

WATERLOO AND SOUTH BANK FUTURE NEIGHBOURHOODS 2030 STRATEGY

NOVEMBER 2022



01

INTRODUCTION

PAGE 3

02

OVERALL VISION

PAGE 8

03

**VISION AND
OBJECTIVES**

PAGE 15

04

**DELIVERING THE
STRATEGY**

PAGE 45

05

NEXT STEPS

PAGE 47

06

APPENDIX

PAGE 49

Images have been supplied by Lambeth London Borough Council

01

INTRODUCTION

INTRODUCTION

FOREWORD

The challenges for London, Lambeth and particularly the Waterloo and South Bank area are rapidly coming into focus. What we do today will shape what the future looks like for one of London's most iconic locations which embraces change but seeks to preserve its unique history. As we move into a defining era for London, our borough and our climate, it is vital that we take action to protect our future and that of coming generations.

The environmental challenges facing the Waterloo and South Bank area are significant. Its riverside location means it is susceptible to flooding from the Thames and the lack of canopy cover and green space means the urban heat island effect poses a real danger to at-risk residents. Unsustainable levels of traffic moving within and passing through the area mean that poor air quality and road danger remain major issues, particularly harming older, younger and disabled people.

However, we know that Waterloo thrives through its partnerships. Several institutions and organisations anchored in the area already play a key role in Lambeth's Climate Partnership Group. There is an active neighbourhood forum in the form of South Bank and Waterloo Neighbours (SoWN) who have a Neighbourhood Plan. The multitude of businesses in the area are represented by two Business Improvement Districts in the form of WeAreWaterloo BID and South Bank BID. These institutions are all members of the South Bank and Waterloo Partnership.

The area is home to a world class cultural and artistic offering which attracts 30 million visitors every year and contains several internationally recognised institutions. It is in the Central Activities Zone with a significant office base catering to the council's key growth sectors, including the green economy. Its station is one of the busiest in the UK with over 100 million visitors passing through each year, and it is a growing residential neighbourhood with significant social housing, anchor institutions and community groups.

Waterloo and South Bank area's unique position as a hub for business, culture and residents and a place with significant partnerships makes it perfectly placed to deliver a net-zero Future Neighbourhood by 2030, building on the work already in place.

This Future Neighbourhoods 2030 strategy sets out how Waterloo and South Bank aims to tackle the effects of the climate crisis and become a net-zero neighbourhood. We believe that this could be an exemplar for the borough, with the lessons learned potentially replicated in other neighbourhoods across Lambeth and London more widely.

We look forward to working with partners in Lambeth's hospitals, universities, housing providers, cultural institutions, business community, and community groups to make a Waterloo and South Bank a healthier and safer net-zero neighbourhood.



**COUNCILLOR CLAIRE
HOLLAND
LEADER OF LAMBETH
COUNCIL**



**GILES GODDARD
VICAR OF ST JOHN'S
CHURCH & CHAIR OF SOWN
ENVIRONMENT GROUP**

INTRODUCTION

AIMS OF THE STRATEGY

This Strategy and Action Plan which sets out how Waterloo and South Bank will become a net zero neighbourhood by 2030 has been enabled by the Mayor of London's Future Neighbourhoods 2030 programme.

Its unique status as a whole-neighbourhood approach to becoming net-zero has been produced in a collaboration between Lambeth Council, South Bank and Waterloo Neighbours (SoWN), the area's two Business Improvement Districts and stakeholders across the area through significant community engagement.

This Strategy aims to enable businesses, cultural institutions and residents to support the transition to a net zero neighbourhood by 2030, in accordance with the borough's Climate Action Plan and the wider Waterloo and South Bank 2030 Strategy. The Steering Group for the project includes representatives from SoWN's Environment Group, South Bank BID, WeAreWaterloo BID and Lambeth Council.

The Mayor of London set up the Future Neighbourhoods 2030 programme to help deliver the London Recovery Board's Green New Deal mission. The Green New Deal's aims are to:

- Improve London's natural environment, improve air quality and tackle the climate and ecological emergencies;
- Promote and incentivise activities that sustain and grow London's green economy;
- Prioritise interventions reducing health inequalities and social injustices;
- Engage Londoners and businesses in their journey to become a zero pollution and greener city.

Acknowledgements

We would like to thank the local residents, young people, organisations, businesses and community groups who provided insights and ideas for the development of this Net Zero Strategy for Waterloo and South Bank.



INTRODUCTION

OBJECTIVES OF THE STRATEGY



To establish what environmental issues need to be tackled in Waterloo and South Bank



To accelerate the status of Waterloo and South Bank as a net zero neighbourhood



To co-create this strategy and action plan with local communities

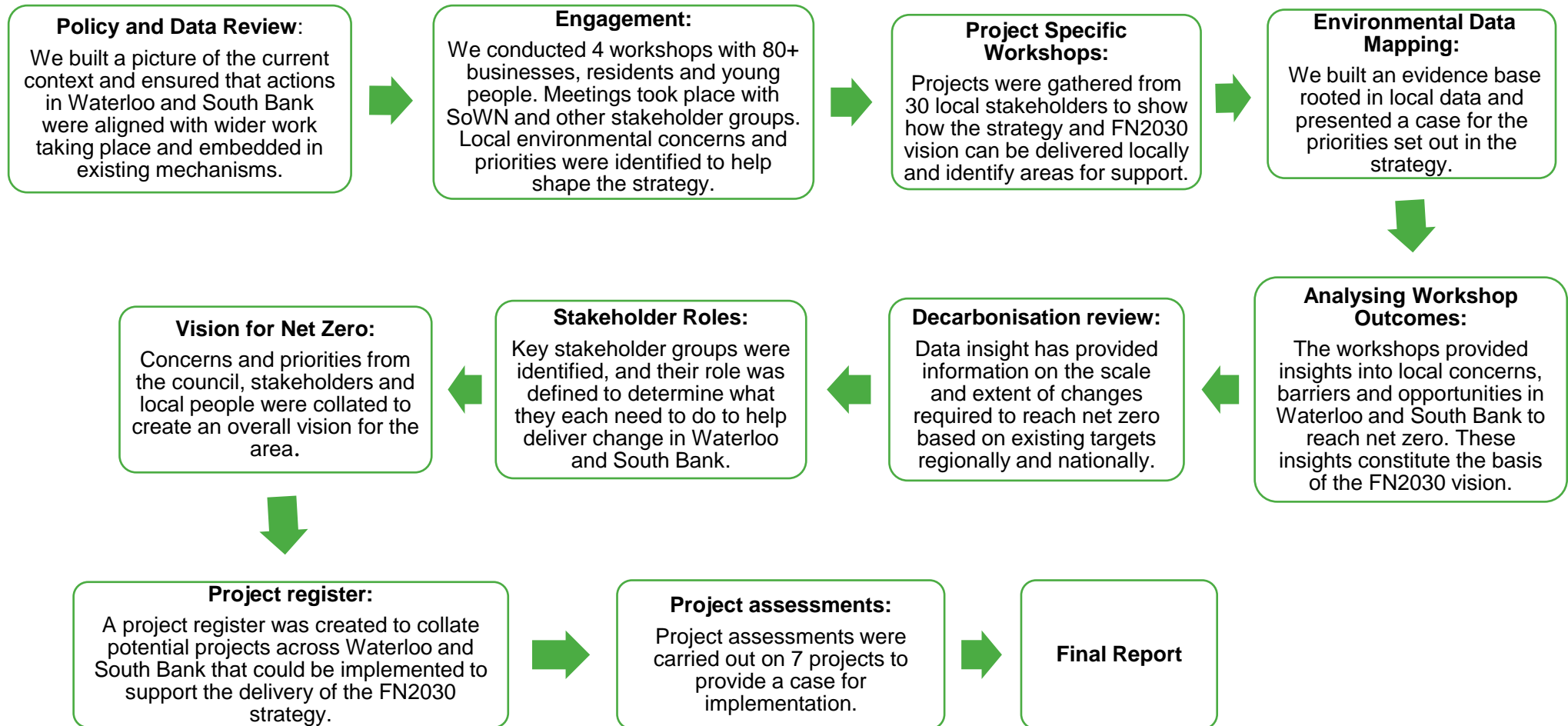


To create a costed action plan which can be used to bid for future funding

INTRODUCTION

PROCESS FOR CREATING THE STRATEGY

The following process has been used to develop this strategy, to ensure it is grounded in a strong evidence base and that it incorporates the views and priorities of local people.



02

OVERALL VISION

OVERALL VISION

VISION FOR NET ZERO

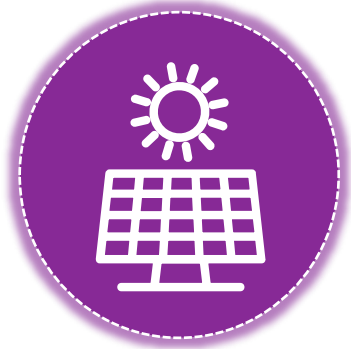
By 2030, Waterloo and South Bank will be a net zero and resilient neighbourhood, where local communities will be inclusive, greener, healthier and thriving.

This will be achieved by focusing on the 5 sectoral themes identified below which align with the sectoral themes set out in the Future Neighbourhoods 2030 programme:

Retrofitting homes, commercial and public buildings



Creating a decarbonised, smart and integrated energy system



Improving air quality and creating zero emission zones



Climate adapted, resilient and green neighbourhoods



Zero waste circular economy



OVERALL VISION

WATERLOO AND SOUTH BANK PROFILE



Waterloo and South Bank ward (formally known as Bishop's) is situated in the northern tip of the London Borough of Lambeth.

The total territorial carbon footprint of the ward is 128,446 tCO₂e (see Figure 1) which is the equivalent to 21 tCO₂e per household. This footprint represents emissions that are produced within the Waterloo and South Bank ward. The majority of emissions come from the industrial and commercial sector, totalling 55%, followed by road transport at 18%.

The statistics below show the demographic and social characteristics of Waterloo and South Bank which have been considered in the development of this strategy.

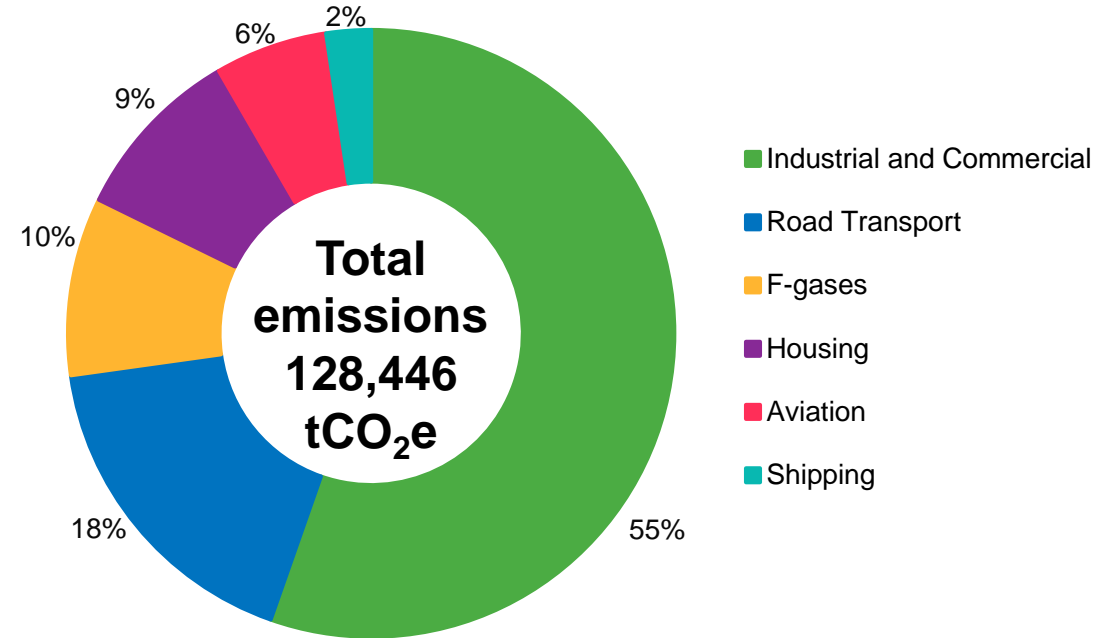


Figure 1. CSE (Centre for Sustainable Energy) Impact Tool estimate of the territorial carbon footprint of Waterloo and South Bank with a breakdown of the emissions per sector¹. F-gases are man-made gases used in industrial processes.



Population in 2020 was 13,117²



Highest population age group in 2020 was 23 year olds (731)²



Population density in 2011 was 95.1 persons per hectare (England's average was 4.3)³



30 million visitors annually pre-pandemic⁴



Home to large office spaces and several national cultural institutions



Home to a large, established community³

OVERALL VISION

BASELINE AND PRIORITIES

There are several characteristics specific to the area that need to be considered for achieving the goal of a net zero neighbourhood by 2030:



3rd and 4th most deprived decile according to the CDRC's Index of Multiple Deprivation¹



Some areas lack tree canopy cover and access to green space. The area experiences heat island effects and poor air quality²



5% of households lack central heating (London, 3%)²



Children in relative low-income families in 2019 was at 15% (England, 19.3%)³



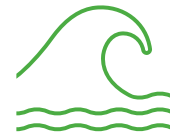
The Black, Asian or Multi-Ethnic (BAME) community makes up 43% of the population⁴



12% of the population state that their day-to-day activities are impacted by either a health problem or a disability⁴



There are slightly more male than female residents (50.5% to 49.5%)⁴



At significant risk from climate change, including flooding from sea level rise⁵



Stakeholder priorities and concerns

- There are multiple actors who need to be considered in establishing the neighbourhood's vision to 2030.
- Existing networks of stakeholders should be utilised to achieve this vision collectively.
- Addressing resilience to the impacts of climate change should be a priority, as well as mitigation actions.
- Future development in the area should consider the vision set out in this FN 2030 Strategy and adhere to the Lambeth Local Plan's policies on Environment and Green Infrastructure. Opportunities for re-using existing assets should be explored.
- Use net zero as an opportunity to deliver multiple co-benefits to address other challenges in Waterloo and South Bank.
- Prioritise actions that benefit local residents and communities.
- Build and expand the cluster of businesses in the low carbon sector.
- Set an example to others of what a net zero neighbourhood looks like.
- Build community cohesion by supporting local projects.

OVERALL VISION BASELINE AND PRIORITIES

Sustainable businesses

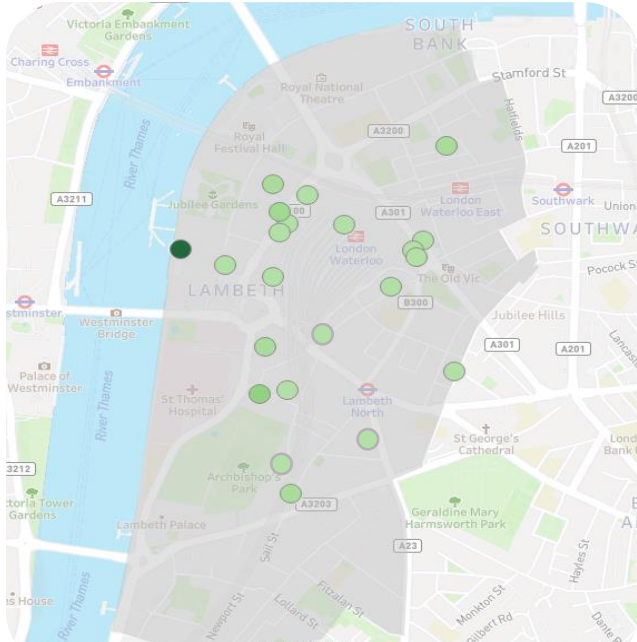


Figure 2. Sustainable businesses in the Waterloo and South Bank area covering 46 different sectors including clean technology and energy generation and waste management services ¹.

The map highlights the clusters of sustainable businesses and the opportunity to develop the low-carbon sector

Land ownership

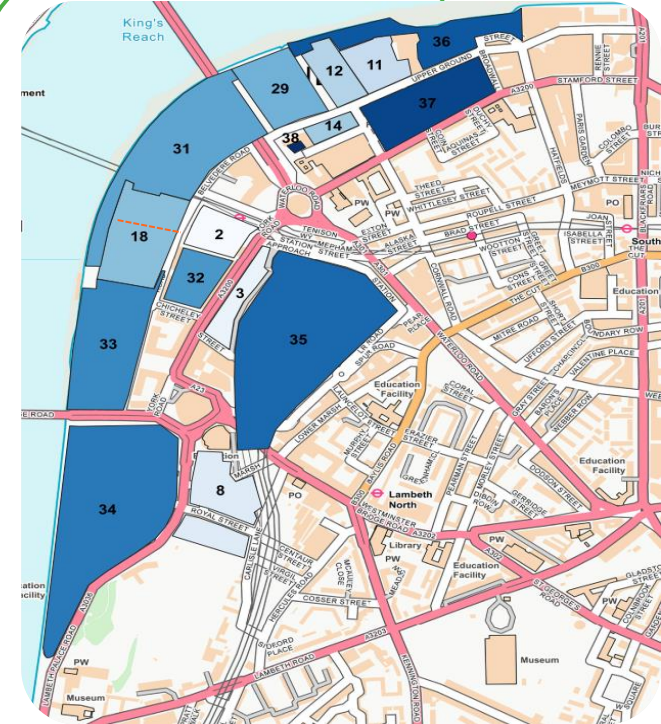


Figure 3. Land ownership across Waterloo and South Bank. Map ID references for landowners can be found in Appendix 2 alongside caveats with the dataset ².

There are many different landowners across Waterloo and South Bank which will need to be considered in projects.

Deprivation

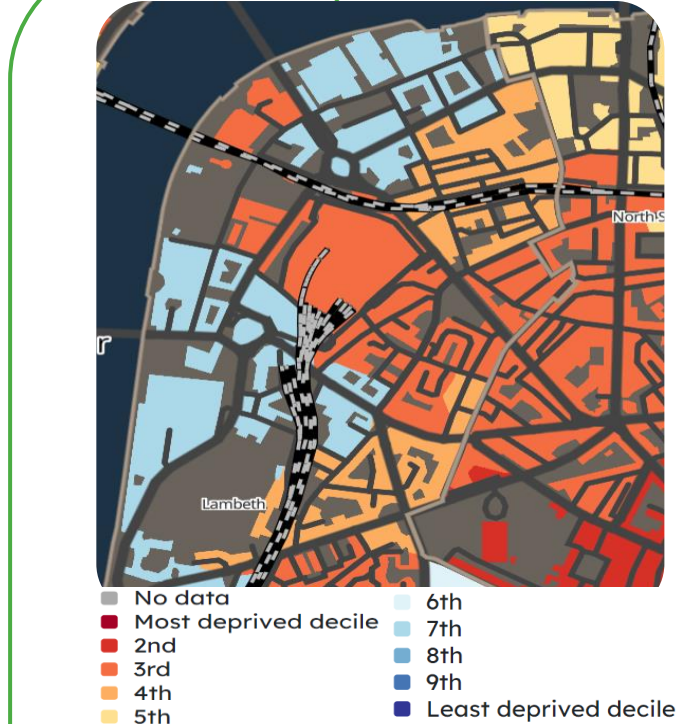


Figure 4. Areas of deprivation (in deciles) across Waterloo & South Bank ³.

Levels of deprivation vary across the ward, with the most deprived areas east of Waterloo Station. They should be prioritised for measures which have wider socio-economic benefits.

OVERALL VISION

RELEVANT NET ZERO POLICIES AND PLANS

National: UK

- [Net Zero Strategy: Build Back Greener](#): Sets out policies and proposals for decarbonising all sectors to meet the net zero target by 2050.
- [National Planning Policy Framework](#): Sets out planning policies for England, three of which cover how to achieve sustainable development, promoting sustainable transport and conserving and enhancing the natural environment.

Regional: Greater London Authority

- [A Green New Deal](#): This plan is still in consultation and development; however, it has the mission to tackle the climate, ecological emergencies and improve air quality by 2030.
- [London Environment Strategy](#): Seeks to deliver a zero-carbon city.
- [Pathways to Net Zero Carbon by 2030](#): London plans to be net zero carbon by 2030. This report outlines the possible pathways to achieving net zero.
- [London Plan 2021*](#): Sets out policies to inform planning applications for sustainable development across Greater London.

Local: Lambeth Council

- [Lambeth's Climate Action Plan](#): This sets out a vision and 20 goals to achieve a net zero and climate resilient borough by 2030.
- [Lambeth Council Corporate Carbon Reduction Plan](#): Action plan that sets out how to get the council's carbon emissions to zero by 2030 and council's operations carbon neutral by 2030.
- [Lambeth Local Plan 2020-2035*](#): Sets out the way to achieve sustainable development through economic, social environmental objectives.

Community: Waterloo and South Bank

- [South Bank and Waterloo Neighbourhood Plan*](#): Establishes local people's concerns about how the area is developing and their aspirations for the future.
- [WeAreWaterloo Climate Action Plan 2022](#): An assessment of the work currently happening in WeAreWaterloo BID's area and a statement of intent for how the BID can play its part in becoming net-zero by 2030.

OVERALL VISION

STAKEHOLDERS - ROLES AND RESPONSIBILITIES

All stakeholders have the role of leadership; this means setting an example by transparently reporting, reducing emissions from operations and services and engaging with staff, customers and suppliers. Some stakeholder groups however have a particular role or area of influence which could be used to support Waterloo and South Bank meeting its 2030 vision.



Council / Government Bodies

Stakeholders: Lambeth Council, Greater London Authority, TfL and Central Government.

Key roles:

Policy - legislation, planning and other strategies to drive change.

Funding - Providing grants, applying for funding to support implementation.

Guidance/education - Signpost information, educate the public and organisations.

Lobbying - Lobby other government bodies, businesses etc to act.

Key influence areas:

Own operations - Reducing emissions associated with owned buildings, fleet, waste etc.

Service provision - Reducing emissions associated with service provided.

All sectors - Ability to influence all sectors through place-making, policy, education etc.



Property

Stakeholders: Southbank Centre, Coin Street, Canary Wharf, Peabody, Bourne Capital, HB Reavis, Stanhope, Mitsubishi Estates, NHS Estates, Guys and St Thomas' Foundation.

Key roles:

Engagement - Large tenant / visitor base to engage with and advise.

Key influence areas:

Retrofit - Improving existing properties where possible.

Development - Using low carbon materials and reducing embodied carbon by building properties to operate as low carbon where possible, in line with Lambeth's Local Plan and the SoWN Neighbourhood Plan. Also, considering transport links, waste and green space provision on new sites.

Carbon offset - Contribute Section 106 Carbon Offset funds as required by the London Plan and Lambeth Local Plan.



Education

Stakeholders: London South Bank University, Morley College, Kings College London (KCL) and Lambeth Schools Partnership.

Key roles:

Engagement - Large student base and staff.

Education - Providing education on climate change and including in courses.

R&D - Research into climate solutions.

Public sector funding - Accessibility to grant funding.

Key influence areas:

Property - Number of large properties and large energy user so opportunity to reduce demand.

Technology - Contributing to the research and development of tech and efficiency.



Healthcare

Stakeholders: Guy's and St Thomas' NHS Foundation Trust and Guy's and St Thomas' Foundation.

Key roles:

Networks - Using networks of health organisations to share knowledge and resources.

Engagement - Large staff base and number of visitors to raise awareness.

Key influence areas:

Estate/Energy - Particularly big energy users. Own large property, with heat network potential.

Travel - Large volume of travel to and from sites.

Co-benefits - Highlight the links between climate and health e.g. green social prescribing, air quality.

OVERALL VISION

STAKEHOLDERS - ROLES AND RESPONSIBILITIES



Culture

Stakeholders: Southbank Centre, National Theatre, Old Vic, Young Vic, Rambert, The Vaults, Waterloo East Theatre, VAULT Festival, BFI.

Key roles:

Engagement - Large audience base to engage, ability to use art and culture to communicate climate issues.

Leadership - Being an example of best practice to other institutions.

Key influence areas:

Travel – Huge audience numbers travel to and from shows.

Reuse - Consumption of materials likely to be high so explore reuse/recycling.

Buildings - Improve the energy efficiency of commercial properties.



Community/Voluntary Organisation

Stakeholders: South Bank and Waterloo Neighbours, Oasis, Coin Street Community Builders. Waterloo Action Centre, and religious institutions.

Key roles:

Engagement - Trusted source for community and help to convene people.

Education - Raising awareness and integrating with other education.

Key influence areas:

Community projects- Community projects that direct benefits back to the community or make use of economies of scale e.g. community energy.



Residents

Stakeholders: All residents including young people.

Key roles:

Behaviour change - Change to lifestyle or consumption choices. Part of wider cultural shift.

Lobbying - Asking for changes, voting, holding others to account, engaging with local decision-making processes.

Engagement - Communicating changes with communities and sharing knowledge.

Key influence areas:

Homes - Reducing emissions from energy use at homes.

Travel - Travelling more sustainably.

Consumption - Reducing consumption and buy greener products/services.

Waste - Reducing waste, reusing and recycling more.



Businesses / Organisations

Stakeholders: WeAreWaterloo BID, South Bank BID, South Bank Employers' Group, SC1, hotels and SMEs.*

Key roles:

Networks - Share knowledge, for example through BIDs.

Sector initiatives - Take advantage of initiatives for businesses e.g. SBT, B-Corp.

Sponsorship - Sponsoring events, innovation or community projects.

Engagement - Large staff and supplier base when taken together.

Key influence areas:

Buildings - Improve the energy efficiency of commercial properties.

Travel - Moving of products, supplies and people by sustainable travel modes.

Production/ Consumption - More efficient and less carbon intensive production or consumption of low carbon products.

Supply chain - Addressing and engaging with supply chain emissions.

Land use - Create, improve and maintain green space across private/public land.

OVERALL VISION

STAKEHOLDERS - PRINCIPLES

Achieving a net zero neighbourhood in Waterloo and South Bank by 2030 requires all stakeholders to engage with the aim and work collectively towards the vision. The following principles set out how this can be done:

1

Organisations work collaboratively towards achieving the collective aim within the South Bank & Waterloo Partnership, SoWN or the Business Improvement Districts

2

Residents, visitors or service users are aware of organisational efforts to reach the 2030 net zero goals through regular and coordinated communications

3

Residents are able to meaningfully engage with and influence organisations' proposals to respond to the climate emergency

4

Organisations engage with and work towards the Climate Action Plan goals and establish where links can be made between organisations to have an increased impact

5

Organisations provide or pool resources to add value and contribute to achieving the FN 2030 vision and Climate Action Plan Goals where possible

OVERALL VISION

STAKEHOLDERS – THE POWER OF PARTNERSHIP

Waterloo and South Bank is an area with established, strong and deep-rooted partnerships which have collectively responded to the challenges the area faces, and continue to respond dynamically to these and any challenges including the climate crisis.

South Bank and Waterloo Neighbours (SoWN) is a voluntary community body that represents residents, workers, businesses of all sizes and voluntary organisations. SoWN wrote the Neighbourhood Plan which was formally approved in February 2020 and which included significant consultation with the community.

The **South Bank and Waterloo Partnership**, which has been in existence since 1995, brings together key public and private stakeholders in the area and sets out a manifesto for the area. This includes the London Boroughs of Lambeth and Southwark, Transport for London and the Greater London Authority, as well as the two Business Improvement Districts, South Bank Employers' Group, developers and a range of other organisations.

More recently, several stakeholders in the Waterloo and South Bank area have come together through the **Climate Partnership Group** to collaborate, learn, and support one another to deliver the borough's ambitious Climate Action Plan.

The power of the partnership lies in the amplified efforts of the collective, whether that is through leveraging funding or leveraging national attention to an issue.

We have seen this first hand in the response to the Covid-19 pandemic which was a significant threat to the area's location and status as a tourist destination which has several world-leading cultural institutions. The South Bank and Waterloo Partnership rapidly gathered and produced a Recovery Plan to address this challenge to the area which set out how the area and its unique economy could remain resilient.

Through this, we know that the partnership which exists in the area is also best placed to tackle the climate emergency.



03

VISION & OBJECTIVES

VISION AND OBJECTIVES

THE SCALE OF THE AMBITION

We know that the scale of the challenge is immense, and that Waterloo and South Bank faces its own unique challenge in responding to the climate emergency. The cost of living and trading crises can pose a risk to the ability for organisations to think long-term, and with an incoming recession, we know that the opportunity for funding our ambition is difficult.

However, **the scale of the challenge is matched by the scale of the ambition which we share.**

We know that by working together in partnership, we can amplify our efforts and contribute to significant, wide scale change in Waterloo and South Bank which caters to all those who work, live or visit here in line with our vision for a net zero future.

Navigating this section

This section provides a vision statement for each of the FN2030 sectors based on engagement with local people and business, as well as data available for the area. Each theme includes baseline data analysis and identified priorities which form the evidence base as well as analysis of local, regional and national policy. Based on this information and the vision, objectives and action areas are defined. This includes a suggested target based on research of existing carbon reduction and environmental targets. Required actions have been defined based on input from stakeholders and examples of best practice. This does not capture every possible action but provides an idea of the types of actions necessary. Similarly, a project spotlight has been added to highlight projects which could support these objectives. The barriers and opportunities identified by stakeholders are also summarised.



RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

Overall vision

Waterloo and South Bank has several successful retrofit or reuse projects which can be used as case studies for the rest of the borough. Support is provided to residents and businesses to retrofit or reuse existing properties so that homes and commercial properties in Waterloo and South Bank are energy efficient, alleviating fuel poverty and reducing energy bills. The community feel listened to in decision making on large-scale retrofit, reuse and new developments.



RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

BASELINE AND PRIORITIES

Domestic Energy Efficiency Improvements

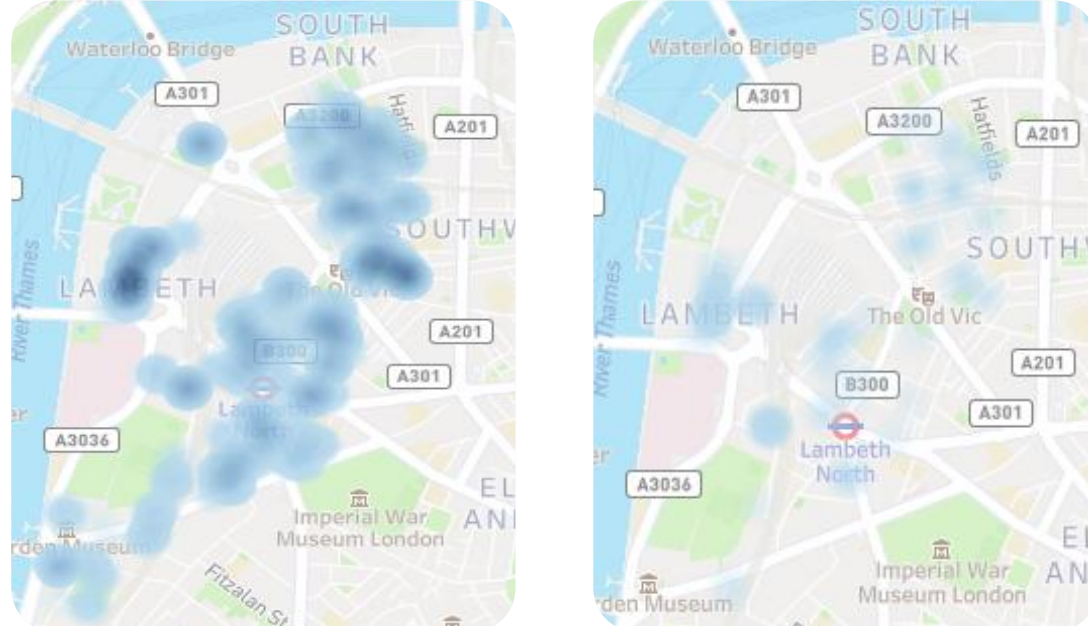


Figure 5. Domestic properties with an EPC (Energy Performance Certificate) rating of D and below. Banding DE is shown left and FG right. Each blue circle represents an address for a building. This aims to highlight the number of properties with low energy efficiency which could be prioritised for retrofitting measures.

Energy efficiency improvements and retrofits should be prioritised for domestic properties with poor energy efficiency ratings (below EPC C). These energy inefficient buildings are dispersed across Waterloo and South Bank, with some areas (e.g. west of the ward) having a higher number of properties than others.

Domestic Energy Efficiency Improvements

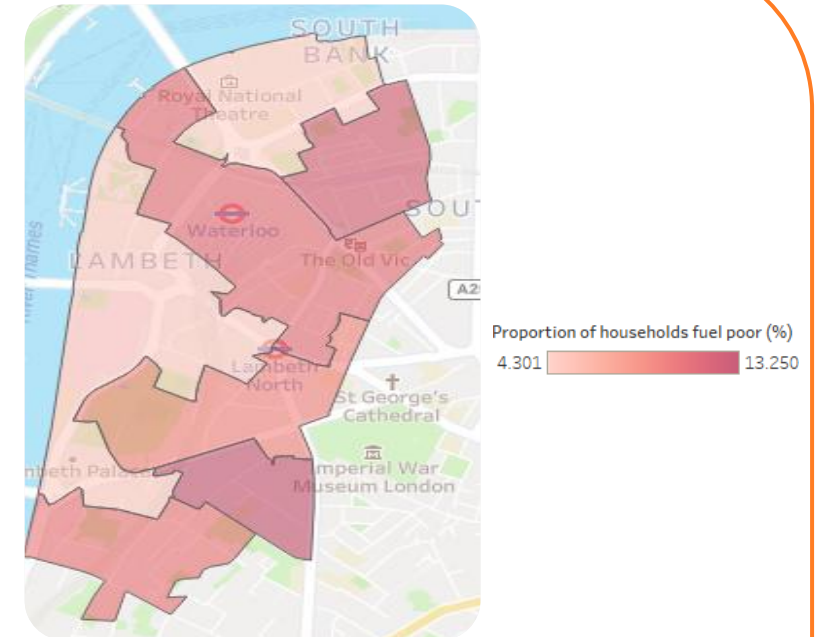


Figure 6. Percentage of households which are fuel poor as a proportion of the LSOA (Lower-layer Super Output Areas) ². This aims to highlight the areas with high fuel poverty.

Areas of high fuel poverty are situated on the eastern side of the ward. Where these high areas intersect with low EPC rated buildings, is where retrofitting measures should take priority.

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

BASELINE AND PRIORITIES

Non-Domestic Energy Use

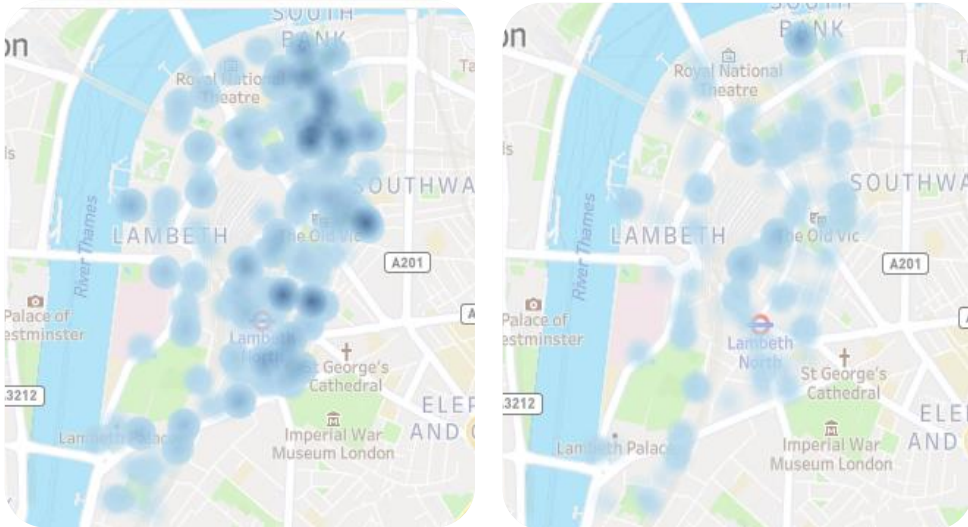


Figure 7: Non-domestic properties with an EPC rating of D and below. Banding DE is shown left and FG right. Each blue circle represents an address for a building. This highlights hotspots of particularly low energy efficiency in non-domestic buildings ¹.

*National Theatre has a DEC rating of B which includes the car park below.

Across the ward there are a number of non-domestic buildings which have an EPC rating of D or E, the majority are located in the East. Non-domestic buildings with the lowest ratings of F and G are dispersed across the ward. These low EPC rated buildings indicate where retrofitting is most needed.

New developments planned



- Committed
- Concept / pre planning
- Complete
- Existing / in construction

Figure 8. New developments identified in Waterloo and South Bank and their stages of construction. This highlights the number of new developments planned ².

There are 19 new developments, all of which are at different stages of their process. This highlights how the Waterloo and South Bank area is growing and that carbon impact also need to be considered for new developments.

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

BASELINE AND PRIORITIES

Summary

The data indicates that the energy efficiency of both domestic and non-domestic properties in Waterloo and South Bank should be improved, with existing challenges around housing conditions and households in fuel poverty. There are also concerns around the affordability of housing with a large rental market. Several new developments are proposed or are in progress in the area, which highlights the complex nature of Waterloo and South Bank as an area in the Central Activities Zone.

Affordability and Fuel Poverty

12%
of households are in fuel poverty ¹

3.14
score on housing affordability in 2016 (England's average is 0.04; Lambeth's is 2.62) ²

32.5%
of households are in privately rented housing (2011 Census) ²

Domestic Energy Efficiency

0.206
score for housing in poor condition, which is higher than Lambeth and National average ²

EPC C
is the average rating of domestic buildings ³

722
properties have potential to increase their energy performance certificate rating from C to B ³

Non-domestic Energy Efficiency

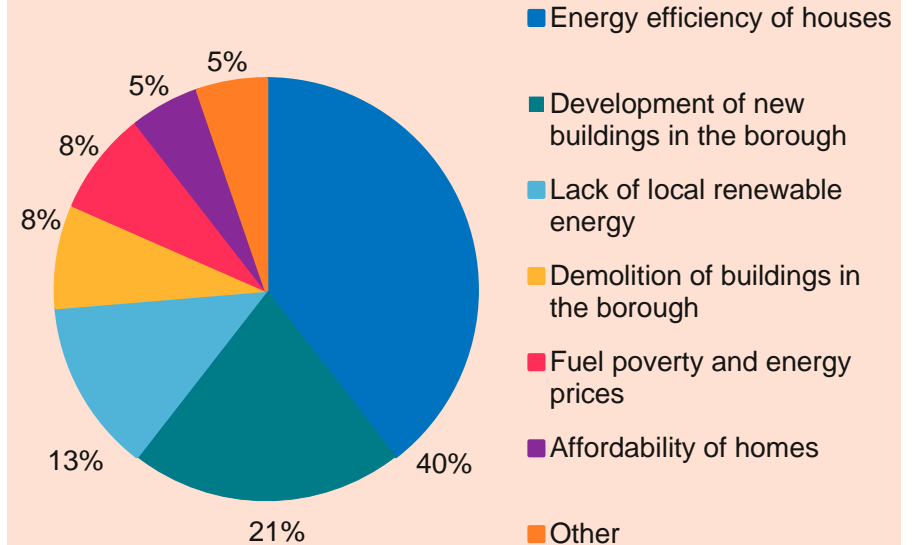
112
non-domestic buildings are EPC rated C and below ³

EPC D
is the average rating of non-domestic buildings ³

Protected Buildings

225
Grade listed I and II buildings in Waterloo and South Bank ⁴

Greatest concerns from residents and businesses



Priorities from stakeholders:

- Reduced construction emissions
- Affordable housing for the local community
- Investment to retrofit existing properties where possible
- Retrofit and reuse over demolition, where possible in line with Planning Policy
- Developments aligning to sustainability goals in the Local Plan and Neighbourhood Plan

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

KEY PLANS AND POLICIES

National: UK

- [Clean Growth Strategy](#): Majority of homes to be upgraded to EPC band C by 2035 and those in fuel poverty by 2030.
- [Future Homes Standard](#): Future-proof new builds (low carbon heating and high energy efficiency). Upcoming ban on gas boilers by 2025.
- [Net Zero Strategy 2021](#): Lays out the Government's key policies for net zero buildings, including helping businesses and households reduce energy bills.
- [UK's National Planning Policy Framework \(2019\)](#): States that planning should support the transition to a low carbon future.

Regional: Greater London Authority

- [Warmer Homes Programme](#): Grants for retrofit improvements for low-income homeowners who own their own homes or rent privately.
- ['Be Seen' Plan](#): New developments to monitor and report on their actual operational energy performance for up to 5 years after completion.
- [Whole Life-Cycle Assessments](#): Sets out guidance for tackling the embodied carbon of buildings.
- [London Plan](#): Outlines net zero targets for new developments and further targets for emissions reductions beyond national policy for domestic buildings.

Local: Lambeth

- [Lambeth's Climate Action Plan](#): Includes goals on retrofit of properties where possible, reaching EPC C by 2030 and alleviating fuel poverty.
- [Lambeth Local Plan](#): Retrofitting existing buildings to contribute to adapting to climate change. It also requires new builds to meet carbon reduction requirements.
- [Economic Resilience Strategy 2](#): Low Carbon Recovery Action Plan which sets out short, medium and long-term targets for the retrofit programme.
- [Lambeth Council Corporate Carbon Reduction Plan](#): This outlines plans for the retrofit of public buildings and council-owned housing stock.






Community: Waterloo and South Bank

- [South Bank and Waterloo Neighbourhood Plan](#): Outlines the priorities for housing in the area, particularly the need for affordable housing and provision for local people.

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS





CHALLENGES AND OPPORTUNITIES

The following challenges and opportunities were identified by local residents, youth groups, businesses and organisations while developing this strategy.

	Challenges	Opportunities
	Physical/ Technical <ul style="list-style-type: none"> • Disruption to homes when installing retrofit measures • Retrofitting measures can be very carbon intensive 	<ul style="list-style-type: none"> • Rethink the purpose of buildings when retrofitting • Prioritise social housing for improving insulation
	Policy <ul style="list-style-type: none"> • Understanding of building restrictions and planning process • Embodied carbon considered 	<ul style="list-style-type: none"> • Neighbourhood Planning
	Financial <ul style="list-style-type: none"> • Affordability of retrofitting and energy efficient measures 	<ul style="list-style-type: none"> • Explore low cost, high impact interventions to reduce energy waste e.g. the installation of LED lights • Exploring opportunities to use CIL or S106 contributions towards FN 2030 initiatives where possible • Collaboration/ sponsorship to help bring funding for projects • Applying for SHDF / PSDF
	Community/ Culture <ul style="list-style-type: none"> • Challenges for tenants where properties are not owned • Limited control over central heating and hot water in flats • Communal usage can restrict individual encouragement to make reductions • Noise associated with energy efficient measures 	<ul style="list-style-type: none"> • Explore smaller, community led approaches • Bulk buying for communities may make it more affordable
	Skills/ Knowledge <ul style="list-style-type: none"> • Understanding the right climate measures and actions to take • Providers of retrofit services are limited 	<ul style="list-style-type: none"> • Map of green skills education providers to understand where employers can find people/ share knowledge and fill gaps • More information on retrofitting homes and what materials are available

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

OBJECTIVES AND ACTION AREAS

	 Homes	 Non-domestic buildings	 Reuse	 Construction
Objective	Improve the energy efficiency of homes and prioritise support for low efficiency and fuel poor homes	Reduce the energy demand of commercial & public sector buildings	Explore options for reusing existing buildings	Reduce emissions from new buildings and construction
Potential Target	Reduce fuel poverty and the number of properties EPC rated below C ¹	Retrofit all non-domestic buildings to an average of EPC level C or higher ¹	Reduce the number of buildings that are demolished by increasing reuse	100% of major new developments to be net zero carbon ²
Actions needed	<ul style="list-style-type: none"> • Whole house retrofits • Energy efficiency measures • More efficient heating systems and appliances • Behaviour change <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Retrofit skills training • Accessing retrofit financing 	<ul style="list-style-type: none"> • Retrofit and energy efficiency measures • More efficient heating systems and appliances • Behaviour change <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Study outlining payback period for larger investments • Retrofit skills training • Study of improvements to listed buildings 	<ul style="list-style-type: none"> • Refurbish and retrofit properties to high energy efficient standards where possible, in line with planning policy <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Community consultation • Consider embodied carbon in development proposals, in line with planning policy 	<ul style="list-style-type: none"> • Meeting high energy efficiency standards such as BREEAM, Passivhaus etc • Using sustainable materials <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Considering embodied carbon emissions • Training/guidance for developers
Projects spotlight	Future: Retrofit of fuel poor homes	Proposed: London Nautical School retrofit Future: Retrofit of cultural buildings	Current: 76 Upper Ground redevelopment	Proposed: LBL construction emissions alert and response system pilot project

CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM

Overall vision

Waterloo and South Bank residents and businesses use affordable, low carbon sources to heat their homes and properties. There is diverse local renewable electricity generation which provides clean energy to Waterloo and South Bank and benefits the local community.



CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM BASELINE AND PRIORITIES

Heat network opportunities

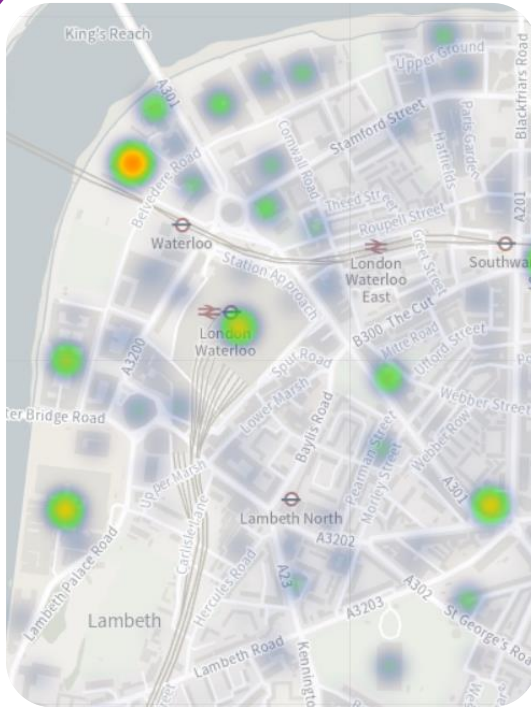


Figure 9. Heat density map displaying the largest annual heat demand (MWh) users across Waterloo ¹.

There are a number of large heat users in Waterloo and South Bank, which may provide an opportunity for a localised heat network.

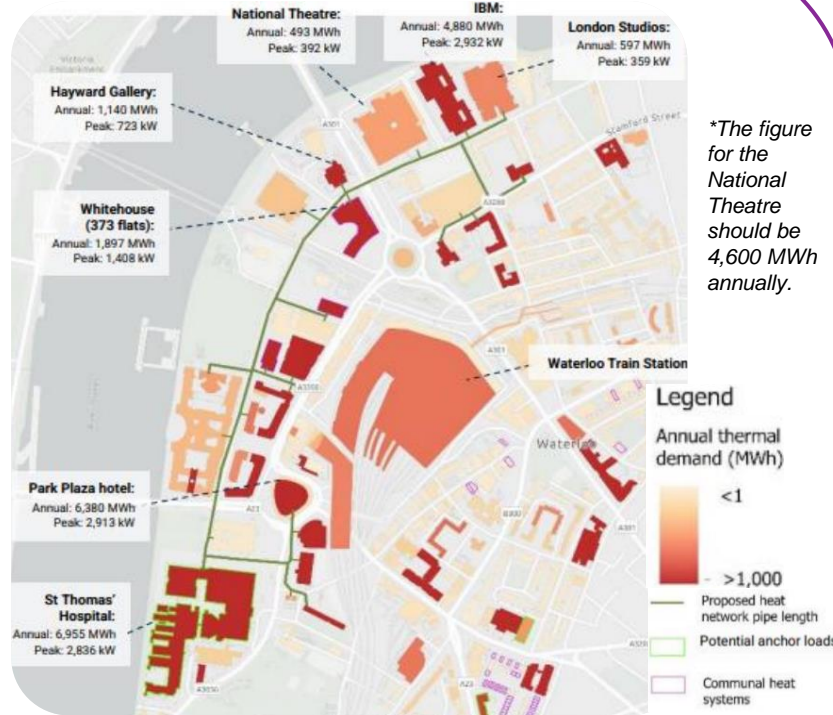


Figure 10. Analysis conducted by the Carbon Trust on potential heat network pipeline (green lines) connecting to large commercial buildings with high heat demand density ². There are challenges associated with installing heat networks, including the high cost to implement which would need to be considered.

*The figure for the National Theatre should be 4,600 MWh annually.

Solar site opportunities

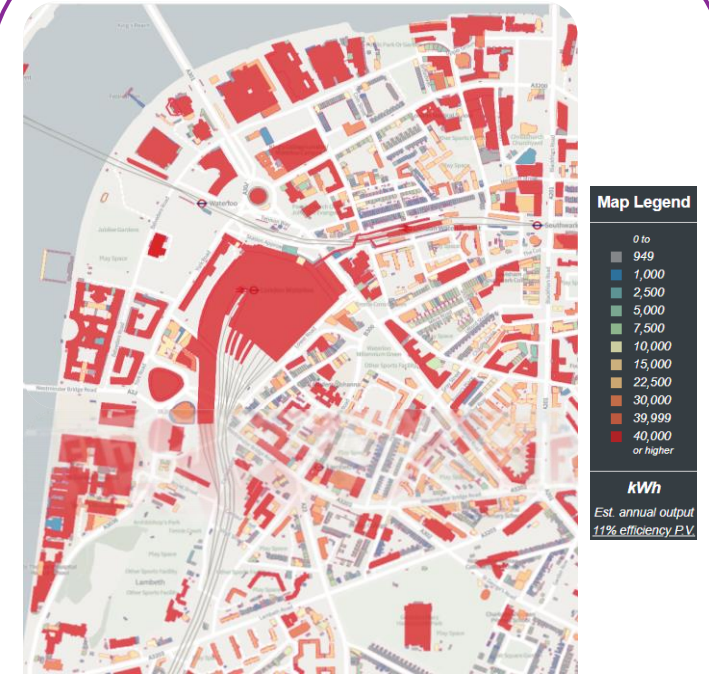


Figure 11. Potential solar opportunity sites per property across the ward, estimated potential >30,000 kWh annual output of solar energy³. Each building however still would require a site-specific assessment of suitability.

There is potential for solar power on multiple buildings across the ward which could provide renewable energy.

CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM BASELINE AND PRIORITIES

Summary

The data suggests that there are a number of large heat users in the area which may provide opportunities for heat networks. There will be challenges shifting away from gas heating and increasing local sources of renewable energy.

Gas Heating

43%
of domestic properties
not on the gas grid
(from 2015-2020) ¹

77%
of properties have gas
as their primary fuel
source ²

12 out of 20
Of the largest heat
users in Lambeth are
based in Waterloo and
South Bank ³

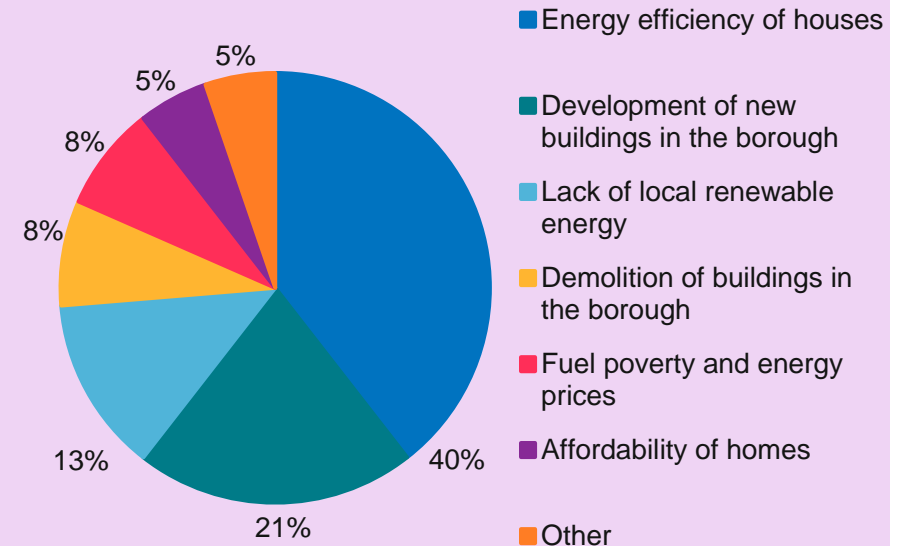
Renewable Electricity

0
Community energy
schemes in Waterloo
and South Bank ⁴

Solar
is the only type of
renewable electricity
generated locally ⁵

779
potential solar sites
identified (according to
the assumptions of the
commissioned study) ⁶

Greatest concerns from residents and businesses



Priorities from stakeholders:

- Sourcing renewable energy
- Moving away from gas
- Affordable renewable energy
- Being able to influence change in the wider area e.g. as a leaseholder

CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM

KEY PLANS AND POLICIES

National: UK

- [Contracts for Difference](#): UK's Government's principal mechanism for encouraging investment in larger scale renewables.
- [The Energy White Paper](#): Outlines the latest plans on decarbonising the UK's energy system consistent with the 2050 net zero target.
- [Great Homes Upgrade](#): Roadmap policy towards the complete decarbonisation of the UK's housing stock by 2050.
- [UK's National Planning Policy Framework \(2021\)](#): States that planning should support the transition to a low carbon future.
- [UK National Energy and Climate Plan](#): Sets out integrated climate and energy objectives, targets, policies and measures for the period 2021-2030.
- [The Net Zero Strategy 2021](#): Details key commitments to supply all of the UK's electricity from low carbon sources by 2035 and deliver 40GW of offshore wind by 2030.

Regional: Greater London Authority






- [London Plan 2021](#): Boroughs and developers should engage at an early stage with energy companies to establish the future energy infrastructure requirements. Create energy masterplans for largescale developments.
- [Solar Action Plan](#): 1GW of solar capacity by 2030; 2 GW by 2050.

Local: Lambeth

- [Lambeth's Climate Action Plan](#): Includes goals to upgrading key utilities and electricity infrastructure to enable energy to come from 100% renewable and zero carbon sources. In addition, they will develop a Local Area Energy Plan.
- [Lambeth Council Corporate Carbon Reduction Plan](#): Buildings owned and operated by Lambeth will use energy from renewable energy sources by 2030.
- [Decarbonising Heat in Lambeth](#): Identifies measures that can be implemented to decarbonise heating in buildings and the costs and benefits of the measures.
- [Lambeth Local Plan](#): Decarbonise the borough by producing renewable energy through micro-generation projects.
- [Decentralised Energy Network](#): Feasibility work on introducing a Decentralised Energy Network in South Bank has been undertaken by numerous partners, including SBEG, South Bank BID, Lambeth Council, the GLA and central Government.




CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM CHALLENGES AND OPPORTUNITIES

The following challenges and opportunities were identified by local residents, youth groups, businesses and organisations while developing this strategy.

	Challenges	Opportunities
 Physical/ Technical	<ul style="list-style-type: none"> • Moving away from gas • Extra pressure on the grid from electrification of vehicles and heating 	<ul style="list-style-type: none"> • Small scale wind turbines to produce green energy • Solar panels on suitable buildings across the area • Developments could install smart meters to support users to make informed choices about energy use • Potential business case for district heating systems in the area • Explore the use of heat pumps to heat cultural institutions, where possible • Explore opportunities arising from potential renewable energy or energy storage facilities in connection with the extension of Jubilee Gardens • Investment to upgrade the power grid to ensure adequate supply for the electrification of heat and transport • Investment in energy storage and flexibility to reduce pressure on the grid
 Policy	<ul style="list-style-type: none"> • Understanding of building restrictions and planning process 	<ul style="list-style-type: none"> • Opportunities explored through planning for new developments to improve and optimise energy infrastructure
 Financial	<ul style="list-style-type: none"> • Affordability of renewable energy 	<ul style="list-style-type: none"> • Cheaper green technology would encourage uptake • Installing LED lights in South Bank buildings allows for a quick payback • Exploring opportunities to use CIL or S106 contributions towards FN 2030 initiatives where possible
 Community/ Culture	<ul style="list-style-type: none"> • Challenges for tenants where properties are not owned 	<ul style="list-style-type: none"> • Collaboration/ sponsorship to help bring funding for projects • Bulk buying for communities at a lower rate
 Skills/ Knowledge	<ul style="list-style-type: none"> • Lack of retrofit skill centres 	<ul style="list-style-type: none"> • Map of green skills education providers to understand where employers can find people/ share knowledge and fill gaps • Need for collaboration to be better known and publicised

CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM

OBJECTIVES AND ACTION AREAS

	 Renewable Electricity	 Shifting-off gas	 Electrification
Objective	Increase the use of renewable electricity	Shift off gas heating in Waterloo and South Bank buildings	The electrification of transport and buildings is supported by local infrastructure
Potential Target	100% of electricity used is from renewable sources, preferably locally generated. ¹	Virtually all heat in buildings will need to be net zero ²	Increased flexibility, capacity and storage of the electricity system ¹
Action needed	<ul style="list-style-type: none"> • Switch to a renewable energy provider • Install solar panels • Community Energy schemes <i>Enabling actions</i> <ul style="list-style-type: none"> • Exploring alternative sources 	<ul style="list-style-type: none"> • Switch to an electric boiler or heat pump • Develop heat networks and district heating schemes <i>Enabling actions:</i> <ul style="list-style-type: none"> • Feasibility assessments for heat networks • Financing heat pumps 	<ul style="list-style-type: none"> • Upgrading infrastructure • Localised generation • Development of storage <i>Enabling actions:</i> <ul style="list-style-type: none"> • Consultation with DNO • Local Area Energy Planning
Projects spotlight	Current: St Andrew's Church & Community Centre solar panels Future: Increasing number of sites for solar energy	Current: National theatre Max Rayne building is heated and cooled by a closed loop Ground Source Heat Pump	Proposed: Local Area Energy Planning study for Waterloo and South Bank

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

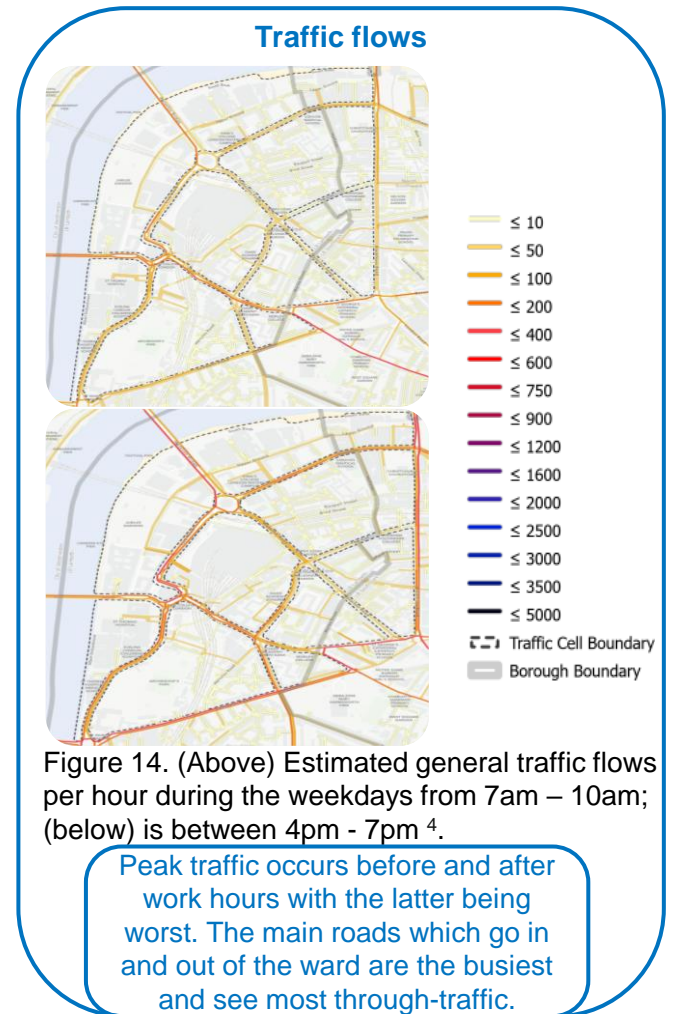
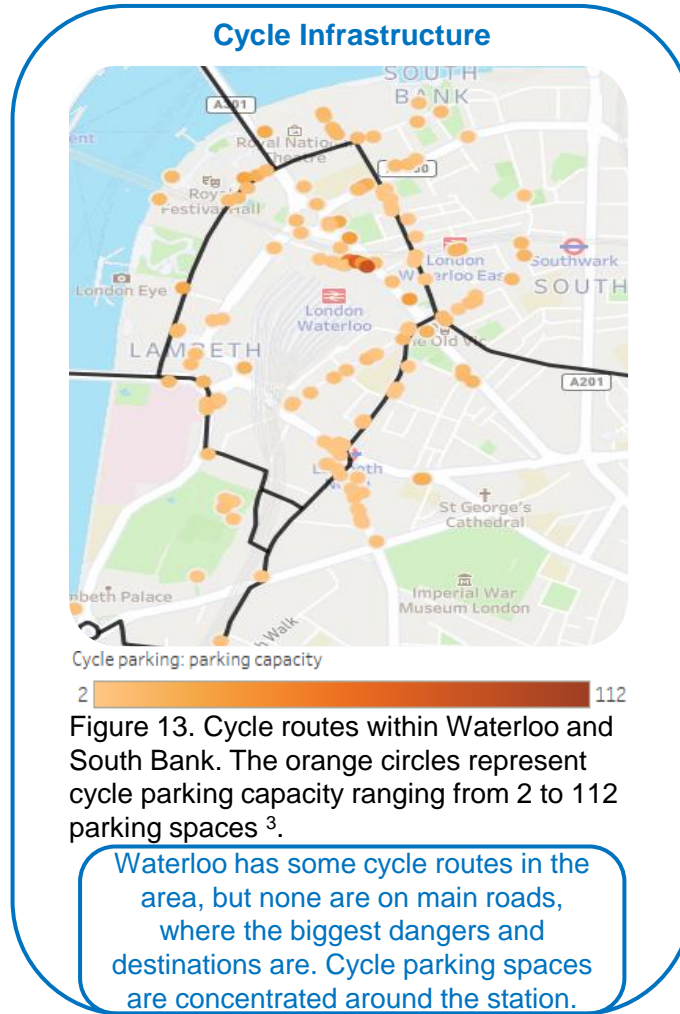
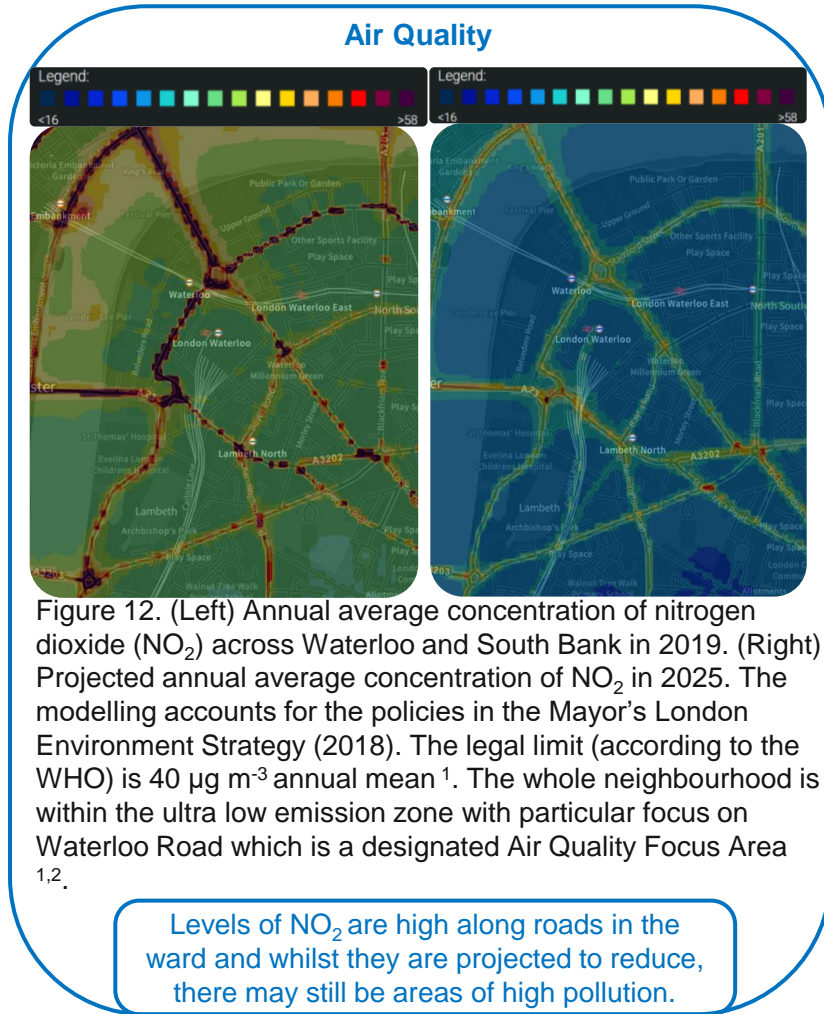
Overall vision

Residents and visitors to Waterloo and South Bank have great access to public transport and active travel options that are affordable, safe and protected. Significantly fewer journeys are made by car and any essential journeys are completed by zero emission vehicles or cargo bikes. Freight deliveries have also largely switched to zero or low emission vehicles or cargo bikes. Waterloo and South Bank benefits from improved air quality that meets the WHO standard, improving the health of those who live and visit the area.



IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

BASELINE AND PRIORITIES



IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

BASELINE AND PRIORITIES

Summary

Air Quality is a particular area of concern for Waterloo and South Bank with areas where the World Health Organisation limits are being exceeded. This is affected by both transport and construction. There are two schools identified as exposed to poor air quality. Cycling safety and security statistics also show this is a key issue for the area alongside traffic levels.

Cycle Safety and Security

2
residential secure cycle hangers in area ¹

75
bike thefts from January to June 2022 ²

106
collisions in Waterloo and South Bank between July 2021 – July 2022 ³

Traffic and Access

75%
of traffic were cars (January 2017) ⁴

8am & 6pm
are peak times (Jan 2017), according to 5 traffic monitoring stations in the ward ⁴

99.4 million
passengers use Waterloo Station every year ⁵

Air Quality
30%
of particulate matter (PM₁₀) comes from London-wide construction emissions⁶

Modes of travel

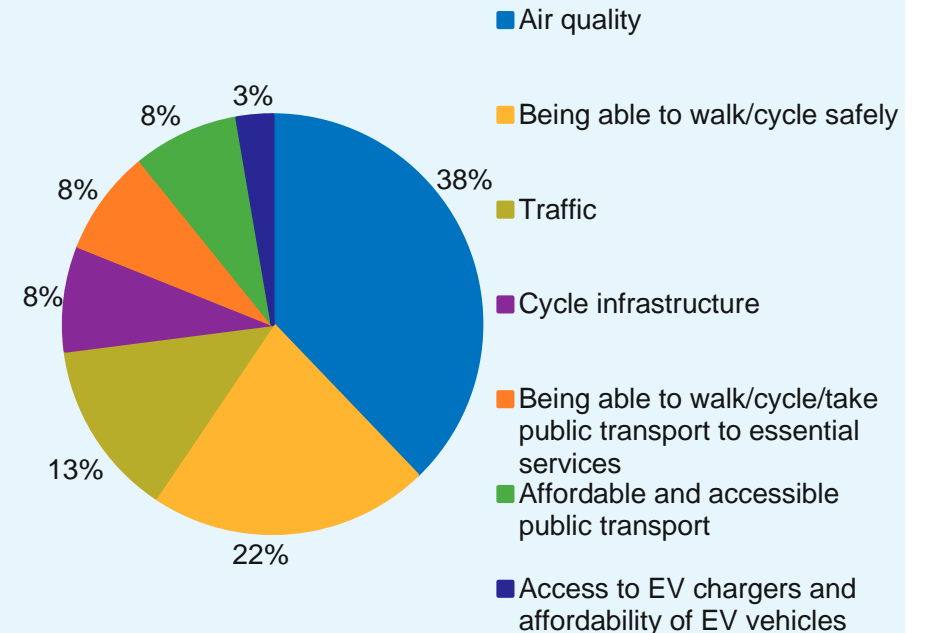
72%
of journeys by sustainable modes at monitored sites ⁷

Electric Vehicles

22
Charge points across Waterloo and South Bank area ⁸

2,326
licensed ultra low emission vehicles across Lambeth (both private and company keepership included) ⁹

Greatest concerns from residents and businesses



Priorities from stakeholders:

- Improved air quality
- Increased number of secure cycle storage and on-street parking
- Safe and protected cycle routes
- Accessibility requirements
- Affordability of electric vehicles and public transport services
- Impact of construction

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

KEY PLANS AND POLICIES

National: UK

- [Ten Point Plan for a Green Industrial Revolution](#): A plan to ban the sale of all new petrol and diesel cars by 2030.
- [Moving Forward Together Strategy](#): Bus operators to only purchase ultra-low or zero carbon buses from 2025.
- [Transport Decarbonisation Plan](#): Represents the Government's plans to decarbonise the transport system nationally, achieving net zero public transport, decarbonised freight system, and the phasing out of all new non-zero emissions road vehicles by 2040.
- [The Net Zero Strategy 2021](#): Details commitments to increasing travel by public transport, cycling and higher vehicle occupancy.
- [National Planning Policy Framework](#): Sets out planning policies for England which covers promoting sustainable transport.

Regional: Greater London Authority

- [Mayor's Transport Strategy](#): Aims for 80% of all London journeys to be completed on foot, by bike or public transport by 2041. The three key themes of the strategy focus on healthy streets and healthy people, good public transport experience and new homes and jobs.
- [Zero Emission Zones](#): Supporting boroughs to create town centres zero emission zones (ZEZ). Plan to create central London a ZEZ from 2025.
- [LEZ, ULEZ, CC Zones](#): Transport for London zones regulate vehicle usage and emissions within London.
- [London Plan 2021](#): Includes policies on how developments should improve air quality.
- [Breathe London](#): The Breathe London Network is an air quality sensing community made by Londoners for Londoners. It is supported by the GLA, Bloomberg Philanthropies, and Imperial College London.

Local: Lambeth

- [Lambeth's Climate Action Plan](#): Goals on reducing traffic, shifting modes, net zero freight and climate friendly streets.
- [Lambeth Council Corporate Carbon Reduction Plan](#): Only ultra-low emission vehicles to be leased by 2022 and re-launch the bike scheme to encourage staff use.
- [EV Charge Points Delivery](#): Minimum of 200 charge points installed by 2025.
- [Air Quality Action Plan](#): Actions to improve air quality.
- [Lambeth Transport Strategy](#): Covers five guiding principles which provide a framework (sustainable growth, inclusive & accessible, efficient and connect, active and safe, and clean air and carbon neutral).
- [Lambeth Local Plan 2020-2035](#): Policies aim to improve air quality and be in accordance with the London Plan policy SI 1.






Community: Waterloo and South Bank

- [South Bank and Waterloo Neighbourhood Plan](#): Streetscape and Transport are addressed in the plan, including air quality, reducing traffic, improving sense of place and reducing accidents. Policies include having a network of back streets in Waterloo and South Bank ('Greenways') have been identified which provide low pollution walking routes through the neighbourhood. Developers must mitigate air pollution by building green roofs and replacing any trees lost.
- [WeAreWaterloo Placemaking Strategy](#): highlights many aspirational public realm improvements which correlate directly with the premise of net zero zones.

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES





CHALLENGES AND OPPORTUNITIES

The following challenges and opportunities were identified by local residents, youth groups, businesses and organisations while developing this strategy.

	Challenges	Opportunities
 Physical/ Technical	<ul style="list-style-type: none"> Lack of electric vehicle infrastructure and safe, secure cycle storage, particularly in flats and older buildings Cycle routes can be unsafe for cyclists and main roads lack infrastructure Challenges to public transport services from funding challenges Hard for residents to access essential services quickly e.g. GP surgeries Different land ownership in the area can make it challenging to deliver active travel interventions 	<ul style="list-style-type: none"> Install EV charging points pilot scheme (on council owned housing estates) Use existing spaces e.g. repurposing parking space and using vacant units Creating safe and attractive cycling and walking routes, including on main roads Redirect through traffic from local streets to main roads Delivery of secure, safe and sheltered cycle parking in line with the Local Plan Engage in consultations with TfL on sustainable travel in the area Extending and improving green spaces (e.g. Jubilee Gardens extension) Promote cargo bikes to both businesses and residents Create mobility hubs in the area
 Policy	<ul style="list-style-type: none"> Construction and diversion traffic Government policy can inhibit changes 	<ul style="list-style-type: none"> Planning could prohibit car parking spaces and increase cycle spaces Consolidating deliveries allows an opportunity to electrify fleet and reduce traffic congestion Schemes for e-cargo bikes
 Financial	<ul style="list-style-type: none"> Limits on public bodies for funding to switch to electric vehicles Affordability of public transport, personal bicycles and electric vehicles 	<ul style="list-style-type: none"> Engage in consultations with TfL on congestion charge zone and the potential for a zero emissions zone, representing the ward as an area with significant through traffic Residents and businesses to take advantage of existing schemes to buy or rent bicycles including 'Try Before You Bike' or 'OurBike' which is a community cargo share scheme that enables residents and businesses to hire an electric cargo bike by the hour
 Community / Culture	<ul style="list-style-type: none"> Public consultation events rarely penetrate difficult to reach stakeholder demographics Further road danger reduction is needed Street clutter from electric bikes and e-scooters 	<ul style="list-style-type: none"> Making it less attractive for private car ownership locally Traffic wardens to take action on idling Address road danger hot spots, including on main roads
 Skills/ Knowledge	<ul style="list-style-type: none"> Lack of accessibility throughout the ward Issues around disability and accessibility are not properly considered when decisions are being made 	<ul style="list-style-type: none"> Host active travel events in Waterloo and South Bank where residents can learn about cycling in the area safely

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

OBJECTIVES AND ACTION AREAS

	 Reducing travel	 Sustainable modes	 Freight	 Electrification
Objective	Encourage the '15-minute city' concept, whereby residents and visitors have access to all amenities and services within a 15-minute walk or cycle	Shift away from cars to more sustainable modes of travel including walking, cycling and public transport	Reduce pollution and emissions from freight	Switch to electric cars, vans and taxis
Potential Target	Decrease motor traffic by significantly more than 27% in the area ¹	Significantly more than 85% of all journeys to be made by walking, cycling or public transport by 2030 ¹	Achieve zero direct emissions from freight, delivery and trade by 2030 ¹	100% of cars, vans and taxis to be zero emissions by 2030 ²
Actions needed	<ul style="list-style-type: none"> • Behaviour change • Car sharing for longer journeys <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • 15-minute city concept considered in decisions • Exploration of a zero emissions zone in the area • Local provision of key services • Reduce options for through traffic in the area 	<ul style="list-style-type: none"> • Behaviour change • Improve public transport services <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • High quality, protected active travel infrastructure • Closures of key streets • Increase number and security of cycle parking facilities, both on and off street • Improved streetscape 	<ul style="list-style-type: none"> • Freight consolidation • Use of river freight • Alternative fuels for freight <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Trial net-zero emission zones around areas with timed closures/traffic filters and build into network • Increase affordability and awareness of cargo bikes • (Micro) mobility hubs 	<ul style="list-style-type: none"> • Switching to EVs <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Increased public charge points³ • Residential and commercial charge points
Projects spotlight	Proposed: Feasibility study for Zero Emission Zone	Proposed: Pedestrianisation of The Cut	Current: South Bank BID cargo bike scheme Future: River freight	Future: Electric Vehicle Strategy

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS

Overall vision

Residents and visitors in Waterloo and South Bank have equitable access to safe, quality green spaces which deliver biodiversity and help to alleviate climate risks. Climate risks are minimised as much as possible, and communities are equipped to deal with and be resilient to the impacts of these risks.



CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS

BASELINE AND PRIORITIES

Climate Vulnerability: Heat

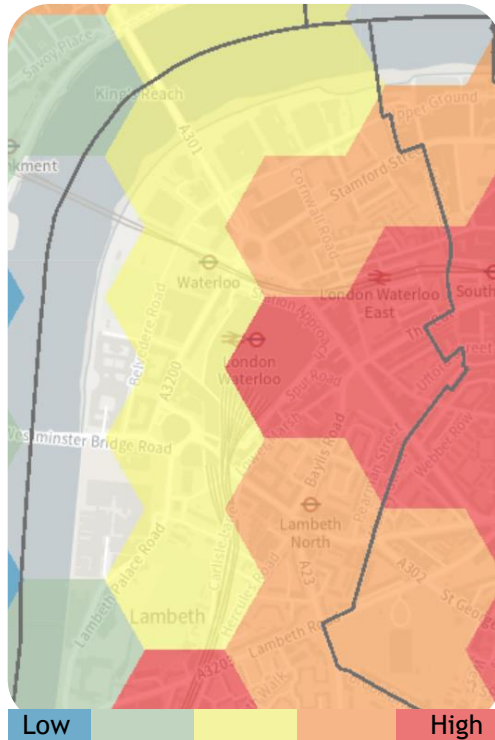


Figure 15. Climate risks from heat ranging from low to high ¹.

East of the ward is at a higher risk of intense heat. Highlighting the need to focus interventions in this area.

Climate Vulnerability: Flooding

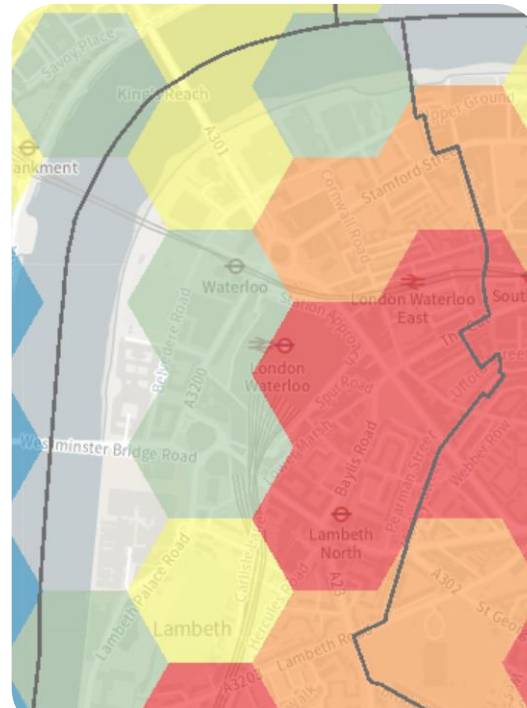


Figure 16. Climate risks from flooding ranging from low to high ¹.

East of the ward is at a higher risk of flooding, which should be the focus for flooding mitigation strategies.

Tree cover



Figure 17. Canopy coverage across Waterloo and South Bank in 2015 and 2019 ².

Tree coverage across the ward that provides cool spots for local residents and tourists. Some locations in the borough lack canopy cover.

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS

BASELINE AND PRIORITIES

Summary

Lack of green space whether private or public is an issue in Waterloo and South Bank which has impacts on biodiversity and nature. This also impacts resilience to climate risks which some areas in Waterloo and South Bank are particularly at risk to. More needs to be done to alleviate the risk to climate change.

Access to Green Spaces

28% of addresses have access to private outdoor space (England's average is 88.38%)¹

38 public green spaces within Waterloo and South Bank²

Quality of Green space

Waterloo Millennium Green was awarded the community green flag in 2021²

Old Paradise Gardens, Jubilee Gardens and St John's churchyard have been awarded green flags²

Most of Waterloo classed as Area of Deficiency for Access to Nature³

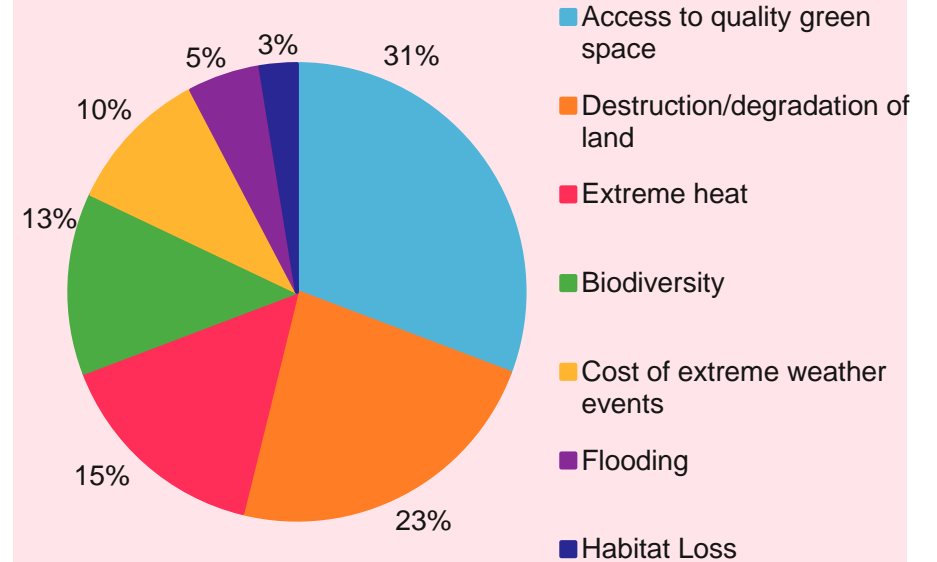
Climate Risk

2.8% of properties in the ward at medium or high risk of flooding⁴

720 per square km of tree canopy cover, lower than the Lambeth average⁴

2 SuDS sites in Waterloo and South Bank⁵

Greatest concerns from residents and businesses



Priorities from stakeholders:

- Green space management
- Installing green infrastructure
- Accessibility issues
- Climate risk and damage
- Safety in green areas

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS

KEY PLANS AND POLICIES

National: UK

- [The 25 Year Environment Plan:](#) Create new forests, incentivise tree plants, increase tree protection and explore innovative finance.
- [The Economics of Biodiversity:](#) Values ecosystem services as integral components of local economies.
- [Eco-Towns Planning Policy:](#) A Government document outlining how to plan for biodiversity net-gain within urban environments.
- [National Planning Policy Framework \(2021\):](#) Sets out planning policies for England which covers meeting the challenge of climate change, flooding and coastal change and conserving and enhancing the natural environment.

Regional: Greater London Authority

- [London Environment Strategy:](#) Increase London's tree cover by 10% by 2050.
- [Greener City Fund:](#) £12m fund to support community initiatives, green infrastructure, woodland development and community engagement.
- [TfL's Healthy Streets Approach:](#) Includes provision for improvements to the city's green infrastructure.
- [London Plan 2021:](#) Sets out policies for protection and enhancement of green infrastructure and the natural environment.

Local: Lambeth

- [Lambeth's Climate Action Plan:](#) Includes goals on adaptation, biodiversity and environmental quality.
- [Lambeth Local Plan 2020-2035:](#) Policy includes protecting open spaces and biodiversity, climate change adaptation and mitigation.
- [Sustainable Drainage Programme 2022-2025:](#) Using nature-based solutions to reduce water reaching vulnerable locations.
- [Lambeth Biodiversity Action Plan:](#) Actions to promote biodiversity.
- [Lambeth Green Infrastructure Strategy:](#) A framework for managing, enhancing and creating new open space and other green infrastructure.
- [Pollinator Action Plan 2021-2025:](#) Vision to have the local environment containing abundant nectar-rich habitats.






Community: Waterloo and South Bank

- [South Bank and Waterloo Neighbourhood Plan:](#) If developers build on open space, they should replace this with new open space elsewhere in the neighbourhood. Also, they must mitigate against climate related issues by e.g., providing outdoor spaces and building green roofs.
- [Bankside Open Spaces Trust:](#) An all-encompassing sustainability policy, which the organisation and whom they work with have to follow. Measures include avoiding peat-based products, bio-secure and climate resilient UK grown plant stock and use recycled and locally sourced materials wherever possible.

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS





CHALLENGES AND OPPORTUNITIES

The following challenges and opportunities were identified by local residents, youth groups, businesses and organisations while developing this strategy.

	Challenges	Opportunities
 Physical/ Technical	<ul style="list-style-type: none"> Lack of outdoor and green space on estates and existing spaces need to be maintained Lack of space for biodiversity Urban heat island effect is increased by tarmac coverage Make pavements more permeable More future proofing measures are needed 	<ul style="list-style-type: none"> Reconsider parking infrastructure and concrete areas for possible green infrastructure projects including wildflower planting along the roadside Jubilee gardens extension and re-landscaping Bernie Spain Gardens and Queen's Walk Gardens Adaptation capacity can be improved by increasing canopy cover Improve existing spaces by adding more bench seating, maintaining play equipment, more water fountains Organisations that have private green spaces have untapped potential Use of BIDs as a mechanism to maintain green space to a high quality, and create local jobs
 Policy	<ul style="list-style-type: none"> New developments can affect trees and green space Complex land ownership 	<ul style="list-style-type: none"> Recognise the ecological value of a canopy cover Collaborative redevelopment of green spaces near new builds and transparency in planning process. Park redevelopment with biodiversity focus
 Financial	<ul style="list-style-type: none"> Lack of funding to provide green, horticultural and literacy skills Installing and maintaining green roof and walls is costly Exploring funding options for new or improved green spaces 	<ul style="list-style-type: none"> Companies could sponsor gardens, green roofs and community gardens Exploring opportunities to use CIL or S106 contributions towards FN 2030 initiatives where possible Grant funding for greening projects commonly available from a variety of sources
 Community/ Culture	<ul style="list-style-type: none"> Keeping spaces safe particularly for women and girls Pavement furniture can create clutter causing issues for visually impaired people Anti-social behaviour can negatively impact the use of green spaces 	<ul style="list-style-type: none"> Working with organisations such as the Metropolitan Police to better design green spaces for safety and reduced crime Using volunteers to maintain green spaces or public gardens Opportunities to build local community at same time e.g., through street parties Empowering people to look after their local green space
 Skills/ Knowledge	<ul style="list-style-type: none"> Lack of expertise on biodiversity gains Lack of solutions to reduce flood risk 	<ul style="list-style-type: none"> Supporting students and residents to manage green spaces (skills and awareness at an individual level) Educate people in communities about how climate impacts them

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS

OBJECTIVES AND ACTION AREAS

Objective	 Access to green space	 Biodiversity	 Resilience	 Vulnerable groups
Potential Target	<p>Improve access to safe, quality green space</p>	<p>Enhance the natural environment and the biodiversity of the area</p>	<p>Increase community resilience to climate change impacts</p>	<p>Support those most exposed and vulnerable to climate risks</p>
Actions needed	<p>Increase resilient green coverage by 15% ¹</p> <ul style="list-style-type: none"> Plant climate resilient trees along streets and in parks Repurpose road space for sustainable uses Create new green spaces and improve existing spaces <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> Reduce antisocial behaviour and increase lighting of green space 	<p>New developments have a 10% increase in biodiversity ¹</p> <ul style="list-style-type: none"> Biodiversity net gain Protecting and enhancing green space Rewilding <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> Connecting green spaces 	<p>Adaptive capacity of Waterloo and South Bank is increased</p> <ul style="list-style-type: none"> Green roofs, walls and tree planting Flood defences and SuDs Heat planning Cooling centres Future-proofing buildings 	<p>Vulnerability to climate risk is reduced</p> <ul style="list-style-type: none"> Adaptation measures for at-risk communities Emergency planning Improving awareness and preparedness <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> Reducing inequalities Community cohesion
Projects spotlight	<p>Proposed: Jubilee Gardens extension</p>	<p>Proposed: Bernie Spain Gardens North re-landscaping</p>	<p>Proposed: SuD installation e.g. Hercules Road</p>	<p>Proposed: Climate change resilience training</p>

ZERO WASTE CIRCULAR ECONOMY

Overall vision

The local environment is pollution and litter free, and residents can access environmentally-friendly, quality products.

Recycling services are accessible and transparent and there are community initiatives in place to support reuse and repair.

Businesses embed circular economy in their business model and develop greener products for the local community.



ZERO WASTE CIRCULAR ECONOMY BASELINE AND PRIORITIES

Summary

There is limited data available on zero waste and circular economy which highlight the need for a greater understanding of local issues. Some research suggests that there limited use of recycling services. There are some local initiatives in place to support reuse/recycling but this could be increased.

Solar Bins Locations

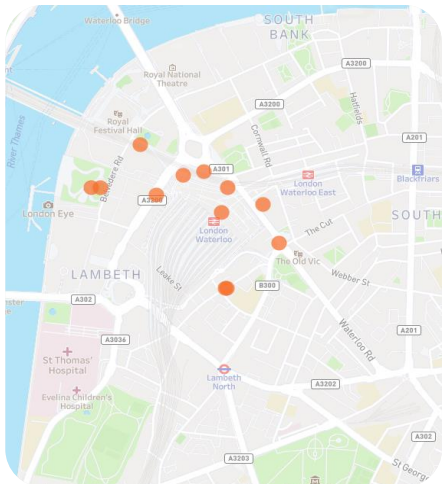


Figure 18. Solar bin locations across the ward ¹.

There are 11 solar bins located in Waterloo and South Bank. This highlights opportunities for innovative solutions that can address multiple goals.

Recycling

6% of residents use food waste facilities once a week ²

70% Recycling rate in WeAreWaterloo BID's commercial recycling scheme ³

36.4% of household waste in Lambeth is sent for reuse, recycling or composting ⁴

Briant Estate is the only estate in the ward that has a food waste stream

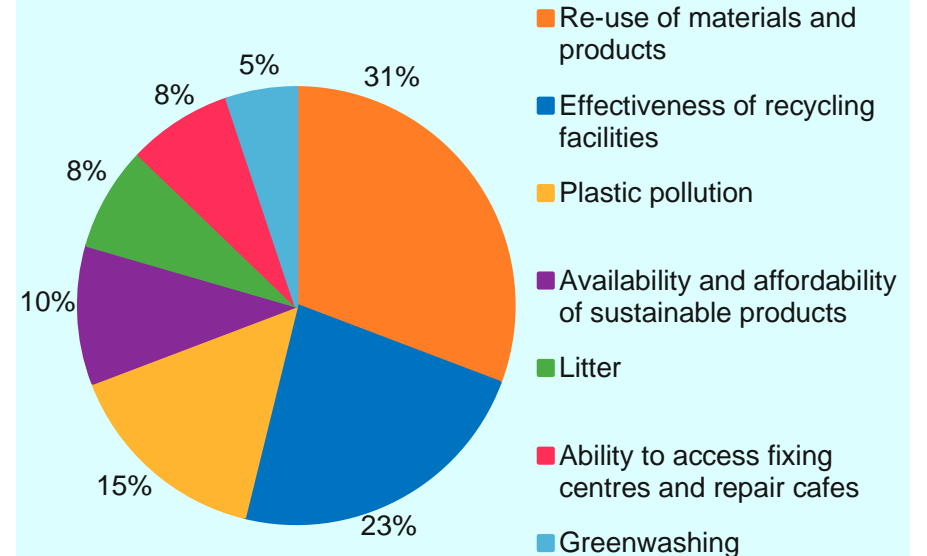
Local Initiatives

18 public drinking water fountains across Waterloo and South Bank 5

1 Lunch/ takeaway food establishment (potential offer of a discount upon bringing your own Tupperware) ⁵

3 Establishments offering a refilling service ⁵

Greatest concerns from residents and businesses



Priorities from stakeholders:

- Education on waste streams
- Not enough recycling bins
- Access to food waste bins
- Plastic waste
- Recycling rates

ZERO WASTE CIRCULAR ECONOMY

KEY PLANS AND POLICIES

National: UK

- [The 2021 Environment Act](#): National authorities to mandate new waste management measures e.g. separately collect food waste.
- [Waste Prevention Programme for England](#): Reduce quantity and impact of waste produced, whilst promoting sustainable economic growth.
- [Our waste, Our resources: A Strategy for England](#): Sets out how the country will preserve resources by minimising waste, promoting resource efficiency and moving to a circular economy.
- [The Clean Growth Strategy](#): Sets out plans for improving business and industrial efficiency, extend product life and reduce waste volumes.
- [National Planning Policy Framework](#): Sets out planning policies for England which covers facilitating the sustainable use of minerals.

Regional: Greater London Authority






- [London Plan](#): Conserving resources, reducing waste, increasing material re-use, recycling and reduction in waste going for disposal.
- [Circular Economy Statement Guidance](#): Lays out how applications required but the London Plan should be designed.

Local: Lambeth





- [Lambeth's Climate Action Plan](#): Includes goals on reducing consumption, embedding circular economic principles into contracts, minimise waste and improve recycling and increase the consumption of health plant-based food.
- [Waste Management Strategy](#): Reduce residual waste from households by increasing home composting and furniture re-use and reduce disposable nappies. Furthermore, Lambeth will work with the waste contractor to increase recycling rates.
- [Lambeth Local Plan 2020-2035](#): Policies on sustainable waste management which are in accordance with the London Plan policies, e.g. supporting the circular economy principles.

ZERO WASTE CIRCULAR ECONOMY CHALLENGES AND OPPORTUNITIES

The following challenges and opportunities were identified by local residents, youth groups, businesses and organisations while developing this strategy.

	Challenges	Opportunities
 Physical/ Technical	<ul style="list-style-type: none"> • Accessing recycling services • Fly tipping • Complexity in accessing bulky waste services 	<ul style="list-style-type: none"> • Exploring reuse of building materials • Food markets could explore using reusable food containers, reducing the amount of waste created (such as Lower Marsh Market or South Bank Food Market) • Encourage outlets to use reusable items/ washable/ deposit system • Food waste stream in homes
 Policy	<ul style="list-style-type: none"> • Inconsistency in waste collection/recycling between areas 	<ul style="list-style-type: none"> • Restricting/ stopping single use plastics. • Reduce plastics on fruit and vegetables
 Financial	<ul style="list-style-type: none"> • Affordability of greener products 	<ul style="list-style-type: none"> • Companies could encourage reuse through discounts
 Community / Culture	<ul style="list-style-type: none"> • Getting the public to not bring in their single use plastics • Large number of hotels, short-term accommodation and tourism negatively impacting recycling efforts • Nature of operations (laboratories can be very waste-intensive) • Consolidation centres can disrupt business • Lack of coordination between businesses around waste collection 	<ul style="list-style-type: none"> • Shared opportunity for waste across the ward • Joint-procurement helps institute circular economy measures • Local sharing economy e.g. swaps within housing spaces or neighbourhood level, organising local clothes swaps • Promoting locally sourced food • More food co-ops for reduction of food waste
 Skills/ Knowledge	<ul style="list-style-type: none"> • Knowing that waste is getting recycled • A lack of understanding of waste streams which impacts the success of recycling efforts 	<ul style="list-style-type: none"> • Green tourism organisation could be set up to show best practice • Training and education so people can make informed decisions • Using social media at the local level to promote local circular economy • Encourage non-meat diets through events • Educate people on waste streams, what they can and can't recycle

ZERO WASTE CIRCULAR ECONOMY OBJECTIVES AND ACTION AREAS

	 Production	 Consumption	 Waste reduction	 Recycling
Objective	Local businesses adopt a circular economy and develop greener products	Residents, visitors, companies and organisations reduce the number of goods purchased and prioritise sustainable options	The volume of waste produced is reduced as local people are supported to reuse and repair	Residents and organisations have the tools and knowledge to increase recycling
Potential Target	Improvements in resource and energy efficiency and material substitution ¹	Reduce consumption-based emissions by 2/3 rd s by 2030 ²	Increase the diversion rate away from landfill and incineration to at least 70% and a 25% reduction for organics ²	Enable 3-stream segregated waste collection including food/ recyclables/ residual ²
Actions needed	<ul style="list-style-type: none"> • Electrification • Circular economy principles • Resource efficiency • Green design of products • Process efficiency <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Forums for sharing best practice 	<ul style="list-style-type: none"> • Reduce consumption of single use plastics • Buy fewer, but longer lasting items • Purchase sustainable products <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Sustainable procurement policy 	<ul style="list-style-type: none"> • Buy second hand • Source greener products • Repair or upcycle before throwing away • Sharing economy 	<ul style="list-style-type: none"> • Behaviour change • Improve recycling services by enabling 3-stream segregated waste collection <p><i>Enabling actions:</i></p> <ul style="list-style-type: none"> • Education/campaigns
Projects spotlight	Future: National Theatre Green Book	Future: Library of Things	Future: Zero waste neighbourhood	Current: Improved recycling in flats

04 DELIVERING THE STRATEGY

DELIVERING THE STRATEGY

PROJECTS TO DELIVER THE STRATEGY

The vision and objectives have been defined in the first part of this strategy. The second part of this strategy considers how this vision and these objectives can be delivered in Waterloo and South Bank.

This means identifying both existing projects and project ideas which respond to the baseline identified and ultimately support us to achieve the vision.

When discussing projects, we are referring to the delivery of a set of tasks on the ground in Waterloo and South Bank. This will consider how a particular action or objective will be implemented and the specific steps and tasks that will achieve this.

Whilst some parts of delivery require action from stakeholders nationally or regionally, there are many projects which can take place and be led locally. Multiple stakeholders will need to be involved in supporting and delivering projects and it is essential that the community is involved.

The aim of this section is to provide guidance on developing projects to implement this strategy and to identify current and future projects as a starting point. Whilst a small number of projects are highlighted here, a full list of projects is provided in the Appendix.



DELIVERING THE STRATEGY

PROJECTS GUIDANCE - MOVING FROM STRATEGY TO PROJECTS

It is important to be able to link projects back to the overall vision and objectives for Waterloo and South Bank to demonstrate how projects are helping to achieve community, local and regional goals. Figure 18 shows that this can be conceptualised in a nested structure where each project links to an action area, which links to an objective. This in turn links to a vision for a sector theme which ultimately helps to achieve the net zero vision and wider goals of Lambeth and the Future Neighbourhoods programme. The objectives and action areas defined earlier can be used to guide project ideas. Using the action areas and considering a location, owner and the steps needed for delivery are the first steps to defining projects.

It is also valuable to consider the co-benefits of projects to demonstrate how they support other strategic aims and some of the wider goals of Waterloo and South Bank, Lambeth and the GLA. For instance, new jobs could help to support the achievement of the GLA goal on growing London's green economy.

This will help to strengthen the business case for implementation if projects can be linked back to the evidence base, community priorities and wider social, environmental and economic objectives of the region.

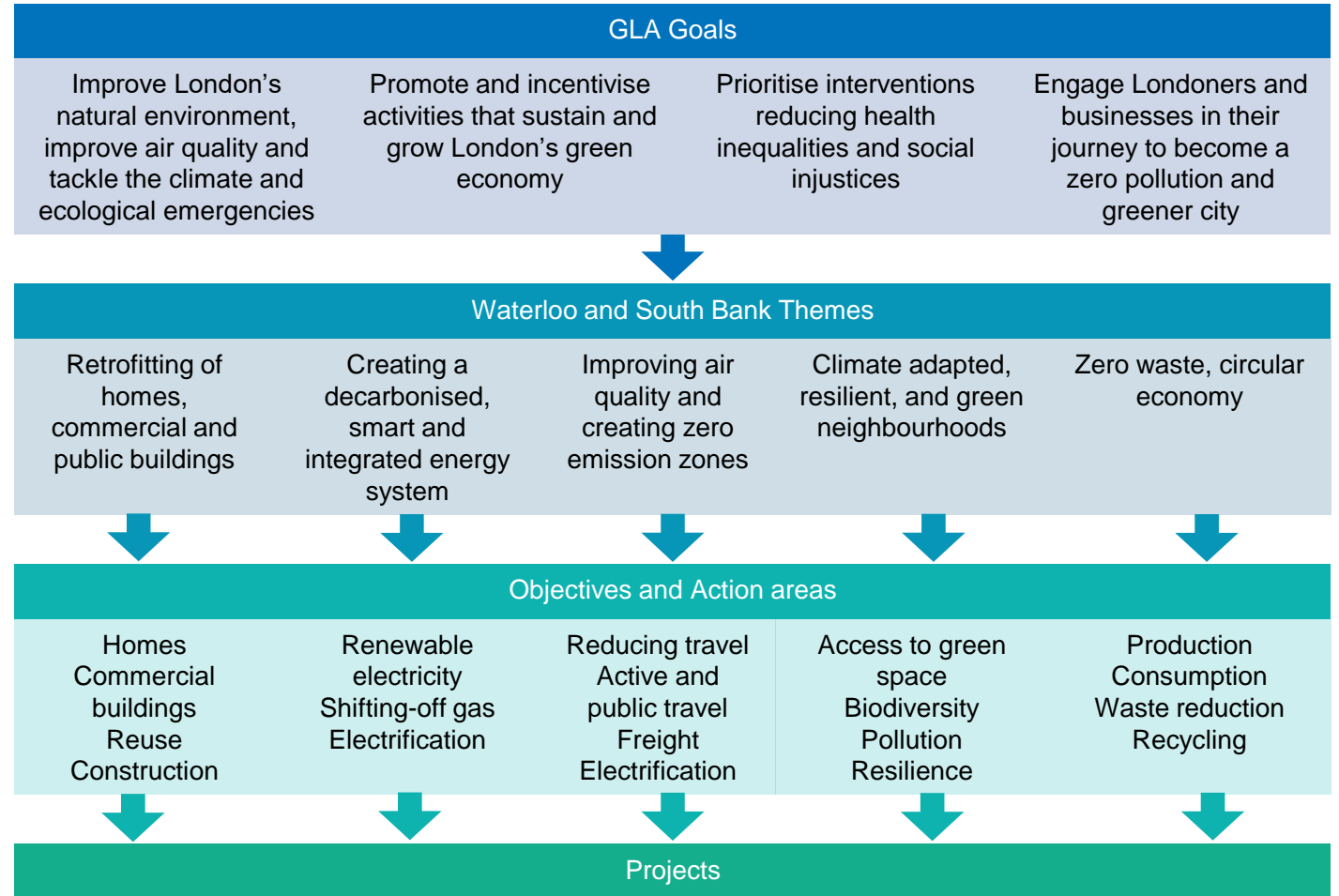


Figure 19. Structure for linking projects back to the strategy and Waterloo and South Bank's Net Zero Vision

DELIVERING THE STRATEGY

PROJECT REGISTRY

As part of the stakeholder engagement, information on projects underway, planned projects and project ideas were collected. These have been collated to create a project registry of actions taking place in the neighbourhood. The aim of this is to provide transparency on actions taking place, identify gaps and areas for collaboration and build the case for further projects. The project registry will be owned and monitored by a range of partnerships including the South Bank and Waterloo Partnership and used to identify where support should be prioritised. Projects have been categorised into three groups and different details are provided over the following pages based on the groupings:

1

PROPOSED PROJECTS

Through our engagement with local people and business, we identified several proposed projects for the area. For a selected number of these ideas, further details have been added to help move these ideas into a scoped project and identify the next steps. The aim is to build a picture of what these project ideas could look like for Waterloo and South Bank. The analysis performed is high-level and indicative. Further assessment is required.

2

LARGE SCALE AMBITION PROJECTS

Despite the focus on local action, there still needs to be a consideration of large-scale ambitious projects. These may require additional support from multiple stakeholders but are essential in delivering the magnitude of change needed. Large scale ambition projects have therefore been identified along with the need and potential stakeholders. To be progressed, these would be subject to further assessment.

3

CURRENT PROJECTS

A list of current projects provided by stakeholders has been developed, although this may not capture every project taking place in the area. Case studies of current projects that have already been implemented or are under implementation have been highlighted in this section. These are included to show best practice in the local area.

DELIVERING THE STRATEGY

STEPS IN IMPLEMENTING A PROJECT

Below is an overview of the steps for implementing a project, based on guidance from CDP and C40¹. Most of the projects collected for the area were at the idea stage so these project stages have been defined to help to guide how to progress a project through to implementation. For the proposed projects identified by stakeholders, analysis has been carried out to move these projects from the idea phase to scoping out the project details.



Idea	Scoping	Pre-feasibility	Implementation	Operational	Monitoring & Evaluating
<p>The start of the project comes about from identifying and addressing the objectives and priorities for Waterloo and South Bank at the sectoral level. During this stage, stakeholders should be engaged to identify their roles to ensure success of the project.</p>	<p>Once the project has completed ideation, the project needs to be scoped. Scoping out the project involves appraisal, determining the strategic direction, researching the market, defining the outcomes, potential risks and any other initial insights to ensure the project can progress successfully.</p>	<p>At this stage, studies and assessments occur to evaluate the elements of the project. These include the concept design, research and development, feasibility studies, the technical, financial, legal and operational design. During this stage the details of the project are refined.</p>	<p>The implementation stage occurs when projects are ready to be delivered. By this stage funding and procuring services are secured and construction and installation of infrastructure has occurred.</p>	<p>Operational refers to when the project is live and the benefits from the project are becoming realised.</p>	<p>This stage means that the project has been active for long enough to be able to monitor and evaluate the progress and its impact. The frequency of monitoring will vary from project to project.</p>

Please note: Not all project stages will be relevant depending on the type of project. These are a useful indicator to track the project stage of development.

DELIVERING THE STRATEGY

PROPOSED PROJECTS

The following projects have been identified as ones to explore for the area to help deliver the strategy.

CLIMATE CHANGE TRAINING

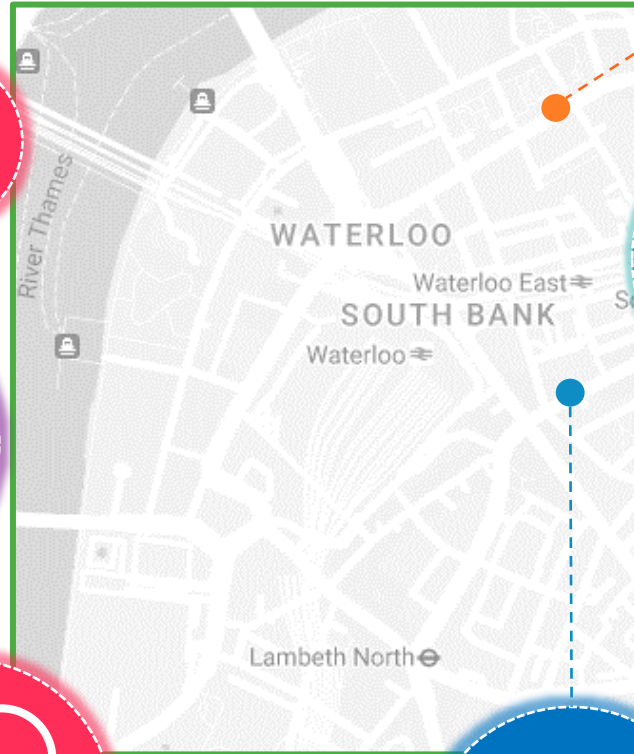
- Providing education and guidance to local business, community groups and students to improve understanding of causes and impacts of climate change

SOLAR PROGRAMME

- Installation of solar panels at 11 different sites across Waterloo and South Bank
- Approximately 13,452m² of roof space has been assessed for solar power

GREEN SPACE EXPANSION

- Expanding the amount of green space in the borough through tree planting
- Based on improving and extending existing spaces



LONDON NAUTICAL SCHOOL

- Installation of energy efficiency measures and renewable energy
- Current funding gap following PSDS application

RECYCLING CONSOLIDATION AND COMPACTING PILOT

- Consolidating waste collection to reduce transportation emissions
- Includes engaging with businesses to more efficiently recycle

MICRO MOBILITY HUB

- Provision of shared transport options including e-cargo bikes, e-bikes, e-scooters and car clubs to support more sustainable modes of travel

PEDESTRIANISATION OF THE CUT

- Re-shape The Cut as a pedestrian space to encourage active travel
- This would also include greening

RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS PROPOSED PROJECTS

LONDON NAUTICAL SCHOOL RETROFIT

Commercial installation of energy efficiency measures and renewable energy including loft insulation, glazing upgrades, flow restrictors, building energy management systems, thermal store, pipework improvements, variable speed drives, solar PV and air source heat pumps.

This has already been subject to a PSDS (Public Sector Decarbonisation Scheme) application, with an assessment of measures carried out by a third party and reported in the [London Nautical School Feasibility Report R01](#).

KEY CONSIDERATIONS AND NEXT STEPS

The project has been submitted as part of a PSDS application but some funding is still required (Council estimates £800,000). More information is needed to understand this gap in funding and where appropriate sources can be found. The aim is to source this remaining funding so that the improvements can be implemented, and lessons shared with others in the neighbourhood.

THE NEED: to reduce energy demand and install renewable generation at a local school, which is a listed public building, demonstrating best practice to other organisations.
THE STAKEHOLDERS: Lambeth Council, London Nautical School.
RELEVANT OBJECTIVE: Reduce the energy demand of commercial & public sector buildings.

CO-BENEFITS



Job Creation



Reduced Costs



Improved Learning Environments



Improved Air Quality



Increased Energy Security



Reduced Risk To Physical Health

Estimated Carbon Impact

 89 tCO₂e

Reduction of 89tCO₂e is based on all enabling measures listed in the commercial proposal (section 4) of the London Nautical School Feasibility Report R01.

Estimated Cost

£1.48m

Material and project costs were estimated in the London Nautical School Feasibility Report R01 as part of the or, including design and engineering, main equipment, installation and commissioning, project delivery, contingency and other project costs.

CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM PROPOSED PROJECTS

SOLAR PANELS PROGRAMME ACROSS WATERLOO

Identifying locations across Waterloo and South Bank where solar panels can be installed to create a large network of renewable energy. Buildings include council owned assets and large cultural institutions. The [London Solar Opportunity map](#) has been used to determine the estimated annual output (kWh) and estimated installed capacity (kW) for each site/area.

Potential sites to explore were provided by the council as: Climsland House, Aquinas Street, Windmill House, Stamford Street, Matheson Lang Gardens, Munro House, Briant Estate, China Walk Estate, Lambeth Towers, Whitgift Estate and Wellington Mills. Across these sites, there is approximately 13,452m² of roof space available for solar PV.

KEY CONSIDERATIONS AND NEXT STEPS

These costs are indicative only and a site-by-site cost would need to be determined via feasibility studies carried out by solar PV installers. It is also likely that costs may be higher in London. It is assumed that the costs provided by BEIS include the cost of the survey to assess the feasibility of the solar installation.

It is recommended to target areas with highest potential first or areas where known works e.g., roofing works are due to be carried out for example, the roof on Wellington Mills is due to be replaced in 2023/24. Once the highest priority areas have been identified, feasibility studies should be booked in so detailed information can be provided on a site-by-site basis on the solar PV potential.

Waterloo and South Bank Future Neighbourhood Strategy

THE NEED: to identify opportunities for installation of PV across the area, including council owned assets as well as the large cultural institutions to create a network.

THE STAKEHOLDERS: Lambeth Council, building owners, cultural institutions, renewable energy installers.

RELEVANT OBJECTIVE: Increase the use of renewable electricity

CO-BENEFITS



Job creation



Reduced costs



Increased energy security



Reduced disruption of energy, transport, water and communication networks



Reduced fuel poverty



Increased security/protection for lower income or vulnerable populations

Estimated Carbon Impact



290 tCO₂e

The estimated annual output and estimated installed capacity are based on the installation of monocrystalline panels, as these provide the highest efficiency. If polycrystalline panels or other PV types were used, the annual output and installed capacity would be lower, so there would be a smaller reduction in carbon emissions.

Estimated Cost

£2.45m

Costs are estimated based on the installation of monocrystalline panels, as these provide the highest efficiency. If polycrystalline panels or other PV types were used, there may be a lower cost associated. This estimate includes the cost of equipment, installation and connection.

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

PROPOSED PROJECTS

THE CUT GREEN BOULEVARD

This project would aim to reshape The Cut as a pedestrian space, creating a 'green boulevard'. The project will aim to increase active travel and bolster the local community through enhancements to the public realm.

KEY CONSIDERATIONS AND NEXT STEPS

Due to the variation in scope of different pedestrianisation projects, the project needs to undergo further development to better understand the potential costs and impacts.

Pedestrianisation projects have the largest impact when focusing on a large area within communities. A transport modelling study will need to be commissioned to understand the potential impact of traffic flow in the surrounding areas.

CO-BENEFITS

- | | |
|---------------------------|--------------------------|
| Improved Air Quality | Improved Resilience |
| Improved Access | Reduced Traffic |
| Biodiversity Improvements | Improved Physical Health |
| Improved Road Safety | Reduced Noise Pollution |
| Improved Mental Wellbeing | |

THE NEED: to prioritise pedestrian priority spaces to improve the safety and experience of those using active modes of travel.
THE STAKEHOLDERS: Lambeth Council, commuters, businesses, Transport for London.
RELEVANT OBJECTIVE: Shift away from cars to more sustainable modes of travel including walking, cycling and public transport.

Cost comparison

The Strand/Aldwych pedestrianisation project will cost in the region of **£30m**.

Broad Street pedestrianisation - **£500k**. **This does not include losses from car parking bays.*

The Grassmarket pedestrianisation, Edinburgh - **£3.87m**.

Estimated Carbon Impact

- Through Traffic** – Emissions will likely remain similar to pre-project levels as some journeys may no longer occur, but others will likely be diverted.
- Visitors/Residents** – People visiting the local area will more likely use more active and sustainable modes of travel to get to and from the area, leading to a reduction in transport emissions.
- Home Deliveries** – Improvements to the public realm surrounding the high street could increase footfall and likely reduce the dependency on online shopping, ultimately reducing freight emissions.
- 'Green Boulevard'** – Tree planting, alongside further green infrastructure will improve the area's carbon sequestration. It will also reduce the urban 'heat island' effect and reduce flooding from heavy rain events. Tree's can absorb roughly **~0.01-0.02tCO₂** per year when fully grown.
- Built Environment** – There may be an embodied carbon impact of constructing new cycle lanes/pavements if these are required. Sustainable methods and materials should be used, including electric non-road mobile machinery.

IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

PROPOSED PROJECTS

MICRO MOBILITY HUBS

This project aims to introduce micro mobility hubs across the Waterloo and South Bank, to provide more sustainable travel options for short journeys and deliveries.

Over 1/3rd of all car trips in London are less than 2km in distance, creating the potential for these journeys to be replaced by micro mobility options.

Case study examples: Collaborative Mobility UK (CoMoUK) are a national charity dedicated to the social, economic and environmental benefits of shared transport. They produced a dossier on the impact of mobility hubs, with various case study examples [here](#).

KEY CONSIDERATIONS AND NEXT STEPS

The current project is still in its early 'idea' phase. Full conceptualisation is needed to further understand the potential impact of this project (number of transport options, location etc.). It is key to consider the role of the council within some of these transport options. For example, electric scooters are still currently in a trial phase (soon to be extended) with a limited number of organisations allowed to provide scooters. Scoping of potential partners for the creation of a mobility hub will be important.

CO-BENEFITS



Improved Air Quality



Revenue Generation



Improved Mental Wellbeing



Improved Physical Health



Access To Green Space



Job Creation



Reduced Traffic

THE NEED: Improving access to more sustainable transport options by providing shared vehicles and modes.

THE STAKEHOLDERS: Lambeth Council, businesses, residents.

RELEVANT OBJECTIVE: Reduce pollution and emissions from freight.

Estimated Carbon Impact

Each mode of transport will have its own potential carbon savings. Appendix 8 provides the assumptions for the below estimates.



E-cargo Bikes – up to **2.4 tCO₂e** per year

E-Bikes – up to **0.7tCO₂e** per year

E-Scooter – up to **0.28tCO₂e** per year

Electric Car Club – up to **1.6tCO₂e** per member per year.

Estimated Cost

E-cargo Bikes - **£4k to £6k** per bike

E-Bikes - **£1k to £3k** per bike

E-Scooter - **£200 to £1k** per scooter. No scheme costs (Dott, Lime, Tier only).

Electric Car Club – Roughly **£30k** per vehicle depending on the model. Likely other companies (e.g. co-wheels) will provide the service.

Costs will depend on the number and type of shared modes installed. Operation may also require resource.

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS PROPOSED PROJECTS

COMMUNITY / BUSINESS RESILIENCE TRAINING

This project would provide an online toolkit and in-person training which businesses, residents and students can access to help them understand how they can change their behaviours to become more climate friendly.

Carbon literacy training has been costed as an example method of providing relevant guidance and training. Carbon literacy is mitigation focused but can be used as a proxy for other climate-based education. Other courses do exist and there is no requirement to be certified, costs and impact will vary based on this.

KEY CONSIDERATIONS AND NEXT STEPS

The costings used are based on the assumption that there are 1,440 businesses in Waterloo and South Bank and that all staff would partake in training, alongside college students at two local further education institutions. Whilst all businesses would be provided with e-learning licences, the council would develop five tailored courses which the businesses would take to then achieve accreditation.

Cooperation with the local Business Innovation Districts to engage local businesses will increase uptake in use of the materials and increase the potential impact. A full assessment of the options for climate education and the topics needed is also required as this will impact the costs and benefits. Carbon Literacy is just one example of this.

Waterloo and South Bank Future Neighbourhood Strategy

THE NEED: to support local people in understanding the causes of climate change as well as the potential impacts on the community and how they can be prepared.

THE STAKEHOLDERS: Lambeth Council, BIDs, SoWN, cultural institutions, businesses, schools, colleges and residents.

RELEVANT OBJECTIVE: Support those most exposed and vulnerable to climate risks.

CO-BENEFITS



Job Creation



Revenue Generation



Increased Labour Productivity



Increased Social Inclusion, Equality and Justice



Improved Environmental Education and Public Awareness

Estimated Carbon Impact



5-15% reduction per person

Previous organisations who have used carbon literacy training have realised a 5-15% reduction per person participating in the training. This saving would not always occur in Waterloo and South Bank and so savings cannot be claimed for the area.

Estimated Cost

Course Development, Course Accreditation, Learner Accreditation and delivery: ~£450,000

The cost of providing businesses in Waterloo and South Bank with e-learning and learner accreditation is estimated to be in the region of £400,000 based on developing 5 hybrid e-learning and in-person courses. It is assumed that delivery is done by 2 x FTE employees. It may be the case that there will be discounts based on the scale of training developed.

The cost of providing local sixth forms and colleges with learner accreditation is estimated to be £57,000, with e-learning materials provided to educational institutions for free.

CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS PROPOSED PROJECTS

GREEN SPACE EXPANSION

The project aims to expand access to green space in the neighbourhood which could be achieved through extending existing spaces, new developments or improving the accessibility of current areas.

For the purposes of modelling, an increase in tree coverage has been estimated, looking at the benefits of an additional 15% of coverage. There are multiple benefits beyond carbon that should be considered.

KEY CONSIDERATIONS AND NEXT STEPS

Due to spatial constraints within Waterloo and South Bank, increasing the amount of green space requires innovative solutions. Expanding existing green spaces may face challenges due to existing infrastructure such as walls, roads and buildings. Additionally, there is limited open space within the borough to develop new green space.

To counteract these challenges, opportunities to co-ordinate with social housing or other areas with open space to create accessible green space during redevelopment should be explored alongside Areas of Deficiency.

THE NEED: to explore the benefits of an increased volume of accessible green space in Waterloo and South Bank to understand where this space could be realised.

THE STAKEHOLDERS: Lambeth Council, Jubilee Gardens Trust, Bankside Open Spaces Trust, St John's Church, Coin Street Community Builders, WeAreWaterloo BID, South Bank BID, residents.

RELEVANT OBJECTIVE: Improve access to safe, quality green space.

CO-BENEFITS



Improved Air Quality



Increased and Improved Green Space



Protected and Improved Biodiversity
And Ecosystem Services



Enhanced Resilience to Shocks and
Disasters



Improved Mental Wellbeing and Quality
of Life



Reduced Noise and Light Pollution

Estimated Carbon Impact



Tree planting (10 years after
planting): 13 tCO₂e per hectare

The carbon impact of tree planting depends on the length of time since planting. Carbon savings are not instantaneous and mainly materialise after 10 years. The carbon impact of biodiversity net gain has been omitted due to its dependence on the chosen method and limited available research.

Estimated Cost

Tree planting: £8,500 per hectare
Tree maintenance: £200 per hectare
Biodiversity net gain: £13,157 per
hectare for London

Costs for tree planting include fencings, gates, tree guards and planting. Costs for biodiversity net gain are based on delivery costs for residential land. For non-residential land, the cost is £14,334 per hectare.

ZERO WASTE CIRCULAR ECONOMY PROPOSED PROJECT

RECYCLING CONSOLIDATION AND COMPACTING PILOT

Waterloo and South Bank is an area which has a large number of businesses and organisations, as well as two food markets. As such, a large volume of waste is created in the area.

This consolidation and compacting pilot project looks to decrease the amount of waste collection vehicles in the area by having waste streams (cardboard, glass, food) come to a single collection point (via zero emission vehicles or cargo bikes) where it is compacted and collected.

KEY CONSIDERATIONS AND NEXT STEPS

This project would require WeAreWaterloo BID to pilot and test the scheme before this could be rolled out across the area. Key considerations include assessing the viability of commercial space for the project, the price increase of waste collection and recruiting staff to staff the project.

The impact of this project would be amplified if undertaken alongside a micro logistics centre. Both projects in tandem could significantly reduce or remove freight vehicles from the area. With funding, this project could begin in 2023.

THE NEED: to consolidate waste collections to reduce the number of journeys made by waste collectors in the area and therefore the emissions associated with the transport of waste
THE STAKEHOLDERS: Lambeth Council, WeAreWaterloo BID, South Bank BID, local businesses, waste providers such as First Mile.
RELEVANT OBJECTIVE: Residents and organisations have the tools and knowledge to increase recycling. This project would also help to reduce transport emissions.

CO-BENEFITS



Improved Air Quality



Revenue Generation



Reduced Noise Pollution



Reduced Traffic



Job Creation



Improved waste management

Estimated Carbon Impact



Reduction of approximately 15% of a business' total emissions based on estimates provided internally.

The main carbon savings are likely to be from reduced transport emissions both through reduced distances travelled by waste vehicles and electrification of the fuel.

Estimated Cost

First year of the project: £170k
Second year of the project: £130k

This cost would take into account leasing of commercial space and business rates; staff time; consolidated collections of recycling (assuming none is used locally); cargo bikes, training; and equipment

The figures are based on around a hundred small independent businesses having cardboard and glass recycling

DELIVERING THE STRATEGY

LARGE-SCALE AMBITION PROJECT

The following projects have been identified as large-scale actions that could have a big impact for the area but need further research.

RIVER FREIGHT

- Using the River Thames to transport goods to reduce freight traffic on Waterloo and South Bank's busiest roads



ZERO WASTE NEIGHBOURHOOD

- Establish zero waste zones to encourage the reduction of waste and harness the circular economy
- Initiatives include Library of Things and using vacant properties across the ward



CULTURAL RETROFIT

- Retrofitting all cultural institutions to net zero across Waterloo and South Bank



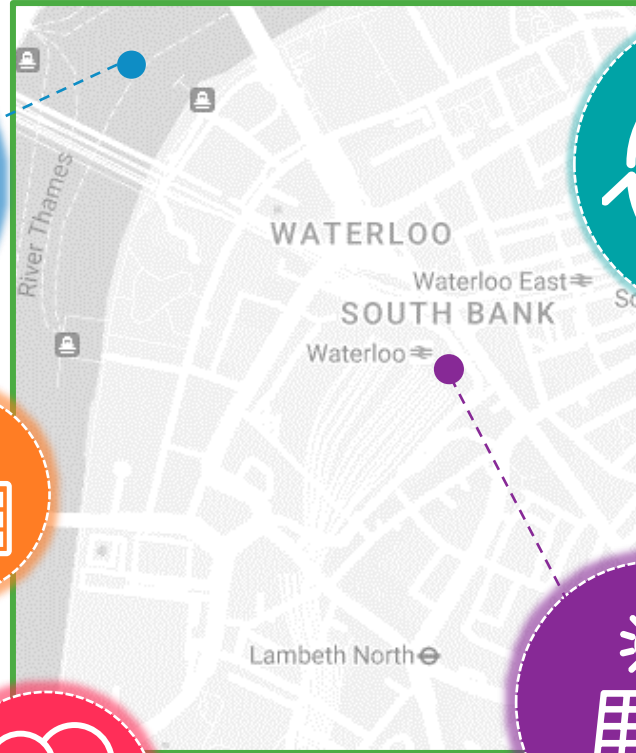
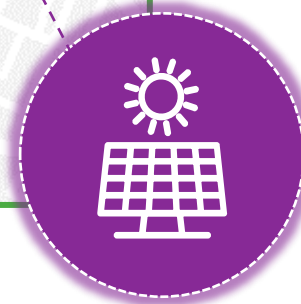
HARNESSING AND ENHANCING GREEN SPACE

- Working with organisations who manage green spaces across Waterloo and South Bank to optimise tackling climate risks
- Ideas include grey water irrigation and local food growing



HARNESSING HEAT FROM THE UNDERGROUND

- Waste heat generated from the underground and Waterloo Station could be used to generate energy for the local area



RETROFITTING OF HOMES, COMMERCIAL AND PUBLIC BUILDINGS

LARGE-SCALE AMBITION PROJECT

CULTURAL RETROFIT

Waterloo and South Bank is well known for its world-famous cultural institutions including the **Southbank Centre, Old Vic, Young Vic, National Theatre, the BFI** and **Rambert** who collectively bring millions of visitors to the Waterloo and South Bank each year and deliver on a national and international stage.

We know how important these cultural institutions are to both the local and national economy, which was highlighted in the 2020 [Engine of Recovery report](#). We also know that to continue to deliver this value into the future, these cultural institutions' buildings must align with the aims of this strategy and contribute to the vision of a net zero Waterloo and South Bank by 2030.

Whilst some of their buildings have recently been upgraded and renewed (e.g., Hayward Gallery) or there are plans underway (e.g., The Old Vic), we know that these arts organisations face significant financial challenges in meeting the costs of retrofitting their buildings to enable them to become net zero, and therefore, our large-scale ambition is for a retrofit programme for the cultural institutions across the area.

THE NEED: to undertake a feasibility study which explores what retrofitting needs to be done to enable our aims to be reached and shows the cost of the retrofitting work and the economic benefit of doing the works.

THE STAKEHOLDERS: Lambeth Council, South Bank and Waterloo Partnership, SBEG, Southbank Centre, Old Vic, Young Vic, National Theatre, the BFI, Rambert and Coin Street Community Builders (OXO Tower).

RELEVANT OBJECTIVE: Reduce the energy demand of commercial & public sector buildings.



CREATING A DECARBONISED, SMART AND INTEGRATED ENERGY SYSTEM

LARGE-SCALE AMBITION PROJECT

HARNESSING HEAT FROM THE UNDERGROUND

Waterloo and South Bank is a key transport hub, with the station being one of the busiest in the UK (seeing 86.9 million passengers a year pre-Covid) and the Waterloo Underground Station catering to four lines (Bakerloo, Jubilee, Northern and Waterloo & City).

However, at present, the Underground network and the waste heat it produces is not being explored in how it can address the energy demand in the local area.

With Grimshaw Architects working on a Waterloo Station Masterplan, a complementary project could explore how the waste heat generated from the station and the London Underground network specifically could be used to generate energy for the local area.

Lessons can be learned from the £16.3M Bunhill 2 Energy Centre which enables the extraction of waste heat from London Underground's Northern line to help power a district-wide heating network.

THE NEED: to undertake a feasibility study which explores how the heat generated from the London Underground network at Waterloo Underground Station could be used to provide energy to the local area, and what form this could take.

THE STAKEHOLDERS: Network Rail, Lambeth Council, South Bank Partnership, SBEG, WeAreWaterloo BID, South Bank BID, South Bank and Waterloo Neighbours.

RELEVANT OBJECTIVE: Shift off gas heating in Waterloo and South Bank buildings.



IMPROVING AIR QUALITY AND CREATING ZERO EMISSION ZONES

LARGE-SCALE AMBITION PROJECT

RIVER FREIGHT

Through the Lambeth-wide Climate Action Plan, we know that commercial freight vehicles make up **30% of all traffic** in central London, and in 2016 emissions from HGVs and LGVs in Lambeth accounted for over 20% of on-road emissions.

High levels of traffic and space allocated for road freight in the Waterloo and South Bank area limits the opportunity to deliver on the Future Neighbourhoods 2030 goals to create a climate resilient, adaptable, liveable spaces which allow people and businesses to walk, scoot, wheel and cycle.

Waterloo and South Bank has the River Thames on its doorstep where we can reduce freight on our roads by both undertaking freight consolidation projects, but also by exploring the use of the river to transport goods.

Here, we can learn from Guy's and St Thomas' who have piloted a daily riverboat delivery service as part of plans to reduce its carbon footprint by teaming up with CEVA Logistics and Livett's Group.

THE NEED: to understand how we can work with businesses and stakeholders to explore a river freight project, learning from those who are already working on this project.

THE STAKEHOLDERS: Lambeth Council, WeAreWaterloo BID, South Bank BID, Cross River Partnership.

RELEVANT OBJECTIVE: Reduce pollution and emissions from freight.



CLIMATE ADAPTED, RESILIENT AND GREEN NEIGHBOURHOODS LARGE-SCALE AMBITION PROJECT

HARNESSING AND ENHANCING GREEN SPACES

Waterloo and South Bank has several award winning green spaces which cater to the large population of residents, workers and visitors who come to the area including:

- Archbishops Park
- Millennium Gardens
- Jubilee Gardens
- Bernie Spain Gardens
- St John's Church Yard

These green spaces can potentially provide much to mitigate the climate crisis. For example, through grey water irrigation, local food growing, and increased biodiversity.

A project could therefore work with the organisations who manage these spaces (including the council, Bankside Open Spaces Trust (BOST), Coin Street, St John's and Jubilee Gardens Trust) to explore how these spaces could be optimised to tackle the climate crisis in a holistic way, building on current strong ambitions.

THE NEED: to understand how the area's green spaces can contribute to a network of spaces which tackle the climate crisis.

THE STAKEHOLDERS: Lambeth Council, Jubilee Gardens Trust, Bankside Open Spaces Trust, St John's Church, Coin Street Community Builders, WeAreWaterloo BID, South Bank BID.

RELEVANT OBJECTIVE: Improve access to safe, quality green space.



ZERO WASTE CIRCULAR ECONOMY LARGE-SCALE AMBITION PROJECT

ZERO WASTE NEIGHBOURHOOD

The Future Neighbourhoods 2030 programme encourages zero-waste zones to reduce waste and harness the circular economy.

Waterloo and South Bank could enable this vision in several ways which would be led by a dedicated project manager and designed in collaboration with the community.

This could include:

- Enabling a Library of Things to open in the area
- To grow on WeAreWaterloo's Pretty Vacant initiative and encourage low waste or circular economy initiatives to open in vacant properties in the area
- To work with Incredible Edible Lambeth to encourage local food growing in local green spaces and local food composting

THE NEED: to understand how we can work with residents, businesses and organisations to reduce the amount of waste in Waterloo and South Bank through a range of interventions.

THE STAKEHOLDERS: Lambeth Council, WeAreWaterloo BID, South Bank BID, businesses and organisations across the area, Incredible Edible Lambeth.

RELEVANT OBJECTIVE: The volume of waste produced is reduced as local people are supported to reuse and repair.



DELIVERING THE STRATEGY

CURRENT PROJECT CASE STUDIES

SUSTAINABLE VENTURES

- 45,000 sq ft of workspace for cleantech businesses in SE1
- Received £1.45m funding from Lambeth's Future Workspace Fund
- Business support provided



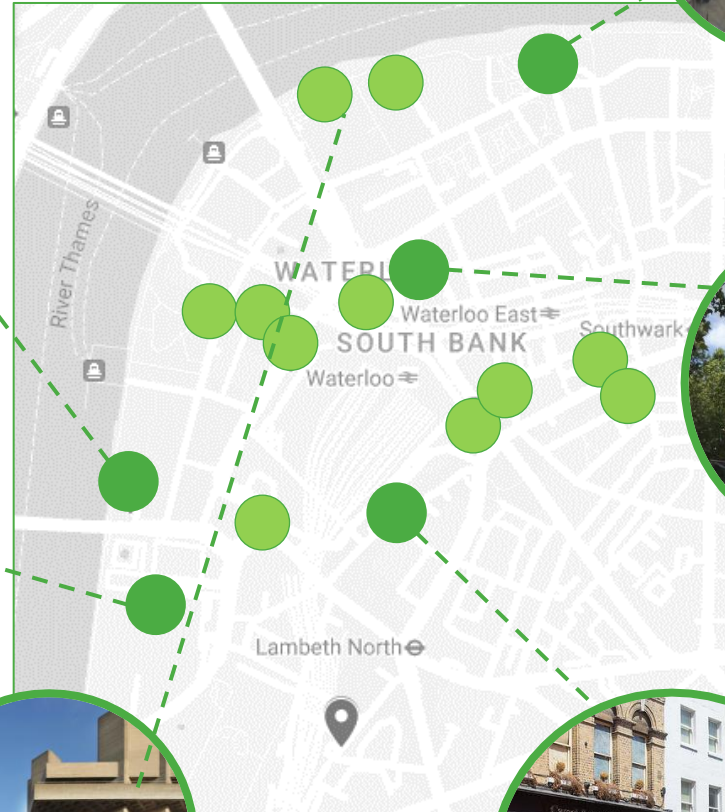
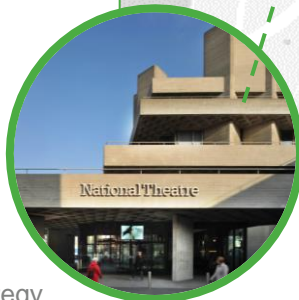
ST THOMAS' HOSPITAL

- River freight pilot is underway exploring how deliveries to the hospital via the river can support the organisations' sustainability targets



NATIONAL THEATRE

- The National Theatre is working to implement the [Theatre Green Book](#) standards across its Productions, Operations and Buildings, with the aim to embed sustainable practice across all its operations.



SOUTH BANK SPINE ROUTE

- Reimagining Belvedere Road, Upper Ground and Concert Hall Approach public realm to support and contribute to the area's success as a place where to live, work and visit and enable more walking and cycling.



ST JOHN'S CHURCH

- Undergone a £5.5m renovation (including £800k S106 from Lambeth)
- Retrofit and installation of 80 solar panels installed on its grade II listed roof now makes it one of the most sustainable historic landmarks in London.

LOWER MARSH TIMED CLOSURE

- Following a trial, traffic restrictions have been made permanent, creating a permanent timed closure zone on Lower Marsh



05 NEXT STEPS

NEXT STEPS RECOMMENDATIONS

The following next steps are recommended to take this strategy forwards:

- **Governance of this project:** This strategy will be monitored and managed through partnership governance, including South Bank and Waterloo Partnership, the SoWN Environment Group and the Climate Partnership Group. Through these structures, stakeholders will be accountable and responsible for the successful implementation of this strategy.
- **Assigning responsibility and prioritisation:** Actions and projects have been identified in this strategy that will help Waterloo achieve net zero. However, further work will be undertaken in partnership to identify which stakeholders will own specific actions and be responsible for their delivery. During this process further refinement and prioritisation of what actions will be most impactful and positively benefit the Waterloo and South Bank community should be considered. Actions that are prioritised should be based on local evidence and community needs.
- **Monitoring the projects:** This strategy outlined 31 projects taking place across Waterloo and South Bank. Continued monitoring of their progress will be important to communicate the change occurring in the neighbourhood. This will help to identify challenges and opportunities with implementing projects, which should be shared with other key stakeholders in the area.
- **Digital platform to host the projects to encourage transparency and collaboration:** The success of a net zero Waterloo and South Bank will require collaboration between stakeholders, with each delivering their part. A robust digital platform to help coordinate action and delivery across the neighbourhood would be beneficial to ensure residents, companies, organisations and government bodies are kept up to date with progress being made.



06 APPENDICES

APPENDIX 1

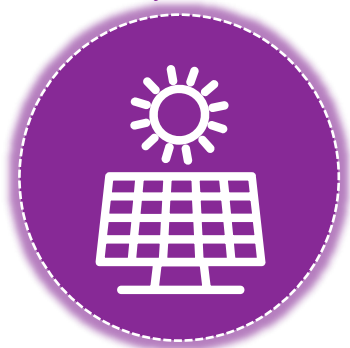
MAPPING WATERLOO'S VISION TO THE CLIMATE ACTION PLAN

Vision for Waterloo and South Bank: By 2030, Waterloo and South Bank will be a net zero and resilient neighbourhood, where local communities will be inclusive, greener, healthier and thriving.

Retrofitting homes, commercial and public buildings



Creating a decarbonised, smart and integrated energy system



Improving air quality and creating zero emission zones



Climate adapted, resilient and green neighbourhoods



Zero waste circular economy



Vision for Lambeth: Lambeth will be a place where we can live, work, learn and enjoy life in our local areas, where we can travel safely and easily by foot, bike and public transport, in an environment with clean, green and nature-rich spaces. Our homes and workplaces will be comfortable and affordable to run, with good jobs and strong, inclusive, resilient communities where everyone's needs are met, and everyone plays a part.

Relevant part of the CAP vision:

Our homes and workplaces will be comfortable and affordable to run

Our homes and workplaces will be comfortable and affordable to run

We can travel safely and easily by foot, bike and public transport

An environment with clean, green and nature-rich spaces
Resilient communities

An environment with clean... spaces

Common principles: Inclusivity, resilience, green, health and green jobs

APPENDIX 2

LAND OWNERSHIP DATA

The table opposite provides more information on the land ownership map.

The land ownership map used provides enough detail required for the purpose of this report. However, there are a few caveats with the map, which are listed below.

- Land boundaries are approximate and not precise. These boundaries provide a general guideline and should not be used for legal decisions etc.
- Leaseholders are only provided in cases where Shell or The Arts Council are the freeholders. Other properties may have leaseholders, but these have not been included in the table opposite. Where required, map users seeking to know leaseholders at specific addresses should request a title register.
- Information regarding the freeholder does not take into account if there's a pending application with HM Land Registry. Map users should order an official copy of the register if legal confirmation is required.
- The map covers the majority of the Waterloo and South Bank Ward that is part of South Bank BID area. The only major landownership not included is Archbishop's Park for which we believe the Church Commissioners possess the freehold and LB Lambeth currently hold a 40-year lease.
- The map excludes sub-surface areas and refers only to Waterloo Station above ground. London Underground Limited also maintain freeholds sub-surface. We believe that the same is true for LCR and their holdings "under" the station.

Map ID	Property/ Properties	Address/ Located Near	Freeholders	Leaseholder
2	Southbank Place - One Casson Square, Thirty Casson Square and environs	Shell Centre, York Road, London, SE1 7NA	Shell International Petroleum Company Limited	Braeburn Estates Management Company Limited
3	Elizabeth House	Elizabeth House, 39 York Road, London, SE1 7NQ (Freehold)	HB Reavis UK Limited	
8	Royal Street development	Various	Guy's and St Thomas' Foundation	
11	Former IBM Building	76 Upper Ground, London, SE1 9PZ (Freehold)	Wolfe Commercial Properties Southbank Limited	
12	Former ITV Building	London Television Centre, 60 Upper Ground, London, SE1 9LT	MEC London Property 3 Limited	
14	Doon Street Car Park (includes Rambert Building)	Upper Ground, London, SE1 9EY	Coin Street Community Builders Limited	Rambert (Rambert Building)
18	Jubilee Gardens Hungerford Car Park	Belvedere Road, London, SE1 7PG	The Arts Council of England	Head lease: Southbank Centre Limited, sub-lease: Jubilee Gardens Trust (Gardens); Braeburn Estates (Car Park)
29	Royal National Theatre	Upper Ground, London, SE1 9PX	The Arts Council of England	Royal National Theatre
31	Southbank Centre and environs	Southbank Centre, London, SE1 8XX	The Arts Council of England	Southbank Centre Limited
32	Shell Centre, Belvedere Gardens and environs	Shell Centre, York Road, London, SE1 7NA	Shell International Petroleum Company Limited	Braeburn Estates Management Company Limited (excluding shell centre building)
33	County Hall and environs	County Hall, Belvedere Road, London, SE1 7PB	Shirayama Shokusan Company Limited	Multiple (includes Marriott Hotels and Premier Inn)
34	Guy's and St. Thomas' Hospital, Evelina Children's Hospital and environs	St Thomas' Hospital, 249 Westminster Bridge Road, London, SE1 7EH	Guy's and St Thomas' NHS Foundation Trust	
35	Waterloo Station	Waterloo Road, London, SE1 8SW	NETWORK RAIL LIMITED	
36	Gabriel's Wharf, Oxo Tower Wharf, Bernie Spain Gardens North and environs	36 Upper Ground, London, SE1 9PE	Coin Street Community Builders Limited London Borough of Lambeth (Bernie Spain Gardens North and riverside)	Coin Street Community Builders
37	Coin Street Neighbourhood Centre, Bernie Spain Gardens South and environs	108 Stamford Street, London, SE1 9NH	Coin Street Community Builders Limited London Borough of Lambeth (Bernie Spain Gardens South)	Coin Street Community Builders
38	The Green Room	101 Upper Ground, London, SE1 9PP	Coin Street Community Builders Limited	The Green Room

APPENDIX 3

ALTERNATIVE TARGETS

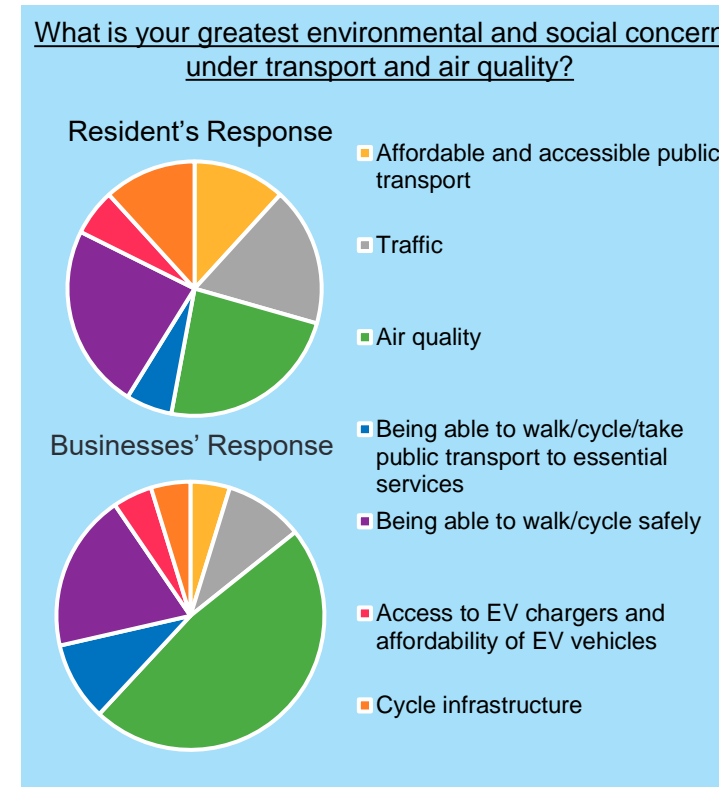
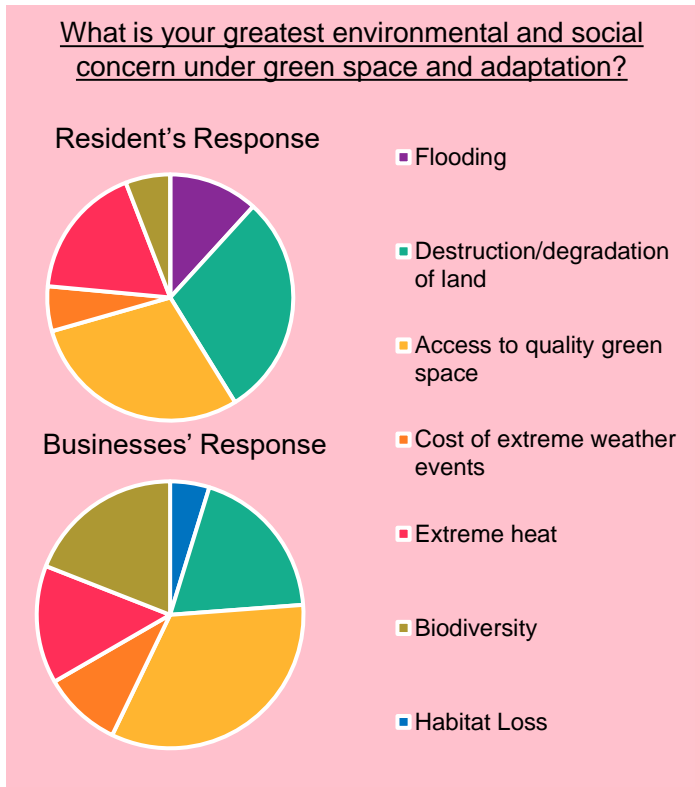
Where possible the targets for each of the objectives have been aligned with Lambeth's Climate Action Plan to support wider action and help track changes in future. However, other targets were also explored as part of this exercise and it may be the case that Waterloo and South Bank wishes to align with other local or national targets.

Objective Area	Alternative Target	Source
Retrofit of buildings	Public sector buildings reduce emissions by 75% and reduce the number of commercial properties rated below EPC B	UK Heat and Building Strategy
Transport	25% reduction in total distance travelled per person per year by 2030	SCATTER
Zero Waste Circular Economy	Increase recycling rate to at least 67% in all wastes by 2030	Lambeth Waste Strategy
Zero Waste Circular Economy	33% reduction in waste and a 61% decrease in food waste	Sixth Carbon Budget
Climate adapted, resilient green neighbourhoods	Increase London's tree cover by 10% by 2050	London Environment Strategy

APPENDIX 4

BUSINESS AND RESIDENT ENGAGEMENT

During the engagement process we asked businesses and residents what was their greatest environmental and social concern under each sector (buildings and energy, transport and air quality, green space and adaptation and waste and consumption). The results below show how the two different groups responded. Young people were asked which sector they think needs the most action, the results are presented on the following page.

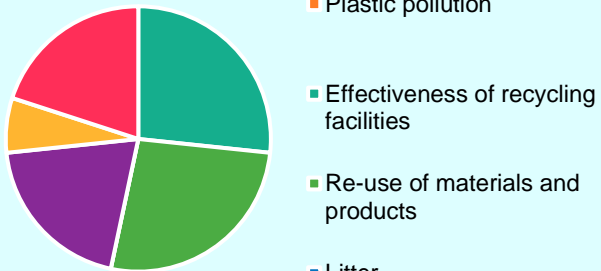


APPENDIX 4

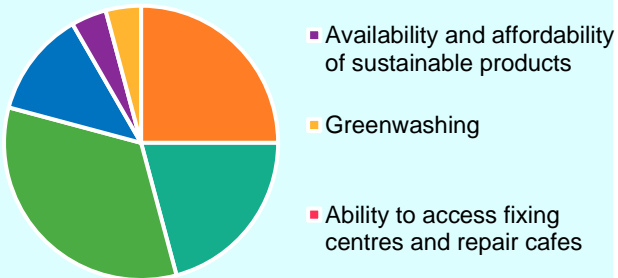
BUSINESS AND RESIDENT ENGAGEMENT

What is your greatest environmental and social concern under waste and consumption?

Resident's Response

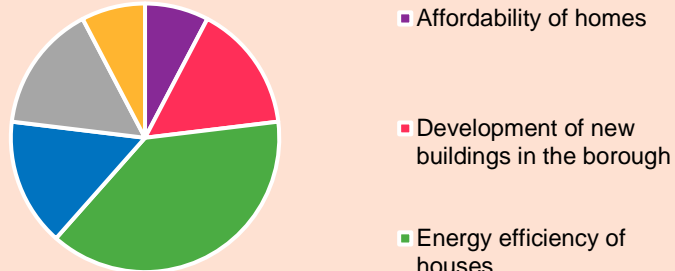


Businesses' Response

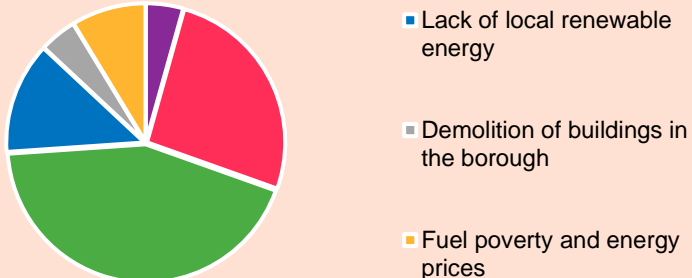


What is your greatest environmental and social concern under buildings and energy?

Resident's Response

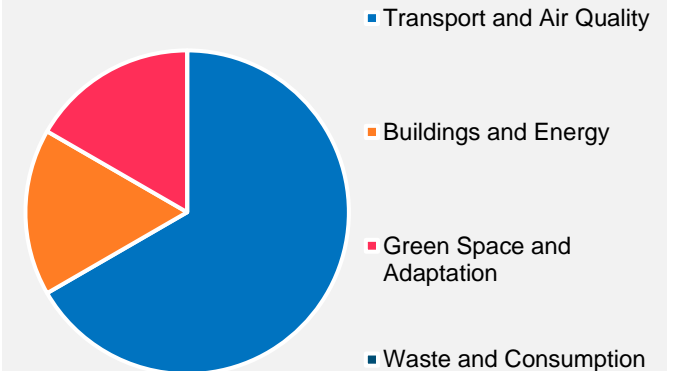


Businesses' Response



Which sector do you think needs the most action?

Youth Response



APPENDIX 5

DATA SOURCES

An extensive list of data sources were analysed during the researching process. This allowed for an understanding of the baseline profile for Waterloo and South Bank. Only relevant statistics and maps were used to construct the overall current profile of Waterloo and South Bank, which are referenced when used in the report. A full list of all data sources evaluated and used in the construction of the evidence base of this strategy are listed adjacent and on the following pages:

The following table shows the estimated carbon footprint of the area based on the [CSE Impact tool](#). The methodology and caveats are available on their website.

Sector	Emissions Breakdown (tCO2e)
Industrial and Commercial	11.64
Road Transport	3.66
F-gases	1.99
Housing	1.97
Aviation	1.26
Shipping	0.5
Diesel Fuelled Railways	0.02
Other Transport	0.01

Table 20. CSE Impact Tool breakdown of the emissions per sector in Waterloo and South Bank¹.

Name & Link	Description
Household Recycling Rates	Proportion of collected household waste which is recycled or composted.
Green Spaces in Waterloo (available internally)	List of locations of green space in ward and other details, such as ownership, conservation area, green flag status.
Waterloo Housing Details (available internally)	Postcode, location, SAP, CO2, age, property type, heating source, heating demand, heat loss coefficient.
Traffic counts (available internally)	Class of vehicle, average speed, hourly count.
Green Economy data (available internally)	List of postcodes for sustainable ventures businesses and green economies.
Kmatrix (available internally)	Data on the low carbon goods and services sector and the different environmental operations.
Development and Investment pipeline (available internally)	Development and investment pipeline for Waterloo and South Bank.
Display Energy Certificate Data	For non-domestic buildings.
Postcode Level Domestic Gas Consumption	Domestic gas consumption data provided at the postcode level.
Postcode Level Domestic Electricity Consumption	Domestic electricity consumption provided at the postcode level.
Fuel Poverty by LSOA	Number of households classed as fuel poor per LSOA.
LSOA estimates of properties not connected to the gas network	Shows properties without gas central heating.
EPC Data	EPCs for domestic and non-domestic buildings.

APPENDIX 5

DATA SOURCES

Name & Link	Description	Name & Link	Description
Impact: Community Carbon Territorial Footprint	Tool from CSE. Local footprints available at a ward/community level, breaks down national data.	Impact on urban health	Guys and St Thomas tool: Population and population density.
Impact: Community Carbon Consumption Footprint	Tool from CSE. Local consumption footprint available to show key areas in Waterloo.	Impact on urban health: Housing Category	Private rented housing statistics.
Parallel Maps	Projected population changes, deprivation and fuel poverty.	Impact on urban health: Housing Category	Dwelling stock built between 2009 to 2021 statistics.
Parallel London maps - Atmospheric Emissions Inventory	Annual Mean NO2 modelled concentrations for 2020 on a 20m grid.	Impact on urban health: Housing Category	Percentage of domestic buildings with band F-G energy efficiency rating statistics.
Parallel London maps – Buildings	Topography and general landscape of the area.	Impact on urban health: Housing Category	IoD 2019 private rental affordability (component of housing affordability indicator).
WeAreWaterloo First Mile carbon calculator (available internally)	Calculator for customers to work out their carbon impact from waste.	Impact on urban health: Housing Affordability	IoD 2019 housing affordability.
Climate Risk Metrics	London-wide climate risk map showing climate exposure and vulnerability.	Impact on urban health: Housing Category	Current average energy efficiency of domestic buildings.
Flood Risk	London-wide flood risk map.	Impact on urban health: Access and Transport	Travel time to nearest town centre by public transport/walk.
Heat Risk	London-wide heat risk map.	Impact on urban health: Access and Transport	Households with no car.
Mortality Risk from High Temperatures in London (available internally)	Local levels of heat-related mortality (estimated using a mortality model derived from epidemiological data).	Impact on urban health: Communities and Environment	Addresses with private outdoor space.
London's Urban Heat Island - During A Warm Summer	Urban morphology data derived from Virtual London.	Impact on urban health: Communities and Environment	Community Needs Index: active and engaged community score.
Heat map	Annual Heat Demand (MWh) and potential networks	Road Traffic statistics	Motor vehicle traffic by local authority in Great Britain.
London Atmospheric Emissions Inventory (LAEI) 2019	Estimations of the number of Londoners and number of schools, hospitals and care homes in London exposed to an annual average NO2 concentration above 40µg/m3 and PM2.5 concentration above 10µg/m3.	TfL Cycling Infrastructure Database	Survey of every street in every London borough. Collected information on over 240,000 pieces of infrastructure, covering an area of 1,595 square kilometres.
LAEI 2019 - Borough Air Quality Data for LLAQM	NOx, NO2, PM10 and PM2.5 emissions and ground level NOx, NO2 and PM concentrations.	Noise Pollution in London	Noise pollution from road and rail sources.

APPENDIX 5

DATA SOURCES

Name & Link	Description	Name & Link	Description
Lambeth Council Ward Profiler	Maps and statistics on population, demographics, deprivation, vulnerable families and health.	Waterloo and South Bank Public Realm Framework	Framework document for Waterloo and South Bank.
PBCC: Total Emissions Graded	Estimated average annual carbon footprint per person for each LSOA.	Ward-level population estimates	Break down of the total population into ages and gender split.
PBCC: Van Emissions Graded	Estimated average carbon footprint per person from driving vans.	Community Insight: Deprivation	Households living in fuel poverty.
PBCC: EPC Scores	The average EPC score for domestic buildings. (Note: not all homes have EPCs.)	Community Insight: Vulnerable Groups	Children in relative low income families.
PBCC: Low Energy Lights in Homes	Percentage of lights which have low energy bulbs such as LEDs (based on EPCs).	Community Insight: Communities and Environment	Percentage of people say they are satisfied with the local area as a place to live.
PBCC: Electricity Emissions Graded	Estimated average carbon footprint per person from domestic electricity.	Community Insight: Census 2021	Population density.
London Green and Blue Cover	Maps out the city's parks, gardens, trees, green spaces, rivers and wetlands, and features such as green roofs.	Waterloo and South bank Current Tree Canopy (available internally)	Tree canopy coverage across the ward.
London Fuel Poverty Risk Indicators	Fuel poverty scores measure risk of fuel poverty based on 12 indicators	Flood Risk Zones	Flood risk for London taken from the Environment agency's national dataset.
Low Emission Neighbourhoods - Zones Map	Air quality and low emission zones, neighbourhoods and schools.	Tree canopy data (available internally)	Canopy cover across the ward.
Low Emission Neighbourhoods - projected NO2 2025	Air quality and low emission zones, neighbourhoods and schools.	Tree canopy data – valuation (available internally)	Ward data provided for value for air pollution and hydrological benefits of tree canopy.
Low Emission Neighbourhood - Current Air Quality Data	Dataset on air quality - combines No2 and PM25.	Diffusion Tubes in Lambeth	Number of diffusion tubes in the Waterloo area measuring NO2 pollution levels.
Lambeth Council Ward Profiler	Data on ethnicity and language.	Carbon Trust Decarbonising heat in Lambeth	Study of Lambeth to identify retrofit and scenarios for heat decarbonisation.
Lambeth Council Ward Profiler	Data on levels of education.	Carbon Trust Decarbonising heat in Lambeth	Report on heat networks zoning.
Lambeth Council Ward Profiler	Vulnerable older people.	Sustainable Drainage Systems	National GIS map that provides data indicating the suitability of the subsurface for infiltration SuDS.

APPENDIX 6

CURRENT PROJECTS

The following table lists the projects currently under implementation in Waterloo and South Bank as provided by key stakeholders in the community. There may be other projects taking place not captured here. This aims to capture where action is taking place to highlight areas for collaboration and gaps to target future action. The most relevant objective area is also highlighted but it may be the case that projects contribute to multiple goals.

Sector	Objective Area	Project Name	Project Description
Transport	Sustainable modes	Mepham Street Improvements	Capital works to improve Mepham Street and improve the Arches to Tenison Way
Transport	Sustainable modes	Spine Route improvements	Public Realm, SUDS and walking/cycling improvements along Upper Ground and Belvedere Road
Transport	Sustainable modes	The Cut/ Cornwall Road Healthy Routes	Implementation of modal filters to improve Healthy Routes on The Cut and Cornwall Road for walking and cycling.
Buildings and Energy	Non-domestic buildings	14 Baylis Road Retrofit	Public Sector Decarbonisation Scheme (PSDS) funded project to install insulation, solar, ventilation, LED lighting and an air source heat pump at 14 Baylis Road (as part of a project to reduce emissions from LBL owned buildings which provide community services).
Circular Economy	Waste reduction & recycling	Waste Strategy Review 2023	Review Lambeth's Waste Strategy and check for alignment of current recycling and household waste targets against the council's Net Zero Carbon 2030 objectives
Circular Economy	Production & consumption	Circular Economy Action Plan	Develop staff awareness and understanding of the Circular Economy through internal communications and workshops. This will include creating an action plan.
Circular Economy	Recycling	Flats Recycling Improvements	Initiate ReLondon Flats Recycling Package (FRP) to the first phase of estate properties.
Circular Economy	Recycling	Improved Food Waste in Flats	Roll out food waste collections to 3000 more flats in Lambeth in 2022/23

APPENDIX 6

CURRENT PROJECTS

Sector	Objective Area	Project Name	Project Description
Circular Economy	Recycling	New on-the-go smart litter and recycling bins and #InTheLoop campaign	Procurement and installation of new smart bins to improve on-the-go recycling in Lambeth town centres; Collaboration with Hubbub to launch the new bins under #InTheLoop campaign to improve visibility of the new bins and reduce contamination; Introduction of separation of litter for recycling by street sweepers, including separate collection of coffee cups for recycling and designating sweeper barrows as “mobile recycling points”
Transport	Electrification	Increase proportion of electric vehicles in the waste and street cleansing fleet	Upgrade power supply and install charging infrastructure at waste depots; Continue e-vehicle procurement programme
General	General	Low Carbon Sector Growth Strategy	Lambeth Council's Business, Culture and Investment Team are working on a Low Carbon Sector Growth Strategy which will set out aims and recommendations for growing the sector across the borough. This will include a focus on Waterloo.
Transport	Electrification	Electric Vehicle Strategy	Lambeth Council's Transport Team are creating an action plan for the delivery of electric vehicle charge points across the borough.
Transport	Sustainable modes	Kerbside Strategy	Lambeth Council's Transport Team are creating a Kerbside Strategy which sets out policy for how Lambeth will work towards 25% of Lambeth kerbside being used in ways the support community resilience to climate change, as adopted through the Climate Action Plan.
Green spaces	Biodiversity	ARUP South Bank Biodiveristy Study	The Southbank Centre have commissioned ARUP to understake a study into biodiversity along the South Bank which will identify where potential projects could happen.
Buildings	New builds	Old Vic Annex	Exemplar low carbon extension for the Old Vic Theatre, including a timber frame, natural ventilation and solar shading formed of repurposed theatre lighting components.
Green spaces	Access to green space	Emma Cons Gardens	Redesign and development of Emma Cons Gardens, creating new green public space.

APPENDIX 6

CURRENT PROJECTS

Sector	Objective Area	Project Name	Project Description
Buildings	Re-use	Waterloo Central Development	Redevelopment of Mercury House site by Bourne Capital. Design is BREEAM outstanding. This will be an operationally net zero carbon building and the first building in the UK to feature 'solar-skin' with photovoltaic panels integrated into its façade system.
Buildings and Green space	New builds & Access to green space	One Waterloo Development	1.3million sq ft multi-purpose scheme by HB Reavis, which targets both BREEAM Outstanding and WELL Platinum accreditations, will provide a publicly accessible garden promenade elevated two floors above street level and connected to Waterloo Station via a new footbridge. Three acres of outdoor space with over 100 planted trees will be created, including brand new public squares and cascading terraces, as well as a unique urban sky farm.
Buildings	Non-domestic buildings	Royal Street Development	Development proposal for Royal Street, including retention and retrofit of Beckett House and a fully electric scheme.
Circular Economy	Recycling	South Bank BID Waste Recycling Scheme	Scheme to provide business on the South Bank with a consolidated supply of waste and recycling services which will help reduce vehicle trips associated with multiple waste operators coming to the area, reduce congestion and improve air quality.
Transport	Sustainable modes	South Bank BID Cargo Bike Scheme	Cargo bike made available for the Coin Street Community Builders Youth and Community Programmes Team from September 2022
Transport	Freight & Electrification	South Bank BID Air Quality Monitoring	Air Quality Monitors installed along the South Bank and in Waterloo to take more accurate air quality readings and allow for informed decisions regarding traffic management to be made.
Energy	Renewable electricity	St Andrew's Church & Community Centre, Short Street, SE1	Installation of solar panels
Buildings	Non-domestic buildings	St John's Church	Complete overhaul of Grade II* listed church, retrofitting to make it net zero.

APPENDIX 6

CURRENT PROJECTS

Sector	Objective Area	Project Name	Project Description
General	General	Sustainable Workspaces	Funding Sustainable Workspaces to fit-out the third and fifth floors of County Hall to create the UK's largest cluster of cleantech businesses.
General	General	Sustainable Ventures ERF Programme	ELEMENT 1 Lambeth Business Support - Offering business support to 5 Lambeth based starts ups or SMEs with sustainability at their core. Support includes 6 hours of 1:1 support along with 6 hours of webinars and the opportunity for peer learning. ELEMENT 2 Lambeth Bootcamp - Offering a Net Zero Strategy Bootcamp accessible to all businesses in Lambeth. This consists of 6 hours of webinars plus 4 hours of 1:1 support to finesse and implement their unique NZ strategy. ELEMENT 3 Lambeth Innovation Challenge - The Lambeth Innovation Challenge connects Established Businesses within the borough with Innovators in Low Carbon Buildings, Mobility & Waste & Circular Economy. It allows Established Businesses to overcome challenges on their Net Zero Journey and provides Innovators opportunities for the broader adoption needed to succeed.
Circular Economy	Waste reduction & production	National Theatre Green Book	To achieve step one baseline Theatre Green Book standard for all productions made at the NT (reusing assets)
Green space	Resilience	Hercules Rd SUDs	Animate Hercules Rd and provide more greening and public space.

APPENDIX 7

PROPOSED PROJECTS

The following table lists the projects which are proposed to take place in the area. This is based on what organisations have planned, what projects need further funding and some project ideas that were proposed by stakeholders. This may not be a complete list, but it serves as a way to start capturing future projects for the areas and the scale and area of impact possible. More details are captured on projects by Lambeth council such as funding requirements to understand barriers and what support is needed to implement these projects. The most relevant objective area is also highlighted but it may be the case that projects contribute to multiple goals.

Sector	Objective Area	Project Name	Project Description
Energy	Shifting off gas	Decentralised Energy Network	Lambeth, SBEG and the GLA began work on a decentralised energy network in the South Bank area. This work was part funded by the Department of Energy and Climate Change, and a steering group was established and progressed some initial feasibility and modelling work. The project was paused around 2018 before it was resurrected in 2019 before it was paused again by the Covid-19 pandemic.
Transport	Sustainable modes	Residential secure cycle parking	More cycle parking hangars in the local area with a focus on residential areas.
Transport	Sustainable modes & Freight	Mobility Hubs	Installation of 4 Mobility Hubs in local area. Hubs contain, e-car clubs, e-cargobikes, and would explore whether this could include hireable e-scooters/bikes or act as a parklet.
Transport	Freight	Zero Emission Zone Waterloo Feasibility	Commission feasibility study to enact a ZEZ in the entirety of Waterloo and South Bank which highlights the opportunity and cost of interventions.
Transport	Sustainable modes	Commercial secure cycle parking	Cycle hangars for businesses for their staff to secure park bikes in that cannot be placed on their own premises.
Transport	Sustainable modes	The Cut Wider Improvements	Formalising the closure on The Cut and removing through traffic routes in the neighbourhoods north and south of The Cut.
Buildings	Improving homes and Non-domestic buildings	SME support with PAS.2030 and trustmark certification	To encourage and support local contractors to move into the retrofit sector, by providing them with support and guidance through the PAS.2030 and Trustmark accreditation process, complemented with some general retrofit training. (selecting 10 local SMEs)
Buildings	Improving homes and Non-domestic buildings	Retrofit Assessor Program	There is a shortage of retrofit assessors across South London, so this aims to build a program to support people to complete the retrofit assessor course and gain experience on-site. Potential for Waterloo as a pilot project

APPENDIX 7

PROPOSED PROJECTS

Sector	Objective Area	Project Name	Project Description
Buildings	Improving homes and Non-domestic buildings	Retrofit Assessor Program	There is a shortage of retrofit assessors across South London, so this aims to build a program to support people to complete the retrofit assessor course and gain experience on-site. Potential for Waterloo as a pilot project
Buildings	Improving homes	Futurefit Street Competition	One street in the area receives expert guidance on how they can futurefit their homes. This will include free whole house plans, social events to exchange knowledge, and advice on grant applications/group purchasing benefits.
Buildings	Improving homes	Open house retrofit pilot of Grade 1/2 listed building	Waterloo is famous as a cultural hub with several listed buildings. This project could see Lambeth heritage officers work with these buildings to come up with a retrofit plan?
Energy	Shifting off gas	National Theatre Ground Water Source Heat Pump	The National Theatre are exploring the feasibility of a Ground Water Source Heat Pump for heating and cooling the building.
Buildings	Non-domestic buildings	National Theatre LED Replacement Programme	The National Theatre will be rolling out an LED replacement programme for all lights across their estate.
Circular Economy & Transport	Reducing travel & Recycling	National Theatre Production Storage and Recycling Hub - Short Term	The National Theatre are seeking a 'local' storage facility to house their Costume and Props store and Production and Technical storage. Their previous storage was in Berkhamsted and others spread around the London area, so this will substantially reduce travel distances and allow the NT to introduce re-use and recycle logistics into the production and construction processes and would be a significant step towards operating in a circular economy.
Circular Economy	Recycling	National Theatre Production Storage and Recycling Hub - Long Term	The National Theatre are supporting a GLA business case study into a reuse and recycle facility for London theatres. This could have a significant environmental impact on the performance sector, and on London. It can transform the scope of reuse and recycling in set-building, and extending the reuse of props and costumes and is a key component in theatre's shift to a circular economy. London Theatre will not achieve carbon neutrality by 2030 unless a Reuse and Recycling Facility is created.

APPENDIX 7

PROPOSED PROJECTS

Sector	Objective Area	Project Name	Project Description
Multiple	Multiple	National Theatre Green Books	The National Theatre have committed to following the guidance of all three Theatre Green Books, working towards benchmark standard in all three areas of Operations, Productions and Buildings.
Green space	Access to Green space	Hatfields Green	New pathways, a pergola and additional planting put into green space to improve it for visitors.
Energy	Renewable electricity	Living Space Improvements	Fix/replace the solar panels on the roof to reduce electricity bills and put back into the grid, reducing reliance on fossil fuels
Green space	Resilience	Environmental benefits to Waterloo Green	Creating new rain garden from redundant water feature, improving wildlife habitats e.g. additional drought tolerant planting and habitat creation throughout park. Creating sense of well being for volunteers and visitors at Waterloo Green, creating local engagement opportunities and resource for local community, activation of the Green by providing better resources for community events, increasing wildlife interest in this Site of Importance for Nature Conservation. Creating training opportunities for long term unemployed through our education and volunteering programmes
Green space	Biodiversity	Hatfields Green	Wildlife garden and composting space to create a more circular economy approach to maintenance at Hatfields (i.e. generating own mulch and compost for growing instead of buying in.) Increased drought tolerant planting. Benefits to local residents
Green space	Biodiversity	Bernie Spain Gardens North re-landscaping	Re-landscaping of the northern section of Bernie Spain Gardens, introduction of pollinator gardens, new planting, improved public space; major scheme with substantial biodiversity and pollination benefits, as well as improved tree health, training and wellbeing programmes - see https://coinstreet.org/about-us/our-developments/bernie-spain-gardens
Green space	Access to Green space	Jubilee Gardens planting	Phased programme of extended biodiverse planting

APPENDIX 7

PROPOSED PROJECTS

Sector	Objective Area	Project Name	Project Description
Green space	Resilience	Jubilee Gardens water capture	Capture water which currently drains into Thames to re-use for irrigation, cleansing
Green space	Multiple	Jubilee Gardens Net Zero Strategy	Build on Southhbank Centre nature-based strategy, FN outputs and initial ideas related to extension to identify projects to enable Jubilee Gardens to make positive net zero contribution to neighbourhood
Green space	Resilience	Jubilee Gardens Extension	Increase green open space by 40% (0.6ha). Will incorporate grey water supply for irrigation, cleansing. May provide major opportunities for renewable heat, energy storage etc.
Energy	Renewable electricity & Shifting off gas	Jubilee Gardens Regenerative Energy and Infrastructure Potential	Through the Jubilee Gardens extension project, to explore the feasibility of these initial ideas of how the gardens could support community energy provision through, for example, River Source District Heating or a District Heat Network to catalyse regenerative change in the area
Green space	Resilience	Incredible Edible Lambeth - Waterloo Community Gardens	Project to establish 8 new community growing spaces, requires a facilitator/community gardener to manage.
Circular Economy	Waste reduction & Consumption	Library of Things Kiosk	Installation of a Lbrary of Things Kiosk in the area (potentially library) to encourage circular economy and less waste
Multiple	Multiple	Extension to existing Lambeth Innovation Challenge (Part of Lambeth Economic Resilience Funded Programme)	There is opportunity to further leverage the collaborative partnerships already taking place via Sustainable Venture's Lambeth Innovation Challenge. These partnerships include National Theatre X Propelair (toilets with reduced water consumption), South Bank Centre X Junee (removing single use), Urbanest X Lightfi (real time energy monitoring) and Hampton by Hilton X Verv (Energy saving for AC and whitegoods) - all are companies in the Waterloo area. Additional funding would enhance their ability to trial innovative products and solutions with the bonus of support from Lambeth Council. King's College Hospital are also involved and knowledge share from the existing programme combined with funding could open up opportunities for retrofit at Guys and St Thomas in Waterloo.
Energy	Shifting off gas	National Theatre Removal of Gas Strategy	As part of wider refurbishment projects, the National Theatre will switch all gas appliances to electric equivalents.

APPENDIX 7

PROPOSED PROJECTS

Sector	Objective Area	Project Name	Project Description
Multiple	Multiple	Waterloo Green Business Support	Work with Lambeth Future Neighbourhood (and Lambeth Council?) to host a one off, or series, of showcase events that present innovations addressing theme(s) of interest to local businesses - for example, circular economy or waste management.
Multiple	Multiple	Waterloo Innovation Incubator	Sustainable Ventures can support Waterloo with sourcing Innovations that target an aspect of the Future Neighbourhood agenda - e.g. Clean Air, Retrofit, Circular Economy. With experience in idea incubation, we can source pre-revenue, early stage ideas/teams/businesses and, with funding, provide them with the opportunity to pitch, progress or even pilot solutions specifically targeted at Waterloo's challenges.
Transport	Sustainable modes	Waterloo Walkway	Support the creation of the WAW Walkway to Waterloo Station. Install SuDS, Trees, improved crossing. The Waterloo Station masterplan provides once in a generation opportunity to significantly improve the relationship between Waterloo Station and it's southern fringes. In particular, there is a major opportunity to create a new pedestrian link between Waterloo Station Exit 1 and Lower Marsh through a new walkway. The proposals above are an extract from the Waterloo Walkway Feasibility Report (2021), commissioned by WaW. The proposals demonstrate the huge opportunity to create a new, attractive pedestrian route.
Green space	Resilience	Lower Marsh Public Space	Opportunity for the installation of SuDS, Trees, improved crossing at the entrance of the eastern side of Lower Marsh - possibly mirroring or borrowing motifs from the ECG redevelopment scheme to link the areas together
Transport	Sustainable modes	Hatfields Greenway & Lowline	Create a green, pedestrian and cycle friendly environment along Hatfields, with a particular focus on the area around the shop parade and intersection with Isabella Street and linking into the Low Line - with the possibility of creating a new pedestrian route linking Isabella Street and Wooton Street to extend the Low Line route. Proposals should consider the proposed new Southwark Station entrance on Greet Street.

APPENDIX 7

PROPOSED PROJECTS

Sector	Objective Area	Project Name	Project Description
Transport	Reducing travel & Sustainable modes	The Old Vic - Footway expansion & associated timed closures	Narrow the carriageway in front of the Old Vic portico and provide both bollards and robust street furniture, as hostile vehicle mitigation features around the theatre. Introduce timed closures/LTNs/modal traffic filters on Webber Street & The Cut making use of the narrowed carriageway and reduced vehicular access. The Cut may become an active, pedestrian-friendly street with high-quality materials and street furniture, new planting and SuDS. Proposals should consider local resident access and loading and servicing requirements for businesses. (Possibility to also tie into Sandell Street redevelopment & reversal of traffic flow to allow bus garage to operate)
Green space	Resilience	Baylis Road SUDs	Animate the wide pavements on the eastern side of Baylis Road through greening, play features, artwork and public seating.
Transport	Sustainable modes	Making space for pedestrians and cyclists on WBR & Rationalisation of Kennington Road cycle lanes	Declutter street furniture and reduce carriageway widths on Westminster Bridge Road and Kennington Road, and introduce cycle infrastructure and widened footways with associated planting and furniture - linking up cycle infrastructure on Kennington Road & the north of Westminster Bridge Road and filling in gaps where no such infrastructure currently exists. Additionally, relocate the northbound cycle lane to a designated part of the carriageway to ensure sufficient space for outdoor seating and forecourt animation along the shop parade.
Buildings and Energy	Multiple	Local Area Energy Planning - Waterloo	Commission study to evaluate available electricity supply capacity for the 10-15 largest energy consumers in Waterloo area, calculate additional electricity demand if these sites were to move to net zero (i.e. electrify heat and install EV chargers (where relevant)) and review investment required in site specific power upgrades to meet electricity demand in net zero scenario. The study could also review investment required to reinforce local grid to meet demand (e.g. substation investment) and measures which sites could take reduce need for power upgrades (e.g. battery storage, shifting demand, energy efficiency). The study should review and recommend opportunities for coordination/joint investment by large energy users in Waterloo.

APPENDIX 8

PROJECT ASSESSMENT METHODOLOGY

Theme	Project Name	Methodology	Sources
Retrofitting homes, commercial and public buildings	London Nautical School Public Sector Decarbonisation Scheme (PSDS)	<ul style="list-style-type: none"> This analysis relied on the information provided in London Nautical School Feasibility Report R01 prepared by Cenergist. This assessed different measures for the potential energy savings and provided an estimated cost. The remaining funding amount was provided by Lambeth London Borough Council Carbon estimates were provided based on applying BEIS 2022 emission factors to the kwh savings estimated in the feasibility report. 	<p>London Nautical School Feasibility Report R01 (Available internally)</p> <p><u>BEIS 2022 GHG Conversion Factors</u></p>
Creating a decarbonised, smart and integrated energy system	Solar Panels Programme Across Waterloo	<ul style="list-style-type: none"> We have used BEIS' solar photovoltaic (PV) cost data for 2021/22, and have used the average cost across the total number of installations that occurred in the most recent month available (March 2022). We have applied the cost for either 0-4kW installations, 4-10kW installations or 10-50kW installations, based on the site type and kW potential that has been determined using the London Solar Opportunity map. It should be noted that some sites/area showed the potential for solar PV installations that exceeded 50kW however in these cases, we have applied the average cost for 10-50kW based on the data that was available. The costs provided by BEIS are assumed to be for different types of PV panels, so are not specific to monocrystalline panels. These costs are indicative only and a site-by-site cost would need to be determined via feasibility studies carried out by solar PV installers. It is also likely that costs may be higher in London. We have also assumed that the costs provided by BEIS include the cost of the survey to assess the feasibility of the solar installation. BEIS GHG conversion factors for 2022 were applied to the estimated annual output (kWh) that were obtained for each site or estate from the London Solar Maps tool to generate carbon equivalent savings. The tool provides carbon savings however the factor used is from 2017 LEGGI and therefore deemed as out of date. The BEIS factor is an average for the grid therefore not specific to London like the LEGGI factor. 	<p><u>Solar PV Cost</u></p> <p><u>Solar PV Carbon Savings for London (LEGGI)</u></p> <p><u>BEIS 2022 GHG Conversion Factors</u></p>

APPENDIX 8

PROJECT ASSESSMENT METHODOLOGY

Theme	Project Name	Methodology	Sources
Improving air quality and creating zero emission zones	The Cut, Pedestrianisation	The carbon estimates for the pedestrianisation of The Cut are largely description, due to the lack of available insight on modal shift and journeys that this will have. A carbon value for tree planting and built infrastructure is provided from Anthesis' PCIAT (Project Carbon Impact Assessment Tool). Cost estimates are varied based on similar case study examples.	<u>The Strand/ Aldwych</u> <u>Broad Street</u> <u>The Grassmarkets</u>
	Micro Mobility Hubs	All carbon estimates provided for the Micro Mobility Hub project assumed that the typical mileage of each mode of transport was replacing 1-years worth of private car travel, to provided a maximum potential saving per year. These carbon estimates were calculated using Anthesis' PCIAT, which also contains typical mileage of different transport modes per year. Cost estimates are single purchase costs as well as scheme delivery costs where applicable.	<u>Car Clubs supporting data</u> <u>EVs cost assumption basis</u> <u>E-Cargo bikes Costs</u> <u>E-Bikes Costs</u>

APPENDIX 8

PROJECT ASSESSMENT METHODOLOGY

Theme	Project Name	Methodology	Sources
Climate adapted, resilient and green neighbourhoods	Community/ Business Resilience Training	<ul style="list-style-type: none"> The Carbon Literacy Project training was used as an example online toolkit of information for costings. The ratio of business employee size data for the wider borough (Lambeth) was applied to the number of businesses in the area to calculate the number of licences needed for carbon literacy training and the cost of learner accreditation. The ratio of business turnover for London was applied to the number of businesses in the area to calculate the cost of course accreditation for carbon literacy training. It is assumed that the council will develop five courses suitable for different businesses to use, including both e-learning development and an in-person course development. This does not include a licence fee and assumes the Council can host e-learning. Two full-time employees are estimated to lead the delivery of the courses with wages of £35,000 each per annum. Student numbers for Oasis Academy Southbank and Morley College were used to calculate the cost of learner accreditation for carbon literacy training. 	<p><u>Carbon Literacy Training and Accreditation Cost</u></p> <p><u>Business Employee Size Data</u></p> <p><u>Business Turnover Data</u></p> <p><u>Job Description: Sustainability Trainer</u></p>
	Increased green space	<ul style="list-style-type: none"> Costs for tree planting and tree maintenance used the Woodland Creation Offer from the Forestry Commission. Costs for biodiversity net gain are taken from UK Government advice to developers on predicted delivery costs for different regions. Carbon savings were calculated using the Woodland Carbon Calculator figures for tonnes per hectare. 	<p><u>England Woodland Creation Offer</u></p> <p><u>Biodiversity Net Gain Cost for London</u></p> <p><u>Woodland Carbon Code Calculator</u></p>
Zero waste circular economy	Recycling Consolidation and Compacting Pilot	<ul style="list-style-type: none"> Estimates provided internally by Lambeth London Borough Council and WeAreWaterloo for the waste pilot project. More details are required to perform a more accurate estimate of carbon savings. 	

Disclaimer

Anthesis (UK) Limited has prepared this report for the sole use of the client (Lambeth London Borough Council) and for the intended purposes as stated in the agreement between Anthesis and the client under which this report was completed. Anthesis has exercised due and customary care in preparing this report but has not, save as specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the contents of this report. The use of this report, or reliance on its content, by unauthorised third parties without written permission from Anthesis shall be at their own risk, and Anthesis accepts no duty of care to such third parties. Any recommendations, opinions or findings stated in this report are based on facts and circumstances as they existed at the time the report was prepared. Any changes in such facts and circumstances may adversely affect the recommendations, opinions or findings contained in this report.