

Appendix 1

Carbon Neutral Plan – Text of Web Pages

This document is an appendix to the ‘Carbon Neutral Plan Adoption’ Cabinet Report.

It presents the text and suggested hyperlinks for the Carbon Neutral Plan; it is proposed that the approved Carbon Neutral Plan will be presented as a set of linked web-pages.

I. Foreword

The threat to our climate is real and it is now indisputable that the changes to our environment are rapid, accelerating and a threat to how we live.

That is why the Royal Borough of Greenwich Council declared a climate emergency in 2019 and have set an ambitious target to reach net zero carbon emissions by 2030.

We set this ambitious target because the risks associated with climate change are real and serious.

With miles of riverfront, the risk of floods is particularly real for us in Royal Greenwich. But droughts, heatwaves and other extreme weather conditions will also have a massive impact on the health and wellbeing of our residents.

This Carbon Neutral Plan builds on progress over recent years as part of our Greener Greenwich strategy and through the development of our draft Carbon Neutral Plan. We consulted with the Community on the draft Plan in early 2021.

As a Council, we’re proud that we’re already:

- building zero carbon homes (see box/link)
- creating safer routes for walking and cycling
- creating controlled parking zones to discourage car use
- installing electric vehicle charging points
- planting thousands of extra trees
- procuring 100% green electricity for Council Buildings
- developing a feasibility study for establishment of low carbon District Heat Networks in the borough
- preparing a business case to find solutions for private sector housing such as installing Ground Source Heat Pump ambient loops
- setting up and strengthening partnerships with businesses and local organisations to help reduce emissions across the borough.

But we know we need to do a lot more.

Box or link to separate page-

The Greenwich Housing Builds Programme is building approximately 750 zero or very low carbon Council Homes over several under-utilised sites throughout the Borough. These homes are using a range of solutions such as Air Source Heat pumps, Photovoltaic Panels on roofs, Mechanical Ventilation with Heat Recovery, and Insulation in excess of Building Regulation requirements.

We are developing expertise and learning from two separate workstreams. (i) A Term Alliance Contract whereby the Alliance are responsible for design, planning and delivery of offsite modular construction (ii) Direct Delivery through which the Council procures designers, planning and delivery of the homes.

We are building and planning to build more zero and low carbon homes, with a number of wheelchair-adapted dwellings including bungalows to meet the needs from our housing waiting list.



In 2021 the immediate threat to our health and wellbeing has been COVID-19. It has kept us apart. But it has also forced us to re-think how we live and work, and demonstrated we have the capability to address huge challenges.

Concurrent with finalising this plan, Global Leaders are meeting in Glasgow for COP26. But responsibility for addressing climate change resides at all levels: for individuals, businesses and other organisations, for local, regional and national communities, as well as through collective global action.

Solving climate change is an opportunity to improve quality of lives in many ways: e.g. by developing the businesses and technologies which ensure economic prosperity into the future as well as enabling low carbon lifestyles, saving money and increasing prosperity through reducing consumption of finite resources.

As a Council, we want to lead by example and use our influence to engage and support people and organisations in the borough to address this huge challenge and fulfil new opportunities.

Councillor Danny Thorpe, Leader of the Council

Councillor Sarah Merrill, Cabinet Member for Environment, Sustainability & Transport

2. Carbon Neutral Plan Summary

The Greenwich Carbon Neutral Plan is our strategic plan for responding to the Climate Emergency.

THE CHALLENGE:

The Carbon Neutral Plan sets us on a path towards rapid carbon emission reduction. Achieving Carbon Neutrality by 2030 is the ambition set in the Royal Greenwich Climate Emergency Declaration of 2019.

We have measured the borough's [direct carbon emissions \(link to carbon footprint section\)](#) from energy use within the borough. We also recognise that Greenwich's true carbon footprint includes the carbon emissions arising from food and other resources we consume which are sourced, manufactured and transported outside of the borough.

The previous draft of this Carbon Neutral Plan was built on the Evidence Base presented to Council in 2020. Since then, new actions, public consultation on the draft plan and an equalities assessment have informed its finalisation. [\(See link to 'Developing the Plan'\)](#)

This Plan sets out currently-planned actions to reduce emissions and to build local capacity to do more in the future. It will be periodically updated as we learn from experience and new opportunities arise. We will continue to follow developments in the national and international response to climate change, including policy changes and funding opportunities. We will keep abreast of advances in technology and social and economic changes and strengthen our partnerships in order to inform and continually update and improve our response to the Climate Emergency. Op

Putting the Plan into action:

Putting the plan into action requires sustained commitment to reduce emissions through how we use energy at home and at work, how we travel, what we buy and the waste we create.

The Council has a dual role in ensuring the success of this Plan. The Council will continue to drive down the emissions of its own operations. But perhaps even more critical, the Council's role as an enabler and supporter of wider action.

We will also [monitor and report \(link to monitoring section\)](#) on its implementation.

The Plan

The Carbon Neutral Plan sets out what we intend to do on our journey to become carbon neutral by 2030. It is organised under seven key themes.

Buildings

Existing buildings, homes and businesses, are the single biggest source of emissions in Royal Greenwich. We need to constantly improve the energy efficiency and resilience of buildings. Building the skills and jobs required to do this will also strengthen our local economy.

New development

New buildings will be a big part of the future Royal Greenwich. New development and the infrastructure that supports it must minimise or eliminate emissions and support achievement of carbon neutrality.

Transport

Transport is the second biggest source of emissions in Royal Greenwich, after buildings. We need to reduce the need to travel and make public transport, walking, and cycling the first choice and support the roll-out of ultra-lowemission vehicles.

Energy Supply

This is about how our energy is generated, distributed, and used. We need to source more from clean, renewable sources and help build businesses to create local renewable energy capacity and support our local economy.

Circular Economy

We need to buy less, throw less away, reuse more and recycle more to reduce the carbon arising from our consumption and our waste. Someone's unavoidable waste material can be someone else's resource.

Natural Environment

Our green spaces need to be protected and enhanced to make Royal Greenwich more resilient to climate change and support carbon neutral living.

Empowering wider change

Inspiring and enabling others to achieve more.

Recent progress under each theme is summarised in 'Themes and Activities – Overview' (link). The current actions under each theme are summarised together in our 'Action Plan' (link).

3. Where are we now? – Greenwich's Carbon Footprint

Why do greenhouse gas emissions matter?

The emission of greenhouse gases such as carbon dioxide, methane and nitrous oxide, occurs due to a broad range of human activities including the burning of fossil fuels (for transport, heating, electricity generation, industrial processes), agriculture, and changing land use. These greenhouse gases trap heat and make the planet warmer, causing climate change.

Human activities are estimated to have caused over 1.0°C of global warming above pre-industrial levels so far, and in order to limit this warming to 1.5°C, global carbon neutrality must be reached by around 2050^{1&2}.

Box 1 explains what would happen if we do not hit global warming to 1.5°C. Limiting global warming will require faster emissions reduction in developed countries than less developed ones; we have a responsibility to develop a low carbon economy and low carbon lifestyles, and the opportunity to enhance quality of life in the process.

What does our Carbon Neutral Plan aim to achieve?

Through implementation of our Carbon Neutral Plan, we aim to reduce direct emissions arising from Royal Greenwich as far possible, and to very low levels. It also means doing what we can through our own activity to reduce emissions outside of the borough.

Our stated ambition in our Climate Emergency Declaration is to be 'Carbon Neutral' by 2030. We acknowledge that this depends on levels of investment far in excess of current Council budgets. This is discussed further **here** (link to finance section in 'Implementing the Carbon Neutral Plan'). Achieving 'Carbon Neutral' can include enabling others, outside of the borough, to capture carbon and negate our remaining emissions, by donating money to credible carbon off-setting schemes. These schemes currently present challenges around both credibility and cost. We currently are not committing to using carbon off-set schemes. We can anticipate that such options will be reviewed as our 2030 deadline approaches.

Box 1:

The impacts of climate change Human activity have caused around 1°C of global warming above pre-

industrial levels so far, and the warming is likely to reach 1.5°C between 2030 and 2052 at current rates.

This has already led to more frequent extreme weather events, rising sea levels and the loss of habitats. As the temperature ~~of~~ to rise, these impacts will only worsen, with growing impacts on fresh water supplies, food security, economic prosperity and biodiversity.

Every degree counts

The impacts and risks we face vary a lot depending on how much warming there is. For example:

- At 1.5°C of global warming, we can expect one summer per century in which there is no sea ice in the Arctic; but
- At 2°C global warming, it is likely to happen at least once per decade.

1 IPCC: Special Report: Global Warming Of 1.5 °C, Summary for Policymakers,

2 The probability that warming will stay below 1.5°C depends on the pathway taken to get to carbon neutral, since it is the cumulative emissions which define the effect on climate. The IPCC estimate that staying within a remaining budget of 580 GtCO₂, or roughly 14 years of annual emissions starting from 2018 gives a 50% chance of limiting warming to 1.5°C.

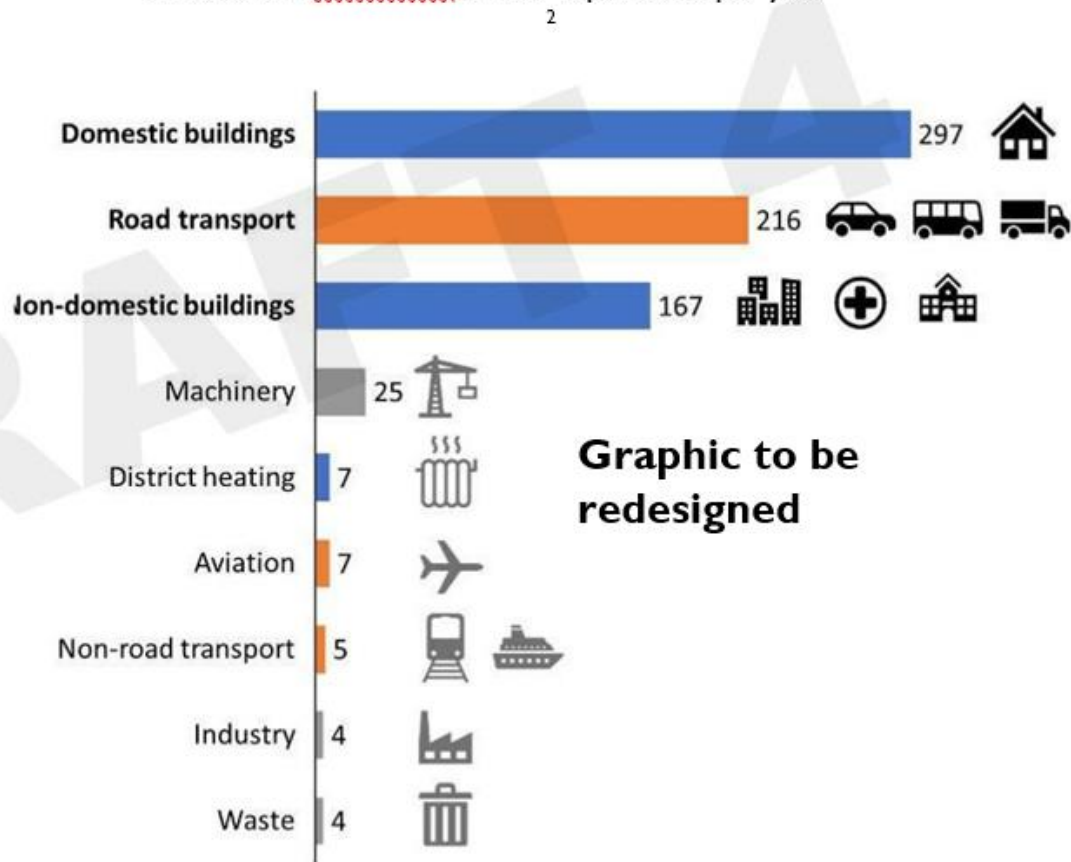
The largest sources of emissions in Royal Greenwich are the heat and electricity used in buildings, and the fuel used in road transport. The borough is estimated to have emitted 733 kilo-tonnes of CO₂ equivalents³ in 2019⁴.

A “Baseline” scenario⁵ shows that if we carried on with the policies in place today, our emissions would be expected to decrease by only 14% over the 10 years to 2030. Without additional large-scale action, natural gas boilers are likely to continue to provide 85% of building heating in Royal Greenwich in 2030, directly emitting carbon dioxide on-site. In the transport sector, despite the growing market share of electric vehicles, emissions in the borough are predicted to decrease by less than 10% between 2019 and 2030 if no significant additional action is taken.

Reducing emissions will require a combination of new technologies, changes to our behaviour and new infrastructure. Key changes likely to have a significant impact on the borough’s emissions in the short term include:

- Increased energy efficiency in buildings by installing insulation, controlling ventilation, improving glazing.
- The replacement of gas boilers with efficient electric heating (such as heat pumps).
- Reduced road vehicle use – both personal and commercial.
- The uptake of low emissions vehicles, including electric cars.

Figure 1: Sources of greenhouse gas emissions in Royal Greenwich in 2019
Emissions in kilotonnes of CO₂ equivalents per year



- 3 “CO₂ equivalents” includes all greenhouse gases, rather than just CO₂. Other gases emitted are measured in terms of their warming impact, scaled relative to CO₂.
- 4 Unless otherwise stated, all stated emissions estimates are from modelling and analysis by Element Energy – see Development of the Greenwich Carbon Neutral Plan: The Evidence Base
- 5 The “Baseline” scenario sees a reduction in the carbon intensity of the electricity grid and some energy efficiency improvements, but no widespread shift away from fossil fuels.

Box 2:

Measuring Emissions – Scopes 1, 2 and 3

The emissions directly arising in the borough, and those associated with generating the electricity used in the borough, are referred to as Scope 1 and Scope 2 emissions.

There are also Scope 3 emissions. These are emissions that occur elsewhere but are due to the activity of residents and organisations within the borough. For example, emissions occurring outside the borough from producing food and manufactured products that are consumed locally. Flights taken by residents are another major source of Scope 3 emission.

Scope 3 emissions are of great importance, especially for London which has high levels of consumption and relatively little industry. Actions we can all do to reduce them include:

- Eating less meat and dairy.
- Reducing how much we buy and how much we throw away.

- Flying less often.

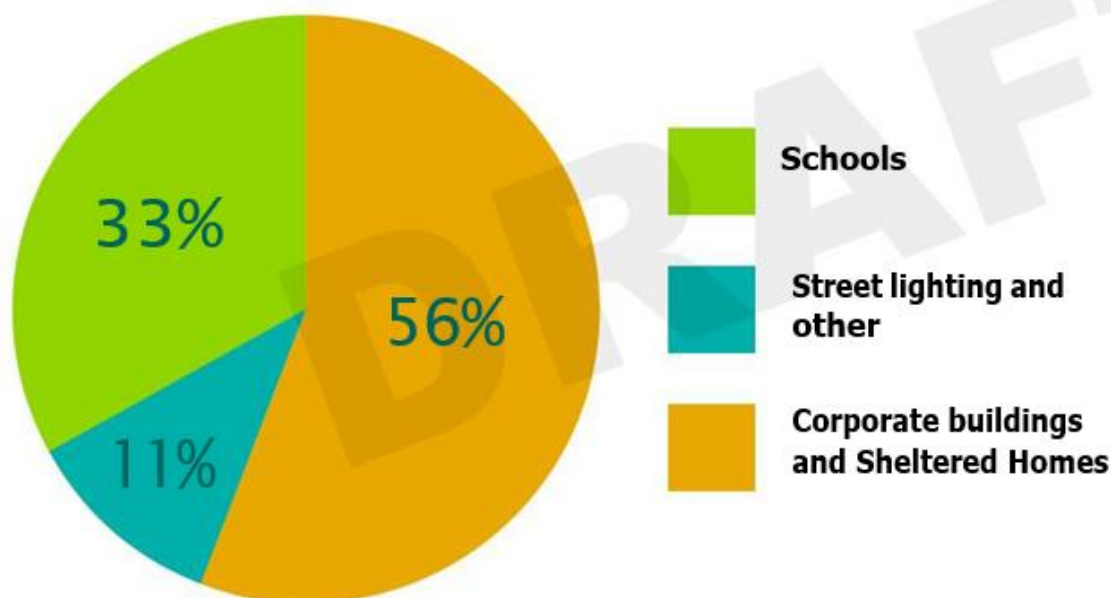
Accurate measurement of Scope 3 emissions is complex and depends on data about our own consumption and on associated production and transport activity outside of the borough. Because of its complexity, Scope 3 emissions are not quantified in our reported carbon footprint. However, our Action Plan does address ways we intend to reduce Scope 3 emissions.

The Council's Own Emissions

Emissions from council-owned buildings, excluding council housing, have fallen by around 28% between financial years 2016/17 and 2019/20, and are estimated at 27 kilo-tonnes CO₂e.

This is mostly because electricity production now produces less carbon per unit of electricity, due to the increased share of renewables and the replacement of coal fired power stations with gas fired power stations. Energy use per building has also fallen by a small amount.

Figure 2 The Council's buildings emissions in 2019



Emissions from heat and electricity used in homes owned by the council are not included in the above but are significantly larger than the council's operational footprint. In 2019, these emissions were 9% of the total borough's emissions (65 kilo-tonnes CO₂e). For this reason, actions to reduce emissions from council housing are an important part of the carbon neutral plan.

4. Developing the Carbon Neutral Plan

How we prioritised actions

Royal Borough of Greenwich commissioned Element Energy to prepare an evidence base to support the development of this Carbon Neutral Plan. The Evidence Base modelling projected what likely future emissions would be without any action beyond the policies in place today (the 'Baseline' scenario). They then explored how far the borough could feasibly reduce emissions by 2030 under a radical 'Maximum ambition' scenario. Under this scenario, Greenwich could reduce its emissions by up to 87% depending on the emissions associated with electricity generation⁶.

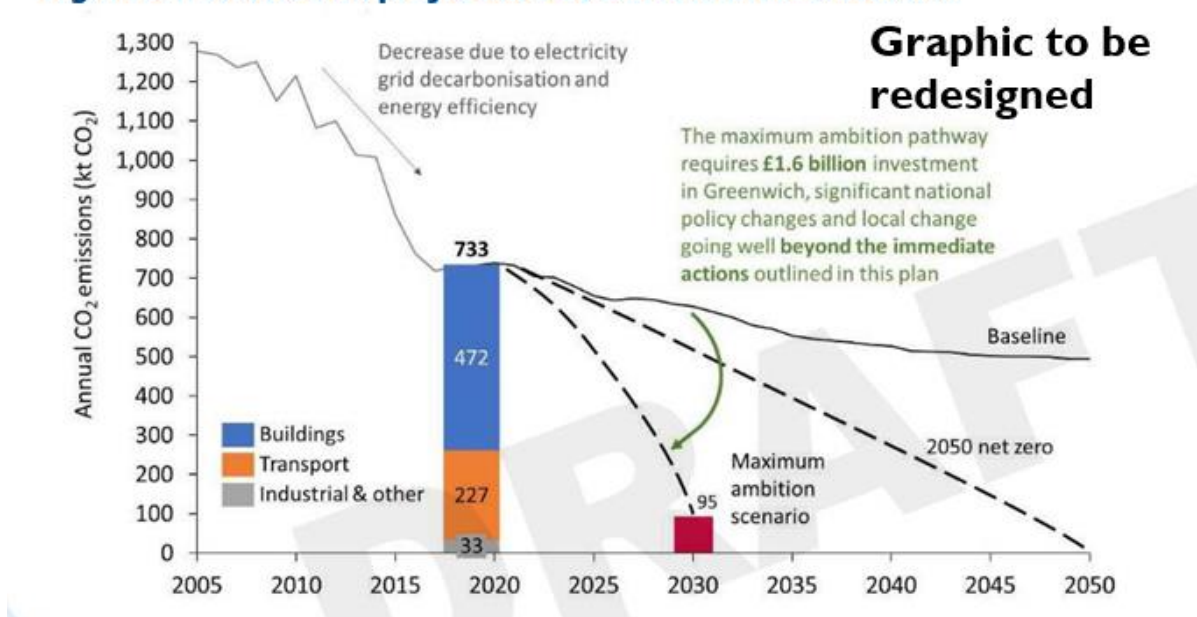
The pace of change required to meet a 2030 carbon neutral target is very rapid and goes beyond national targets, though is aligned with the target for London. There are significant policy-based, financial, technological and social challenges associated with the pursuit of a rapid transition to carbon neutral as a local authority and progress in Royal Greenwich will always be partly dependent on decisions made at regional and national level.

As part of Element Energy's work, they drew up a 'long-list' of policy options available to drive change. The investment required from both the public and private sectors to follow a scenario reaching close to carbon neutral by 2030 is estimated to be £1.6 billion over the 10 years to 2030.

⁶ Several important changes that can be made in Greenwich to reduce emissions involve switching the local burning of fossil fuels (such as petrol in car engines and natural gas in boilers) to use of electricity. The reduction in emissions this achieves then depends on how that electricity is generated. Achievement of 87% reduction depends on the extreme case in which our electricity grid operates without any emissions by 2030. If current policy targets for the electricity grid are followed instead, the maximum ambition scenario achieves a 73% reduction in emissions from Greenwich by 2030.

This includes spending on heating system conversions and energy efficiency improvement works on housing (approximately £350m for Council housing only) and other buildings (approximately £25m for public sector buildings), electric and low emissions vehicles along with vehicle charging points and wider transport infrastructure (significantly over £80m). Even with these large-scale changes, significant emissions would remain unless the national electricity grid fully decarbonised by 2030.

Figure 3 Baseline and projected CO₂ emissions in Greenwich



Consultation on the draft Carbon Neutral Plan, and its outcomes

In winter and spring 2021, the Council carried out an online consultation on the draft Carbon Neutral Plan and hosted online events with (i) residents (ii) selected businesses and other organisations, to gather feedback, comments and suggestions on our Climate Change agenda. Key findings of the consultation with implications for the plan (either based on demographics of the 450 responders or content of responses) are in the table below:

	Key Findings	Resulting adjustments to Carbon Neutral Plan actions and new actions
1	Engagement from people in social and private-rented housing, and young people, was relatively low.	Specific focus on engaging this sector, particularly with respect to achieving home energy efficiency and reducing energy bills.
2	Re home energy efficiency: A high proportion of respondents (one third) explicitly stated they are not intending to take some simple cost-effective steps to reduce energy consumption. A need for reliable information about savings, support and reliable contractors was also wanted.	Explore how to engage in partnerships with energy efficiency advice providers to reach more people with clear, targeted information to address these issues.
3	The draft CNP's Waste and Circular Economy plans were the section of the plan that received the most support. There was significant demand to recycle more.	Explore inclusion of specific actions to expand and/or publicise recycling opportunities, including of small electrical/electronic devices, batteries, plastic film, hard plastics and textiles – through council services and/or partnership with voluntary or private sector. More information is available here: https://www.royalgreenwich.gov.uk/info/200171/recycling_and_rubbish
4	Respondents expressed specific interest in waste reduction/circular economy opportunities such as 'Opportunities to Repair More' (rather than dispose) 'Community Exchange Events, Online Exchange Schemes and Hire Schemes', 'A Re-usable nappy project', 'Food Waste Reduction'	Explore partnership opportunities to address these interests more vigorously, with council services and/or voluntary and private sector. Example - Greenwich Library is now exploring the possibility of adding a tool-lending service to its book-lending service.
5	There was substantial support for specific actions to further advance the sustainability of Greenwich's Natural Environment, including food growing in public green spaces, reduced grass-cutting, transition to electrical machinery (from petrol/diesel), and advice and support for keeping gardens green and avoiding hard landscaping.	Develop/continue improvements to parks management aligned to these needs. Develop partnerships around defining and providing information on garden management and reducing hard landscaping.
6	'The Council leading the way' was a potentially significant driver of engagement in actions to tackle climate change.	Explore how internal communications and training can help drive increasingly effective integration of climate-conscious actions in Council activity. Continue to focus on how external communications can help demonstrate Council commitment to tackling climate

		change increasingly strongly and help foster interest and action in the community.
7	Responses from Organisations (rather than individuals) were rare, outside of our dedicated event for local organisations. (11 respondents)	Seek to utilise existing partnerships to increase engagement tackling climate change collaboratively, where partnership working can accelerate progress.

Equalities assessment of the draft Carbon Neutral Plan

Royal Borough of Greenwich commissioned an Equalities Assessment of the draft Carbon Neutral Plan, in order to help optimise the social impacts of the Plan and improve the quality of outcomes through increasing awareness of social dimensions of the actions. Broadly, the assessment endorsed many existing CNP-related actions and proposed actions as having a positive impact on equalities, particularly with respect to health (including warm homes and exercise), reducing costs (especially food and energy) and tackling fuel poverty. It also advised on adjusting details of how actions are delivered to address social inequality.

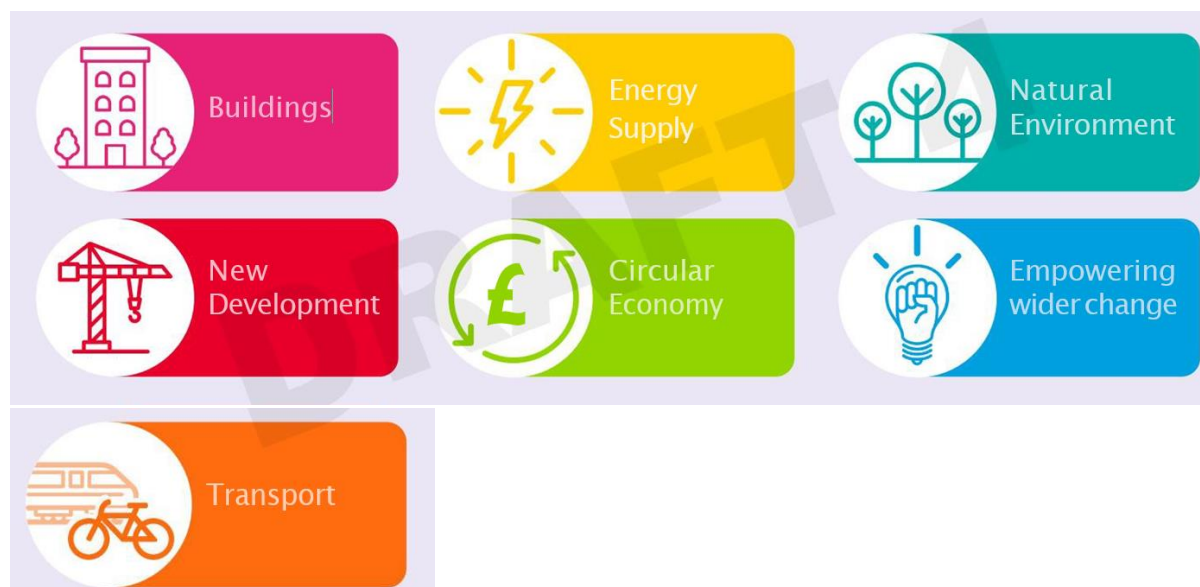
Key Equalities Impact Assessment implications for the Plan's implementation are summarised in the table below:

	Key Findings	Implications for CNP implementation
1	There is a significant opportunity to tackle fuel poverty in priority households (inc low incomes, BAME and disabled) through home energy efficiency promotion	Identify key Greenwich organisations to work with to ensure there is a focus on these groups in promoting home energy efficiency
2	There is a significant opportunity to promote healthier lifestyles, linked to reduced car use, which could target priority disadvantaged areas and where air quality is worst	Strengthen partnership working between Public Health and Transport Planning in Greenwich, and further integrate healthy lifestyle messages in Greenwich's transport outreach work with schools.
3	Post-Covid there might be continued reluctance to use public transport, with knock-on implications for increased car use, and particularly among specific demographic groups	Monitor this situation in partnership with TfL, Southeastern and other London transport providers, with a focus on Greenwich's services, and plan targeted communications accordingly, in line with risks and benefits. Greenwich's wider transport work programme will be targeting this issue also.
4	Crime and fear of crime could be another deterrent to reducing car use, particularly in higher crime areas.	Be conscious of this issue in design and communication about new transport schemes, with a more intense focus on schemes which influence transport to, from and through Greenwich's higher crime areas and/or where we know fear of crime is relatively high. The Thamesmead and Abbey Wood Opportunity Area Planning Framework, is an example of where these issues have been identified / addressed.

5	Groups with restricted mobility (disabled, elderly, families with very young children) could be adversely affected by restrictions on car use/parking	Be conscious of this issue in design and communication about new transport schemes throughout the borough.
6	Positive engagement with the circular economy section of the draft CNP was lower among older people, younger people and men.	Identify key organisations in Greenwich to help target these protected characteristics when seeking to increase recycling rates and explaining the benefits of recycling.
7	There was high (74%) agreement with the statement 'maintenance of paths in our parks should be improved to make them more walking, cycling and wheelchair friendly'	Greenwich's Parks department to continue to look at cost-effective opportunities to improve this, in partnership with the community – including with Greenwich's Friends of Parks groups.
8	Benefits of more green space and creation of habitats are very high and can be maximised through creative approaches	Seek to more-tightly integrate opportunities for green space and habitat creation in the development of Greenwich's new local plan, associated documents and enforcement of planning policies, and through design of new transport schemes in Greenwich, including increase of street trees.
9	Effective information provision to prompt behaviour change is a priority challenge, requiring focused attention with protected characteristic groups.	<p>This is a theme that needs to be integrated into actions designed to achieve behaviour change.</p> <p>Marketing/promotion/communication of behaviour change opportunities and sustainability choices needs to consider specifically protected characteristic groups and (where relevant) take account of the varying demographics of different parts of Greenwich.</p>
10	CNP actions can generate jobs and local economic activity. These could target protected characteristic groups (in particular BAME, young people and disabled)	Integrate this principle in developing all actions that generate economic activity, and in doing so, consider Greenwich's demographics and the varying economic needs of local communities within Greenwich.

5. Themes, Ambitions and Activity – Overview

The Greenwich Carbon Neutral Plan's actions are each grouped under one of the following themes:



Buildings:

There are 120,000 homes and over 2 million metres squared of non-domestic floor space in the borough. Heat and electricity used in buildings in the borough accounted for 64% of emissions in Greenwich in 2019. Emissions from homes alone were 41% of the borough's total. Reducing these emissions will involve a combination of:

- making buildings more energy efficient
- replacing fossil fuel heating systems with low carbon alternatives
- deployment of renewable energy and district heat networks (see [Energy Supply \(link\)](#) theme)
- behavioural change – operating our buildings more efficiently

Progress so far includes:

The council is currently pursuing several communal heat pump projects for Council Housing estates.

Energy efficiency improvements through the ongoing renovation programme and pilots of deep energy retrofit are underway on 2 Council Housing estates.

We have a funded programme to reduce the carbon emissions of several of the Council's non-domestic buildings.

We have secured £850,000 of funding to improve energy efficiency of local homes in both the public and private sector, where energy bills are currently high.

New Development

An additional 30,000 homes are expected in the borough by 2030, with the potential to add significant new carbon emissions if the strictest emissions standards are not applied.

Progress so far

- Through London Planning Policies, we have raised the standard of new builds in recent years: new major development in the borough achieved a reduction of 46% on average in comparison to Building Regulations-compliant buildings in the financial year 2019/20.

- The future Greenwich local planning policy work will seek to raise the standards further through an updated SPD and reviewing the options for the next local plan.
- We are in the process of building approximately 750 zero or low carbon homes.

Transport

Transport generated 31% of the borough's total emissions in 2019. Almost all these transport emissions (95%) come from vehicles on our roads such as cars, vans and trucks. Without local interventions, transport emissions are predicted to decrease by less than 10% between 2019 and 2030.

The council owns and operates a fleet of around 600 vehicles, responsible for 1.5% of the total emissions from road transport in the borough.

Reducing transport emissions requires a combination of:

- Greater use of public transport and encouraging more walking and cycling
- Rapidly increased uptake of zero emissions vehicles
- More efficient freight activity

Progress so far

The Royal Borough's third Local Implementation Plan for Transport sets out its adopted transport plans and describes key achievements to date across the breadth of transport issues Royal Greenwich faces. These include:

- A range of highway improvements to increase the attractiveness of more sustainable modes such as public transport, walking and cycling.
- Exploring electric vehicle car club pilot schemes and developing more electric vehicle charging points.
- The Council has also made progress in converting its own fleet to Zero Emissions Vehicles. As of August 2021, the council's fleet contains 30 electric vans and 25 electric charge points have been installed at its main operating depot to allow greater electrification.

Energy Supply

The national electricity grid is not predicted to be entirely fossil fuel free by 2030. This means that even under a highly ambitious scenario for Royal Greenwich, in which there is widespread electrification of heating and transport, there would still be significant emissions associated with that electricity use. While changes to the national electricity grid ultimately rely on national policy, action can be taken locally to roll out decentralised, sustainable energy, to develop 'smart' approaches to how and when we use energy, to support the delivery of lower carbon supply.

Progress so far

The Royal Borough of Greenwich has made progress on sustainable and decentralised energy in recent years, but must now step up its action:

- The Council has installed solar panels on 8 blocks of flats since 2016 and further installations are planned.
- We are engaged in a London-wide programme – Solar Together – through which 130 homes have registered to install solar panels.
- South East London Community Energy (SELCE) have undertaken installations of solar panels on some of the borough's schools (in 2016) and Leisure centres (n 2020).
- We are undertaking a borough-wide District Heat Network feasibility study, to identify the best options for installing low carbon heat supplies across the borough.
- We are preparing a business case to assess the feasibility of installing ground source heat pumps in private

sector housing, with heat sourced from shared ambient loops.

Circular Economy

The Circular Economy is about developing ways of living and working which reduce waste sent to landfill and reduce consumption of finite natural resources. The borough's emissions from the disposal of waste were 4 kt CO₂ in 2019, 0.6% of its total greenhouse gas emissions. This is a relatively small fraction. But reducing waste and creating a circular economy does much more to reduce emissions 'upstream' – i.e. the emission from extracting natural resources, manufacturing and transportation to provide us with the products we consume. These are Scope 3 emissions referred to in [section 3 \(link\)](#), and whilst not accurately measured are undoubtedly a significant proportion of our carbon footprint.

Changes which can be made to reduce both direct and indirect emissions from waste include:

- Minimising the production of waste, especially food waste – food and drink contributes around 10% of London's consumption-based emissions.
- Promoting reuse to prevent items entering the waste stream.
- Recycling everything which can be recycled, including paper, plastics and metals.
- Increasing the operational efficiency of waste collection rounds
- Using products (including food) which are lower carbon in their manufacturing. This includes using local food and reducing consumption of foods responsible for significant emissions, such as red meat and dairy.

Progress so far

The Council has consulted residents on proposals to reduce waste, improve recycling and reduce the use of single use plastics in its operations. In September 2020, the Council agreed a set of measures, including fortnightly collections of general waste, no longer collecting ~~sewage~~ waste, a new contamination policy and no longer providing clear recycling sacks to properties able to store wheelie bins. However, the Carbon Neutral Plan represents a significant scaling up of ambition beyond these changes.

We have an active food network in Greenwich, 'Good food in Greenwich' with many associated organisations. This network delivers great work in reducing food waste, supporting local food growing and promoting diets which are lower carbon, among other activity associated with healthy eating.

The Natural Environment

The Council owns and manages approximately 554 hectares of parks and green spaces that makes up most of green spaces within the borough. Private gardens and green spaces managed by other groups make the Borough one of the greenest in London.

The storage of carbon by trees and carbon-rich ecosystem (e.g. including carbon storage in soils) play an important role in tackling climate change. Our green spaces also can help us to adapt to the changing climate, providing co- benefits of flood protection and temperature regulation within cities.

Our 'Friends of Parks' groups of residents play very valuable roles in supporting the sustainability management of our parks and increasing their value in mitigating and adapting to climate change.

Progress so far

- We have achieved our target of planting by 2022 trees by 2022, since 2018, well in advance. As of Sept 2021, we have planted 2,538.

- Planting projects have included small community orchards. In addition to increasing climate resilience, these green spaces also support biodiversity and provide free fruit for residents.

Empowering Wider Change

The ‘empowering wider change’ theme is about the actions that the council is leading to develop partnerships and empower our communities to develop new projects, initiatives and actions that reduce carbon emissions. Our communities include businesses, council staff and education providers, and voluntary organisations as well as residents.

There are more than 11,000 businesses in the Borough, predominantly micro businesses employing below 10 people. Around 2,000 enterprises are engaged in construction-related activities which account for approximately 3% of emissions from the borough.

Progress so far

- As part of the public consultation on the draft Carbon Neutral Plan, we have begun development of:
 - A partnership of local organisations on tackling climate change. The intention is that a partnership members will inspire each other and develop more collaborative working on emission reduction
 - Our Climate Emergency Network, our network of residents with an expressed interest in tackling climate change. (Residents can sign up via [this link](#))
- Our Carbon Neutral Plan consultation was informed by feedback from our Greenwich Young Commissioners, and we have channels for involving young people in future activity through the Council’s Children’s Services department.
- The Royal Borough of Greenwich Pension Fund has committed £42.5m to the London Collective Investment Vehicle (LCIV) Renewable Infrastructure Fund, of which it was a seed investor to help develop the fund. This investment includes wind and solar assets.
- The Council has engaged with organisations and community groups to promote sustainable food and reduction in food waste through the Good Food in Greenwich network.

6. Implementing the Carbon Neutral Plan

Governance

This section explains how decisions about the Carbon Neutral Plan will be made and how the plan will develop and be delivered. Council-wide ownership is required, and all Directorates within the Council will have a role.

- Cabinet Members will work together to oversee and steer work to reduce carbon emissions in accordance with the Climate Emergency declaration. The Cabinet Member will chair corporate Task Force.
- Chaired by the lead Director, the Climate Change Officer Group involving senior officers from all Directorates, will continue to coordinate the delivery of the Plan across the Council, identifying and developing new opportunities to reduce carbon emissions.
- The Council will monitor and report on the actions in the [Action Plan \(link\)](#) annually.
- The Council will facilitate and recognise activity across the borough, working in partnerships with organisations and residents to celebrate successes in our community, and to support and inspire new activities and greater achievement.

Communications

We will be transparent about the changes that are required to address the Climate Emergency.

We will communicate and engage our residents, businesses and other organisations in our activities. We will celebrate success and use it to inspire and inform further activity.

Finance

A major challenge of achieving 'Carbon Neutrality' by 2030 is the level of investment that is required by the Council and other organisations (£1.6bn), (as well as our dependence on actions by others outside of the borough to decarbonise our electricity and our supply chains). These levels of investment are far in excess of current Council budgets.

Significant finance and resources will be required to deliver on the ambitions set out in the Plan, most significantly, for the areas of action set out below:

Areas of Action	Short Term Funding	Long Term Funding to be secured	Funding Sources
Council Housing	Approx £5.1M	Over £350M	Possible sources: Housing Capital Programme / Available grants
Corporate Estate	Approx. £700k	Over £25M	Public Sector Decarbonisation Fund/ Other grant funding
Transport	Approx. £660k	Significantly over £80m	Funding not yet identified
Council Fleet	N/A	£TBC	Funding not yet identified
Business Economy and Skills	£570k		Funding not yet identified

Identifying and unlocking innovative finance solutions will be critical to the success of the Greenwich Carbon Neutral Plan. We therefore commit to:

1. Maximising external funding sources by reviewing grant funding and subsidy opportunities
2. Investigating and developing of innovative financing mechanisms and project finance models
3. Explore group-purchasing opportunities with other local authorities
4. Where we feel there is a strong need for further support, lobbying with other local authorities.

7. Monitoring the Carbon Neutral Plan

An annual monitoring report will be produced reflecting our progress in implementing the Carbon Neutral Plan's action plan. Progress on each individual action will be monitored against targets and milestones. Where data on emissions reductions achieved through an action is unavailable, we will report activity-related data and qualitative performance information and continue to look for efficient ways to improve data quality.

Our monitoring reports will also refer to the scale of progress against emissions trajectories towards carbon neutrality (see below) and new actions emerging. We will also evaluate the scale and nature of the key gaps between our progress and what is required to be carbon neutral in 2030 – an evaluation that will also inform the evolution of the Carbon Neutral Plan.

Emissions trajectories

The background data and trajectories described in this section will help to guide our monitoring and reporting on progress towards our 2030 target:

In order to inform the development of this action plan, Element Energy undertook bespoke modelling of projected emissions from the Borough under a baseline scenario, and a Maximum Ambition scenario, in which highly ambitious measures were assumed to achieve the scale of rapid emissions reductions implied by a 2030 carbon neutral ambition. The EvidenceBase report provides a full explanation of the assumptions modelled, which includes the following. (Note that these are modelling assumptions and not commitments):

- **Energy efficiency** – Retrofits on 41% of existing domestic buildings to take the proportion of homes which are EPC (Energy Performance Certificate) C-rated or higher in the borough to 58%.
- **Heat networks** – Heat networks supply 8% of total domestic heat and 11% of non- domestic. Fossil fuel power for heat networks is entirely phased out by 2030.
- **Low carbon heating systems** – phase out the use of gas boilers by 2030 except where used (sparingly, and only at times of peak demand) in conjunction with an electric heat pump in a hybrid system. Install heat pumps in 70,000 existing homes and 20,000 new build homes. Install hybrid heat pumps in a further 20,000 existing homes.
- **Reduction in car use** – car vehicle km travelled in the borough by residents and visitors must decrease by 45% compared to 2015; likely the upper limit achievable through available measures
- **Reduction in van and truck use** – vehicle km travelled by vans and trucks must decrease by 10% compared to the Baseline, requiring both modal shift and action to counteract projected increases in goods traffic.
- **ULEV uptake** – an acceleration of uptake by 10 years compared to the current London-wide 2050 target. Just over half of cars, more than two-thirds of vans and all buses must be zero emission. Over a third of cars, a quarter of vans, two-thirds of trucks and nearly all taxis must be zero emission capable.

The scenario modelling revealed the technical changes with the greatest potential for emissions reductions, as shown in the ‘waterfall’ charts below.

Figure 1 Reduction in Royal Greenwich’s emissions from buildings due to measures modelled under Element Energy’s Maximum Ambition scenario

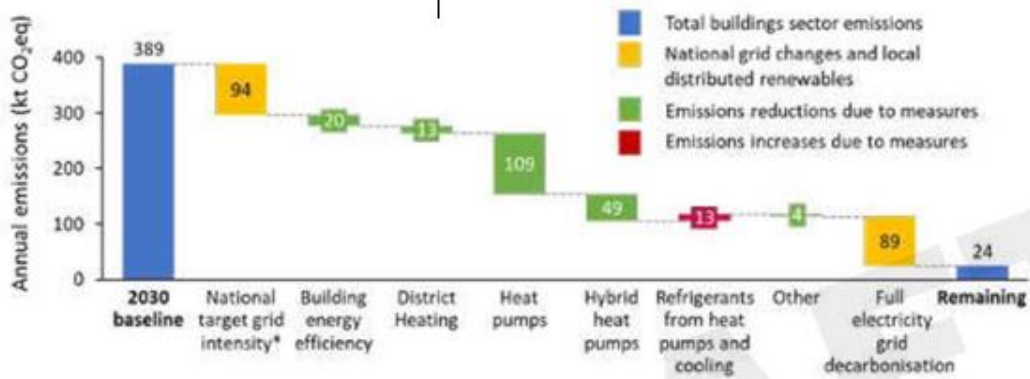
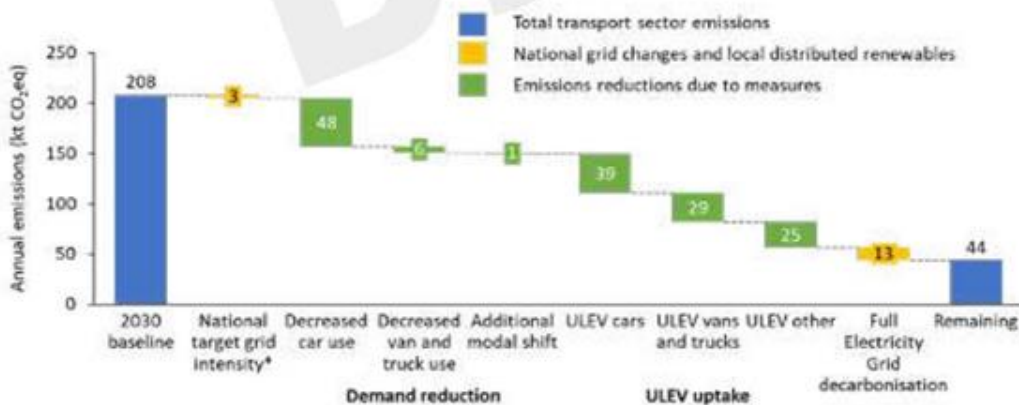


Figure 2 Reduction in Royal Greenwich’s emissions from transport due to measures modelled under Element Energy’s Maximum Ambition scenario



As well as the modelling carried out by Element Energy, the Borough’s action can also be informed by the carbon budgets and recommended emissions pathway produced by the Tyndall Centre for Climate Change Research, at the University of Manchester. The Tyndall centre allocates a cumulative emissions budget to the United Kingdom based on the “well below 2°C and pursuing 1.5°C” global temperature target and equity principles in the United Nations Paris Agreement. Royal Greenwich’s share of this budget is then calculated based on the Borough’s historical emissions.

The Tyndall Centre’s report concludes that for Royal Greenwich to make a ‘fair’ contribution towards the Paris Climate Change Agreement, it should

1. Restrict carbon dioxide emissions from energy use to a maximum cumulative budget of 5.3 million tonnes (MtCO₂) for the period of 2020 to 2100.
2. Begin reducing emissions immediately at a rate of approximately 12.5% per year, dependent on national and regional action.
3. Become close to carbon neutral by 2043 (*but note that our target is for 2030*)

Such targets require rapid and ambitious action – Element Energy emissions modelling finds that this total cumulative budget for energy related emissions is exceeded in 2027 under its Baseline scenario.

The Tyndall Centre’s recommended carbon budget for the period 2028-2032 is 900 kilo- tonnes of CO₂, implying an annual budget of approximately 180 kilo-tonnes by 2030. This is similar to, but slightly below, Element Energy’s modelled ‘Maximum Ambition’ scenario, in which the Borough’s emissions are reduced to 198 kilo-tonnes by 2030. The Tyndall Centre’s budgets therefore imply the need for highly ambitious change, building on and going well beyond the actions outlined in this plan.

8. Carbon Neutral Plan – The Action Plan

The actions outlined in this action plan are approved. By themselves, they will not be enough to achieve Carbon Neutrality. Additional funding resources will be required, as outlined in [Section 6](#).

The Action Plan will be updated as new opportunities are identified and, as described in section 7, our monitoring reports will evaluate the gap between our progress and carbon neutral trajectories – which will inform future evolution of the Plan. See Section 6 for an outline of [Governance](#) arrangements, including updates and monitoring.

Buildings

Category of Building	Action	Measure of progress	Target	Target date
Council Housing	Establish a clear baseline to better understand and manage energy and emissions from council housing stock	Is the baseline and monitoring process established?	Baseline established; monitoring process established.	Dec-21
Council Housing	Undertake deep/whole block energy efficiency retrofit for Council Housing (including building fabric, energy supply and controls)	Energy demand and carbon emissions of retrofitted homes	Deliver two whole block retrofit pilots	Dec-24
Council Housing	De-carbonise energy systems for Council Housing	Number of low carbon heating schemes achieved, removing fossil fuels	Deliver five low carbon heating schemes	Mar-22

Council Housing	Support council tenants to reduce emissions and tackle fuel poverty	Number of homes provided with energy awareness advice	Energy awareness support and assessment provided to 30% of council tenants	Dec-23
Private Sector Housing	Promote home energy efficiency and heat decarbonisation in private housing sector (rented and owner-occupier), (including building fabric, energy supply and controls)	Number of homes improved Estimate of annual carbon saving	1000+	2024
Private Sector Housing	Target low income households in promoting home energy efficiency and heat decarbonisation in private housing sector (rented and owner-occupier), (including building fabric, energy supply and controls)	Number of 'low income homes' improved Estimate of annual carbon saving - formula-linked to scheme details	300+ homes	2023
Council Buildings – Non-domestic	Produce Heat Decarbonisation Plan for Council's Corporate Estate to guide future investment	Stage of development of Heat decarbonisation plan	Heat Decarbonisation plan produced and agreed	Winter 21
Council Buildings – Non-domestic	Identify and deliver pilot projects for energy efficiency retro-fit works to programme of 10 schools and 8 corporate buildings through Public Sector Decarbonisation Fund	Installation of proposed energy and carbon saving technologies	Completion	30-Mar-22
Council Buildings – Non-domestic	Use data collected in 2 actions above to create programme of works to optimise carbon reduction	Stage of development of the plan	Programme produced and agreed	Winter 21
Council Buildings – Non-domestic	Gather accurate energy usage data across the portfolio and analyse to identify priority high energy use buildings	Data being gathered via heat decarbonisation plan	Review when heat decarbonisation plans complete	Winter 21
Council Buildings – Non-domestic	Create carbon reduction policy for lifecycle replacement of equipment to reduce carbon of corporate estate, including alignment to tenancy occupation and tenant obligations	Draft policy created	Policy agreed	Spring 22

New Development

Category of New Development	Action	Measure of progress	Target	Target date
Council Housing	Ensure Council new build housing projects are carbon neutral where possible	% average carbon reduction of new build homes, beyond Building Regulations standard	90%	Ongoing
All	Strengthen Local Plan to deliver zero carbon development: Adopt tiered carbon off-set price via SPD	Officer appointed, then new targets to follow	Policy agreed	Autumn 2022
All	Produce Carbon SPD and Scope/evaluate options for Local Plan review	Qualitative description of progress	SPD produced, aligned to Carbon Neutral Plan. Scoping activity complete, for new Local Plan to address 'Carbon Neutral Agenda'	Autumn 2022
All	Increase planning officer understanding to negotiate higher standards	Identify and deliver training sessions	Training to be undertaken by appointed officer	Autumn 2022
All	Manage the planning dimensions of District Heat Network Development	Qualitative description of progress	Integrated planning considerations arising from heat network feasibility report into planning documentation for relevant districts.	Spring 2022
Streetlighting	Replace 19,000 inefficient street lights with LED lighting	Number of streetlights replaced	19,000 streetlights replaced	Summer 2024

Transport

Relevant transport modes/ sectors	Action	Measure of progress	Target	Target date
Car Parking	Develop Kerbside and Parking Strategy and establish Controlled Parking Zones	Finalisation of Strategy	Adoption of Kerbside and Parking Strategy and development of action plan	Winter 2022
Car Parking	Re-prioritise kerbside space, to create more space for public transport, walking and cycling.	To be defined through Kerbside and Parking Strategy	To be defined through Kerbside and Parking Strategy	Winter 2022
Car Parking	Explore potential for establishing system of emissions-based parking charges	Development and adopt banded parking and permit charges (depending on vehicle emissions*), for new and reviewed CPZs, and Council car parks. Percentage of controlled parking spaces with banded charges.	100%	Winter 2022
Cycle Parking	Increase cycle-parking provision	Cycle parking spaces installed (publicly available, excluding new developments).	300% increase on current levels. Establish baseline cycle parking figures	2026 Winter 2022
All	Council Staff travel inc business travel	Number of ICE / private vehicle staff trips and mode split of travel to work (should be ahead of	80% of trips by walking, cycling and public transport. reducing share of ICE vehicle trips in remaining 20% of trips.	2025

		borough-wide targets).		
All	Business travel planning: Encourage employers to conduct travel surveys and review transport policies	% of trips by public transport, walking, cycling amongst participants Fraction of private powered vehicle trips where vehicle has internal combustion engine	80% of trips by public transport, walking, cycling amongst participants. reducing share of ICE vehicle trips in remaining 20% of trips amongst participants.	2030
Motorised road transport	20mph limits on residential roads	Coverage of main non-residential streets.	100% coverage of an agreed network of appropriate streets.	2030
Motorised road transport	Electric vehicle charging	Number of chargers vs number required for projected EV fleet size.	>100% of required provision.	2030
Cycling and Walking	Cycling and walking infrastructure: Create new, and improve existing, cycle network and walking routes throughout the borough, including looking for resources to conduct a feasibility assessment for new strategic river crossings suitable for cyclists and pedestrians	Proportion of aspirational cycle network completed (km's).	100%	2030
Council Vehicle Fleet	Convert fleet to ZEV (Zero Emission Vehicles)	% vehicles that are EVs (prioritising larger fuel-consuming vehicles)	100% converted	2030
Council's contracted fleet for Assisted School Travel	Incorporate Carbon Neutral aspirations within School Travel Assistance service level agreement (SLA)	New SLA incorporating Carbon Neutral aspirations	100% school travel plans (renewed 3 yearly)	Winter 2021

Energy Supply

Relevant Scope	Action	Measure of progress	Target	Target date
Heat supply	District heat networks: complete techno-economic feasibility studies and develop plans for commercialisation	Clarity of commercial viability Investment in place	Commercialisation stage underway, to be funded by BEIS' HNDU, or ESCO identified that will commit to commercialise the network(s).	Apr-22
Heat supply	Pilot Ground Source Heat Pump ambient loop network in Private Sector Housing subject to business case.	Progress on project programme	Install at least one pilot network subject to business case	Dec-24
Renewable electricity	Solar Together: Participate in London-Wide Scheme to support installation of solar panels on residential properties and any other similar initiatives	Number and Capacity of PV installations	100 installations, 150kW capacity	Mar-22

Circular Economy

Relevant Scope	Action	Measure of progress	Target	Target date
Household waste	Reduce waste	% reduction of waste quantity/ household (baseline: 972kg municipal waste/household 2019-20)	Aspirations: 632kg municipal waste/ household (35% reduction)	2030
Household waste	increase recycling	% household recycling rate (baseline 33.2% 2019-20)	Aspirations: 70% recycling rate	2030
Local food and food waste reduction	Work with organisations across the borough to procure and operate within the Good Food in Greenwich guidelines; promoting sustainable, healthy and affordable food and food waste reduction	Food environments KPIs re GFiG charters (coverage based)	Support 25 settings to implement the Good Food in Greenwich Charter Engage 30 new partners annually	Annual target

			to be part of the GFiG partnership Support 20 settings annually to make GFiG pledges.	
Food waste reduction	Track use of surplus food by the Greenwich Food Action Alliance	Weight of surplus food. Number of food alliance members.	To be confirmed when accurate data is available (expected in late 2021)	Annual

The Natural Environment

Relevant Scope	Action	Measure of progress	Target	Target date
Parks maintenance	Reduce parks emissions - via transfer to battery-operated hand-tools from 2-stroke hand tools	% of hand-tools that are battery-operated	100% of hand tools are electric by 2030 and 25% of hand tools are electric by 2023	2030
Tree-planting	Tree-planting	Number of trees planted from Nov 2021	300+ new trees	Winter 2022
Biodiversity enhancement	Conservation Grass Programme	Hectares of conservation grassland (During 2021 we have introduced new conservation grass areas into 16 large parks and now have 26 park/cemetery conservation grass areas that equates to approximately 35% -40% of the RBG parks green space)	Accurately measure area of parks and cemetery spaces maintained as conservation grass areas and fine tune maintenance regime to ensure enough space for recreation Review RBG Housing Estates maintenance programs to identify opportunities for new conservation areas on Estates	Spring 2022 Spring 2023

Green waste as mulch	The Council's green waste will be managed and returned to the soil as mulch	<p>Tonnes of green waste returned to the soil.</p> <p>It has been estimated from previous years green waste that Parks recycles approx. 500 tonnes of green waste annually</p>	Introduction of a fob system to record the number of vehicles in and out of Holbrook Yard to get a more accurate measurement of the green waste recycled to ensure that Parks complies with the Environment Agency exemptions.	December 2021
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Empowering Wider Change

Relevant Scope	Action	Measure of progress	Target	Target date
Council Pension Fund investment	Transition from fossil fuels to sustainable investments	Investment in impact investment such as renewable infrastructure	Fully invest £42.5m within the LCIV Renewable Infrastructure Fund	Dec 2027
	Partner with other London Boroughs through the LCIV to create new sustainable investments	Officers to participate in seed investor group meetings to set up a low carbon equity fund	Launch LCIV low carbon equity fund	Jul 2022
	Measure the Carbon footprint of fund and develop reporting in line with the Taskforce on Climate Related Financial Disclosures (TCFD)	Report to the Pension Fund Investment and Administration Panel on initial engagement with investment managers and other providers regarding carbon foot printing	Appoint a provider to measure the carbon footprint of the fund	Dec 2022
Council Procurement	Integrate low carbon criteria into Council Procurement and achievement of Social Value	Low carbon criteria reported as part of the overall social value highlight report	Low carbon criteria reported as part of the overall social value highlight report	Autumn 2021
Council funding models	Develop innovative funding models to support carbon	Funding routes/models will need to be considered	Funding routes/models will need to be	Ongoing

	reduction - creating incentives for actions and taking account of whole life cost	on a project by project basis. Also, Finance is liaising with colleagues across London to review Green Finance opportunities.	considered and reported on a project by project basis.	
Climate change communication with schools	Items on best practice and carbon neutral funding opportunities are shared through the School's e-bulletin	Number of initiatives and best practice shared through the e-bulletin	1 item per quarter within the Schools e-bulletin	Ongoing
Management of Children's Services buildings	Incorporate Carbon Neutral aspirations within the development of the CS Property Strategy and Asset Management Plan.	Draft CS Strategy and Plan	Development of CS Strategy and Plan	Spring 2022
Integration of climate change education and building management in schools	Review of opportunity to include Carbon Neutral training within the Schools Direct Offer (to support the school curriculum and building management)	Identify training opportunities to include in the Schools Direct Offer	Review of Carbon Neutral training opportunities	Winter 2021
Carbon Reduction by Small and Medium Enterprises	Programme of business support for SMEs to reduce carbon emissions.	No. of Businesses engaged and adopting carbon reduction measures	A minimum of 150 Business Energy audits	Spring 2023
Low carbon technology skills development	Retrofit employment and skills brokerage to match contractors' needs to re-training opportunities and match unemployed residents to jobs/ apprenticeships.	No. of residents trained in Green Skills Destinations Tracking	<ul style="list-style-type: none"> • To delivery 2 pilot training cohorts up to 30 • Support 70% into onward employment, training or further learning 	Spring 2023
Low Carbon Job Creation	Develop a job creation scheme providing 6 month placements with training or Apprenticeships to support the Low Carbon Advice service/retrofit programme	No. of BEC Recruited	<ul style="list-style-type: none"> • Recruit up to 4 Kickstart funding Business Energy Champions recruited 	Spring 2023

Green Technology Research and Development	Work with HE partners to explore potential for an R&D Innovation hub to promote knowledge transfer/ business start-up around green technology.	Established KTP - Steering Group/Governance in place	Establish 1 KTP project working with 5 identified SMEs in the borough	Summer 2022
Local food growing	Promote and support community food growing opportunities across the borough.	Activities to support new food growing.	Support 10 community based organisations to develop food growing sites. Deliver 4 structured 4-week food growing training sessions per year.	Annual target
Sustainable food	Move from RBG as a bronze level 'Sustainable Food Place' to Silver level	Level achieved	Achievement of silver	Winter 2021/22
Local food growing	Promote and support food growing opportunities in educational settings - children's centres/schools	Number of children's centres supporting growing/gardening opportunities. Number of schools engaged in the Food for Life accreditation programme. Number of schools adopting the Good Food in Greenwich schools' model.	All children's centres supporting growing/gardening. 10 schools with bronze level FFL. New Good Food in Greenwich model developing - target to be agreed.	Annual target
Engagement in tackling climate change of organisations across the borough	Develop Carbon Neutral Commitment through Partner Organizations	Number of organisations with pledges/commitments	10 by March 2022	Annual target to be set