



Together we can make
Islington net zero carbon
by 2030



ISLINGTON

Vision 2030: Building a Net Zero Carbon Islington by 2030



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Foreword

We know that Islington is a great place to live and work but we also know that it faces challenges, none more so than the immense challenge of providing a sustainable future for our children and grandchildren. By doing so, we will contribute to a sustainable future for the planet. If we need a reminder of how important this is we only need to listen the school children who come to the steps of the town hall as they ask us to take action.

This Net Zero Carbon strategy sets out our vision of a fair and green future for local people and our plan for a net zero carbon Islington by 2030. It builds on our work to make our borough a fairer place for everyone by helping with the cost of living and mitigating the inequalities exacerbated by climate change.

To achieve that future, we need central government to step up and provide adequate and sustained funding and a legislative framework which can help us to drive forward our ambition for a net zero carbon borough. After ten years of austerity, councils such as ours have little spare resources and we must get the support we need. Our housing retrofit programme alone demands funding which we can't raise. We need decarbonised electricity generation to stand any chance of meeting our commitments, which is only something central government can do.

The council has direct control over only 4% of the carbon emissions with indirect responsibility for about 5% as a landlord to about 25,000 properties. While we have a great responsibility to reduce our emissions, we must also lead the way in supporting local people, business and our other partners to reduce their impact.

I am immensely proud of our achievements over recent years, which include:

- Achieving a 42% reduction in borough-wide carbon emissions between 2005 and 2018, meaning we met our 2020 target of a 40% reduction ahead of schedule despite a 30% increase in our population over the corresponding period.
- Launching the Bunhill Heat & Power Network, connecting Phase 1 (serving 600 homes, two leisure centres and four office blocks) and completed a Phase 2 expansion, adding a further 500, with the additional heat supplied by waste heat provided from London Underground, the first project of its kind in the world.
- Each year helping over 5,000 vulnerable residents in Islington and beyond to stay warm and well through our award-winning fuel poverty referral scheme the Seasonal Health Intervention Network (SHINE).
- Cutting energy use for 2,900 vulnerable households by installing low-cost energy-saving measures through our Energy Doctor in the Home service.
- Winning Council of the Year at the Regional Energy Efficiency Awards for Greater London in 2018 and Council of the Year at the National Energy Efficiency Awards in 2019.
- Deciding to decarbonise our Pension Fund's investments by 2022, by reducing the fund's exposure to carbon emissions by 75% and reducing the fund's equities exposure to fossil fuel reserves.
- Launching the pioneering Carbon Offset Fund in 2012, which remains the largest offset fund in London.
- Providing all residents with a comprehensive recycling service for a wide range of materials.

- Being amongst the first places to set parking permit charges based on vehicle emissions.
- Being the first borough to implement a parking permit surcharge for diesel vehicles and to call for diesel vehicles to be banned from London by 2025.
- Pioneering the low-emission neighbourhood at the City Fringe, banning all vehicles not classed as ultra-low emission during the peak morning and evening commuter periods.
- Introducing 13 'School Streets', restricting traffic outside schools during drop off and pick up time.
- Cleaning up the council vehicle fleet and working with Transport for London ensured buses in Islington are clean.
- Introducing 170 electric vehicle charging points, with over 400 electric charging points planned to be in place by 2022.
- Introducing electric vehicles and trialling a range of low emissions vehicle technologies to reduce our fleet emissions.
- Investing in energy efficiency measures at the Sobell Leisure Centre and Islington Tennis Centre, delivering significant reductions in cost and carbon emissions

In response to this climate emergency, we as the council are taking the lead but we need you to help us achieve our ambitions together.



Councillor Rowena Champion
Executive Member for Environment and Transport

Introduction

Introduction

Islington Council declared a climate emergency on 27 June 2019, when a motion committing the council to working towards making Islington net zero carbon by 2030 was unanimously passed by a meeting of full council.

In this strategy, we set out an overview of the sources of carbon emissions in Islington, identify the commitments that we as a council can make today and the actions required needed to eliminate or offset these emissions in the future.

We examine the challenges and risks that we face in attempting to meet the net zero target

by 2030, and what we need to ask of regional and national government. Throughout the document we categorise our commitments into three groups:

1. What the council can commit to immediately and actions we will take
2. What the council sees as potential commitments, but requires further investigation before committing to
3. What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation.

Figure 1. City Road



Given the wide scope of our ambitions, this strategy incorporates commitments from other council strategies, ensuring a coherent approach across all our services.

The latest figures published by the Department of Business, Enterprise and Industrial Strategy (BEIS) show that carbon emissions in 2018 for Islington as a borough were 679,589 tonnes,¹ representing a reduction of 42% since 2005. The annual carbon emissions from buildings and fleet over which the council has direct control amounted to around 27,000 tonnes in 2018/19. However, despite the council's own carbon footprint being just under 4% of the borough total, we believe that the council is in a strong position to influence carbon reduction in the borough, using a range of techniques, measures and powers.

The required collaboration with residents, local communities, our borough partners, the Mayor of London, the GLA and Transport for London presents a genuine opportunity. The government has to take decisive action to provide local authorities with the powers and resources required, whilst putting in place legislation and funding to ensure that businesses, landlords, the education, health, energy and waste sectors, transport providers and the motor and haulage industries can all play their part in achieving net zero by 2030.

This new target is even more ambitious than our previous 40% goal and will require an immediate and sustained acceleration of our decarbonisation agenda. Our strategy builds on our past achievements and sets out our vision, aims and objectives between now and 2030. During this period, we will intensify our efforts and focus on five priorities:

1. Residential buildings, Commercial & Industrial buildings and Infrastructure

Improve the energy efficiency and reduce the level of carbon emissions of all buildings and infrastructure: We will continue our work on the insulation of properties and seek ways of converting heating systems away from gas where possible. In doing so we will work with borough partners such as schools and colleges, universities and the NHS to support them to reduce carbon emissions from their estates.

2. Transport

Reduce emissions in the borough from transport: We will reduce vehicular emissions by encouraging walking, cycling and public transportation. By working collaboratively, we will explore how to transform our streets, secure better, cleaner and more accessible public transport services for Islington and improve air quality for residents. We will also electrify our fleet and encourage residents and local businesses to do the same by ensuring the appropriate infrastructure is in place.

3. Sustainable and affordable energy generation and supply

Increase local generation of renewable heat and electricity, increase the uptake of affordable and renewable energy tariffs and mitigate fuel poverty: We will increase the use of smart, zero carbon district heating and solar power generation in the borough, considering the whole energy system. We will also continue to support residents in fuel poverty by helping them access cheaper tariffs and the benefits they are entitled to.

¹UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2018

Figure 2. Solid wall insulation on Neptune House



4. The Green Economy and Planning

Deliver on our net zero carbon target whilst assuring the economic success and vitality of our borough by working closely with the 21,000 businesses in the borough, most of them small or micro-sized:

We will ensure that our development and planning policies require growth and new developments meet the highest emissions reductions targets possible.

5. The Natural Environment and Waste Reduction and Recycling

Integrate our ongoing activities in recycling and reducing waste and managing our natural environment:

We will ensure that these objectives are coherent in our efforts to achieve net zero and help mitigate the risks from severe loss of biodiversity which will impact people, the economy and the environment.

The strategy document is divided into chapters that cover each priority, including an overview of why we need to take action, the current situation, a summary of what is needed to achieve net zero and a list of our commitments. Action plans for each priority are detailed in each section.

This strategy complements several other key council policies and strategies, including:

- Air Quality Strategy 2019–2023²
- Islington Biodiversity Action Plan
- Islington Transport Strategy 2019–2041
- Joint Health and Wellbeing Strategy 2017–2020
- Housing Strategy³
- Housing Asset Management Strategy 2013–2043⁴

²<https://www.islington.gov.uk/-/media/sharepoint-lists/public-records/environmentalprotection/information/adviceandguidance/20192020/20191018airqualitystrategy2019.pdf>

³<https://www.islington.gov.uk/housing/housing-development-and-involvement/housing-strategy>

⁴https://www.islington.gov.uk/~/_media/sharepoint-lists/public-records/housing/information/adviceandinformation/20132014/20130816housingassetmanagementstrategy20132043.pdf

- Planning policies⁵
- Transport Strategy: Local Implementation Plan (2011–2031)⁶
- Waste Reduction and Recycling Plan 2018–2022⁷

The council will need to make representations to regional and national government to urge them to take action, including giving local authorities the necessary resources and legal powers. We will also need to work with partners across the borough and across London. In November 2019 the London Environment Directors' Network (LEDNet) and the Transport and Environment Committee (TEC) issued a joint statement that identified six areas for collaboration, which align strongly with our priorities:

Residential buildings, Commercial & Industrial buildings and Infrastructure

- Retrofit all domestic and non-domestic buildings to an average level of EPC B (2020–2030)

Transport

- Halve road journeys made by petrol and diesel via combined measures that can restrict polluting journeys and incentivise sustainable and active travel options (2020–2030).

Sustainable and affordable energy generation and supply

- Secure 100% renewable energy for London's public sector now and in the future (2020–2030).

The Green Economy and Planning

- Develop London's low carbon sector and green our broader economy (2020–2030).
- Secure low carbon buildings and infrastructure via borough planning (2020–2022).

The Natural Environment and Waste Reduction and Recycling

- Reduce consumption emissions by two thirds, focusing on food, clothing, electronics and aviation (2020–2030).

Following the adoption of this strategy, the council has agreed to hold an additional annual meeting of the Environment & Regeneration Scrutiny Committee to focus on tackling the climate emergency. This annual meeting will be in addition to the many other opportunities that residents will have to share their views on our response to the climate emergency.

We will also publish an annual report on the borough's carbon emissions on our website, including a review of the year's actions and updates to our action plans, and present this report to full council.

Internally, we have established a Net Zero Carbon Programme and programme board. The programme has workstreams that align with the priorities set out in this strategy, which are overseen by workstream leads that report to the programme board.

⁵<https://www.islington.gov.uk/planning/planning-policy>

⁶<https://www.islington.gov.uk/~media/sharepoint-lists/public-records/transportandinfrastructure/information/adviceandinformation/20192020/20200109lipmaindocument1.pdf>

⁷<https://www.islington.gov.uk/recycling-and-rubbish/recycling/waste-reduction-and-recycling-plan-2018-2022>



Figure 3. City Road

Islington's Vision

Islington's Vision

The UK government set a statutory target in the 2008 Climate Change Act to reduce UK greenhouse gas (GHG) emissions by 80% from 1990 levels by 2050. In 2015 the UK committed to keeping emissions well below 2°C by signing up to the Paris Agreement of the United Nations Framework Convention on Climate Change.

The Intergovernmental Panel on Climate Change (IPCC)'s Special Report on Global Warming of 1.5°C, published in October 2018, sets out the impacts of global warming of 1.5°C above pre-industrial levels with available scientific, technical and socio-economic evidence. Due to historic GHG emissions, the world is set to warm significantly, with wide-ranging impacts as a result. Following a recommendation by the UK Committee on Climate Change (CCC), the UK legally amended the target in June 2019 to reduce all GHG emissions to net zero by 2050.

Human pressures on the world's ecosystems and natural resources and the changing climate have also resulted in a serious threat to our biodiversity, with nature eroding at unprecedented rates. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) published its Global Assessment Report on Biodiversity and Ecosystem Services in May 2019, warning of the severe loss of biodiversity and how this will impact people.

Climate change and large-scale biodiversity loss need to be tackled simultaneously and are both critical in ensuring human wellbeing, economic viability and the functioning of the natural world.

In response to clear scientific evidence and consensus on climate change, and rising public concerns, Islington Council declared a Climate Emergency in June 2019. We believe

that the best way to tackle the perils of climate change is to build a clean and green borough that leaves none of our residents behind. The availability and use of clean, affordable energy for our residents is central to this.

We will need to build infrastructure, retrofit energy inefficient homes, increase access to fair energy tariffs and build low carbon energy networks. We need to make sustainable transport accessible and appealing.

Islington Council is in a strong position to lead the response to the climate emergency; however, residents, businesses, public sector and borough partner organisations, regional and national government must play a very active part in turning this vision into reality.

Our vision is thus:

“Creating a clean and green Islington in response to the Climate Emergency.”

This net zero carbon strategy sets out how we will reach our net zero target and what we will gain: energy efficient homes, affordable green electricity, lower energy costs, cleaner air and streets free of harmful emissions.

To date we have already made significant strides towards this vision:

- Carbon emissions have already been reducing in the borough. The council's target of a 40% reduction in the borough's total emissions between 2005 and 2020 was achieved in 2018, two years ahead of the 2020 deadline.
- As a landlord, building owner and fleet manager, we are committed to further decreasing carbon emissions from the built environment and future developments.

- We've worked hard to reduce energy consumption and costs through schemes such as the Bunhill heat network, which supplies low carbon heat to around 1,200 homes and public buildings such as leisure centres and schools.
- We've also been working on delivering a healthy, safer and more accessible transport environment, highlighted in our new transport strategy. Accomplishing this involves working closely with businesses to figure out ways that freight can maintain access to buildings without having as much impact during peak road times.
- We've also begun taking steps to 'decarbonise' the council's pension fund by reducing investments in fossil fuels and the fund's exposure to carbon emissions by 2022.
- Renewable heat and power generation in the borough is maximised.
- Any remaining electricity needs are sourced from certified renewable or zero carbon sources.
- The planning system only allows fossil-fuel free buildings to be built.
- Circular economy principles are embedded in local businesses and supply chains are sustainable.
- Tree cover is maximised and local biodiversity protected.
- Any outstanding emissions are offset through carbon sequestration and other methods.

We acknowledge that many elements of achieving our objectives are outside the control of the council. As a result, much of our efforts will be directed towards influencing and actively lobbying the relevant parties at regional and national level.

What could success look like?

In order to have created a net zero carbon Islington, the council, borough partners, residents, and community organisations, supported by regional and national government, will need to ensure:

- Residents, people who work in Islington and local business owners know the part they need to play to achieve net zero and are empowered to do so.
- Emissions from gas boilers and vehicles are eliminated.
- Buildings in the borough are made as energy efficient as possible.



Figure 4. Energy advisor

Glossary

Carbon Emissions: Any process that produces CO₂ emissions, usually by burning fossil fuels.

Carbon Neutral: The aim of having no carbon dioxide emissions produced. If any are produced, they are offset by carbon reducing processes.

Carbon Offset Fund: A fund that developers have to pay into if their developments fail to meet emission targets. This money is then used to support carbon reduction projects in Islington.

Carbon Offsetting: Removing carbon from the atmosphere in order to balance carbon emissions still being produced.

Carbon Sequestering: Capturing carbon through long-term storage methods. The easiest of these is to plant more trees, which capture carbon through their leaves.

Climate Emergency: A declaration stating that Islington Council will prioritise a net zero carbon future, setting the target of meeting this by 2030.

Decarbonisation: The process of removing all energy sources that produce carbon emissions from the energy grid.

ECO Funding: Energy Company Obligations scheme, set up by the government to contribute to energy saving measures. The funds are provided by major energy companies to installations that cut carbon emissions.

Energy Doctor: Members of the energy advice team who visit residents' homes for free. They provide many services such as helping with heating controls and fuel bills to fitting radiator reflectors and draught proofing.

Energy Efficiency: The amount of useful energy produced per unit of fuel. The more energy produced or used, the higher the energy efficiency. For example, loft insulation keeps the useful hot air in the

home, increasing the energy efficiency of the building.

Energy Strategy: The overall plan devised by Islington Council to improve energy efficiency whilst also reducing carbon emissions and fuel poverty.

EPC Rating: Energy Performance Certificate is a rating scheme to assess the energy efficiency of a building, with A being the most efficient and G being the least.

EV: Electric Vehicle. Any vehicle powered through recharging at an electrical point.

Fuel Poverty: The ability of a household to afford their energy needs without compromising their basic needs.

Global Warming/ Climate Change: The process by which the earth is heating up due to an increase of greenhouse gases trapping heat from the sun, warming the earth.

Greater London Authority (GLA): The regional governance body of London.

Green Energy: Any energy source that does not produce a high amount of carbon dioxide emissions, preferentially producing none at all.

Green SCIES: Green Smart Community Integrated Energy Systems. A project with the aim of creating a communally owned energy grid, with a specific emphasis on green energy sources.

Heat Network: Also known as district heating; a system for distributing heat generated in a centralised location through a system of insulated pipes for residential and commercial heating requirements such as space heating and water heating.

Heat Pump: The most energy efficient form of electric heating available. Heat pumps operate by transferring heat from a cold space (e.g. outdoors) and releasing it into a warmer one.

Hydrogen Fuel Cell: An energy source that converts hydrogen and oxygen into water and electricity; it does not produce any carbon emissions.

ICEF: Islington Community Energy Fund. Aimed at supporting community projects that reduce carbon emissions and benefit Islington residents, with emphasis on helping those struggling with fuel poverty.

ISEP: Islington Sustainable Energy Partnership. A network of public and private organisations with the aim of collectively managing energy costs and reducing carbon emissions.

LED lighting: Light Emitting Diode. A more energy efficient form of lighting when compared to standard bulbs. They do not get as hot and release more of their energy as light.

Low Carbon Energy: Any energy source that does not produce a high amount of carbon dioxide emissions, preferentially producing none at all.

MEES: Minimum Energy Efficiency Standard. Regulations that require a minimum energy efficiency in domestic private rented buildings.

Net Zero Carbon: The aim of having no carbon dioxide emissions produced, and if any are produced, that they are offset by carbon capturing processes.

PPM: Pre-payment meters, a pay-as-you-go system for energy supply. The resident pays for energy before they use it, usually by adding money to a key or a smart card which is then inserted into the meter. This is usually the most expensive way to buy electricity.

Retrofit: Making physical amendments to existing buildings to make them more energy efficient, including replacing heating systems and installing insulation and solar panels.

RHI: Renewable Heat Incentive. A government scheme that subsidises the installation of domestic and commercial heat pumps.

Scope 1 Emissions: Direct emissions that occur locally from activities such as burning gas in boilers to heat homes and businesses or petrol/diesel vehicle emissions.

Scope 2 Emissions: Indirect emissions that occur from using electricity generated in another location, i.e. from the electricity grid where the emissions could be from coal or gas-fired power stations that supply electricity to homes and businesses in Islington.

Scope 3 Emissions: Emissions that are related to consumption and are recorded at the point of production of the goods e.g. emissions caused by the manufacture of vehicles outside of Islington.

SHINE: Seasonal Health Intervention Network. A network of public, private & charity sector groups such as the NHS and the Welfare Rights Team. They provide a broad range of health and welfare services with the aim of reducing fuel poverty. These range from help with bills and energy debt to safety checks from the Fire Brigade.

Smart Meter: A device that records energy use and sends the data to the energy supplier. This allows the supplier to have more accurate information which allows for more accurate bills.

Solar PV Panels: Solar photo-voltaic panels convert light from the sun into electricity as a form of green energy.

Social Value: The Public Services (Social Value) Act⁸ came into force on 31 January 2013. It requires people who commission public services to think about how they can also secure wider social, economic and environmental benefits.

⁸<https://www.legislation.gov.uk/ukpga/2012/3/enacted>

Defining Net Zero Carbon

Defining Net Zero Carbon

Achieving net zero will mean the overall carbon emissions for Islington are nil. This does not necessarily mean a complete elimination of emissions, but requires any remaining emissions to be offset by activities that remove an equivalent amount of carbon dioxide from the atmosphere. As noted by the Committee on Climate change in their *Net Zero: The UK's contribution to stopping global warming* report, some level of offsetting is likely to be required due to the difficulty in entirely eliminating emissions in some sectors.

The data on Islington's carbon emissions is

produced by the Department of Business, Energy and Industrial Strategy (BEIS) as part of a nationwide dataset of carbon emissions by local authority area. The data is updated annually two years in arrears – the latest data published in June 2020 goes up to 2018. The data also only looks at carbon dioxide and does not consider other greenhouse gases such as methane.

The figures are broken down into three main sectors: Commercial and Industrial (which includes the public sector), Residential, and Transport. Within each of these categories, the figures are broken down further, with

Figure 5. Islington's carbon emissions by sector in 2018

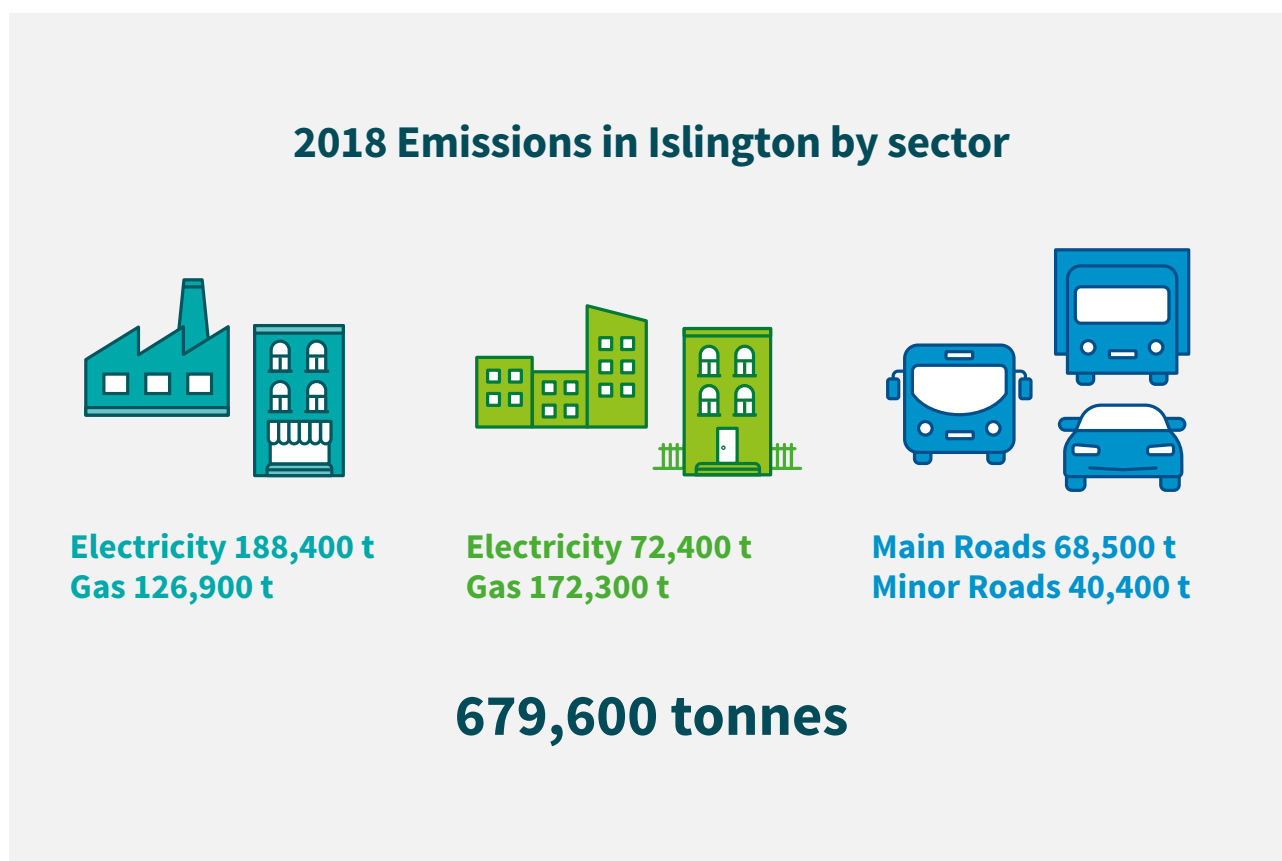
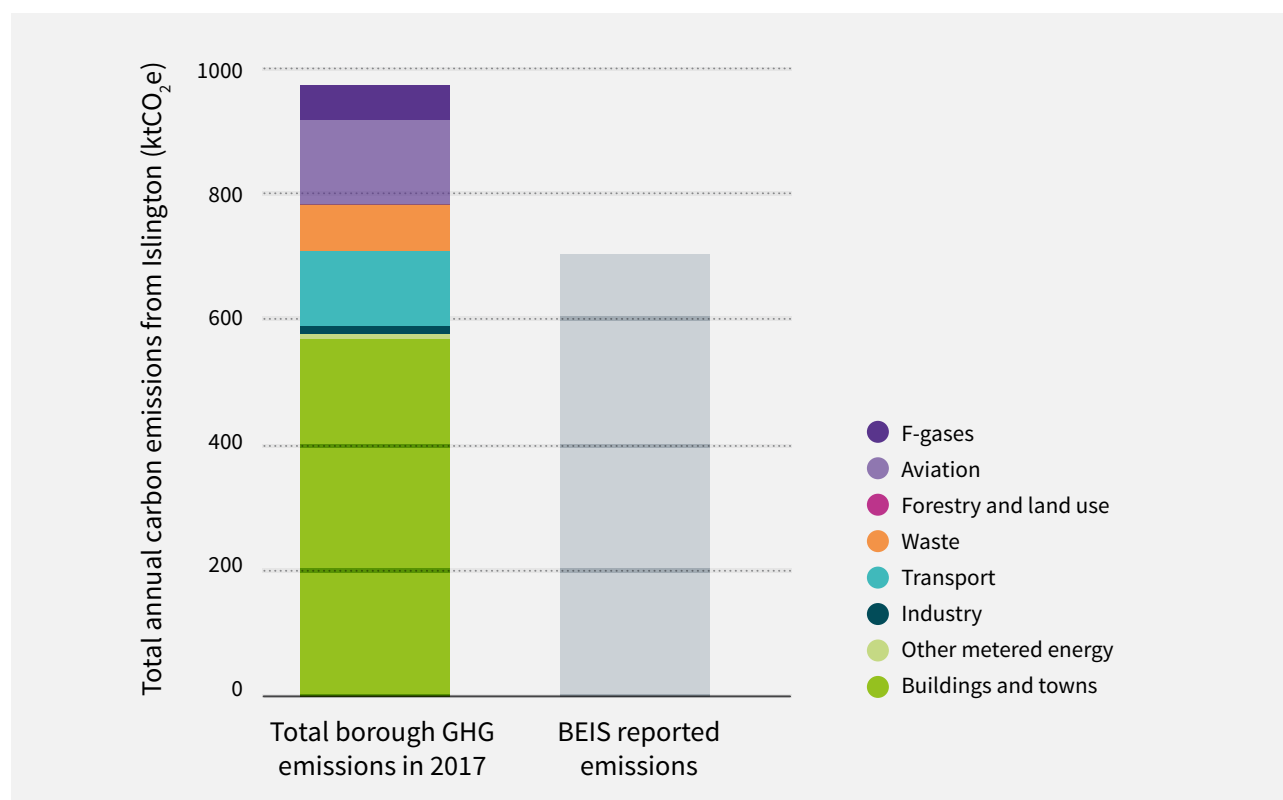


Figure 6. 2017 emissions figures illustrating the additional impact of f-gases, aviation and waste.¹⁰



Commercial and Industrial and Residential split into emissions from gas, electricity use and other fuels, and Transport broken down into road classes and diesel railways.

Due to the way that these figures are compiled by BEIS, there is some miscategorisation. The energy consumption of some small businesses that have similar consumption to residential properties is included in the residential figures, while consumption by some residential properties served by communal gas boilers or on a single electricity meter point for a whole block is included in the commercial figures (which also includes electricity use by railways).⁹

Emissions in the dataset come from two types of sources. The first is direct emissions that occur locally from activities such as burning gas in boilers or petrol or diesel in vehicles and plant equipment; these are classified as scope 1 emissions. The second is indirect emissions from using electricity generated in another location, where the emissions will be from fossil fuel power stations that supply electricity to Islington; these are scope 2 emissions.

The figures do not include scope 3 emissions – those related to the production of the goods consumed in Islington or resulting from the disposal of the waste generated in Islington. They also exclude aviation, shipping and the

⁹In some cases, BEIS differentiates between commercial and residential based on consumption; meter points are considered commercial if gas use is above 73,200kWh a year and electricity above 100,000kWh a year (or above 50,000kWh/yr if the address suggests it is non-domestic). It is estimated that the gas consumption of around 2 million small businesses are misclassified as residential.

¹⁰Graph produced by Etude as part of the Energy Evidence Base 2020 Addendum

contribution from f-gases used in refrigerants. Although we will be monitoring progress primarily against the scope 1 and 2 emissions in the BEIS figures, this strategy also sets out actions for reducing our scope 3 emissions.

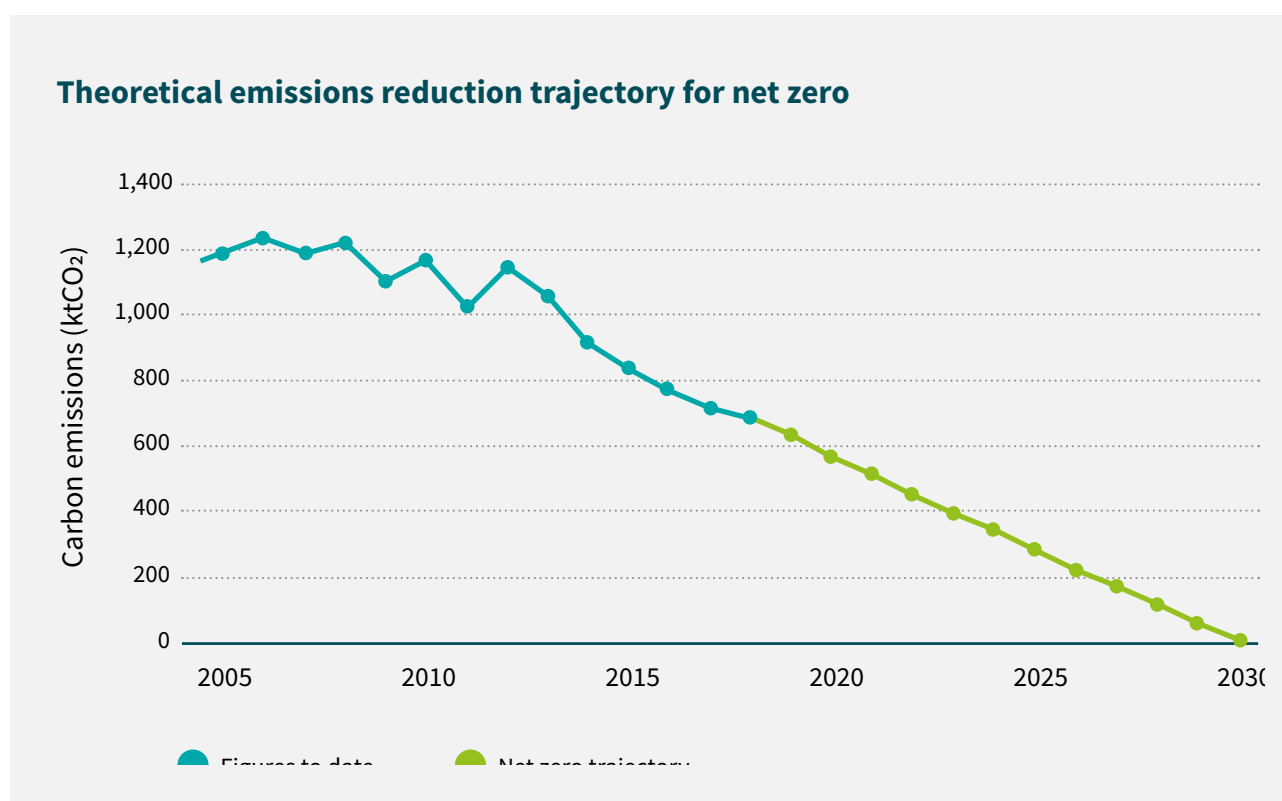
Overarching strategy

Achieving the net zero carbon target will mean reducing scope 1 and 2 emissions as far as possible and offsetting any remaining emissions. The graph below illustrates the pace of reduction required to reach zero by 2030. Although the annual reduction required is not dissimilar to that achieved in recent years, it will become progressively harder to achieve.

A significant proportion of the reduction to date has been the result of the electricity grid being significantly decarbonised, and by making existing gas heating systems and the buildings they heat more efficient. To achieve net zero will require these heating systems to be replaced by a different technology, as we are not expecting biogas or hydrogen to be viable alternatives at the scale required by the end of the 2020s. Introducing these new heating systems, and the changes that will need to accompany them such as solid wall insulation, will be more expensive and disruptive.

Another important aspect of achieving net zero will be the complete decarbonisation

Figure 7. Actual and theoretical emissions reduction trajectory, 2005-2030.



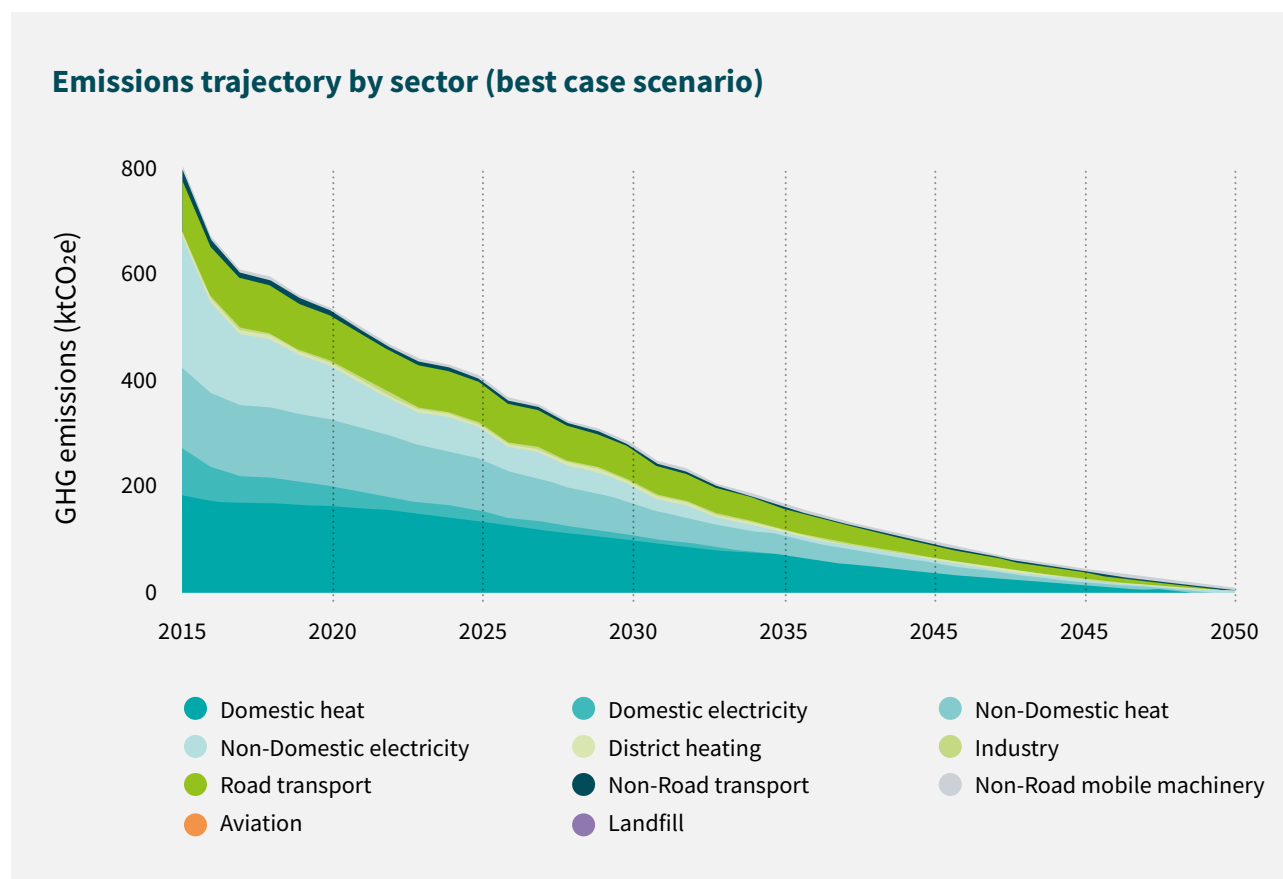
of the electricity supply. However, local renewable generation in Islington is constrained by a number of factors including history, location and lack of open spaces. This means it is highly unlikely that our renewable energy needs could be met within the borough. As a result, we will be still need to import energy from outside the borough and means our plans are heavily reliant on the continued decarbonisation of the electricity grid. Although the electricity grid has heavily decarbonised since 2005, it is expected that by 2030 for every kilowatt hour of electricity consumed, 48g of CO₂ will still be emitted.

Offsetting

We acknowledge that eliminating carbon emissions in Islington is a huge challenge, and that even with our best efforts there will likely be residual emissions. This is where actions related to offsetting carbon emissions, by sequestering carbon dioxide from the atmosphere, will be required.

The simplest method of achieving this is by tree planting. According to a 2019 report by Forest Research, the average mature oak or London Plane tree stores three tonnes of

Figure 8. Islington emissions by sector over period 2005–2050 based on the most optimistic scenario of electrification of heat, retrofit and electricity grid decarbonisation.



¹¹National Grid Future Energy Scenarios, July 2018, p97

carbon (equivalent to 11 tonnes of CO₂). The annual sequestration of Islington's own tree stock is estimated to be an average of 10.8 kg of carbon a year.

However, there is a question is over the viability of achieving sequestration at scale. According to the GLA's Zero Carbon Pathways Tool, even in the best case scenario (high electrification of heat, maximum levels of building retrofit and the national electricity grid decarbonising to achieve the 2 degrees target), there would still be residual emissions of around 285,000 tonnes per annum (see graph below) by 2030.

Based on the average sequestration of Islington's tree stock, this would require over 25 million new trees to offset the borough's outstanding emissions, an implausible figure – we currently have around 32,000 trees in areas managed by the council, and as the most densely populated district in the UK, there is limited space to carry out more planting.

This means we cannot rely on sequestration to deliver at scale and will need to focus on achieving emission reduction to as close to zero as possible. We will explore means to offset, including the use of our pension fund, subject to feasibility. Any remaining offsetting is likely to have to be done outside the borough and potentially by new technologies that become available in the coming years. In accordance with our Biodiversity Action Plan, we will ensure that any tree planting done to offset carbon emissions will be done in a way that enhances biodiversity.

Collective action

Islington Council is only directly responsible for around 4% of the borough's emissions, with around another 5% coming from boilers in homes of council tenants. Therefore, it will not be enough to rely solely on the council to

take all of the action necessary. Becoming a net zero borough will need each and every one of us to take action – residents, businesses, public bodies and the third sector.

As the principal agency for Islington, we will lead by example in decarbonising our own housing, buildings and fleet. This will require action from all parts of the council. We will also have to enable and encourage other sectors to follow suit – this will mean leading a movement for change amongst our residents and businesses and provide them with support through the transition.

Eliminating our carbon emissions will have hugely positive side effects for issues like air quality, but we must also be aware of unintended consequences, particularly with respect to mobility or fuel poverty. This section sets out some of the possibilities open to us to achieving a net zero carbon borough whilst at the same time highlighting the risks and challenges that we face.

Challenges and risks

There are numerous challenges in achieving a net zero borough by 2030. The table below sets out a brief summary of these key challenges, as well as the risks that may seriously impact on the goal of achieving net zero or be inadvertently caused by the drive to do so.

Challenges and Risks	
Challenge, Risk	Description
Fuel poverty	<p>a. Electrical heating systems are generally more expensive than gas-fired heating with the market for the former not well-developed, meaning that replacement of gas boilers with electric heating must be accompanied by improved insulation in order to mitigate the risk of fuel poverty.</p> <p>b. New heating and/or hot water systems may be unfamiliar and lead to energy being wasted if residents are not properly educated about how to use them.</p>
Finance	<p>a. Scale of costs required and lack of available funding from the council.</p> <p>b. Inadequate funding available from regional and national government.</p> <p>c. Lack of finances on part of social housing landlords, private landlords, owner-occupiers, businesses and third sector organisations.</p> <p>d. Increased running costs for the council through procuring goods and services on zero carbon basis.</p>
Lack of direct control	<p>a. The majority of properties in the borough are owned by organisations or individuals over whom the council does not have the power to require them to switch to zero carbon heating and power or insulate their properties to a higher standard.</p> <p>b. The capacity of the local electricity grid would need to be increased to support a shift to electric-based heating systems and vehicle charging.</p>
Planning	<p>a. Introduction of extensive new permitted development rights, where planning permission is not required and, therefore, planning policies and standards cannot be applied.</p> <p>b. Proposals for external wall insulation in certain areas and locations will not be acceptable under current planning rules.</p> <p>c. Installation of solar panels in some cases will require planning permission in conservation areas and on flat roofs.</p>
Staff capacity	<p>a. Scale of zero carbon activities requires significant increase in number of council staff at a time when the council's budget is still shrinking due to Government cuts.</p>

Local electricity grid capacity	a. The capacity of the local electricity grid would need to be increased to support a shift to electric-based heating systems and vehicle charging. A 2019 report from the CCC estimated that a wholesale shift to electric vehicles and heating systems could increase the peak electricity requirement of the national grid to 116GW, ¹² compared to just under 60GW now. ¹³
Technology availability	a. Achieving a net zero carbon borough by 2030 is reliant on there being viable alternatives to current fossil fuel-based technology. b. The technology used for new homes must be thoroughly tested, theoretically and then on actual schemes.
Impact of climate change	a. Warmer temperatures during the summer will increase demand for air conditioning, which will increase electricity demand, worsen the urban heat island effect and increase the risk of leaks of refrigerants with high global warming potential.
Quality of design and installation	a. Some proposed works (particularly the installation of insulation) may have negative side effects (such as creating condensation or worsening summer overheating) if not designed and installed correctly.
New and existing buildings	a. Space constraints in the council's new build programme can limit the use of certain low carbon technologies. b. Strong collaboration between the council's teams, facilities managers and occupiers will be essential. c. Funding-related challenges
Equality considerations	a. Some changes – particularly in the area of transport – risk affecting protected groups e.g. electric mobility cars do not become available as rapidly as standard vehicles. b. Certain technologies may pose other problems e.g. air source heat pumps can potentially dump heat on neighbouring properties during the warm summer months.

¹²Accelerated electrification and the GB electricity system, p18

¹³National Grid ESO Electricity Capacity Report, p34

Regional and national policies	<p>a. Many of the policies required to help Islington to become a net zero carbon borough are set at the regional (London) or national level and as such are beyond the council's control.</p> <p>b. A relaxation of energy efficiency standards for new buildings, Minimum Energy Efficiency Standard, the removal of the mechanism for councils to create a carbon offset fund, or the withdrawal of support for electric vehicles or heat pumps would adversely impact our net zero carbon efforts.</p> <p>c. The decarbonisation of public transport in Islington is dependent on external organisations such as TfL.</p> <p>d. Failure of Government to ensure the rail network is electrified will mean continued travel of diesel trains through the borough.</p>
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Figure 9. City Road

Governance

Governance

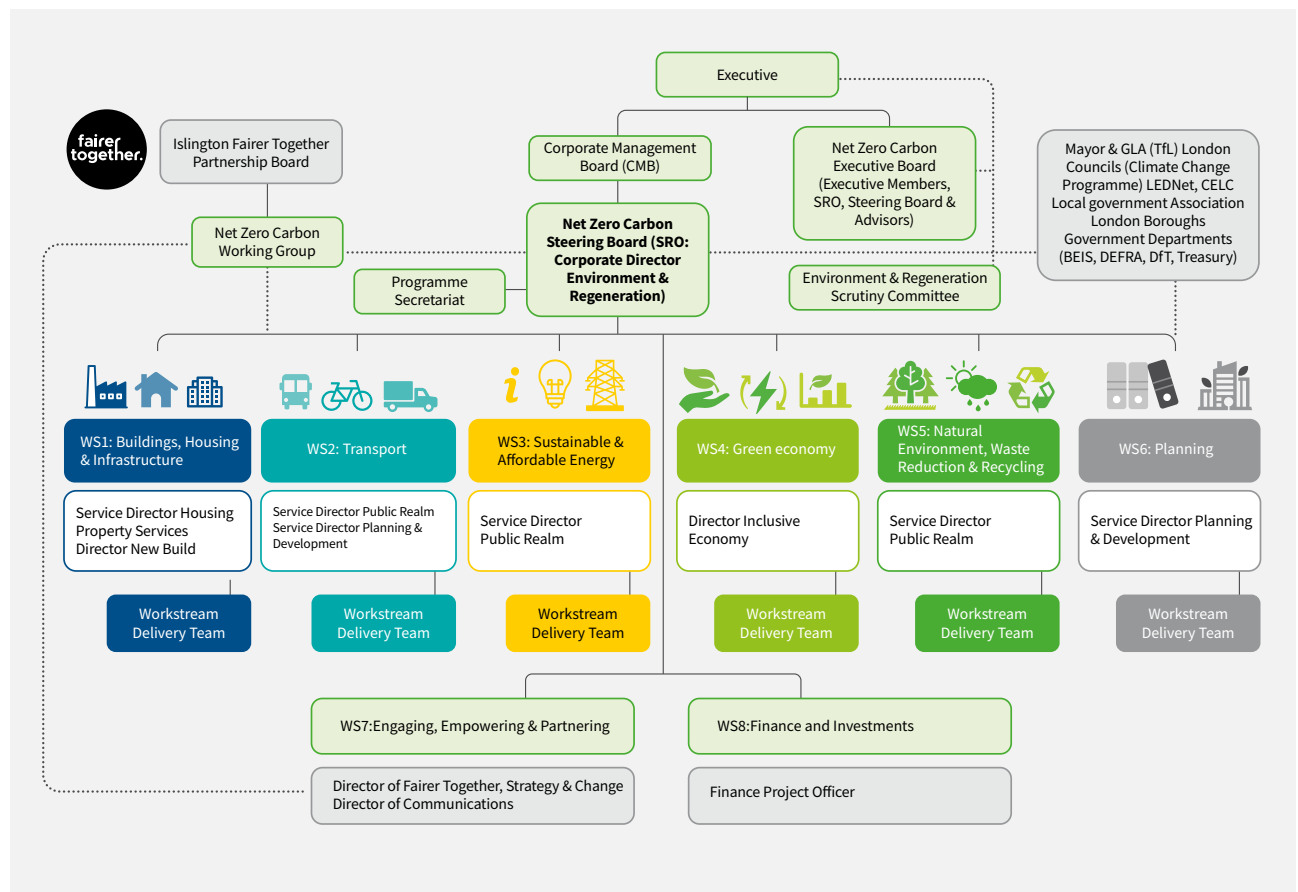
Delivery of the strategy will be the responsibility by a Net Zero Programme Board chaired by the Corporate Director of Environment & Regeneration. The programme will be delivered in eight workstreams detailed in the diagram below, which are largely aligned with the five priorities; Green Economy and Planning will be split into separate workstreams and there will be an additional two overarching workstreams, Finance and Investments and Communication, Education and Engagement.

Each workstream will be overseen by a member of the council's Senior Leadership Team appointed by Corporate Management Board. The workstream owners will be members of Net Zero Programme Board and be accountable for the delivery of their

workstream and ensuring it remains aligned with the council's business priorities and the strategy. Furthermore, each workstream will have defined targets for carbon reduction against which the deliverables will be measured. An annual programme plan will be established to ensure the workstreams are kept updated.

The programme will be overseen by a new Net Zero Carbon Board, which will bring together Steering board and Executive Members and absorb the functions of the Affordable Energy Board. Oversight will be incorporated into the annual work programme of the Environment and Regeneration Scrutiny Committee and Policy & Performance Scrutiny Committee (in terms of oversight of performance indicators).

Figure 10. Governance arrangements for the Net Zero Programme.



Funding and Resources

Funding and Resources

In recent years, the council has invested significantly in measures that reduce carbon emissions from transport, infrastructure and buildings in the borough. These include:

- £200,000 on school streets
- £4m on new LED street lighting
- £7.7m on transport projects that encourage active travel or use of public transport
- £360,000 on Community Energy Fund grants
- £16.3m on Bunhill II, a new energy centre using waste heat from the London Underground to heat nearby homes. This follows on from the £4m the council invested in Bunhill I.
- £150,000 on LED replacement schemes at the Town Hall and Waste Recycling Centre
- £923,000 on new electric vehicles and charging infrastructure for our fleet
- £120,000 on upgrading lighting

Figure 11. Energy doctor helping a client



in our housing to LED

- £232,000 on our Warmth on Prescription scheme and Energy Doctors, which install energy saving measures in homes of vulnerable residents; the total annual savings to residents since 2016 from these measures are over £200,000
- An allocation of £100,000 to the Energising Small Business Fund, which gives grants to small businesses in the borough to reduce their energy consumption
- Spending £1.395m a year funding the teams whose work reduces carbon emissions, including Energy Services, Environmental Health and Transport Planning.

The council also has significant spending commitments in the immediate future to continue our decarbonisation work. These include:

- £1.5 million for providing the electrical connection necessary to allow for the electrification of the council's fleet at the main depot. We have also had a £1.5 million match funding bid from the Mayor's Good Growth Fund for this project approved.
- £3m for People Friendly Streets to make it easier and safer for residents to walk and cycle.
- A further £5m for the modernisation of the council's fleet to reduce emissions.
- £0.8m to continue our Warmth on Prescription and Community Energy Fund schemes.

Islington was one of the first councils to establish a dedicated Carbon Offset Fund in 2014. Since then we have raised £12m of funding through S106 planning obligations to

deliver carbon reduction projects, of which over £6.5m has been spent and a further £1.8m is expected to be spent in 2020/21. More than £9m has been allocated to projects, some of which are included in the list above. We anticipate receiving a further £2-3m over the next two years.

The council will need to develop business cases for investment in order to reduce carbon emissions. We will look at how services are currently configured to ensure that we maximise annual budgets to reduce our carbon impact. We will seek to maximise the amount of grant and project funding to support the delivery of the strategy, including bidding for funding on behalf of residents, business and partner organisations where the council is eligible to apply. We will also explore alternative funding opportunities, such as community municipal bonds, green bonds and crowdfunding.

The council will need the government to make significant and ongoing funding available in order to deliver our ambition for Islington. For instance, the cost of retrofitting the council's housing stock to become both energy efficient and zero carbon is in excess of what the council can afford within existing resources. This also applies to private housing and social housing provided by other organisations. Funding needs to be made available on a consistent, ongoing basis, with reasonable time given for applications to be processed and funds spent; this will enable the development of high quality proposals, provide stability and security for the delivery industry and reduce costs.



Figure 12. Community Energy Fund recipients

Action plan

Initiatives and actions	Lead team	Funding implications
<p>Finance & Investment: To achieve the ambitious change set out in this strategy requires long term financial resources. The council is fully committed to delivering a net zero Islington and will continue to invest significantly in these outcomes, but will require other sources of finance to deliver the strategy in full.</p> <p>We will work closely with our partners, in the borough, London and at a national level to identify and maximise funding sources, advocating for adequate and sustained funding from central government. We will also look to innovative green financing mechanisms to provide value for money in the investments we make in net zero carbon initiatives.</p>		
Building on the financial implications identified within this strategy, develop fully costed business case(s) for the net zero carbon strategy, considered as part of the council's Medium Term Financial Strategy, MTFS (February 2021 and annually thereafter).	LBI Finance	To be considered as part of MTFS
<p>Consider the most cost effective way for financing Islington's Net Zero Carbon Strategy. This will include:</p> <ul style="list-style-type: none"> • identify external funding streams and support bidding for this funding to enable delivery of zero carbon initiatives • Explore access to "green" finance such as Green Bonds as well as climate levies • Investigate how we can employ innovative financial instruments such as community municipal bonds and crowdsourcing to fund onsite generation schemes. 	LBI Finance	Staff time; funding required for Library of Things.
Reduce the carbon emissions from the wider aspects of the Council's investments. By 2022 we will reduce the current and future carbon exposure of our pension fund by 50% and 75% respectively compared to when it was measured in 2016 and also invest 15% of the fund in green opportunities. We will also continually review Council investments and move investments to low-carbon, renewable and carbon offset where suitable products exist and it is consistent with our fiduciary duty.	LBI Finance (Treasury & Pensions Team)	No additional funding implications.

<p>Secure funding for innovation projects</p> <ul style="list-style-type: none"> • Seek funding for skills development programmes for young people and newly unemployed (2020–2025) so that local residents are benefiting from such programmes (e.g. green retrofitting) • Seek funding to support formation of alternative ownership models such as mutual and co-operatives, aligned with the goals of rapid decarbonisation, such as solar panel installation, regenerative agriculture, urban community gardens and circular economy initiatives (2020–2025) • Increase sponsorship from institutions to assist Islington fund the measures needed to meet its zero carbon targets, and to support the development of accessible investment schemes that will help green businesses increase the use and impact of their innovations (2020–2025) 	<p>LBI Energy Services Team & Inclusive Economy and Jobs</p>	<p>There is an expectation that government/ external funds will be available to bid for, but sources for any match funding will need to be identified.</p>
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Engaging, Empowering and Partnering Others

Engaging, Empowering and Partnering Others

Although the council has a leading role in delivering carbon emissions in Islington, we cannot deliver on the net zero carbon target on our own. We will need to work closely with residents and local businesses and community groups to enable and encourage them to help our borough achieve net zero. This will include working with stakeholders to address their emissions related to aviation and consumption, even though these two sectors are not included in the overall emissions figures.

The council will also have to play a leading role as the champion of Islington's residents and businesses at the local, regional and national level in order to push for the necessary powers and funding that will enable us to achieve our target.

Islington Council has long prioritised community engagement with our residents, local businesses and the third sector. We recognise how much our residents value their community and in our efforts to reduce carbon emissions and increase energy efficiency we will continue to promote grass-roots level innovation. We also recognise that there is strong public support for addressing the climate change issue, with local pressure pushing for faster decarbonisation.

The council is committed to engaging and involving residents, commercial organisations, businesses, borough partner organisations including the voluntary sector; health and higher education partners, schools; the Greater London Authority (including Transport for London) and National Government Departments and agencies.

The council will work with the partners across the capital including London Councils (including London Environment Director's Network), the Greater London Authority (including Transport for London) and London

Waste & Recycling Board (LWARB) in support of London-wide efforts to tackle climate change and to support Islington's vision.

We will explore how to encourage small businesses who provide circular economy services to see what opportunities exist for Islington and we will use existing business fora and networks to discuss how to collectively understand and tackle issues faced by businesses. We will also work with local community and environmental organisations to help us both engage with stakeholders and help to deliver changes required.

We are keen to engage with residents and so we will explore establishing zero-carbon themed events to have the conversation. The aim of this will be to co-design our approach to achieve the required changes. Alternative funding models may also provide future opportunities to engage residents, such as crowdfunding for specific zero-carbon projects.

The council's commitment to producing a zero carbon Supplementary Planning Document (SPD) will also include a public consultation process.

Some examples of how the council has successfully partnered with residents, community groups and businesses include:

- Established the Islington Community Energy Fund, which has awarded over £240,000 to a number of community-led initiatives including:
 - A local housing cooperative to install solar PV panels to generate electricity, making all communal lighting LED, installing electric vehicle charge points, and putting in battery storage to use all energy generated

- A local church to install battery storage to and radiant heat panels, which will allow small areas of the church to be heated for community and play groups
- An adventure playground has been given a grant to purchase solar-powered toy car kits to help the children learn how solar power works. Their parents built and installed larger solar panels for an outdoor summer house.
- Launched the Energising Small Business Fund, offering grants of up to £1,500 to small businesses in the borough for energy efficiency improvements, including new LED lighting and boiler replacements.
- Completed the Green Light North London energy efficiency advice project, which saw almost 60 organisations in Islington given advice on how they could reduce their energy consumption.
- Participated in the Solar Together London programme, a group buying scheme which has so far led to the installation of 35 new solar PV arrays totalling 75 kWp, and saving an estimated 21 tonnes of CO₂ a year.
- Set up the Islington Sustainable Energy Partnership (ISEP), which has helped its members cut their carbon emissions by over 31,000 tonnes and saved an estimated £6.7m in energy costs since its establishment.

We are mindful that alongside the above, the council will need to do more to effect the behavioural change that will be required to meet today's challenges. In addition to this, we shall do more to work with businesses and third sector organisations to build on the successful efforts of ISEP.

ISEP members collectively account for over 15% of the borough's commercial carbon emissions. The council will therefore make

it a priority to bring together residents, businesses and other organisations to work on community-led energy efficiency initiatives that will reduce our carbon footprint.

Some of the immediate actions we intend to take as part of our commitment to engage widely include:

- Create a communication and engagement plan that supports and promotes the priorities in the strategy by engaging with residents, local businesses and third sector organisations and landlords about the reasons for declaring a climate emergency, what emissions they are responsible for, and how they can play their part (including what benefits it will bring them), including:
 - How to minimise heat, electricity and water consumption at home and work
 - How to use smart meters and rights to have one installed
 - What the alternatives to gas boilers are and how they work
 - Green energy tariffs
 - Travel choices, including the impact of air travel
 - Delivery choices
 - Using their individual buying power to reduce their carbon footprint, including their choice of food, clothes and other consumer goods, as well as reducing waste and increasing recycling.
- Work with staff, unions and councillors to deliver behaviour change at the council.
- Launch a new governance approach, building on existing partnerships, to support the delivery of the Net Zero

Carbon Programme incorporating how the council will manage the programme, councillor scrutiny and engagement, borough partnerships and engagement and (sub) regional and national working.

- Raise awareness amongst our public sector partners such as the NHS, the Metropolitan Police and higher and further education institutions, on the importance of this priority and support them to look at their own operations.
- Define, create and operate a council net zero carbon programme, including the engagement of lead and ward councillors.
- Ensure that our residents' and local businesses' interests are firmly represented in our action plans.
- Establish and hold a Net Zero Carbon-themed Citizens' Assembly
- Use the business fora and networks that we facilitate and our direct interactions with businesses, small and large, to increase awareness of the need to tackle climate change and environmental issues, as well as the solutions to the crisis and responsible ways of responding.
- Continue to deliver the Community Energy Fund and Energising Small Business Fund to enable local organisations to make energy efficiency improvements and eliminate fossil fuel use.
- Refresh the focus of ISEP towards our borough-wide zero carbon partnership efforts and increase membership, particularly amongst small businesses and third sector organisations.
- Ensure residents who have new heating and hot water systems installed are properly educated on how to operate them.
- Engage with schools through their headteacher, school business manager and premises manager forums, as well as school governor meetings and Green Teams or Eco Teams where they exist. This will include looking at opportunities to improve education on cooking to avoid food waste and encouraging them to take forward the measures recommended in their annual audit reports.
- Support residents and businesses in maximising how much they can recycle or compost by providing sufficient facilities and encouraging behaviour change.
- Install public drinking fountains that reduce the need for plastic consumption and promote the Refill Scheme¹⁴ more widely.
- Encourage a repair and reuse economy by supporting the use of washable nappies by offering subsidies, holding regular give and take events and other clothes swaps, supporting reuse schemes such as Bright Sparks¹⁵ and creating low plastic zones such as that in Cowcross Street.¹⁶
- Increase the uptake of solar PV and battery storage for domestic and commercial properties by promoting the Solar Together scheme to residents, schools and local businesses, providing clear guidance on planning permission requirements and applications and supporting community schemes through the Islington Community Energy Fund. Organisations with significant solar potential can be targeted using the London Solar Opportunity Map when it becomes available.

¹⁴<https://refill.org.uk>

¹⁵Bright Sparks repair and sell second-hand electronics and furniture and offer furniture reuse collections. <https://brightsparksonline.com>

¹⁶<https://www.islington.media/news/islington-council-launches-bid-to-create-londons-first-low-plastic-zone>

Figure 13. Islington is replacing fleet vehicles with electric vehicles



- Set up an energy hub where residents, local businesses and third sector organisations can access information, advice and services provided by the council related to energy and going zero carbon.
- Investigate how we can work with circular economy organisations to support resident engagement in zero waste initiatives, including promoting a sharing society. We will also pilot a 'Library of Things' project with Bright Sparks.
- Set up a web portal for residents to make their own climate emergency declarations.
- Investigate setting up residential and business audit schemes to advise residents and local businesses on what they can do towards the net zero goal.
- Explore a pilot project with ClimateView¹⁷ and LEDNet to map and develop specific carbon actions and targets.

- Explore options for encouraging behaviour change through a mix of service design and communications

Other commitments we can make will require us to work with stakeholders outside of the borough, including Government:

- Determine how Islington Council will operate on a London-wide basis to support the capital's net zero carbon ambitions.
- Investigate how we can employ innovative financial instruments such as community municipal bonds to fund onsite generation schemes.
- Advocate for financial measures that can reduce the cost of climate action, e.g. VAT reduction on energy efficiency measures.
- Partner with our suppliers in order to generate Social Value by focusing on the energy consumption of our supply chains.

¹⁷A software company who specialise in climate change measurement



Figure 14. On-street electric vehicle charging

Action plan

Initiatives and actions	Lead team	Funding implications
<p>Engaging, Empowering and Partnering Others: Although the council has a leading role in delivering carbon emissions in Islington, we cannot deliver on the net zero carbon target on our own.</p> <p>We will work closely with residents and local businesses and community groups to enable and encourage them to help our borough achieve net zero. This will include working with stakeholders to address their emissions related to aviation and consumption, even though these two sectors are not included in the overall emissions figures.</p>		
<p>Create a communications plan to engage with residents, local businesses, stakeholders, partners and staff on the reasons for declaring a climate emergency. It will explain the council's vision for a greener future and priorities for change; set out how audiences can contribute, support behaviour change and highlight the benefits that changes will make. It will support delivery of priorities across workstreams, lobbying and stakeholder engagement activity</p> <ul style="list-style-type: none"> • Agree Initial Comms plan (April 2021), subject to requirements being provided by other workstreams 	LBI Communications and Change	<p>A marketing and communications budget (including staffing cost) will be required once the scope of the communications plan is understood.</p> <p>Staff time and materials</p>
<p>Work with staff, unions and councillors to deliver behaviour change at the council</p> <ul style="list-style-type: none"> • Gather insight and baseline evidence about current staff behaviours, impacts and to identify opportunities for change • Based on this evidence, work with relevant services within the council to design appropriate interventions • Develop an internal communications plan to engage staff, unions and councillors with these interventions and embed change. Options should encourage awareness and ownership among all staff as well as creating 'champions' to advocate for change 	LBI Communications and Change and Energy Services	

<p>Raise awareness amongst our public sector partners, e.g. the NHS, the Metropolitan Police and higher and further education institutions, on the importance of this priority and support them to look at their own operations</p> <ul style="list-style-type: none"> • Understand current initiatives (February 2021) • Provide input into comms and engagement plan (March 2021) 		
<p>Define, create and operate a council net zero carbon programme, including the engagement of lead and ward councillors.</p> <ul style="list-style-type: none"> • Engage existing and new partners, including ISEP, Affordable Energy Board and the net zero carbon working group (January 2021) • Build and launch the model (April 2021) 		No additional funding implications - activity contained within existing resources.
<p>Ensure that our residents' and local businesses' interests are firmly represented in the Zero Carbon Working Group's action plans</p> <ul style="list-style-type: none"> • Agree engagement approach and plan (June 2021) • Consult residents on plans and approach and feedback (2020–2030) 		No additional funding implications - activity contained within existing resources.
<p>Hold a Net Zero Carbon-themed Citizens' Assembly</p> <ul style="list-style-type: none"> • Agree approach and scope (March 2021) 		To be confirmed
<p>Set up an Energy Hub where residents, local businesses and third sector organisations can access information, advice and services provided by the council related to energy and going zero carbon.</p> <ul style="list-style-type: none"> • Agree purpose, content and design (March 21) • Identify locations for hub (June 21) • Seek and agree funding (August 21) • Set up hub site • Launch (December 21) 	LBI Energy Services	Funding implications will be determined when design of hub and site options are known and fed into budget-setting process as appropriate.

Investigate how we can work with circular economy organisations to support resident engagement in zero waste initiatives, including promoting a sharing society. We will also pilot a 'Library of Things' with Bright Sparks.		Staff time; funding required for Library of Things.
Set up a web portal for residents to make their own climate emergency declarations <ul style="list-style-type: none"> • Develop requirements (March 2021) • Design and development (June 2021) • Launch (December 2021) 	LBI Energy Services	Design and development costs to be known once requirements have been scoped (using existing resources)
Investigate setting up residential and business audit schemes to advise residents and local businesses on what they can do towards the net zero goal. <ul style="list-style-type: none"> • Produce options and funding paper (March 2021) • Start scheme if feasible (September 2021) 	LBI Energy Services	To be confirmed on completion of options and funding paper
Explore a pilot project with ClimateView and LEDNet to map and develop specific carbon actions and targets <ul style="list-style-type: none"> • Develop pilot project • Launch 		To be confirmed
Define, create and operate a London-wide approach and proposition to deliver net zero carbon and reduce climate change. <ul style="list-style-type: none"> • Draft approach for discussion at programme board (November 2020) • Develop two-year work plans for workstreams we are participating in or leading on (January 2021) 		No additional funding implications - activity contained within existing resources.

<p>Influencing:</p> <ul style="list-style-type: none"> • Investigate how we can employ innovative financial instruments such as community municipal bonds to fund onsite generation schemes. • Advocate for financial measures that can reduce the cost of climate action, e.g. VAT reduction on energy efficiency measures. • Partner with our suppliers in order to generate Social Value by focusing on the energy consumption of our supply chains 		<p>To be considered as part of Treasury Management & Investment Strategy</p>
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Priority 1

Priority 1: Residential buildings, Commercial & Industrial buildings and Infrastructure

Why is this important?

Buildings are the largest source of carbon emissions in Islington, generating 84% of all emissions according to the 2018 dataset. Commercial and industrial buildings (which includes the public sector) are the largest single contributor to carbon emissions in our borough and account for 323,580 tonnes of carbon emissions a year, 48% of the total. This consists of 188,434 tonnes from electricity usage (58% of the total), 126,931 tonnes from gas usage (39%), 8,065 tonnes from other fuels (2%) and 150 tonnes from large industrial installations and agriculture (0.05%).

Residential buildings account for a further 246,485 tonnes, or 36% of total emissions.

This consists of 172,324 tonnes from gas (70%), 72,434 tonnes from electricity (29%) and 1,726 tonnes from 'other' fuels (1%).¹⁸

Energy efficiency, also a key driver of fuel poverty, plays a part. The lower the energy efficiency of a home, the higher the amount of fuel that is required to heat the home adequately (at least 18°C).¹⁹ In many cases this means higher overall fuel costs than should be necessary.

90% of all fuel poor households in England are living in a home rated as band D or below using the Fuel poverty Energy Efficiency rating (FPEER), compared with just 10% of households in bands A-C.²⁰ A BEIS study found that households in homes with

Figure 15. High quality insulation helps reduce energy demand



¹⁸Likely to be largely wood fuel

¹⁹The Cold Weather Plan for England (2018) suggests heating your home to at least 18°C in winter poses minimal risk to your health when you are wearing suitable clothing.

²⁰Annual Fuel poverty Statistics in England 2019 (2017 data) FPEER is like SAP, but accounts for the impacts of policies which discount households' energy bills (e.g. Warm Home Discount.)

Figure 16. External wall insulation has been installed on blocks in the Holly Park estate



insulated cavity walls are least likely to be in fuel poverty (7.5%) compared to 16.8% for households with uninsulated solid walls.²¹

These figures highlight just how important a factor insulation is in the fight against fuel poverty as well as climate change. Islington statistics from 2017 show that households living in properties built between 1900 and 1918 were most likely to be fuel poor (18.6% of households). This is compared to just 4.1% of fuel poor households in dwellings built post-1990. In Islington, there are approximately 9,300 households in fuel poverty, based on 2017 figures.²²

In simple terms, in order to eliminate carbon emissions from our buildings, we will have to:

1. Replace gas heating and cooking facilities with electric alternatives.
2. Maximise the energy efficiency of buildings through insulation and retrofit of fittings like lighting.
3. Maximise on-site renewables (this is addressed in Priority 3).

4. Purchase any remaining electricity needs from renewable sources.

Looking at the types of buildings in Islington, there are around 103,000 homes (of which around 25,000 are owned by Islington Council)²³ and 21,010 business premises.²⁴ As 60% of our housing stock was built before 1919,²⁵ solid walled properties are very common. These buildings offer the greatest challenge for retrofit efficiency measures and in many cases, the most effective option for raising the energy efficiency of these properties is external wall insulation. However, this will be a challenge as 50% of the borough is within a conservation area.

If we are to achieve the net zero ambition for council housing and our corporate buildings, gas boiler systems will need to be replaced by either an electric form of heating via heat pumps or a connection to a heat-pump-fed district heating network. Buildings will also have to be made more efficient – with at least EPC rating of B – through wall and roof insulation, energy efficient fittings such as LED lighting and the installation of renewables. Our new build

²¹Fuel poverty detailed tables 2019

²²Sub-regional fuel poverty data 2017

²³Live tables on dwelling stock (including vacant)

²⁴Islington's Labour Market Profile

²⁵Housing Strategy 2014–2019, p35

Figure 17. Installing underfloor insulation using Q-bot



properties will have to be gas-free from the start.

We also need to consider the impact of climate change. Hotter summers will mean more demand for cooling. To avoid a significant increase in energy use, we will need to look at opportunities for passive cooling through building design, or retrofit measures such as shading or shutters. Summer temperatures will also need to be considered during the installation of insulation, as the method used could help keep buildings cool by preventing heat entering the building fabric, but other methods may trap heat inside.

In addition to taking action on our own corporate and housing stock, the council will need to encourage and enable the owners of domestic and commercial properties to take the same actions to eliminate their carbon emissions and achieve the same targets.

What we've done

Between 2013 and 2019 we achieved several successes related to energy efficiency in both council and private buildings:

- Replaced over 1,000 low grade boilers (rated F and G) in social and private tenant homes and started a Low Standard Assessment Procedure (SAP) boiler replacement scheme

to replace 100 boilers a year (ahead of scheduled replacement) in the council's lowest SAP-rated properties until 2020/21.

- In the last year alone, helped SHINE clients achieve cost savings of £207,213 through 8,560 interventions covering Energy Doctor home visits, Warm Home Discount referrals and fuel debt relief.
- Carried out energy efficiency improvements in 1,646 households and 19 businesses and community buildings over the last 12 months, saving an estimated 1,443 tonnes of CO₂ and £360,000 a year.
- Converted almost all 11,350 streetlights in the borough to LED versions, saving the council around £400,000 per year.

What we'll do

Between 2020 and 2030, we will carry out a number of initiatives to eliminate the use of fossil fuels and increase energy efficiency in buildings:

What the council can commit to immediately and actions we will take

- Prepare detailed feasibility studies for eliminating the carbon footprint of our larger housing estates.

- Implement a large-scale trial of low carbon heating and following that, seek to replicate it in other parts of the borough.
 - Complete a comprehensive review of how our new build programme can meet the net zero carbon target whilst improving quality, liveability, thermal comfort, maintainability, fuel poverty, and end user experience.
 - Aim to phase out individual gas boilers in our new build properties by 2022/2023 if possible, with development schemes being identified to pilot alternatives to gas and develop a clear and approved net zero carbon design strategy across a range of building types.
 - Test new approaches between now and 2030 to ensure that the council's net zero carbon requirements are properly incorporated throughout all design stages.
 - Begin replacing gas boilers in the council's corporate properties with electrical heating or connections to heat networks and improve energy efficiency through insulation and lighting replacements.
 - Complete our first "whole house" residential refurbishment project, designed to achieve high energy efficiency standards and significant carbon reductions.
 - Maximise the energy efficiency of communal equipment in our housing, including lighting, lifts and heating systems (e.g. through use of LED lighting and insulation of heating system pipework).
 - Restart our hard-to-insulate programme on the council's remaining properties that still require such insulation.
 - Work with landlords of privately-rented domestic properties, through our HMO licensing function, to ensure that their properties are compliant with the Minimum Energy Efficiency Standards (MEES) when they grant a new tenancy to new or existing tenants, including encouraging landlords to upload a copy of their EPC when applying for a licence.
 - Proactively enforce the Minimum Energy Efficiency Standards for all other privately-rented housing through our Trading Standards team.
 - Implement new technology such as the GLA and UCL's London Building Stock Model,²⁶ which will greatly improve the way in which we identify the buildings to treat for energy efficiency.
- What the council sees as potential commitments, but requires further investigation before committing to
- In cases where carbon free heating isn't feasible, we will explore installing hybrid heating systems with an overall lower carbon footprint.
 - Support private property owners (both commercial and domestic) by developing a loan scheme similar to the Green Deal²⁷ that allows property owners easier access to finance for energy efficiency improvements such as installing heat pumps, solid wall insulation or solar panels.
 - Create or promote a "Retrofit Together" scheme that helps simplify the retrofit market and reduce costs for property owners by creating a one-stop-shop for energy efficiency measures with pre-procured contractors.

²⁶<https://www.ucl.ac.uk/bartlett/energy/news/2018/may/greater-london-authority-commissions-ucl-develop-london-buildings-stock-model>

²⁷<https://www.gov.uk/green-deal-energy-saving-measures>

Figure 18. Boleyn Road, houses built with heat pumps



- Trial new technologies that reduce energy consumption in building systems, building on existing energy efficiency pilots that we are running at our Waste Recycling Centre.
 - Launch pilot schemes for verified technologies in fuel poor homes and those with poor energy efficiency ratings, given that homes heated with storage heaters are twice as likely to be fuel poor as homes with central heating.²⁸
 - Promote aspirations towards a net zero requirement in all council-secured affordable workspace.
 - Investigate the possibility of setting a higher energy efficiency standard for licenced privately-rented housing in Islington than the national MEES requirement (currently an EPC rating of E).
 - Investigate and bid for funding from the funding streams available (such as the Mayor's Energy for Londoners scheme) to support retrofitting zero carbon energy systems and installing insulation.
- What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation
- Government to fund a major insulation and zero carbon heating retrofit programme.
 - Certainty from Government that gas boilers will be phased out in new build – both commercial and residential – and that significant grant funding for low carbon heating will be made available.
 - Government to commit to the Minimum Energy Efficiency Standards requirements for all residential properties rising to B by 2030 and make assistance available to support landlords to do so.
 - The GLA to work with the council to lobby for London-wide landlord licensing to enable MEES enforcement.
 - Government to bring forward the target date for a decarbonised electricity grid from 2050 to 2030.

²⁸Fuel poverty detailed tables 2019

Action plan

Initiatives and actions	Lead team	Funding implications
Priority 1: Buildings, Housing and Infrastructure: Improve the energy efficiency and reduce the level of carbon emissions of all buildings and infrastructure: We will continue our work on the insulation of properties and seek ways of converting heating systems away from gas where possible. In doing so we will work with borough partners such as schools and colleges, universities and the NHS to support them to reduce carbon emissions from their estates.		
Implement a large-scale trial of low carbon heating solution at a pilot estate <ul style="list-style-type: none"> Options appraisal (September 2021) Apply for RHI funding if appropriate (March 2022) Complete procurement (December 2022) Installation of any new heating solution to be undertaken in tandem with replacement of external wall insulation (see “restart our hard-to-insulate programme” below). 	Energy Team and Capital Programme Delivery team (CPD)	Funding required will be known March 2022
Maximise the efficiency of council housing communal equipment <ul style="list-style-type: none"> Commission appraisal of building elements (e.g. lighting, heating pipework insulation, lifts) to determine most effective areas for investment (May 2022) Identify funding as appropriate 	Energy Team and Capital Programme Delivery team (CPD)	To be included within HRA MTFS, compensating savings from other works to be identified wherever possible

<p>Restart our hard-to-insulate programme on the council's remaining properties that still require such insulation.</p> <ul style="list-style-type: none"> • Identify funding for external wall insulation and cladding at four blocks and consider recharging implications if appropriate (September 2021) • Review scheme designs to ensure compliance with building regulations post Grenfell (September 2021) • Seek approval to continue with the above schemes (December 2021) • Replace insulation and cladding (4 tall blocks) at the Harvist Estate – (complete December 2023) (see commitment 1 above) followed by Braithwaite House and Brunswick Estate • Feasibility studies of remaining stock (September 2023) • Options appraisals (March 2024) 	<p>Capital Programme Delivery & LBI Energy Services</p>	<p>Paused schemes to be considered as part of council's capital strategy</p> <p>For other works, include within HRA MTFS, compensating savings from other works to be identified wherever possible.</p>
<p>Consider using new technology to improve the way in which we target energy efficiency investment across our stock</p> <ul style="list-style-type: none"> • Purchase a building stock model that identifies the most feasible improvements to residential properties to eliminate emissions (May 2022) • Link to existing systems 	<p>Housing Investment Team & LBI Energy Services</p>	<p>To be included within HRA MTFS, compensating savings from other works to be identified wherever possible.</p>
<p>Prepare feasibility studies for minimising the carbon footprint of our larger housing estates.</p> <ul style="list-style-type: none"> • Appoint consultant (September 2021) • Feasibility studies (2021–2023) • Options Appraisal (2023) 		<p>To be included within HRA MTFS, compensating savings from other works to be identified wherever possible.</p>

<p>Work with landlords of privately-rented domestic properties, through our HMO licensing function, to ensure that their properties are compliant with the Minimum Energy Efficiency Standards (MEES) when they grant a new tenancy to new or existing tenants, including encouraging landlords to upload a copy of their EPC when applying for a licence.</p> <ul style="list-style-type: none"> • Provision of EPC part of application process (done) • Assessing validity of EPC (ongoing) • Enforcement policy (in progress) • Landlord awareness/ engagement programme (April 2021) 	<p>Public Protection Regulatory Services</p>	<p>No additional funding implications - activity contained within existing resources.</p>
<p>Pro-actively enforce the Minimum Energy Efficiency Standards for all other privately-rented housing through our Trading Standards team.</p> <ul style="list-style-type: none"> • Project Plan for 2020/21 completed (done) • Analyse data (done) • Warning letters to non-compliant landlords (done) • Follow up enforcement action (January 2021) • End project- review and evaluate (April 2021) 	<p>Public Protection Regulatory Services</p>	<p>No additional funding implications - activity contained within existing resources.</p>
<p>Deliver new housing through the council's new build programme to meet the net zero carbon target whilst improving quality, liveability, thermal comfort, maintainability, fuel poverty, and end user experience Including</p> <ul style="list-style-type: none"> • Complete a comprehensive review of how our new build programme can meet the net zero carbon target whilst improving quality, liveability, thermal comfort, maintainability, fuel poverty, and end user experience. • Test new approaches between now and 2030 to ensure that the council's net zero carbon requirements are properly incorporated throughout all design stages • Complete our first "whole house" residential refurbishment project, designed to achieve high energy efficiency standards and significant carbon reductions. 	<p>LBI Housing Newbuild team</p>	<p>Funding for the Council's New Build Programme included within existing capital programme, with supporting revenue budgets for staff time.</p>

<p>Actions:</p> <ul style="list-style-type: none"> • All new homes without planning consent as of 09/20 will be progressed with alternatives to heating and hot water systems fuelled directly from the gas grid supply (2020–2030) • Undertake a comprehensive study to determine how the delivery of new homes through the council's new build programme can be further decarbonised and assess alternatives to gas fuelled systems (December 2020) • Identify 'quick wins' - measures that can be implemented within a short timeframe (<6months). i.e. engage with energy specialists for all new build feasibility assessments, identify pilot schemes to test approach and alternative systems to gas (December 2020) • Produce draft strategy with recommendations for internal stakeholder review (January 2021) • Finalise decarbonising new homes strategy with agreed implementation plan, including phasing out installation of individual gas boilers with no new development schemes being submitted for planning approval (February 2021) • Produce technical specifications for incorporation into Islington's new homes design requirements (2020–2022) • Develop and implement a post-construction building performance data management strategy to enable ongoing learning about "in-use" building performance (March 2022) • Undertake pilot project review and ensure lessons learned are fed into technical specs etc. (2020–2023) • Develop a robust design compliance process to ensure zero carbon strategy is being incorporated throughout all design and construction stages across the programme (October 2021) 	<p>LBI Housing Newbuild team</p>	<p>Funding for the Council's New Build Programme included within existing capital programme, with supporting revenue budgets for staff time.</p>
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<ul style="list-style-type: none"> • Develop a plan and identify resources needed to provide better support to occupants of new homes to ensure that residents understand how to operate systems that will be unfamiliar to them and to promote/encourage greater energy efficiency through occupant choice (October 2021) • Introduce new measures to ensure that development plans, wherever possible, make a positive contribution to the protection, enhancement, creation and management of biodiversity (April 2021) 		
<p>Begin replacing gas boilers in the council's corporate properties with electrical heating or connections to heat networks and improve energy efficiency through insulation and lighting replacements.</p> <ul style="list-style-type: none"> • Assess all council buildings to establish most suitable replacement system and modifications required (December 2021) • Decision report to agree funding (March 2022) 	LBI Energy Services	To assess buildings, staff and consultant time will be required. Following assessment, capital funding required to undertake replacement work.
<p>Support private property owners (both commercial and domestic) by developing a loan scheme similar to the Green Deal that allows property owners easier access to finance for energy efficiency improvements such as installing heat pumps, solid wall insulation or solar panels.</p> <ul style="list-style-type: none"> • Investigate funding options and loan mechanism (December 2021) • If scheme is feasible, define eligible measures, management structure, governance and monitoring protocols (March 2022) • Decision report (March 2022) • Delivery (September 2022 to 2025) 	LBI Energy Services	Development time to be contained within current resources. If scheme is established, loan repayments expected to cover costs but will require initial investment.

<p>Create or promote a “Retrofit Together” scheme that helps simplify the retrofit market and reduce costs for property owners by creating a one-stop-shop for energy efficiency measures with pre-procured contractors.</p> <ul style="list-style-type: none"> • Produce feasibility study for the scheme, including defining retrofit measures, scheme governance and monitoring and validation protocols (December 2021) • Decision report (March 2022) • Procure delivery partner (December 2022) • Begin delivery (March 2023) 	<p>LBI Energy Services</p>	<p>To be determined after feasibility study; dependent on whether LBI procure scheme alone or promote one run by (e.g.) the GLA.</p>
<p>Lobbying and Influencing: Work with London Boroughs, London Councils and the GLA to seek:</p> <ul style="list-style-type: none"> • Government to fund a major insulation and zero carbon heating retrofit programme. • Certainty (including dates) from Government that gas boilers will be phased out in new build – both commercial and residential – and that significant grant funding for low carbon heating will be made available. • Government to commit to the Minimum Energy Efficiency Standards requirements for all residential properties rising to B by 2030 and make assistance available to support landlords to do so. • London-wide landlord licensing to enable MEES enforcement • Government to bring forward the target date of a decarbonised electricity grid from 2050 to 2030. 		<p>No additional funding implications - activity contained within existing resources.</p>

Priority 2

Priority 2: Transport

Why is this important?

According to the BEIS data for 2018, transport in Islington accounted for 109,884 tonnes of carbon emissions annually, or 16% of the borough's total. Of this, 68,490 tonnes were from petrol and diesel vehicles on "A" roads (62%), 40,356 tonnes from petrol and diesel vehicles on minor roads (37%), 559 tonnes from diesel railways (0.5%) and 479 tonnes from other modes (0.4%), which include LPG vehicles and canal boats. Achieving our net zero carbon target will require us to eliminate all of these emissions.

In 2018 there were 3,076 goods vehicles licenced in Islington,²⁹ and it is likely that most of these are diesel or petrol vehicles. In the same year there were 36,275 cars and 2,899 motorcycles registered to Islington addresses,³⁰ although not all of these will be private cars owned by residents.

The number has remained steady for several years and is only slightly down on the 2009 figures of 37,789 and 3,175 respectively. Based on our parking permit data, which accounts for around 70% of the total number of vehicles in the borough, the split of vehicle by fuel type is 24% diesel and 76% non-diesel, of which just under 1% are thought to be zero emissions.³¹ However, the number of ultra-low emission vehicles (hybrids and electrics) licenced in Islington is rapidly rising, with just under 900 registered in March 2019, up from under 350 in Q1 2017.³²

The council itself has around 500 vehicles, of which 277 are diesel, 162 petrol, 2 CNG, 24 hybrid and 36 electric as of the end of July 2020. In 2018/19, total carbon emissions from the diesel, petrol and CNG vehicles in the fleet amounted to 2,726 tonnes, around 2.5% of the borough's total transport emissions.

Based on the split of transport-related emissions between "A" roads and minor roads, through traffic is possibly the biggest contributor to transport emissions in Islington, whilst incoming traffic such as deliveries, commuters and visitors also contribute to the borough's emissions – during 2018/19 a total of 1,450,882 short stay parking permits were purchased, of which 796,346 (55%) were for diesel vehicles.

These are the sectors where we have the least control. Islington also has no control over TfL routes, namely the A1 (Upper Street/Holloway Road), the A501 (City Road/Pentonville Road) and the A503 (Camden Road/Seven Sisters Road/Tollington Road).

Achieving a net zero transport system would require all vehicles to be converted to electric (and in some cases hydrogen) and require new infrastructure for recharging or hydrogen filling. However, the transition to EVs will only be encouraged for essential uses, such as for those with disabilities, operational vehicle fleets, servicing/delivery vehicles and car clubs, which will ultimately reduce car ownership levels. The starting point should be reducing the total number of vehicles by

²⁹London Datastore: Licenced Vehicles by type and borough

³⁰London Datastore: Licenced Vehicles by type and borough

³¹The council recently (April 2019) introduced a band for zero emission vehicles. However, as permits are renewed annually, a full year of renewals is needed to get the complete number of zero emission vehicles. In the meantime, the number of zero emissions vehicles whose permits were registered in the first two months of 2019 gives a rough estimate of 0.9% of vehicles being in this category.

³²Licensed ultra low emission vehicles by local authority: United Kingdom

encouraging a modal shift away from vehicle use, for example cycling, walking and public transport. Where vehicle use is unavoidable, we should look to increase car sharing and, in the case of the commercial sector, freight consolidation.

This strategy is strongly linked with the Islington Transport Strategy. Council transport initiatives specifically related to greenhouse gas emissions have been detailed in this document, but numerous initiatives aiming to reduce traffic and increase walking, cycling and public transport use are detailed in the Transport Strategy.

Underpinning the new Islington Transport Strategy is the Healthy Streets Approach, a system of policies and strategies to improve Londoners' and visitors' experiences of Islington's streets so that they will use cars

less and walk, cycle and use public transport more. This in turn will help everyone to be more active and enjoy the health benefits of being on Islington's streets. The Healthy Streets Approach uses ten evidence-based indicators of what makes streets attractive and inclusive places. Working towards these will help to create a healthier borough, in which all people are included and can live well, and where inequalities are reduced; principles to which Islington Council has long been committed.

In addition to those emissions from transport, this section also considers emissions from plant equipment such as diesel generators or construction and grounds maintenance equipment. Such non-mobile machinery and equipment is included in this section as the equipment burns the same fuels – i.e. diesel and petrol.

Figure 19. The council is the first London borough to order new fully electric refuse collection vehicles



What we've done

- The council has been implementing School Streets since 2018, restricting traffic during drop-off and pick-up times to improve air quality, reduce road danger, and encourage people to use sustainable and active modes of transport.
- Islington was amongst the first places to set parking permit charges based on vehicle emissions and became the first borough to implement a parking permit surcharge for diesel vehicles and to call for diesel vehicles to be banned from London by 2025.
- We pioneered the low-emission neighbourhood at the City Fringe, banning all vehicles not classed as ultra-low emission during the peak morning and evening commuter periods.
- We are cleaning up the council vehicle fleet and introducing other sustainable methods of transport alongside working with Transport for London to ensure buses in Islington are clean.
- Started to reduce the council vehicle fleet by providing alternatives modes of transport, such as electric bikes for our Street Environmental Services supervisors and pool bikes for staff at our main offices.
- As of 2019, we have installed 170 electric vehicle charging points, and will have over 400 electric charging points by 2022.
- Provided electric bollards for idling canal boats.

What we'll do

What the council can commit to immediately and actions we will take

- Continue to increase the number of electric vehicles, including rolling out our first two electric refuse collection vehicles by the end of 2020. In cases where electric versions of the vehicles we require are not available, we will replace existing engines with electric motors. Full electrification of the fleet should be completed by 2030.
- Continue to reduce the number of vehicles in the council fleet by reviewing how services operate and staff travel, and by providing alternative modes such as electric bikes.
- Install charging infrastructure at council locations where vehicles are kept overnight.
- Enable Vehicle 2 Grid (V2G)³³ at locations with parked vehicles, expanding on the Town Hall V2G trial.
- Reduce the need for cars by making active travel (i.e. walking, cycling and public transport) the safest, easiest and most enjoyable option. The implementation of the council's borough-wide programme of People Friendly Streets will significantly support this objective.
- Ensure new developments are car-free or have restricted on-site parking and access to controlled parking zones, and have adequate cycle facilities.
- Support and promote electric car club schemes and carpooling initiatives.

³³Vehicle-to-Grid charging allows for electric vehicles to return power to the electricity grid

Figure 20. Dockless bicycles make cycling easier for residents and commuters



- Ensure the borough invests in EV charging infrastructure, including lamp column and rapid chargers, carefully locating chargers to avoid pedestrian access issues.
- Encourage the use of electric taxis by ensuring Islington has sufficient on-street rapid chargers for taxi drivers.³⁴
- Ensure public EV infrastructure is powered by renewable sources.
- Encourage local businesses to switch to cargo bikes or zero emissions vehicles.³⁵
- Deliver 'School Streets' or similar interventions where possible at all primary schools in the borough by 2022.
- Continue replacing grounds maintenance equipment with electric versions.
- Introduce a borough-wide lorry control scheme working towards banning lorries (HGVs) from driving through the borough on residential roads. Enhance measures to enforce the existing 7.5t lorry ban and consider an expansion of this ban to include all lorries of 3.5t or higher.
- Develop and deliver an Accessibility Plan and a Walking and Cycling Action Plan by 2025 to transform Islington into an exemplary borough for walking, cycling and accessibility, including the reallocation of road space for these modes.

³⁴In 2018 TfL introduced new licencing requirements for taxis which will ensure that all taxis licenced for the first time are zero emission capable -

³⁵Recent programmes including Archway ZEN have given local businesses trials of electric vehicles and cargo bikes, whilst the Town Centre groups have purchased electric vans to help with deliveries

- Develop a parking strategy to support the delivery of the objectives of this document and the Islington Transport Strategy.
- Investigate phasing out resident and business parking permits for diesel and petrol vehicles by 2030 and review our charges.
- Develop and implement a programme of Liveable Neighbourhoods for every residential area in the borough, which will contain measures such as road closures, protected cycle routes, improved crossings and improvements to public spaces and seek funding to support the programme.
- Implement the UK's first Eco Zone at the Regent's Canal to provide cleaner power to canal boats that use diesel engines and wood stoves, and build on its success to provide these benefits in other areas with poor air quality.

What the council sees as potential commitments, but requires further investigation before committing to

- Replace diesel generators with emissions-free alternatives such as battery packs or fuel cells in our non-road mobile machinery.³⁶
- Install electricity supply points at locations where there is regular need, such as parks with frequent events.³⁷
- Investigate options for significantly increasing EV infrastructure to meet increasing demand for electric vehicles.
- Develop a freight consolidation strategy to reduce the impact of on-street deliveries,

particularly at peak times, through measures to limit access at peak times and encouraging the use of cargo bikes.

- Explore options such as workplace parking levies (WPL) to encourage commuter use of public transport.

What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation

- TfL to partner with us to ensure the successful expansion of the ULEZ and make it a Zero Emission Zone by 2030.
- TfL to work with us to ensure that all bus routes through Islington are served by electric or hydrogen fleet by 2030.
- Work with the Canal and River Trust to phase out solid fuel stoves on boats by 2022 as part of the Regent's Canal Eco Zone initiative.
- Collaborate with the Mayor of London to develop London-wide approaches to workplace parking levies and road user charging.
- Continue to lobby national government for additional actions and national policies, including those on red diesel subsidies, changes to road tax, strategic support for local authorities, national diesel scrappage scheme and improvements to charging infrastructure before the ban of new diesel and petrol vehicles in 2040.

³⁶A hydrogen fuel cell was used by TfL during the Highbury Corner works in 2019

³⁷Installing supply points is unlikely to be feasible for larger-scale power demand, as substations will have to be installed, which are extremely costly and would be difficult to achieve planning permission for.

Action plan

Initiatives and actions	Lead team	Funding implications
Priority 2: Transport: Reduce emissions in the borough from transport: Reduce vehicular emissions by encouraging walking, cycling and public transportation. By working collaboratively, we will explore how to transform our streets, secure better, cleaner and more accessible public transport services for Islington and improve air quality for residents. We will also electrify our fleet and encourage residents and local businesses to do the same by ensuring the appropriate infrastructure is in place		
Fleet replacement programme		
Increase the number of electric vehicles within our fleet <ul style="list-style-type: none"> • Apply Fleet procurement strategy (Electric, Hybrid, Petrol then Diesel) (2020–2030) • 10% of fleet electric (April 2021) • 50% of fleet electric (April 2025) • 100% of fleet electric (April 2030) • Apply for grants/offers as available (ongoing until 2030) 	LBI Fleet and W/S services	Element of capital funding for vehicle replacement already contained within capital programme. Additional capital funding required for full electrification to be considered as part of council strategy.
Continue to reduce the number of vehicles in the council fleet by reviewing how services operate and staff travel, and providing alternative modes such as electric bikes. <ul style="list-style-type: none"> • Teams to review their travel arrangements (Annually) 	All services	Cost of alternatives likely to be covered by reduced spend on vehicles.
Install charging infrastructure at council locations where vehicles are kept overnight. <ul style="list-style-type: none"> • Waste recycling centre (WRC) initial smart charger installation to existing power supply (December 2020) • Waste recycling centre grid connection and substation completed (December 2021) • Low voltage infrastructure and smart charger installations (multiple phases in line with fleet procurement by December 2025) 	LBI Fleet and W/S services	Capital funding included within existing capital programme, match funded by the Mayor's Good Growth Fund Grant.

<ul style="list-style-type: none"> • Other council premises smart charger installations (August 2020–December 2025) • Increase of solar capacity at council charging sites (August 2020–December 2025) 		
<p>Enable Vehicle 2 Grid³⁹ (V2G) at locations with parked vehicles, expanding on the Town Hall V2G trial</p> <ul style="list-style-type: none"> • Trial completed (July 2021) • Rollout plan agreed, subject to successful trial (September 2021) 	LBI Fleet and W/S services	Privately funded by Moixa and Honda.
Vehicle use reduction by residents and local businesses		
<p>Reduce the need for cars by making active travel (i.e. walking, cycling and public transport) the easiest and most enjoyable option</p> <ul style="list-style-type: none"> • Deliver 8 low traffic neighbourhoods • Deliver all 20 low traffic neighbourhoods across the whole borough • Deliver the full Old Street/Clerkenwell Road “Healthy Street Corridor” (walking, cycling, bus priority) • Deliver a network of high quality segregated cycle lanes: York Way, Balls Pond Road, Green Lanes, Highbury Fields to Finsbury Park and Liverpool Road to Penton Street • Deliver the following cycle routes: Regent’s Canal to Highgate, and Amwell Street • Support TFL on new cycle routes on their network (2020–2030) • Develop a programme of additional cycleways (2025–2030) 	LBI Strategic Projects and Transport Planning and Traffic engineering	<p>External funding to support scheme:</p> <p>TfL Funding (secured and sought)</p> <p>DFT Funding</p> <p>Section 106 funding (secured and sought)</p> <p>Council capital funding contained within existing capital programme.</p>
<p>Ensure new developments are car-free or have restricted on-site parking and access to controlled parking zones, and have adequate cycle facilities.</p> <ul style="list-style-type: none"> • Apply policy to new development (2020–2030) 	LBI Strategic Projects and Transport Planning and Traffic engineering	No additional funding requirements - officer time covered by application fees.

³⁹ Vehicle-to-Grid charging allows for electric vehicles to return power to the electricity grid

<p>Deliver ‘School Streets’ or similar interventions where possible at all primary schools in the borough by 2022, and start to look at secondary schools</p> <ul style="list-style-type: none"> • Camera enforced “Schools streets” will be delivered to all primary schools that are not on main roads (December 2020) • Options appraisal for all primary schools on main roads to assess alternative “School Street” measures can be introduced (April 2022) 	<p>LBI Strategic Projects and Transport Planning and Traffic engineering</p>	<p>Council capital funding included as part of capital programme, DFT and TfL funding sought.</p>
<p>Introduce a borough-wide lorry control scheme working towards banning lorries (HGVs) from driving through the borough on residential roads. Enhance measures to enforce the existing 7.5t lorry ban and consider an expansion of this ban to include all lorries of 3.5t or higher.</p> <ul style="list-style-type: none"> • Delivered as part of low traffic neighbourhood rollout, although schemes may be brought forward in those locations where there are particularly severe issues 	<p>LBI Strategic Projects and Transport Planning and Traffic engineering</p>	<p>N/A</p>
<p>Develop and deliver an Accessibility Plan and a Walking and Cycling Action Plan by 2025 to transform Islington into an exemplary borough for walking, cycling and accessibility, including the reallocation of road space for these modes.</p> <ul style="list-style-type: none"> • Develop walking and cycling action plan (April 2022) • Develop accessibility action plan (April 2023) • Deliver accessibility, walking and cycling action plans (December 2025) 	<p>LBI Strategic Projects and Transport Planning and Traffic engineering</p>	<p>Development of plan covered through existing resources. For delivery, additional TFL, DFT and section 106 funding sought. Council capital requirement to be considered as part of capital strategy.</p>
<p>Develop a parking strategy by 2022</p> <ul style="list-style-type: none"> • Strategy produced (December 2022) 	<p>LBI Strategic Projects and Transport Planning</p>	<p>No additional funding implications - activity contained within existing resources.</p>
<p>Investigate phasing out resident and business parking permits for diesel and petrol vehicles by 2030 and review our charges.</p> <ul style="list-style-type: none"> • Feasibility study completed (April 2022) 	<p>LBI Strategic Projects and Transport Planning and Traffic engineering</p>	<p>No additional funding implications - activity contained within existing resources.</p>

Rollout of EV Public charging infrastructure		
<p>Support and promote electric car club schemes and carpooling initiatives</p> <ul style="list-style-type: none"> Comms and engagement plan (December 2021) 	LBI Strategic Projects and Transport Planning and Traffic engineering	No additional funding implications - activity contained within existing resources.
<p>Ensure public EV infrastructure is powered by renewable sources.</p> <ul style="list-style-type: none"> Identify current sources of supply (2020) Agree transition plan to move all existing suppliers to renewable sources (2020) 	LBI Strategic Projects and transport planning and Traffic engineering	No additional funding implications - activity contained within existing resources - expected to be cost neutral.
<p>Ensure the borough invests in EV charging infrastructure, including lamp column and rapid chargers, carefully locating chargers to avoid pedestrian access issues</p> <ul style="list-style-type: none"> Deliver a total of 400 electric charging points (December 2022) 	LBI Strategic Projects and transport planning and Traffic engineering	<p>External funding to be used/sought from GULCS, section 106,</p> <p>EV Operators and other external partners.</p>
<p>Encourage the use of electric taxis by ensuring Islington has sufficient on-street rapid chargers for taxi drivers</p> <ul style="list-style-type: none"> Support TFL to deliver rapid charging infrastructure in Islington (2020–2030) 	LBI Strategic Projects and transport planning and Traffic engineering	No additional funding implications - activity contained within existing resources.
<p>Encourage local businesses to switch to cargo bikes or zero emissions vehicles.</p> <ul style="list-style-type: none"> Apply for funding to expand Zero Emissions Networks across the borough (2020–2030) 	LBI Pollution team	No additional funding implications - activity contained within existing resources

Discourage fossil fuel based plant usage		
<p>Replace grounds maintenance equipment, e.g. the council has been trialling electric blowers and strimmers</p> <ul style="list-style-type: none"> • Tactically replace all machinery with viable electrical alternatives at end of life (2020–2030) • Continue to market test and add to viable alternatives as they become available (2020–2030) 	LBI Greenspace & leisure	Likely to be cost neutral. Capital funding will be required for rolling replacement (included within existing capital programme).
<p>Replace diesel generators with emissions-free alternatives such as battery packs or fuel cells in our non-road mobile machinery</p> <ul style="list-style-type: none"> • Continue with MAQF funded NRMM monitoring and compliance project for construction sites (2020–2022) • Review location and types of non-council owned NRMM (2022 – depending on funding) • Apply for funding to work with businesses to replace NRMM (could be linked with Zero Emissions Network – currently unfunded) (2020–2030) • Work with the environment agency on MCPD sites (2020–2030) • Review location and types of council owned NRMM (2020/21) • Conduct feasibility studies into replacement of council owned NRMM (2020–2022) • Seek funding to replace council owned NRMM (2020–2030) 	LBI Pollution team	External funding to be utilised - S106 and MAQF.

<p>Implement the UK's first Eco Zone at the Regent's Canal to provide cleaner power to canal boats that use diesel engines and wood stoves, and build on its success to provide these benefits in other areas with poor air quality.</p> <ul style="list-style-type: none"> • Install electric charging bollards across all Regent's Canal moorings in Islington (November 2020) • Two-year trial of electric bollards (November 2020–November 2022) • Investigate implementing ban on burning solid fuel whilst mooring in Islington (November 2022) • Programme of engagement and education about pollution and the canal (2020–2022) 	<p>LBI Air Quality Team</p>	
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Priority 3

Priority 3: Sustainable Energy Generation and Supply

Why is this important?

Priority 1 identifies the need to ensure buildings are as energy efficient as possible and convert them to zero carbon heating systems. Once this has been achieved, the next step is to ensure any energy requirements are provided by renewable sources. The first step is to generate as much of the building's energy needs on site as possible through solar photovoltaics or solar thermal. Any remaining electricity needs should then be purchased from off-site renewables. For buildings where it is impractical to produce zero emissions

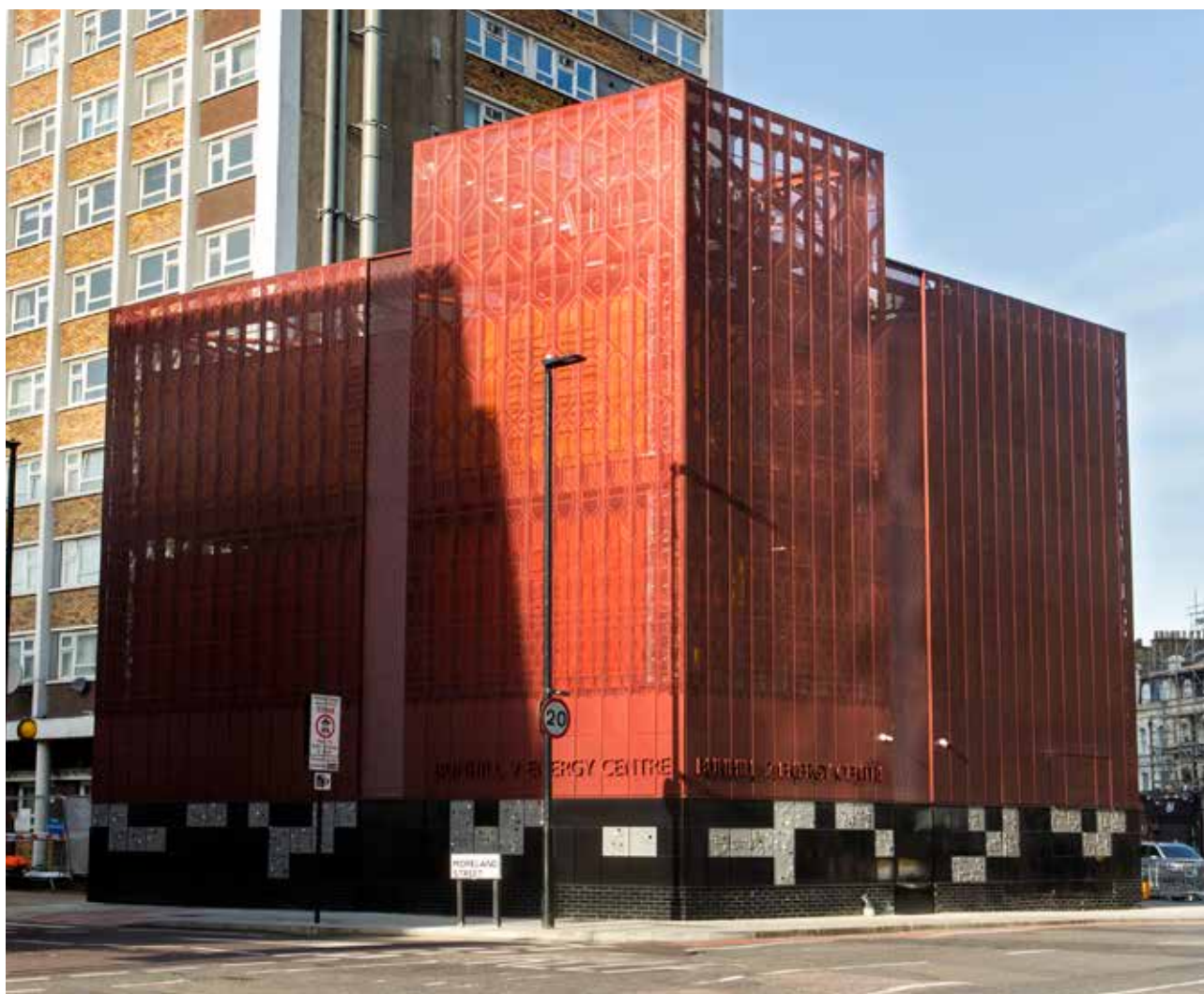
heating on-site, zero carbon heat networks provide the solution.

In addition, we need to ensure that heating and powering homes is something residents can afford to do. Making buildings more energy efficient will reduce energy consumption. However, we also need to ensure that heat and power is provided at an affordable price and that residents take up any benefits available to them to reduce their energy bills. As identified earlier in the strategy, we also need to ensure that any energy efficiency works do not inadvertently

Figure 21. Solar panels on the Waste Recycling Centre



Figure 22. The Bunhill 2 Energy Centre on Central Street, which captures heat from the London Underground



lead to higher energy costs – for example, switching to an electrical heating system without first ensuring high fabric efficiency in buildings.

Heat and power

According to the GLA, enough heat is wasted in London to meet 38% of the city's heating demand.³⁸ This is a valuable resource for Islington, and we have already started taking advantage of this by using waste heat from the London Underground as the main heat source for a new energy centre on the Bunhill Heat Network. We have investigated several other potential sources of waste heat and will need to identify and exploit more of them in future,

significantly scaling up the size and number of district heat networks in the borough. Existing heat networks will also need to be made zero carbon, replacing gas boilers and CHP units with zero emission alternatives.

We also need to significantly increase solar power generation in the borough. In 2019 Islington had the ninth-lowest proportion of solar power installations of any local authority area in the UK, with only 400 registered for the feed-in tariff (358 domestic, and 44 non-domestic).³⁹ In total the borough had only 2.5MW of installed capacity, around 20% of which was accounted for by two large arrays on council buildings.

³⁸Secondary Heat Study – London's Zero Carbon Energy Resource

³⁹Sub-regional Feed-in Tariffs statistics

Fuel poverty

In simple terms, fuel poverty is the inability of a household to pay for its energy needs without compromising other basic needs like food, transport or clothing.⁴⁰ There are three key causes; energy-inefficient housing, high energy prices and low incomes. The latest statistics show that in 2017 around 400,000 households in London were living in fuel poverty,⁴¹ an increase of almost 20% on the number in 2015.

Living in a cold home has direct health implications, particularly for the most vulnerable such as infants and the elderly. Excess winter deaths, circulatory diseases, respiratory problems and mental health issues are some of the more common consequences of living in a home that is not adequately heated.

Households in fuel poverty are particularly vulnerable to increasing energy prices of gas and electricity and have very limited

options to control the negative effects of cost increases. Between 2008 and 2018 electricity prices increased by 27.9% and gas prices by 15.5% in real terms.⁴²

The lower the income the higher the likelihood someone will fall below the official poverty line after paying for housing and fuel costs to adequately heat the home. Despite the common perception that Islington is a wealthy borough, it is the 24th most-deprived local authority in England and possesses one of the biggest gaps between the wealthiest and poorest residents. Over a third of people are living in poverty (compared to 27% across London), 36% of children are classed as living in child poverty, and one in ten working age adults are claiming out-of-work benefits.⁴³

To address fuel poverty, we need to engage with residents who are suffering from it to understand which of the factors are affecting them. The next step is to address the issues, which will include one or more of improving the energy efficiency of homes, minimising



Figure 23. A screenshot of the THERMOS tool we are helping develop to map and model new heat networks

⁴⁰Fuel poverty in England is measured using the Low Income High Costs (LIHC) indicator. Under the LIHC indicator, a household is considered to be fuel poor if they have required fuel costs that are above average (the national median level) and were they to spend that amount, they would be left with a residual income below the official poverty line.

⁴¹Sub-regional fuel poverty data 2019 (2017 data) measured using the LIHC indicator.

⁴²Domestic energy price indices

⁴³Poverty and Inequality Data for Islington (2017)

Figure 24. Moreland Primary School, one of the buildings connected to the extended Bunhill Heat and Power Network as part of the phase II project



the cost of energy and maximising household incomes.

Priority 1 addresses building efficiency, but does so at scale. For those in fuel poverty, more urgent works can be carried out to individual properties to install insulation or new heating systems. We also need to ensure residents are able to access affordable energy (and water) by helping them better navigate the energy markets, enabling them to switch and providing alternatives to the existing market options, as well as making sure those on council-owned heat networks are provided with heat at a low cost. Finally, maximising household incomes will involve focussing on helping residents into work, supporting them to claim the benefits they are entitled to, and assisting those in extreme crisis.

Our flagship fuel poverty project SHINE, the Seasonal Health Intervention Network, has championed a multi-agency response to a multi-faceted issue and, through SHINE,

Islington has been able to support thousands of residents (from all housing tenures) every year. We want to continue to offer SHINE as a free service in order to improve energy efficiency, reduce utility bills and maximise incomes for residents inside and outside the borough.

SHINE has been used as an example of best practice in fuel poverty support in the BEIS Consultation on Fuel Poverty Strategy (2019), Greater London Authority's Fuel Poverty Action Plan (2018), SHINE was invited to speak on Fuel & Food Insecurity to London's Health & Housing Network (2018) and recently presented learnings from SHINE to the EU Covenant of Mayors (2019).

What we've done

- Built the Bunhill Heat and Power Network and connected it to three housing estates, two private developments and two leisure centres.

- Completed Phase 2 of the Bunhill Heat & Power Network and expanded it to serve the King's Square Estate (around 500 properties) Moreland Primary School, and other new developments in the area.
- Completed seven feasibility studies which have identified potential new decentralised energy projects in the Archway area, and the wards of Caledonian, Bunhill and Highbury West.
- Installed over 500kWp of solar PV panels on council buildings, including 222 Upper Street, the Sobell Leisure Centre and the Waste Recycling Centre.
- Launched the Green Smart Community Integrated Energy Systems (GreenSCIES) project in partnership with nine partners including London South Bank University and Transport for London.
- Started THERMOS, an EU-funded project to develop a free online mapping and modelling tool that will aid us in refining our planning for heat networks in the borough.
- Set up the Seasonal Health Intervention Network (SHINE) in 2010, offering a dedicated helpline and affordable warmth interventions from a range of partners to ensure households get the help they need to reduce utility bills, tackle energy debt and ultimately stay well and warm. This was expanded to become a London-wide service in 2016, taking self-referrals and third-party referrals from workers across the public, private and voluntary sectors.
- Partnered with a housing association to expand our offering of fair energy tariffs.

What we'll do

The council has demonstrated, by already delivering two heat network projects, that we are capable of successfully developing low carbon heat networks. Our District Energy

Master Plan identified 15 clusters of heat networks in the borough, initially connecting up to 8,000 properties. The evaluation of these projects was based on a number of criteria including fuel poverty impact, number of council tenants served and carbon savings.

We have also identified a substantial number of secondary waste heat sources that can be tapped into in order to deliver these heat networks. These sources include data and telecommunications centres, power substations, sewers and TfL ventilation shafts.

In terms of fuel poverty, there is a need to engage with and support residents of all housing tenures to make the changes needed for us to become a net zero carbon borough. This will include utilising existing channels such as our SHINE advice line and Energy Doctor home visits, as well as looking at how we can enable residents to make their own personal climate emergency declarations.

What the council can commit to immediately and actions we will take

- Complete detailed engineering and design of two smart energy networks under the GreenSCIES project, a business case development project with the scope of heating and cooling more than 3,000 homes, providing enough electricity to supply 500 homes, installing around 20 vehicle charging points and generating more than 10,000 tonnes in carbon emissions savings.
- Identify potential heat sources (including natural heat such as groundwater or waste heat from sources such as data centres, the London Underground or electrical substations) and conduct detailed feasibility studies on zero carbon smart energy networks using funding from the government's Heat Networks Delivery Unit.
- Look at opportunities to add new connections to the Bunhill Heat Network, both council and private.

- Connect our communally-heated buildings to other district heat networks where possible.
- Look at opportunities for ground source heat pumps in parks and housing estates.
- Assess the suitability of our corporate estate and housing for solar power (including the potential for solar carports) and how solar on our housing estates can best benefit residents. Install panels and battery storage where technically and financially feasible.
- Ensure 100% of electricity procured by the council for its own use is from certifiable renewable sources.
- Continue supporting residents in fuel poverty through our SHINE service.
- Participate in the Islington Debt Coalition and feedback developments in energy and water debt advice/relief.
- Educate residents on how to use Pre-Payment Meters (PPMs) through energy advice sessions, public campaigns and self-help resources on the council's energy advice website.
- Maximise the income of fuel poor residents through quality interventions from SHINE, such as referrals into Income Max, iWork, applications into the Warm Home Discount and Water Sure schemes, and ongoing support for residents in debt.
- Work with residential Environmental Health to investigate reported Private Rented Sector (PRS) damp/condensation/

mould issues using Housing Health & Safety Rating System (HHSRS).

- Secure ECO⁴⁴ and Warmer Homes⁴⁵ funding for heating and insulation measures for as long it is available.

What the council sees as potential commitments, but requires further investigation before committing to

- Progress the GreenSCIES project to construction of a next generation smart energy network.
- Look at how the Bunhill Heat Network can be made a zero emissions network.
- Seek ways in which we can interconnect with energy centres in neighbouring boroughs e.g. Camden (King's Cross) and the Citigen schemes.
- Continue to participate in innovative national and European district heating projects such as CELSIUS 2.0⁴⁶, ReUseHeat⁴⁷ and THERMOS.⁴⁸
- Look into procuring 100% renewable electricity for Housing estates and external clients (leisure centres and schools).
- Explore the possibility of the council purchasing or building renewable electricity generation assets outside Islington to supply its energy needs.
- Investigate opportunities for Islington Council in terms of the energy supply market, including the delivery of competitive green electricity tariffs

⁴⁴<https://www.ofgem.gov.uk/environmental-programmes/eco/about-eco-scheme>

⁴⁵<https://www.london.gov.uk/what-we-do/housing-and-land/improving-quality/warmer-homes>

⁴⁶<https://celsiuscity.eu>

⁴⁷<https://www.reuseheat.eu>

⁴⁸<https://www.thermos-project.eu/home/>

for residents and businesses, a solar export tariff that encourages solar panel installation, and innovative time-of-use tariffs for all customer types, as well as the possibility of purchasing power generated in Islington by (for example) community energy schemes.

- Create new partnerships to make more fuel poor residents aware of the SHINE service, particularly in the private rented sector, and use the proposed Energy Hub to expand the reach of the service.
- Assist in accelerating the roll out of smart meters by liaising with suppliers directly to deliver installations.
- Better collaboration with housing providers, such as housing associations and TMOs, to maximise referrals.
- Improved referrals on behalf of fuel poor households by developing more sophisticated data and reporting.
- Make the case to the likes of the GLA and Government to continue and increase local authorities' resources to tackle fuel poverty.
- Build up the capabilities of frontline staff e.g. through an accredited 'Energy Doctor' training course to ensure energy efficiency awareness at all levels of frontline delivery.
- Lobby for tariff equality between pay-as-you-go meters and standard meters.

What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation

- Strengthen planning rules to make it a requirement to connect to low carbon heat networks.
- Lobby for the Government to decarbonise the electricity grid and legislate to make renewable electricity the most attractive option.
- Government to do more to incentivise small businesses to install rooftop solar PV.



Figure 25. Energy doctor

Action plan

Initiatives and actions	Lead team	Funding implications
<p>Priority 3: Sustainable and Affordable Energy Generation and Supply: Increase local generation of renewable heat and electricity, increase the update of affordable and renewable energy tariffs and mitigate fuel poverty.</p> <p>We will look to increase the use of smart, zero carbon district heating and solar power generation in the borough, considering the whole energy system. We will also continue to support residents in fuel poverty by helping them access cheaper tariffs and the benefits they are entitled to.</p>		
<p>Complete detailed engineering design of two smart energy networks as part of the GreenSCIES project</p> <ul style="list-style-type: none"> • Concept design completed (January 2021) • Commercial options appraisal completed (September 2021) • Funding structure options appraisal completed (December 2021) • Design completed (June 2022) 	London Southbank University	Funding for design secured from Innovate UK. Pending options appraisal, funding requirement to be known.
<p>Identify potential heat sources (including natural heat such as groundwater or waste heat from sources such as data centres, the London Underground or electrical substations) and conduct detailed feasibility studies on zero carbon smart energy networks using funding from the government's Heat Networks Delivery Unit</p> <ul style="list-style-type: none"> • Options appraisal and secure internal funding for feasibility study (February 2022) • Funding bid result from HNDU (estimated June 2022) • Appoint Consultant (September 2022) • Complete feasibility studies (June 2023) 	LBI Energy Services Team	Match funding is available and will be sought.

<p>Look at opportunities to add new connections to the Bunhill Heat Network, both council and private.</p> <ul style="list-style-type: none"> • Identify large heat demands in nearby area (June 2021) • Develop connection offer package and agree funding (December 2021) • Approach potential connections (March 2022) • Communicate connection opportunities to the local housing associations via IHAG (2020–2030) 	<p>LBI Energy Services</p>	<p>Funding required will be known December 2021 and considered as part of Council's capital strategy.</p>
<p>Connect our communally-heated buildings to district heat networks where possible.</p> <ul style="list-style-type: none"> • Appoint consultant (March 2021) • Complete feasibility studies, funding & options appraisals (March 2022) 	<p>Energy Team and Capital Programme Delivery (CPD)</p>	<p>Funding required will be known in March 2022 following completion of options appraisals.</p>
<p>Look at opportunities for ground source heat pumps in parks & housing estates</p> <ul style="list-style-type: none"> • Options appraisal (December 2021) • Secure funding (March 2022) • Complete procurement (December 2022) 	<p>LBI Energy Services Team</p>	<p>Funding required will be known in March 2022 following completion of options appraisals.</p>
<p>Assess the suitability of our corporate estate and housing for solar power (including the potential for solar carports) and how solar on our housing estates can best benefit residents. Install panels and battery storage where technically and financially feasible</p> <ul style="list-style-type: none"> • Complete prioritised solar project report (December 2021) • Secure Funding (March 2022) • Contractor selected (December 2022) 	<p>LBI Energy Services Team</p>	<p>Funding required will be known in March 2022 following completion of options appraisals.</p>

<p>Increase uptake of solar PV on domestic and commercial properties by promoting the Solar Together scheme to residents and local businesses.</p> <ul style="list-style-type: none"> Continue marketing to Islington businesses and residents (2020–2030) 	LBI Energy Services Team	Currently funded by GLA
<p>Investigate opportunities for Islington Council in terms of the energy supply market, including the delivery of competitive green electricity tariffs for residents and businesses, a solar export tariff that encourages solar panel installation, and innovative time-of-use tariffs for all customer types, as well as the possibility of purchasing power generated in Islington by (for example) community energy schemes.</p> <ul style="list-style-type: none"> Options appraisal (March 2021) 	LBI Energy Services Team	No funding implications - contained within existing resources
<p>Ensure 100% of electricity procured by the council is from certifiable renewable sources and look into procuring 100% renewable electricity for Housing estates and external clients (leisure centres and schools).</p> <ul style="list-style-type: none"> Options appraisal (December 2020) Secure funding (February 2021) Procure (April 2021) 	LBI Energy Services Team	Expected increase in energy cost to be considered as part of MTFS and budget setting process.
<p>Explore the possibility of the council purchasing or building renewable electricity generation assets outside Islington to supply its energy needs.</p> <ul style="list-style-type: none"> Options appraisal (June 2021) Secure funding (December 2021) Procure (April 2022) 	LBI Energy Services Team	Dependent on options appraisal. Expectation is that capital investment will be covered by revenue savings, generating long-term income stream.
<p>Continue supporting residents in fuel poverty through our SHINE service</p> <ul style="list-style-type: none"> Continue marketing to Islington businesses and residents (2020–2030) 	LBI Energy Services team	Currently funded by various external funders.

<p>Secure ECO and Warmer Homes funding for heating and insulation measures for as long it is available.</p> <ul style="list-style-type: none"> Continue to deliver energy efficiency improvements for vulnerable clients (2020–2030) 	<p>LBI Energy Services team</p>	<p>Currently funded through Council carbon offset funding.</p>
<p>Lobbying and influencing</p> <ul style="list-style-type: none"> Strengthen planning rules to make it a requirement to connect to low carbon heat networks. Lobby for the Government to decarbonise the electricity grid and legislate to make renewable electricity the most attractive option. Government to do more to incentivise small businesses to install rooftop solar PV. Make the case to the likes of the GLA and Government to continue and increase local authorities' resources to tackle fuel poverty. Build up the capabilities of frontline staff e.g. through an accredited 'Energy Doctor' training course to ensure energy efficiency awareness at all levels of frontline delivery. Lobby for tariff equality between pay-as-you-go meters and standard meters. 	<p>LBI Energy Services Team</p>	<p>No funding implications - contained within existing resources</p>

Priority 4

Priority 4: The Green Economy and Planning

The Green Economy

Why is this important?

As a nation and borough we face three converging crises: the COVID-19 pandemic and the resulting economic recession; the climate emergency; and extreme inequality. We must begin planning our economic recovery in a way that protects us from the impact of climate change and lifts up workers and local communities.

It is now recognised that our current economic development model built on perpetual growth presents significant challenges to our zero

carbon commitments, especially where this is dependent on more energy-consuming buildings, increases in the movement of people and goods and associated transport infrastructure, the consumption of more materials, and the generation of increased levels of waste. Instead we need to move towards a new green economy - a regenerative and non-extractive economy that will provide green, low carbon jobs. In Islington, these jobs will be in the recognised environmental sectors of renewable energy, green building, clean transportation, waste management, land use and green financing.⁴⁹

Figure 26. Mildmay Community Centre, the first Passivhaus non-domestic retrofit in the UK



⁴⁹Growing a Green Economy for All: From Green Jobs to Green Ownership p15



Figure 27. Our Energy Advisors help vulnerable people in Islington and beyond

Our commitment to tackle climate change must go hand in hand with the creation of 'good' jobs – well-paid, secure and with opportunities to progress – as well as a just transformation of our economy in a way that works for the majority of people and replaces the industries that result in the depletion or degradation of ecological systems.

'Net zero' has to become the way we run our economy.

There are around 21,000 registered businesses in Islington, the vast majority of them small or micro (85% are micro, with 0-9 employees), providing some 230,000 jobs. Their success is essential to the vitality and economic success of the borough although around 90% of jobs in Islington are filled by commuters and an estimated 80% of Islington residents in employment work outside the borough.

The green economy presents many opportunities for Islington residents as we need to create a new generation of jobs in the industries and infrastructure we need to tackle the climate crisis. In the short term, many of these will be in supporting existing businesses, especially SMEs, to become greener and more efficient and resilient through reduced resource use. There will however also be an urgent need to support the creation and development of new jobs in low carbon sectors such as retrofitting, low carbon building, climate adaptation and more sustainable food systems - and also to attract investment for the creation of new businesses that will provide the technologies, innovations, goods and services of a low-carbon future.

We believe that greater ownership by employees and democratic corporate governance are central parts of the economic rebalancing that is essential for the UK's long-term prosperity. As a growing sector of our economy, the green economy provides more market space for innovative ownership structures that promote meaningful employee

participation. Over the coming years, we will work with social enterprises, voluntary organisations and co-operatives to grow alternative businesses.

We know that we need to position our residents to be skilled for these new sectors, especially the newly unemployed, disadvantaged and young people who are out of work, and we are working with our colleges and universities to develop a new workforce for the green industrial revolution. Similarly, we will work with our trade unions and employers to ensure that workers are supported to transition to a green economy, and that no one is left behind in the transition.

Islington has world-class institutions which attract thinkers and researchers that are at the cutting edge of new thinking in combatting the challenges of the climate emergency. We need to work with them and expand the opportunities for innovative businesses that want to test and commercialise new ideas, and mobilise investors that want to be at the forefront of rapidly growing sectors. International business clusters at the Knowledge Quarter and Silicon Roundabout are prime locations through which to drive further innovation and roll-out of proven technologies and business models.

We need to shift from an extractive economy to a new circular economy, involving the reuse and recycling of materials already in circulation, and significantly increased use of sustainable and renewable materials which will all help to minimise residual waste. Supply chains need to be further developed to respond to the rapidly growing demand for the expertise and products that are needed to build a zero carbon economy.

The council's recent micro and small business survey showed many local businesses have a concern for the environment and are willing to work with Islington Council on environmental initiatives. They understand that radical change in business practices is

required to tackle climate change and we will tailor council support and signposting to enable them to put in place and deliver their own bespoke zero carbon plans. Through our Inclusive Economy service and its networks, we will also help local businesses develop new products, practices and services which will help the borough achieve its targets.

Financial incentives will change the behaviours and investment decisions of individuals and businesses. Where possible, we will introduce incentives for smaller, independent businesses within the borough, as well as lobby Government and work with the GLA to create new programmes where they are needed.

Investment decisions are critical – where we choose to spend our money shapes our economy. Working with our ‘anchor institutions’ in the borough – those large organisations rooted in Islington – we can influence the business sector. By changing the way we procure goods and services, we can use our collective leverage to incentivise change and enable innovation. By introducing Social Value as a meaningful criterion in our commissioning decisions, we will be able to encourage responsible business practices in regards to carbon emissions. Similarly, we will work with our anchor partners to interrogate our investment decisions.

It is recognised that commercial buildings and transport are responsible for the bulk of carbon emissions and these issues are covered by the buildings and transport sections of this strategy.

What we have done

- Integrated environmental objectives in town centre management approach, encouraging and enabling local traders to develop

locally-owned sustainable interventions such as cargo bikes and electric vehicles.

- Set up the Islington Sustainable Energy Partnership (ISEP)⁵⁰, which has helped its members cut their carbon emissions by over 31,000 tonnes and saved an estimated £6.7m in energy costs.
- Reduced absolute emissions from our pension fund by 34% since 2016.
- Launched the Energising Small Business Fund⁵¹, offering grants of up to £1,500 to small businesses in the borough for energy efficiency improvements, including new LED lighting and boiler replacements.
- Facilitated new initiatives with local universities to unlock their expertise in climate change innovation e.g. sponsored a weekend hackathon with City University London on Islington’s zero carbon ambition.
- Established a partnership with Heart of the City, to support local small enterprises to develop their capacity as responsible businesses including reducing carbon emissions.
- Promoted environmental initiatives and opportunities, such as the Energising Small Business Fund grants and scrappage schemes, to businesses through town centre management groups and other business networks that the council facilitates and collaborates with.

What we’ll do

What the council can commit to immediately and actions we will take

- Complete the development of a skills strategy that will identify priority areas

⁵⁰<https://isep.org.uk>

⁵¹<https://www.islington.gov.uk/business/energy-services/energy-efficiency-grants-for-small-businesses>

Figure 28. LED lighting installed at a local business through the Energising Small Business fund



for ‘green jobs’ and emerging local skills requirements. These could include jobs related to installing insulation, renewable energy and other energy-saving measures, their ongoing maintenance and servicing, sustainable food production and cycle freight.

- Embed the council’s ambition for net zero in contractual arrangements for all council-secured affordable workspace.
- Seek funding for skills development programmes for young people and newly unemployed (2020–2025) so that local residents are benefiting from such programmes (e.g. green retrofitting).
- Promote and incentivise inclusive innovation through our expanding affordable workspace network and partnerships, focussing on solutions to Islington-based climate challenges.
- Encourage knowledge-sharing on energy and environmental topics between local organisations through ISEP.
- Develop a shop local campaign and a directory to promote local businesses and services
- Identify business case studies and promote local businesses committed to reducing their carbon footprint through, for example, using local supply chains and minimising waste, energy and water use
- Increase awareness of a ‘sharing economy’, working with voluntary, community and social enterprise organisations to encourage and incentivise a circular approach to the use of resources.
- Collaborate with anchor institutions such as the Whittington Hospital and City University, other local authorities and networks such as the Knowledge Quarter, to reduce carbon emissions, including through their commissioning and procurement processes.

- Seek funding to support formation of alternative ownership models such as mutual and co-operatives, aligned with the goals of rapid decarbonisation, such as solar panel installation, regenerative agriculture, urban community gardens and circular economy initiatives.⁵²
- Promote and expand local green jobs in the environmental sector or in other sectors where the roles are involved in protecting the environment or solving environmental problems. Green jobs are green jobs that provide a career ladder to move low-income workers into such employment.
- Reduce the carbon emissions of our pensions portfolio by 75% by the year 2022,⁵³ and further still by 2030. We also have a target of 15% of the pension fund being invested in sustainability-themed investments.
- Increase sponsorship from institutions to assist Islington in meeting its zero carbon targets, and to support the development of accessible investment schemes that will help green economy businesses increase the use and impact of their innovations
- Produce a Progressive Procurement Strategy (2020–2027) that embeds the net zero carbon objective and the use of social value clauses⁵⁴ covering environmental impacts in the council's purchasing decisions, using contract-specific approaches and by actively engaging with suppliers to find solutions. These approaches will include prioritising local supply chains, taking wider supply

chains into account, encouraging businesses to implement net zero policies (by proactively presenting them with options to do so where relevant), and identifying opportunities for training and apprenticeships within a greener and more environmentally sustainable supply chain. The Commissioning and Procurement Board will also provide improved guidance and challenge for individual procurement strategies on how net zero carbon will be obtained.

What the council sees as potential commitments, but requires further investigation before committing to

- Recognising that some current jobs will be less suited to a low carbon economy, help support a just transition towards new employment opportunities, engaging with trade unions and employers.
- Engage with trade unions and business representative bodies on the just transition initiatives that need to be developed.
- Explore grants schemes, in conjunction with potential partners such as the GLA, to support further green business start-up and growth.

What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation

- Government to incentivise net zero initiatives for business, and work with London government and representative bodies such as the CBI and Federation

⁵²As detailed in Priority 5, the council's Waste Reduction and Recycling Plan includes a commitment to developing a Circular Economy Action Plan.

⁵³Defined as the removal of exposure to future emissions of carbon dioxide.

⁵⁴The Public Services (Social Value) Act came into force on 31 January 2013. It requires people who commission public services to think about how they can also secure wider social, economic and environmental benefits.

of Small Businesses to stimulate nationwide change across the economy

Planning

Planning plays an important role in ensuring that developments minimise their contributions towards climate change as well as adapt to and be more resilient to its impacts. Islington has experienced high levels of growth over a number of years and strong planning policies to achieve high environmental standards have been important in helping to deliver development that does this.

For many years Islington has been at the forefront of developing and implementing robust and innovative planning policies and standards to tackle climate change.

What we have done

Islington has implemented ambitious and robust planning policies over recent years to minimise the contribution of development to climate change.

- Developments have been required to minimise their carbon emissions on site, including through energy efficiency.
- We have implemented planning policies to promote and develop decentralised energy networks.
- The Council was one of the first to establish a Carbon Offset Fund, which uses planning agreements to require developers to make a payment to offset any carbon shortfall from developments, which is then used to fund projects that reduce carbon emissions. To date, the Carbon Offset Fund has made allocations of over £9m to projects across the borough.
- The Council was also one of the first to implement a car free policy for all new

development ensuring that on-site parking spaces are restricted, as well as removing the ability of inhabitants of car-free developments to obtain a parking permit.

- A number of other policies have been implemented to assist with climate resilience, including policies linked to water efficiency, green infrastructure and sustainable drainage.

What we will do

Islington's Local Plan policies are currently being updated. The planning policies relating to energy have been strengthened in order to ensure that Islington continues to take a robust and ambitious approach to minimising carbon emissions in the borough and to achieve the target for all buildings in Islington to be net zero carbon. The Draft Local Plan includes the following policies:

- Require all development proposals to maximise energy efficiency and minimise on-site greenhouse gas carbon dioxide emissions in accordance with the energy hierarchy: Be Lean, Be Clean, Be Green and Be Seen.
- Continue to require all major developments and minor new-build residential developments of one unit or more to be net zero-carbon by achieving specific targets for on-site carbon reductions, and offsetting any remaining emissions through the council's carbon offset fund.
- Ensure all development proposals reduce energy demand as far as possible through high standards of fabric energy efficiency, before reducing emissions through low-carbon energy sources and renewables. In particular, the Draft Local Plan has introduced a requirement for residential developments to adopt the Zero Carbon Hub's Fabric Energy Efficiency Standard (FEES), which sets minimum requirements for energy efficiency.

- Continue to enable the extension of Islington's heat networks by requiring developments to connect to existing or planned heat networks, where possible.
- Require the use of secondary heat and other low and zero-carbon heat sources, where heat network connection is not possible, and set a maximum annual carbon content of heat for heating systems of less than 280 gCO₂/kWh.
- Support the decarbonisation of heat networks through the planned future transition to networks powered by cost-effective secondary sources, including low-grade waste heat, as opposed to gas-powered Combined Heat and Power (CHP).
- Encourage the use of renewable energy, particularly solar photovoltaic (PV) panels, where appropriate.
- Introduce circular economy principles, which will require development to adopt a circular economy approach to building design and construction, keeping products and materials in use for as long as possible and minimising construction waste.

In addition, we have made a commitment to deliver an Islington Zero Carbon Supplementary Planning Document (SPD). The SPD will provide detailed guidance to supplement the policies in the new Local Plan once it is adopted. It will address a range of topics including providing examples of best practice and detailed criteria for allowing energy efficiency measures on historic buildings (such as solar panels, double glazing). The council will work with internal and external partners, such as Registered Providers in the borough, to develop exemplars of retrofitting measures, for example on street properties, which will then feed into the SPD preparation.

What the council sees as potential commitments, but requires further investigation before committing to

- The required minimum on-site carbon reduction targets and minimum reductions in energy demand are likely to increase over time in future Local Plan updates (updated every five years), in order to ensure that carbon emissions continue to be reduced. The gradual changes in targets will take account of the reducing costs of more efficient construction methods and the availability of low and zero carbon heat and related technologies. We will explore changes to standards as part of the next Local Plan review which will require additional and updated evidence to be produced.

What the council needs from others in order for the borough achieve net zero, including funding, powers and legislation

- Achieving the net zero carbon target will also rely on government policy and legislation at the national level, particularly in relation to the decarbonisation of the electricity grid and retrofitting existing buildings, as well as the evolution of carbon reduction targets through updates to the Building Regulations. Updates to building regulations should also facilitate council's to tailor standards to reflect local circumstances and deliver on local priorities, including being more ambitious where this is justified and deliverable.
- We will also lobby for the reversal of the recently-introduced very extensive permitted development rights, as they prevent Local Planning Authorities from applying policy requirements aimed at achieving zero carbon.

Action plan

Initiatives and actions	Lead team	Funding implications
<p>Priority 4: The Green Economy and Planning: Deliver on our net zero carbon target whilst assuring the economic success and vitality of our borough by working closely with the 21,000 businesses in the borough, most of them small or micro-sized.</p> <p>We will ensure that our development and planning policies require growth and new developments meet the highest emissions reductions targets possible.</p>		
Green Economy		
<p>To obtain social value that delivers the council's net zero carbon ambitions</p> <ul style="list-style-type: none"> • Embed the council's ambition for net zero in contractual arrangements for all council-secured affordable workspace (March 2021) • Promote and incentivise inclusive innovation through our expanding affordable workspace network and partnerships, focussing on solutions to Islington-based climate challenges (December 2021) • Collaborate with anchor institutions such as the Whittington Hospital and City University other local authorities, and networks such as the Knowledge Quarter, to reduce carbon emissions, including through their commissioning and procurement processes (December 2021) • Produce a Progressive Procurement Strategy (2020–2027) that embeds the net zero carbon objective and the use of social value clauses covering environmental impacts in the council's purchasing decisions, using contract-specific approaches and by actively engaging with suppliers to find solutions. (March 2021) 	LBI Community Wealth Building	Initial core resourcing of 1FTE from existing resources, further resourcing requirements to be confirmed as workstream develops.
<p>Ensure the Council's skills strategy incorporates net zero carbon ambition</p> <ul style="list-style-type: none"> • Complete the development of a skills strategy that will identify priority areas for 'green jobs' and emerging local skills requirements. These could include jobs related to installing insulation, renewable energy and other energy-saving measures, their ongoing maintenance and servicing, sustainable food production and cycle freight (March 2021) 	LBI Inclusive Economy and Jobs/ Employment & Skills	Initial core resourcing of 1FTE from existing resources, further resourcing requirements to be confirmed as workstream develops.

<p>Increasing awareness and engagement</p> <ul style="list-style-type: none"> • Use the business fora and networks that we facilitate and our direct interactions with businesses, small and large, to increase awareness of the need to tackle climate change and environmental issues, as well as the solutions to the crisis and responsible ways of responding (2020–2025) • Increase awareness of a ‘sharing economy’, working with voluntary, community and social enterprise organisations to encourage and incentivise a circular approach to the use of resources (March 2022) • Promote and expand local green jobs in the environmental sector or in other sectors where the roles are involved in protecting the environment or solving environmental problems. Green jobs are green jobs that provide a career ladder to move low-income workers into such employment (March 2022) • Engage with ISEP membership to explore how to connect with the Fairer Together Partnership arrangements (2020–2025) • Refresh the focus of ISEP towards our borough-wide zero carbon partnership efforts (September 2021) 	<p>LBI Inclusive Economy and Jobs/ Communications</p> <p>LBI Energy Services</p>	<p>Initial core resourcing of 1FTE from existing resources, further resourcing requirements to be confirmed as workstream develops, including a marketing budget.</p>
<p>Influencing consumer behaviour</p> <ul style="list-style-type: none"> • Encourage Government to incentivise net zero initiatives for business, and work with London government and representative bodies such as the CBI and Federation of Small Businesses to stimulate nationwide change across the economy (2020–2025) • Develop a shop local campaign and a directory to promote local businesses and services (November 2020) • Identify business case studies and promote local businesses committed to reducing their carbon footprint through, for example, using local supply chains and minimising waste, energy and water use (November 2020) 	<p>LBI Inclusive Economy and Jobs/ Communications</p>	<p>Initial core resourcing of 1FTE from existing resources, further resourcing requirements to be confirmed as workstream develops, including a marketing budget.</p>

<p>Take the Draft Local Plan forward to adoption. The Draft Local Plan is currently going through the Independent Examination stage, overseen by Planning Inspectors, during which the council needs to defend its ambitious policies and standards against objections from developers and other stakeholders. It is anticipated that this process will conclude towards the end of 2021. Once adopted, the Local Plan will cover the period up to 2035/36 and will:</p> <ul style="list-style-type: none"> • Require all development proposals to maximise energy efficiency and minimise on-site greenhouse gas carbon dioxide emissions in accordance with the energy hierarchy: Be Lean, Be Clean, Be Green. • Ensure all development proposals reduce energy demand as far as possible through high standards of fabric energy efficiency in the first instance, before reducing emissions through low-carbon energy sources and renewables. In particular, the Draft Local Plan has introduced a requirement for residential developments to adopt the Zero Carbon Hub's Fabric Energy Efficiency Standard (FEES), which sets minimum requirements for energy efficiency. • Continue to require all major developments and minor new-build residential developments of one unit or more to be net zero-carbon by achieving specific targets for on-site carbon reductions, and offsetting any remaining emissions through the council's carbon offset fund. • Continue to enable the extension of Islington's heat networks by requiring developments to connect to existing or planned heat networks, where possible. • Support the decarbonisation of heat networks through the planned future transition to networks powered by cost effective secondary sources, including low-grade waste heat, as opposed to gas powered Combined Heat and Power (CHP). 	<p>LBI Planning</p>	<p>No additional funding implications – funded through existing resources.</p>
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<ul style="list-style-type: none"> Require the use of secondary heat and other low and zero-carbon heat sources, where heat network connection is not possible, and set a maximum annual carbon content of heat for heating systems of less than 280 gCO₂/kWh. Encourage the use of renewable energy, particularly solar photovoltaic (PV) panels, where appropriate. Introduce circular economy principles, which will require development to adopt a circular economy approach to building design and construction, keeping products and materials in use for as long as possible and minimising construction waste. 	LBI Energy Services Team	Funding required will be known in March 2022 following completion of options appraisals.
<p>Deliver an Islington Zero Carbon Supplementary Planning Document (SPD).</p> <ul style="list-style-type: none"> Supplementary Document adopted (December 2022) 	LBI Planning	
Continue to robustly enforce the existing Local Plan policies and standards, including by securing carbon off setting contributions from all relevant development proposals, until they are replaced by the new Local Plan.	LBI Planning	
Continue to enforce planning permissions and obligations including through collection of carbon offset monies from developers, and through allocation and monitoring of funds secured.	LBI Planning	

Priority 5

Priority 5: The Natural Environment and Waste Reduction and Recycling

Natural environment

Why is this important?

At a time when concerns about climate change are growing stronger, we need to remember the important role that biodiversity and the natural environment plays in climate control.

Our actions as a borough will be in line with the 2020 Environment Bill, which aims to tackle biodiversity loss, climate change and environmental risks to public health. Islington's green infrastructure is essential in reducing the impacts of climate change on the lives of our residents. Vegetation has been shown to reduce the effects of raised urban temperatures through evaporative cooling, shading surfaces, and allowing natural drainage. This can work in reverse in winter where greenery such as green roofs and walls can reduce the heat lost by buildings by providing better insulation and thus lowering energy use. Street trees and urban greening are also a major contribution to the capture and storage of CO₂ and improvement of air quality. As well as vegetation, the presence of open bodies of water, such as ponds, can assist with the cooling of surrounding areas and in reducing daytime temperatures.

The main driving force behind climate change is the concentration of carbon dioxide in the atmosphere. The natural environment can help mitigate climate change by storing and sequestering atmospheric carbon as part of the carbon cycle. An example of the role that the natural environment in carbon storing and sequestration is the role trees play. Since about 50% of wood by dry weight is comprised of carbon, tree stems and roots can store up to several tonnes of carbon for decades or even centuries.

As trees die and decompose, they release this carbon back into the atmosphere. Therefore, the carbon storage of trees and woodland is an indication of the amount of carbon that could be released if all the trees died.

Maintaining a healthy tree population will ensure that more carbon is stored than released. Utilising the timber in long term wood products or to help heat buildings or produce energy will also help to reduce carbon emissions from other sources, such as power plants.

Islington's inventory trees sequester an estimated 431 tonnes of carbon per year, with a value of £105,812. For comparison, the average newly registered car in the UK produces 34.3g of carbon per km. Carbon sequestration by Islington's public trees therefore corresponds to around 12,553,936 'new' vehicle km per year.

While it is understood that Islington doesn't have the open space to plant the volume of trees to significantly capture the carbon emissions within the borough, trees in Islington make a significant contribution to ensuring that the borough is a greener, healthier and more enjoyable place to live.

The best measure of trees in an urban environment is tree canopy cover; this can be defined as the area of leaves, branches, and stems of trees covering the ground when viewed from above.

The overall canopy cover of Islington is estimated at 25%. In comparison with other studies (Urban Tree Cover, 2018), the canopy cover is above the average (17%) estimated in the 320 towns and cities surveyed in the UK. In comparison to the rest of London, Islington is above the average of 21% canopy cover.



Figure 29. Gillespie Park's Ecology Centre gives advice on wildlife, gardening and sustainable living

The Islington-owned trees contribution to carbon capture and sequestration has been assessed. Overall, the publicly owned trees in Islington store an estimated 18,166 tonnes of carbon with a value of £4.46 million.

By ensuring that, where possible, the tree species planted are selected for their value for wildlife, you can help to preserve and enhance Islington's environment and biodiversity in line with Islington's Biodiversity Action Plan.

We expect there to be multiple benefits of this:

- Trees increase resilience to climate change and are a visible and tangible demonstration of council action towards carbon neutrality.
- Moderating temperatures and saving energy
 - Tree windbreaks can reduce residential heating costs 10-15% in winter.
 - In summer, shading and evaporative cooling from trees can reduce the ambient temperature and cut residential air-conditioning costs 20-50%.
 - Trees act to reduce the heat in urban areas, known as the 'urban heat island effect.'
- Improving air quality by removing pollution.
- Reducing storm water runoff
 - Avoided runoff by Islington public trees is 15,721m² per year.
 - Value of Storm water interception is £23,838 per year.
- Trees increase the amenity and quality of life of an area.
- There is increased retail dwell and spend in an area with trees.

What we've done

- In the last ten years we've felled 2,784 trees and planted 3,703 on public land, a net increase of 919 trees.
- Required all developments to maximise the provision of green roofs and the greening of vertical surfaces as far as reasonably possible, through planning policies and planning conditions.
- Ensured that existing trees are protected where possible and appropriate numbers and species of new trees are planted in new developments.
- Ensured the trees we currently plant are sourced sustainably and with appropriate biosecurity if imported.
- Encouraged residents/businesses to get involved in greening their community spaces, gardens and businesses through the Islington in Bloom competition and encouraging Friends of Parks Groups
- Given residents the opportunity to suggest new tree planting locations or donate to their upkeep, as well as encouraging residents to water trees in summer.
- Adopted a new Biodiversity Action Plan, setting out our strategy for protecting and improving the borough's biodiversity.

Our Biodiversity Action Plan for the period 2020–2025 has many actions that will contribute to the net zero carbon agenda, including:

- Protecting Islington's network of green spaces and SINCs.⁵⁵
- Converting some areas of amenity grass in parks and housing estates into meadows.

⁵⁵Sites of Importance for Nature Conservation

Figure 30. Tree planting



- Creating more areas of planting in parks, housing estates, and the built environment, including a licencing scheme for parklets and planters in parking bays.
- Encouraging wildlife gardening and community action in greening the environment.
- Raising awareness through events and education of the importance of taking action against climate change.
- Reducing herbicide use.

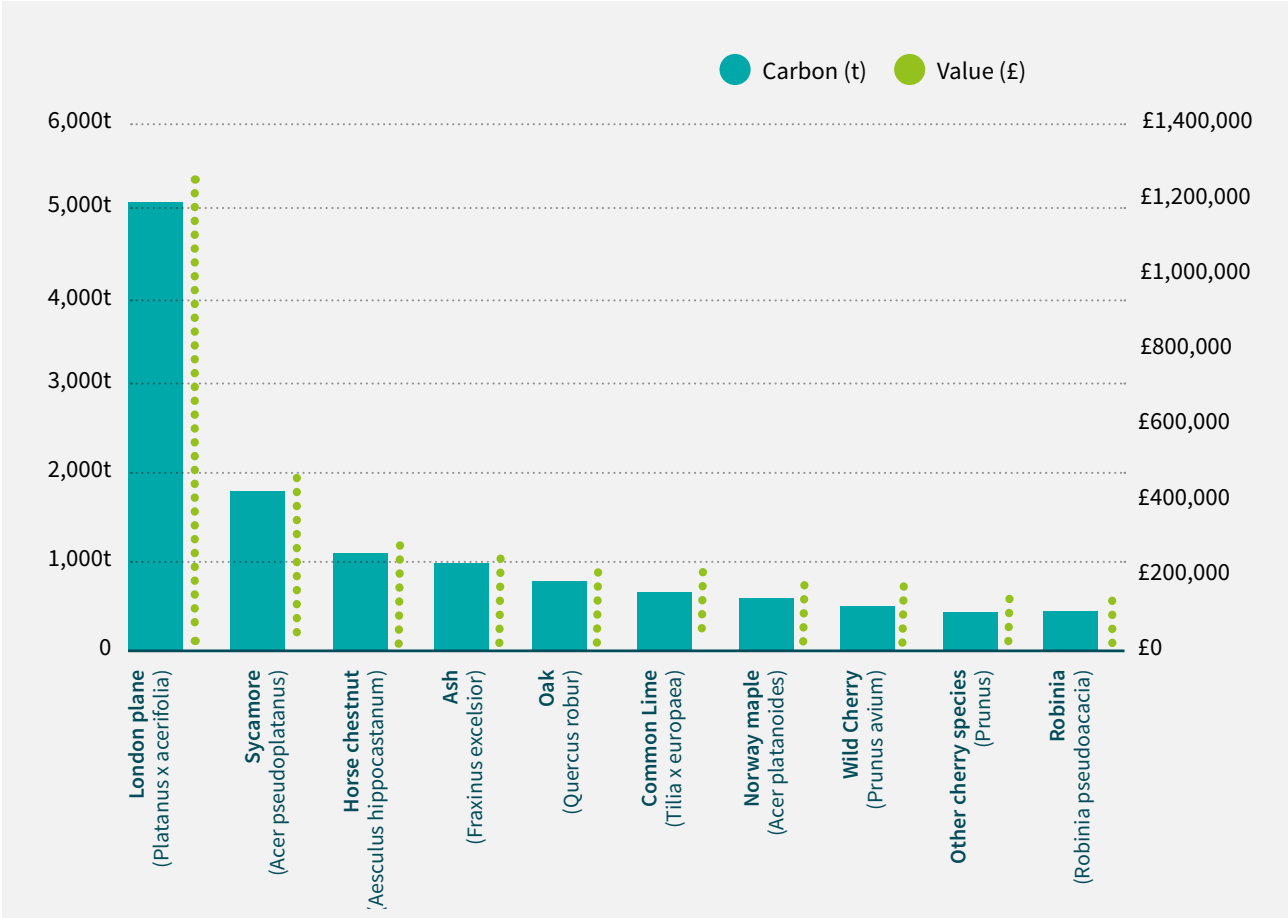
What we'll do

We will aim to increase the canopy cover in the Borough from 25% to 27% by 2030 by protecting our trees and open spaces and increasing our woodland in line with our Biodiversity Action Plan.

- Continue to protect and improve our natural environment as outlined in our Biodiversity Action Plan.
- Apply planning policies that seek to protect and enhance biodiversity and the boroughs green infrastructure, supported by guidance where appropriate.

	2019		2050
	Tonnes	Value	Tonnes
Carbon Storage	18,166	£4,463,091.00	19,047
Carbon Sequestration	431	£105,812.00	452.5

Figure 31. Carbon Storage (tonnes) for Top Ten Tree Species in Islington.⁵⁶



- Require all major developments and new build minor developments to incorporate green roofs.
 - Condition appropriate recommendations in ecological submissions from developers.
 - Identify new opportunities to increase the amount of green infrastructure on all council public realm developments.
 - Identify new opportunities to improve green infrastructure on our roads and pavements including SUDS schemes and new planting areas.
 - Develop a Community Food Growing Strategy with the aim of identifying more opportunities for food growing in the borough.
 - Continue our sustainable planting policy that considers planting to minimise water use in the long term.
 - Ensure that tree species for street planting are considered for their long-term adaptation to climate change.
- What the council sees as potential commitments, but requires further investigation before committing to
- Review opportunities to use car park spaces for tree planting or sustainable urban drainage systems.
 - Investigate trialling the planting of fruit trees.
- What the council needs from others for the borough achieve net zero, including funding, powers and legislation

⁵⁶Carbon storage: The amount of carbon bound up in the above-ground and below-ground parts of woody vegetation.

- Encourage TfL to look at the possibility of planting trees in roads they manage.
- Lobby the government to require developers to contribute to a street-tree planting fund if it is infeasible to plant on-site.

Waste reduction and recycling

Why is this important?

With respect to waste recycling and reduction, as detailed earlier, the emissions figures for Islington do not include emissions related to the production and shipping of goods and food consumed in the borough. However, these are emissions that we – the council, residents and businesses – still have control over through our consumption.

The council will need to look at the supply chain of the goods we buy and consider the impact of producing and transporting them. Whole-life costs will need consideration, and preference should be given to products that last longer or can be easily repaired rather than replaced.

When carrying out capital works, the council should ensure that the design minimises the amount of materials required and eliminates the need for future works such as regular repainting – the choice of building materials such as wood that lock in carbon would be particularly beneficial.

Through agencies such as our Trading Standards team, who enforce consumption-related legislation, we can exert influence over production and consumption habits e.g. the Packaging (Essential Requirements) Regulations 1998, which place controls on excess packaging.

Our Waste Reduction and Recycling Plan 2018-2022 (RRP) sets out how Islington will meet

its waste and recycling objectives and is a key part in tackling our climate emergency. The plan sets four recycling and waste objectives:

- Objective 1 - Reduce waste focusing on food waste and single use packaging
- Objective 2 - Maximise recycling rates
- Objective 3 - Reduce the environmental impact of waste activities (greenhouse gas emissions and air pollutants)
- Objective 4 - Maximise local waste sites and ensure Islington has sufficient infrastructure to manage all the waste it produces.

The RRP contains a detailed action plan that we are committed to implementing. At a high level, it commits us to:

- reducing overall levels of household waste, particularly food and plastic waste
- reducing emissions from our fleet
- a household recycling target of 33% by 2022 and 36% by 2025
- developing a circular economy action plan.

These commitments are supported by more detailed actions and targets. The RRP is reviewed annually and will be reviewed and renewed in 2022.

A circular economy is an alternative to a traditional linear economy (take, make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life. Islington is committed to supporting the transition to a circular economy.

A circular economy for Islington goes beyond managing waste in the most sustainable way

possible, reducing, reusing, composting and recycling. It involves how we procure goods to maximise product lifespan, reuse and repair. It involves planning policy to encourage sustainable development. And it involves developing policies to encourage sustainable economic development. A carbon neutral Islington by 2030 will require this transition and will require our residents and businesses to join us in this transition.

What we've done

Islington provides nearly all its residents with a minimum weekly collection, from their home or local collection point, of a wide range of dry recyclable materials, food waste

and garden waste, a service that exceeds the requirements of the London Environment Strategy.

Islington is also one of constituent boroughs of the North London Waste Authority which covers a population of over 2 million residents and 3% of the country's waste. Part of the Authority's strategy is the North London Heat and Power Project which aims to replace current facilities at Edmonton EcoPark which will generate lower-carbon heat and power for up to 127,000 homes. This initiative supports our zero carbon ambitions by saving the equivalent of over 200,000 tonnes of carbon dioxide when compared to landfill.



In recent years, we have:

- Provided all residents with a minimum weekly recycling collection and most residents with a food waste and garden waste recycling collection.
- Encouraged home composting by subsidising the cost of compost bins.
- Worked with our North London Waste Authority partners to promote reuse and waste reduction.
- Taken action to reduce single use plastic, including launching our first 'low plastic zone' and installing new drinking fountains.
- Encouraged reuse, for example through setting up and working with Bright Sparks.
- Launched a Recycling Champions scheme.
- Eliminated the use of single use plastics from council meeting rooms and chambers and started working with our leisure centre partners GLL to reduce and eliminate single use plastics where possible at local leisure centres.

However, there is also a responsibility on individuals to effectively use the services we provide. Recycling is compulsory in Islington but we will continue to do what we can to encourage and educate our residents about the benefits of recycling and reducing waste, as well as ensuring businesses in Islington make full use of the recycling services available to them and reduce waste where possible.

What we'll do

We will continue to implement the action plans set out in our Waste Reduction and Recycling Plan 2018 to 2022. By 2022 we will have:

- Expanded food waste collections to all remaining purpose-built blocks of flats and have trialled the service for flats above shops.
- Investigated options and develop a business case for expanding commercial recycling services in the borough
- Further improved the quality of communal recycling sites on estates.

The RRP commits us to further actions relating to reducing waste and improving recycling in our council offices.

What the council needs from others for the borough achieve net zero, including funding, powers and legislation

- Review our current operations around commercial waste reduction and recycling with our partners.
- Government to Progress proposals for bans on certain types of unnecessary single use plastic.
- Government to progress proposals for charges on certain single use items, such as plastic bags and coffee cups.
- Government to progress proposals for a tax on plastic packaging that does not contain 30% recycled content.



Figure 32. Gillespie Park

Action plan

Initiatives and actions	Lead team	Funding implications
Priority 5: The Natural Environment and Waste Reduction and Recycling: Integrate our ongoing activities in recycling and reducing waste and managing our natural environment. We will ensure that these objectives are coherent in our efforts to achieve net zero and help mitigate the risks from severe loss of biodiversity which will impact people, the economy and the environment.		
Natural Environment		
We will aim to increase the canopy cover in the Borough from 25% to 27% by 2030 by protecting our tress and open spaces and increasing our woodland in line with our Biodiversity Action Plan <ul style="list-style-type: none"> • Develop a central tree planting budget (March 2020) • Implement online resident tree planting donation process (December 2020) • Urban forest management plan (December 2022) 	LBI Greenspace & Leisure	Officer time from existing resources. Ring fenced and/or strategic SCIL funding for borough wide tree infrastructure is sought.
Develop a Community Food Growing Strategy with the aim of identifying more opportunities for food growing in the borough. <ul style="list-style-type: none"> • Commissioned Octopus Network • Completion (April 2021) 	LBI Greenspace & Leisure	No additional funding implications – funded through existing resources.
Review opportunities to use car park spaces for tree planting or sustainable urban drainage systems. <ul style="list-style-type: none"> • Explore as part of the development of the Urban Forest Management Plan • Identify opportunities through the Public Realm Design Review Panel for proposed schemes 	LBI Greenspace & Leisure	Would need to be funded as part of existing schemes or a tree planting budget established.
Investigate trialling the planting of fruit trees. <ul style="list-style-type: none"> • Explore as part of the development of the Urban Forest Management Plan • Community orchard being planted on the Highbury Quadrant estate (November 2020) 	LBI Greenspace & Leisure	Funded from CIL tree planting allocations or grant funding.

<p>Apply planning policies that seek to protect and enhance biodiversity and the boroughs green infrastructure, supported by guidance where appropriate.</p> <ul style="list-style-type: none"> • Ensure appropriate conditions and recommendations in ecological submissions from developers (2020–2030) • Identify new opportunities to increase the amount of green infrastructure on all council public realm developments (2020–2030) 	<p>LBI Greenspace & Leisure</p>	<p>Officer time from existing resources. Business cases will be required for new opportunities identified and incorporated into council's budget setting process as appropriate.</p>
<p>Waste</p>		
<p>Reduce waste focusing on food waste and single use packaging</p> <ul style="list-style-type: none"> • Take action to reduce single use plastic (various actions) • Take action to reduce food waste (various actions) • Increase reuse (various actions) • Developing a circular economy action plan (December 2020) • Introduce circular economy principles in the Local Plan which requires developers to adopt a circular economy approach to building design and construction to keep products and materials in use for as long as possible and to minimise construction waste (December 2021) • Work in partnership with NLWA to deliver waste minimisation and recycling communications campaigns • Respond to government consultations on waste and recycling and publish our responses 	<p>LBI Street Environment Services with support from Inclusive Economy Team and Planning</p>	<p>No funding implications - contained within existing resources.</p>


<p>Maximise recycling rates</p> <ul style="list-style-type: none"> • Household recycling target of 33% by 2022 and 36% by 2025 • Expand food waste collections to all remaining purpose-built blocks of flats and have trialled the service for flats above shops (March 2022) • Improve service standards for recycling container deliveries and make recycling sacks easier to access • Investigate options and develop a business case for expanding commercial recycling services in the borough (December 2020) • Improve communications to increase recycling rates (various actions) • Further improve the quality of communal recycling sites on estates (2020–2030) • Work with landlords to improve recycling in the private rented sector • Use data to support targeted communications • Reduce contamination • Support the compulsory recycling policy • Improve recycling of litter, in our offices, in schools and parks 	<p>LBI Street Environment Services with support from Housing</p>	<p>Funding agreed for food waste collection expansion. Funding sought to improve communal recycling sites and to improve communications and public engagement.</p>
<p>Maximise local waste sites and ensure Islington has sufficient infrastructure to manage all the waste it produces</p> <ul style="list-style-type: none"> • Various actions in partnership with NLWA • Review collection and processing arrangements for food and garden waste • Cut food waste and associated packaging waste by 50% per person by 2030 • Send zero biodegradable or recyclable waste to landfill by 2026 • London to manage net 100% of all the waste it produces by 2026 	<p>LBI Street Environment Services, NLWA and GLA</p>	<p>Separate processing of food and garden waste likely to have financial implications. These are being reviewed.</p>

<p>Influencing</p> <ul style="list-style-type: none"> • Encourage TfL to look at the possibility of planting trees in roads they manage. • Lobby the government to require developers to contribute to a street-tree planting fund if it is infeasible to plant on-site. • Review with our partners our current operations around commercial waste reduction and recycling • Government to Progress proposals for bans on certain types of unnecessary single use plastic. • Government to progress proposals for charges on certain single use items, such as plastic bags and coffee cups. • Government to progress proposals for a tax on plastic packaging that does not contain 30% recycled content. 	<p>LBI Tree Service and Street Environment Services</p>	<p>No funding implications - contained within existing resources.</p>
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