve river wildlife. The project is part of the town's 2040 vision which includes providing more open spaces for people living in the town centre, making it more child friendly and improving wellbeing. It also supports the council's net zero carbon objectives as opening the river and providing more planting helps green the environment and improve air quality.

Co-benefits of Action

- Better health for local residents from living in more comfortable homes
- More, and more accessible, green spaces will lead to greater use for exercise and active travel, improving health and wellbeing and local air quality
- Managing flood risks reduces damage to property and the emotional distress of flood events

Luton Net Zero Roadmap

2019 - 790 kt CO_2e



More detailed information is available in the Action Plan

Luton 2040

A place to thrive