

Climate Emergency Summit

1st July 2019, 9.00 – 12.00

Agenda for the day

Time	Item
09.00	Introduction Cllr Richard Livingstone
09.25	Rising to the climate and environment crisis and championing economic and social justice Luke Murphy, IPPR
09.55	The government's ambition: local energy Patrick Allcorn, Department for Business, Energy and Industrial Strategy
10.25	The Southwark context Stuart Robinson-Marshall, Southwark Council
10.55	Networking break
11.15	Workshop: Achieving change
11.45	Discussion about findings and commitment Led by Cllr Richard Livingstone
11.55	Conclusion and next steps Cllr Richard Livingstone
12.00	Event concludes

Welcome

Cllr Richard Livingstone, Cabinet Member
for Environment, Transport and the Climate
Emergency, Southwark Council



Rising to the climate and environment crisis

Luke Murphy, Associate Director for Energy,
Climate, Housing and Infrastructure, IPPR



Southwark Climate Emergency Summit ***July 2019***

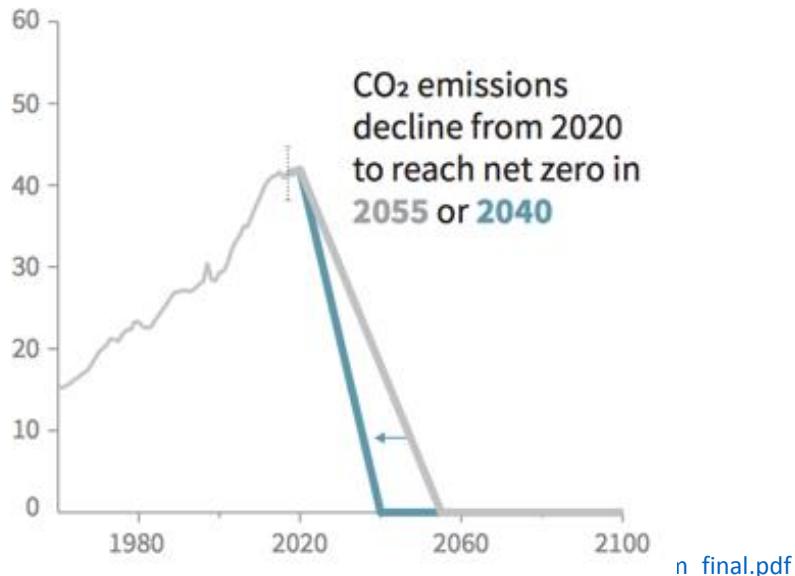
*Luke Murphy, Head of IPPR's
Environmental Justice Commission*



The age of environmental breakdown

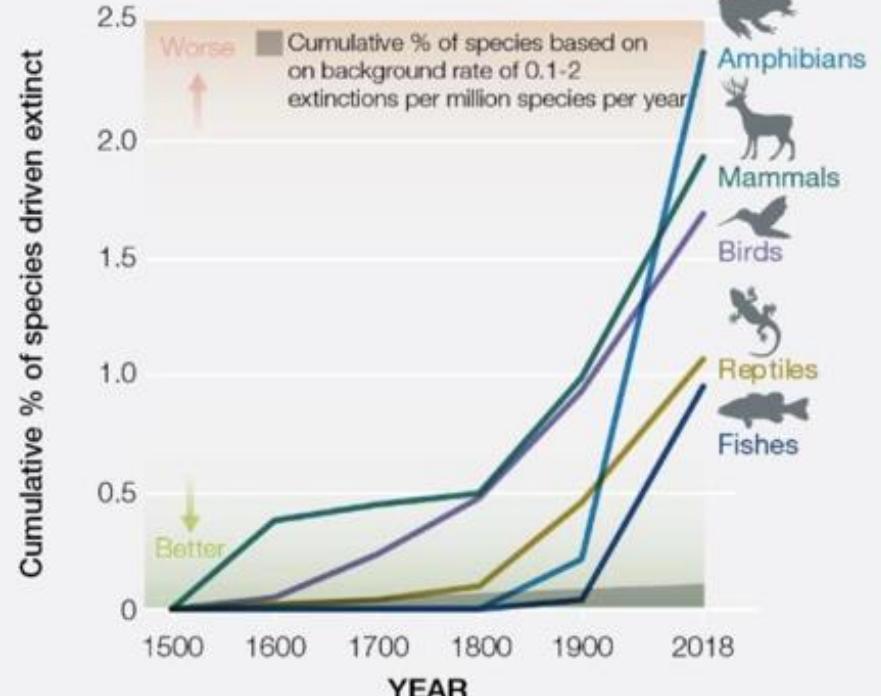
Stylized net global CO₂ emission pathways

Billion tonnes CO₂ per year (GtCO₂/yr)



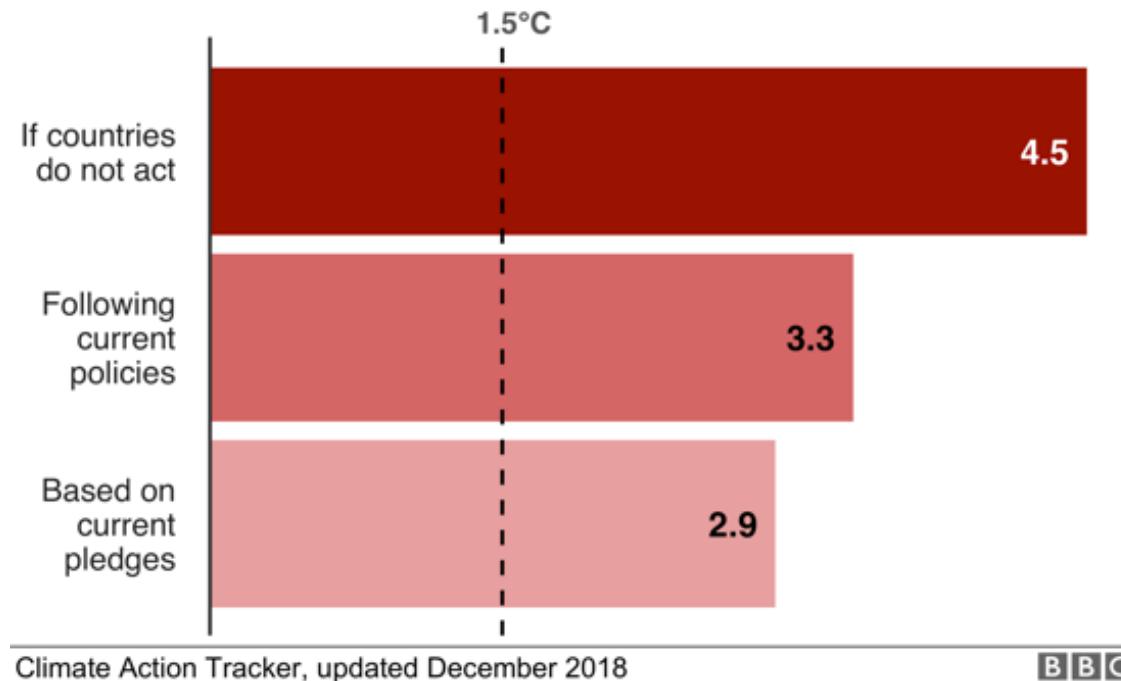
B

Extinctions since 1500



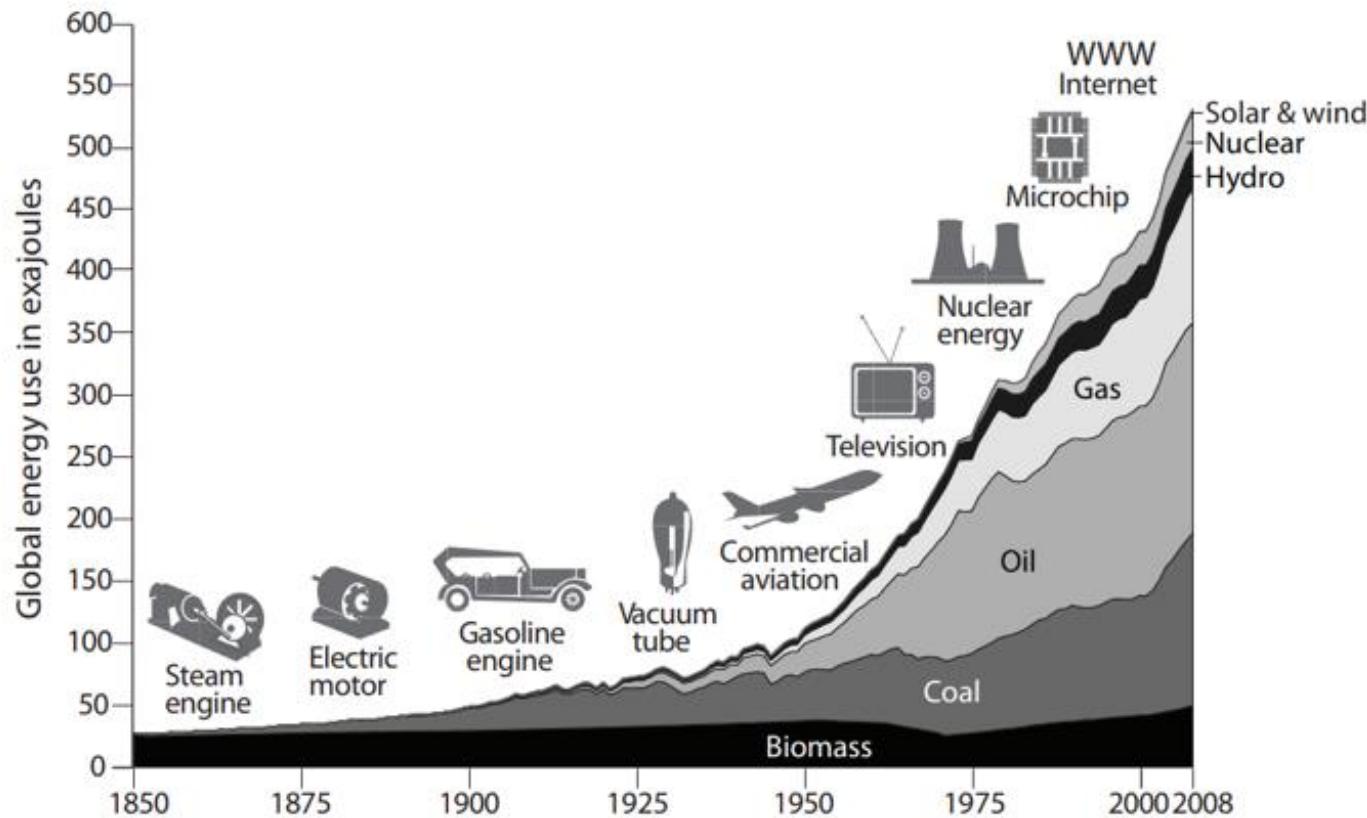
The scale of the challenge:

Average warming (°C) projected by 2100



Source: Mike Berners-Lee, The Burning Question

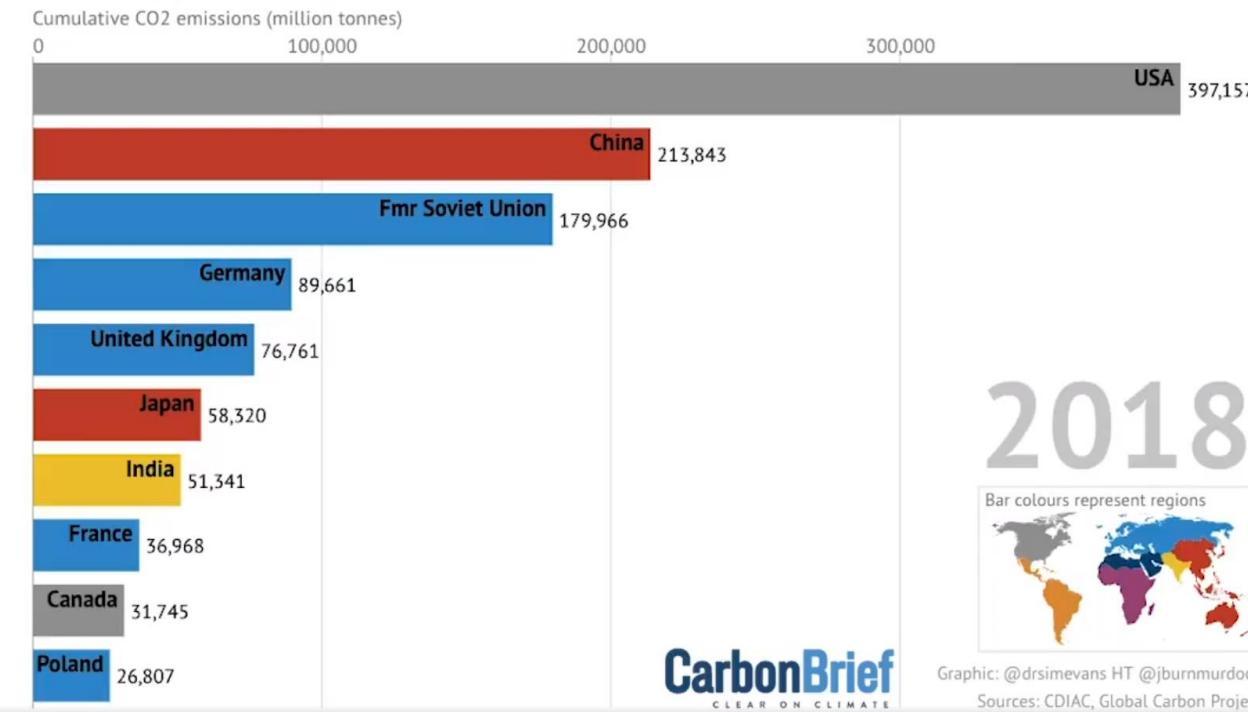
The scale of the challenge: On its own, tech won't save us...



Source: Mike Berners-Lee, The Burning Question

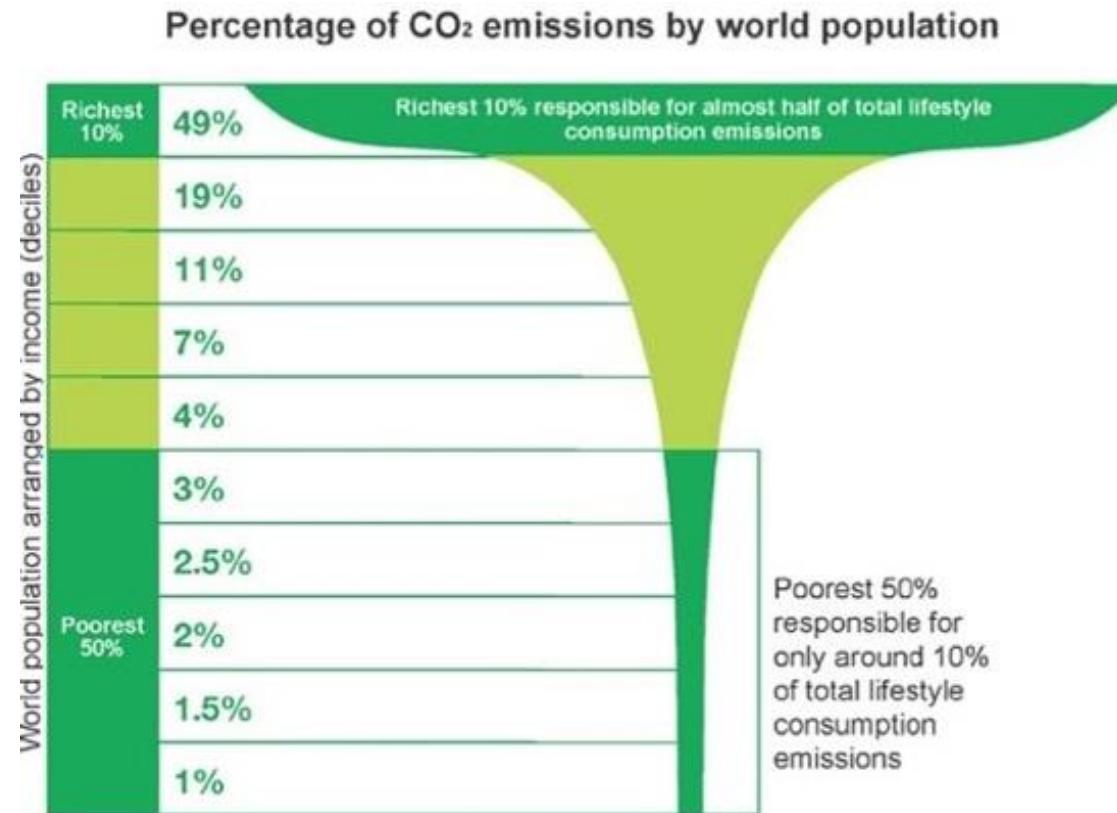
International Justice: The UK has a historic responsibility...

The countries with the largest cumulative CO₂ emissions since 1750



Source: Carbon Brief

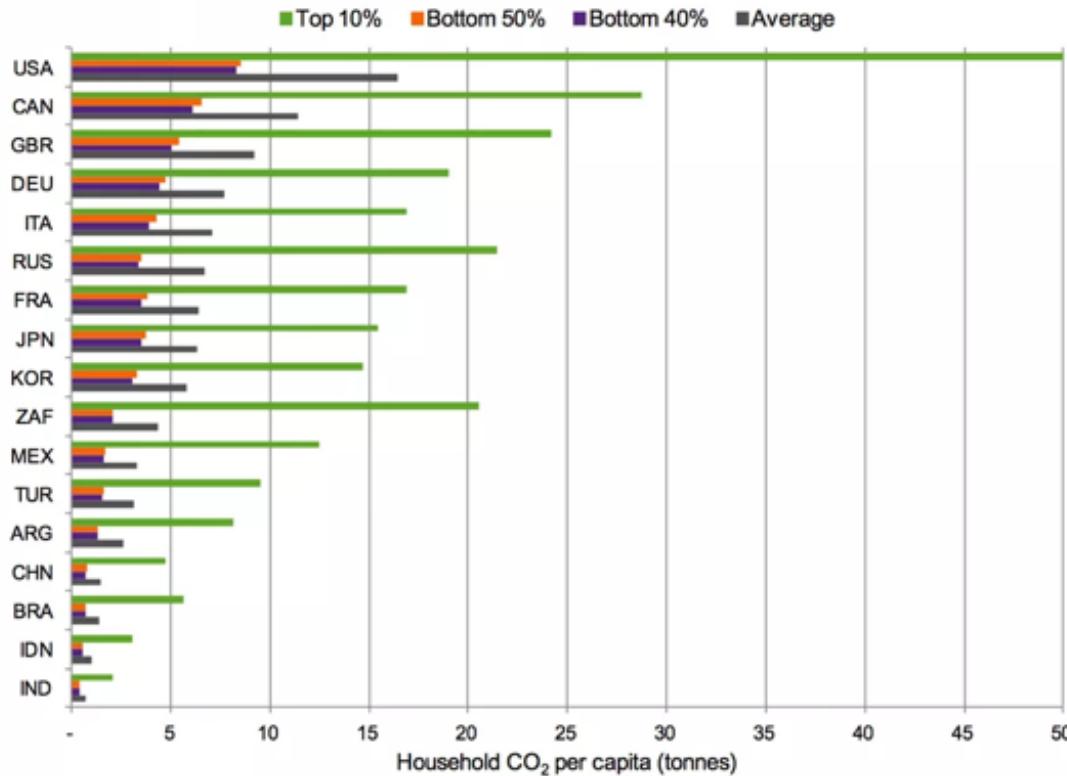
International justice: Not everyone has been equally responsible...



Source: Oxfam

International/Intranational Justice: There is huge variation both between and within countries...

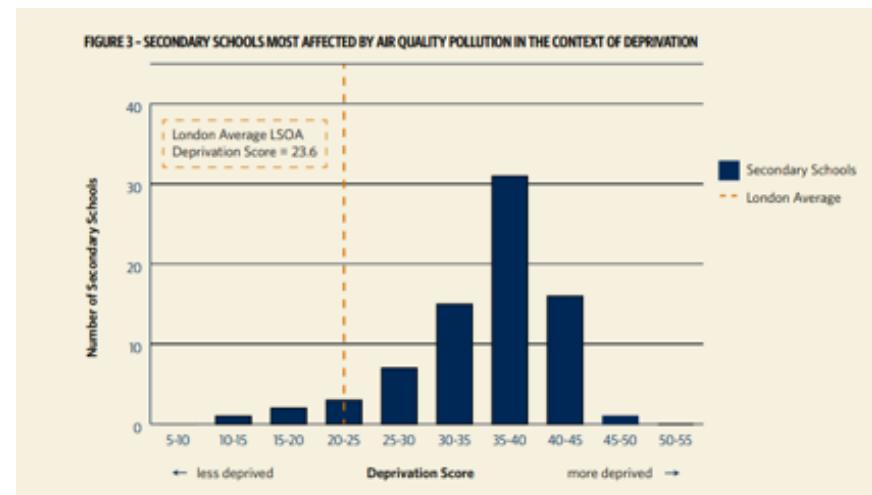
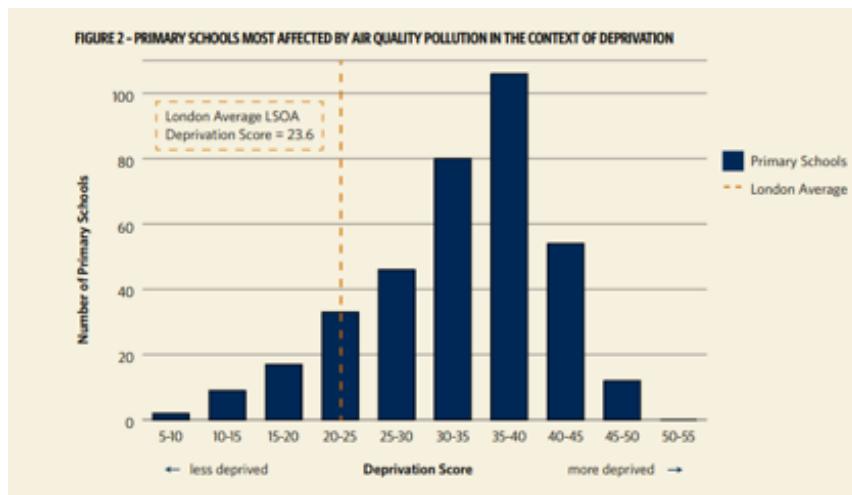
Figure 4: Per capita lifestyle consumption emissions in G20 countries for which data is available



Source: Oxfam

Climate change can exacerbate inequality

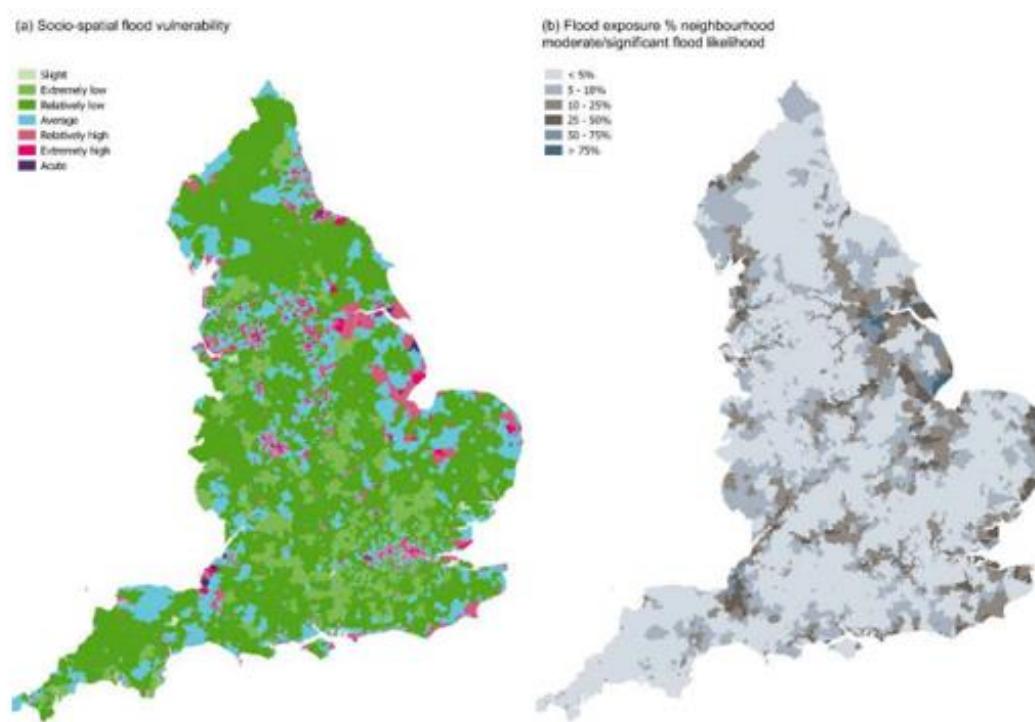
Air pollution disproportionately affects primary and secondary schools in more deprived areas



Source: Brook et al. (2017), *London's polluted schools: the social context*, FIA Foundation.

Climate change can exacerbate inequality

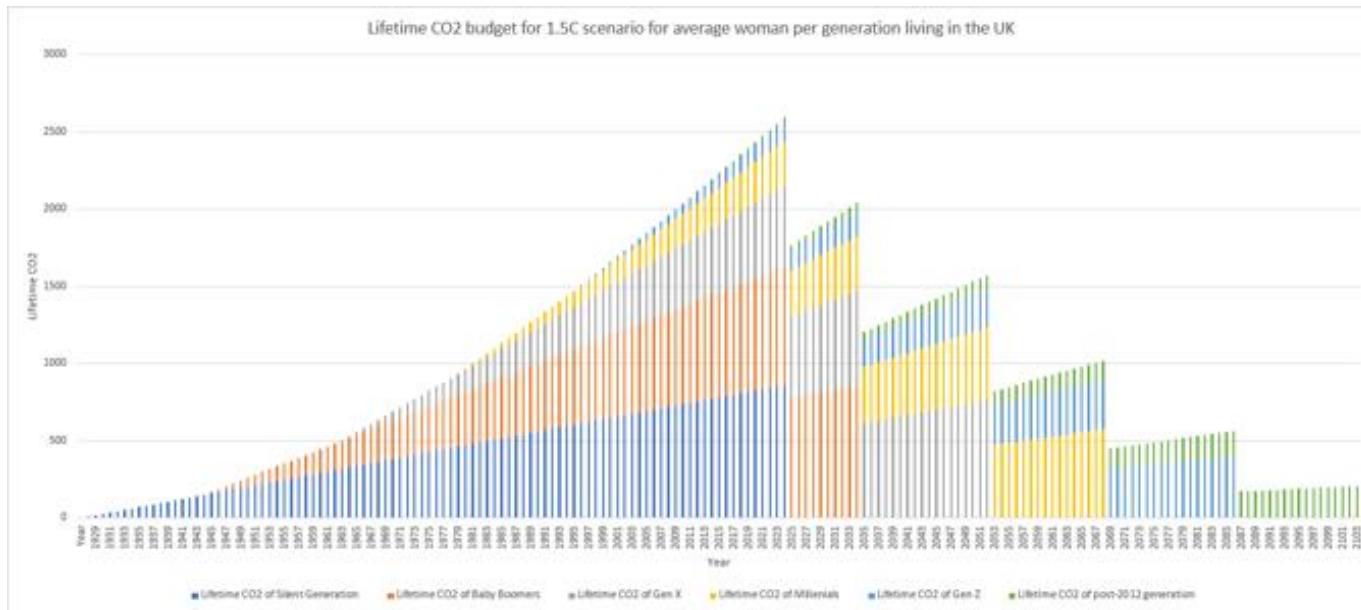
There are many spatial overlaps between those most economically vulnerable to flooding and the neighbourhoods in which flooding is most likely.



Source: England and Knox (2015), *Targeting flood investment and policy to minimise flood disadvantage*, JRF.

Intergenerational inequity

The carbon budgets of older generations are around eight times higher than those born in the past two decades. But even without considering generations beyond Generation Z, it is clear that younger generations will be most exposed to the effects of older generations' emissions.



Source: IPPR analysis of Carbon Brief and population.io data (carbon budgets are assumed to be linear for the sake of simplicity)

We need to provide a hopeful vision of the future

From investment in new infrastructure to insulating homes, there are a multitude of changes that could be popular as well as necessary.

We need to infuse the debate on climate change with hope. Not to obscure the scale of the challenge we face, but to show how with bold and inclusive action, a better world can be created.

We must build a vision of the attractive destination that the journey of the green transition can take us to, where all people are able to lead healthier, happier lives.



Ensuring a rapid and economically and socially just transition



Nothing less than an economic and social transformation is required, combined with a degree of urgency, that has hitherto not been forthcoming.

But the transition to a net zero economy if badly managed *could* risk further economic and social injustice – the burden of the transition must not fall on those who are least able to bear it.

A ‘just transition’ that secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy will be essential.

What we do could have impact on the world stage

"Today through great joint diplomacy we have agreed a bid for a UK COP26 Presidency in partnership with our friends in Italy. Together, through our continued commitment to work across Europe and internationally, we will build a better world for our children."

The UK has submitted a joint bid with Italy for the presidency of the UN's 26th climate change conference (COP26). The UK has proposed to host the COP, and Italy the pre-COP event.

With the UK likely to hold the COP in 2020, the UK can set itself out as a world leader on climate and delivering a just transition.

But it also means that the actions that the UK takes over the next 18-months could have an impact on the world stage.

Foreign Secretary Jeremy Hunt , June 2019



Purpose

The purpose of the Environmental Justice Commission is:

“To develop a vision for rising to the climate and environmental emergency and championing economic and social justice.”

The Commission will:

- develop a vision for a transition to a sustainable, equitable and prosperous economy;
- help shape the narrative on tackling climate change and a just transition;
- and provide thoroughly worked through policy proposals.

The Commissioners



Caroline Lucas,
Green Party MP



Ed Miliband,
Labour MP



Laura Sandys,
Conservative MP
(2010-2015)



Charlotte Hartley,
Climate 2050, Scotland
Just Transition Commission



Fatima Zahra-Ibrahim,
Campaigner
& climate activist



Anna Taylor,
Student climate striker
& activist

Politicians

Youth Activists



Farhana Yamin,
Associate Fellow,
Chatham House



Angela Francis,
Chief Advisor,
Economics, WWF-UK



Paul Booth,
Chair of Tees Valley
Local Enterprise Partnership



TBC



Paul Nowak,
Deputy General Secretary
TUC



Beth Farhat,
Regional General Secretary
TUC

International and Civil Society

Community and Local Government

Trade Unionists



Steve Waygood
Chief Responsible
Investment Officer,
Aviva Investors



David Symons,
UK Director of
Sustainability, WSP



Catherine McGuinness
Chair,
Policy & Resources Committee,
City of London Corporation



Michael Jacobs
Professorial Fellow
and Head of Engagement
and Impact at SPERI



Tom Kibasi,
Director of IPPR



Kate Raworth,
Senior Visiting Research
Associate at Oxford University ECI



Emily Shuckburgh,
British Antarctic Survey

Business and Finance

Experts and Academics

The government's ambition: local energy

Patrick Allcorn, Head of Local Energy,
Department for Business, Energy and
Industrial Strategy



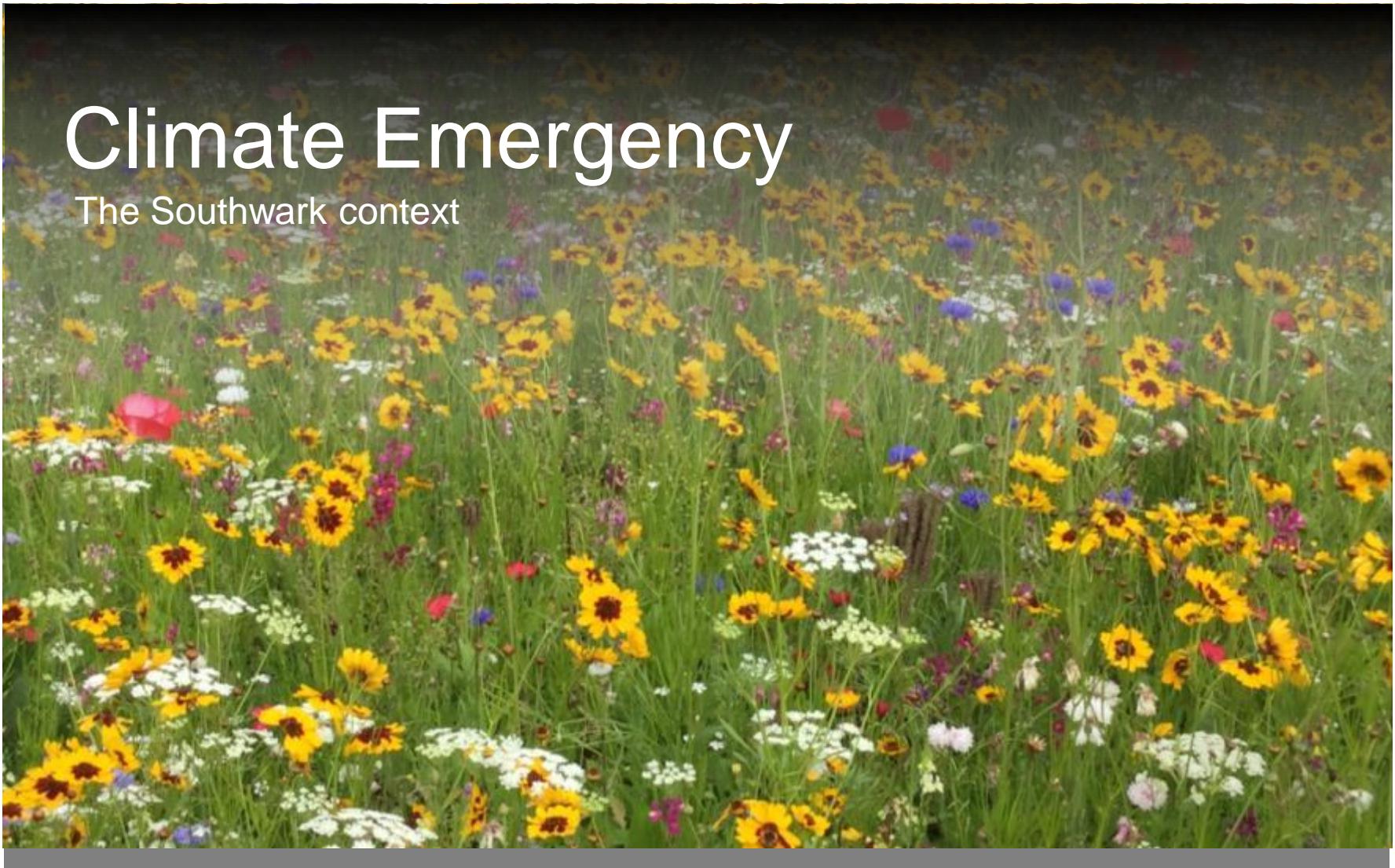
The Southwark context

Stuart Robinson-Marshall, Head of Sustainability & Business Development, Southwark Council



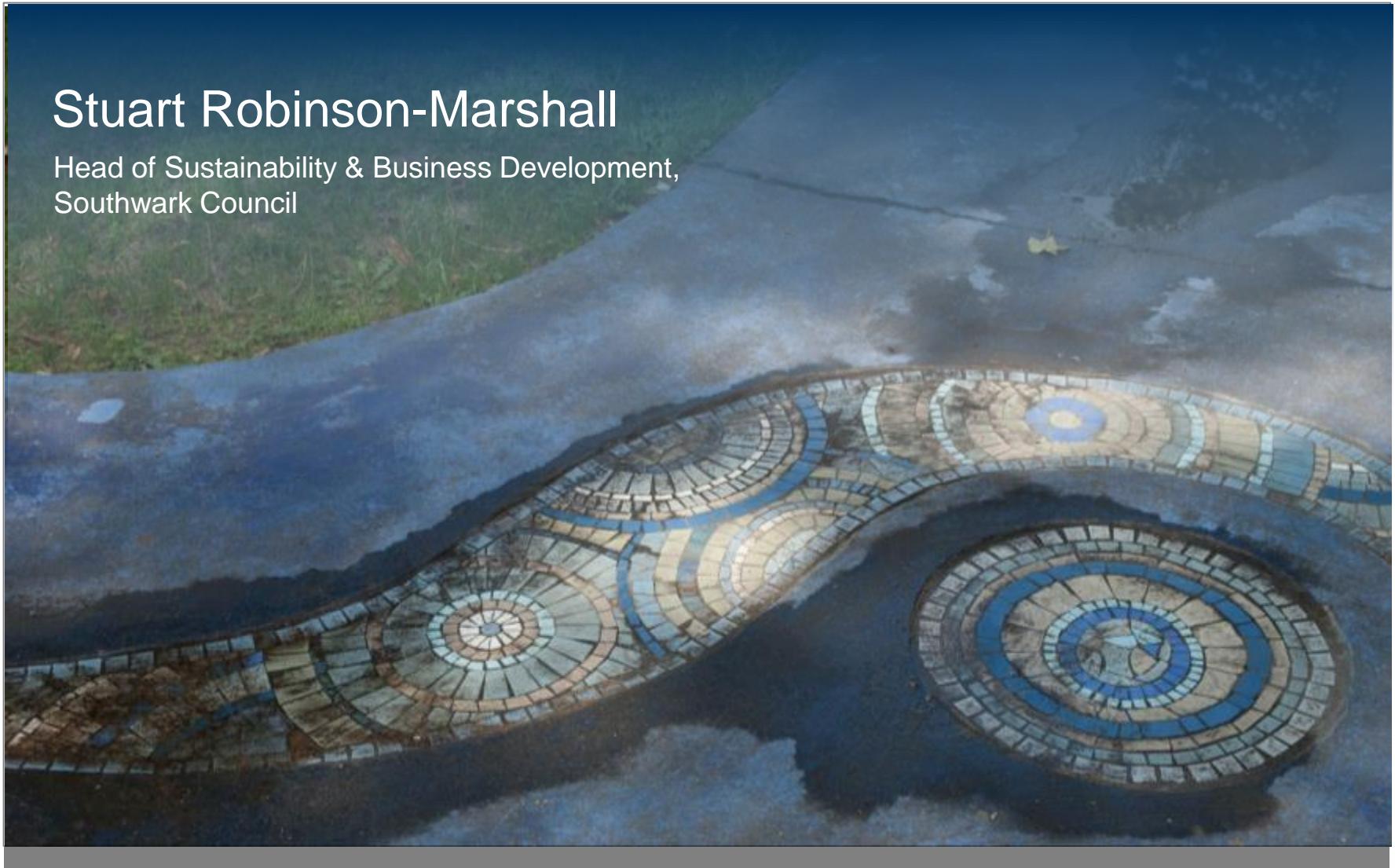
Climate Emergency

The Southwark context



Stuart Robinson-Marshall

Head of Sustainability & Business Development,
Southwark Council



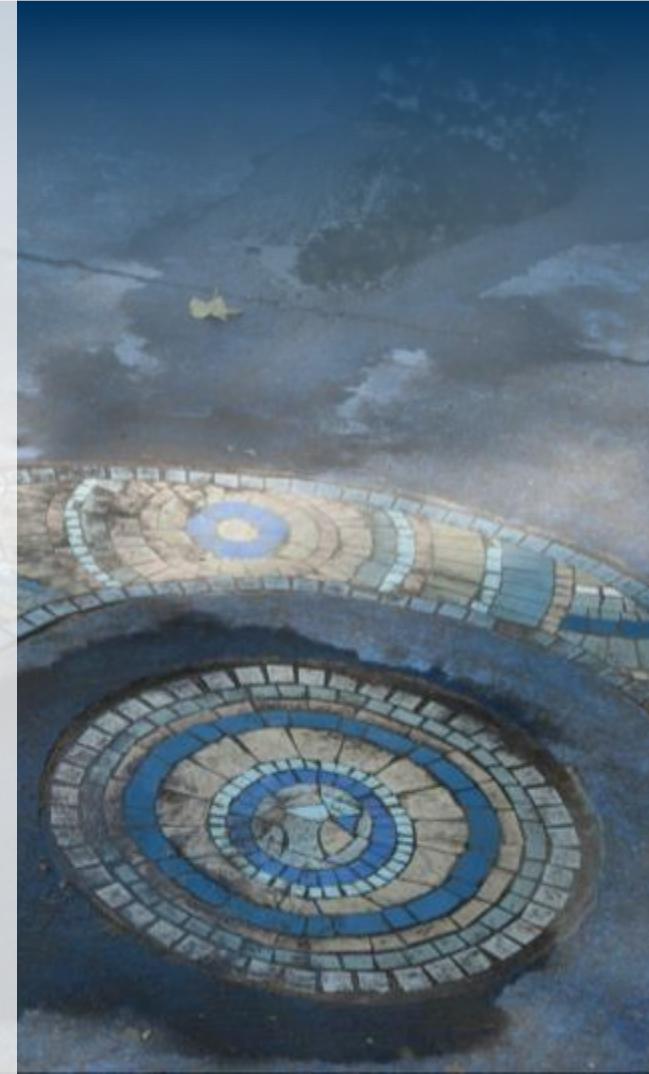
 @lb_southwark

 facebook.com/southwarkcouncil

Introduction

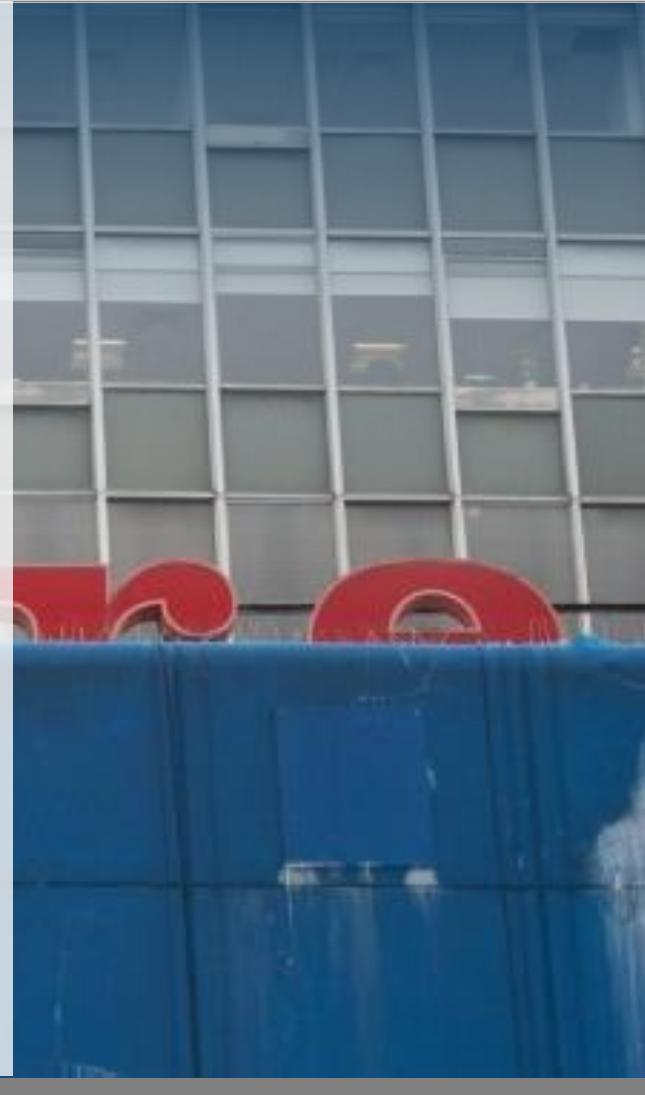
27th March 2019: Council assembly resolved to call on cabinet to:

Declare a Climate Emergency
and do all it can to make the borough carbon neutral by **2030**.



27th March 2019: Council assembly resolved to call on cabinet to:

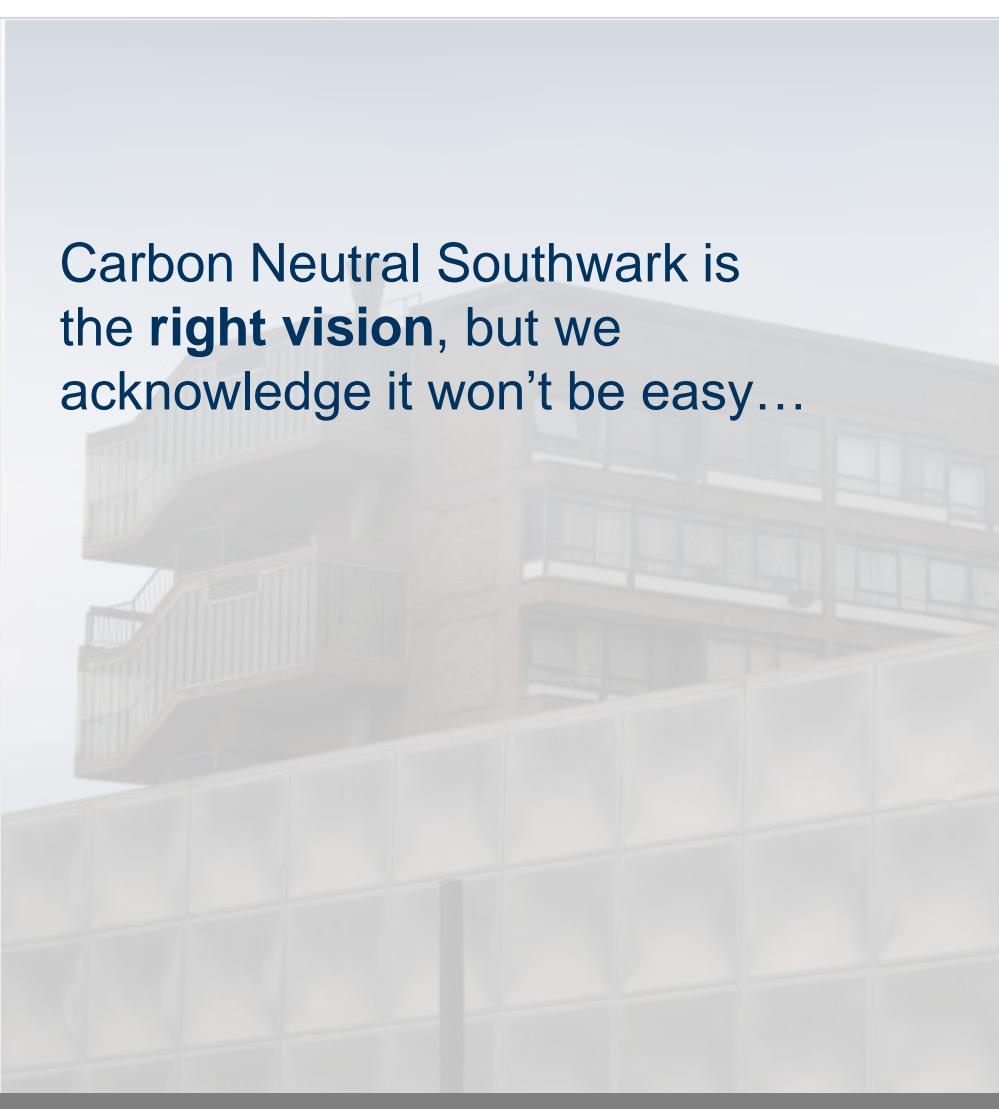
- Develop a strategy, working with local stakeholders, to ensure that the council becomes carbon neutral at a much more rapid pace than currently envisaged.
- This Carbon Reduction Strategy should aim to achieve carbon neutrality by 2030 if feasible.
- This strategy should be clear in its targets and resources required.
- It should also be developed in a way that is sufficiently flexible to make best use of new carbon reduction technologies as they develop.



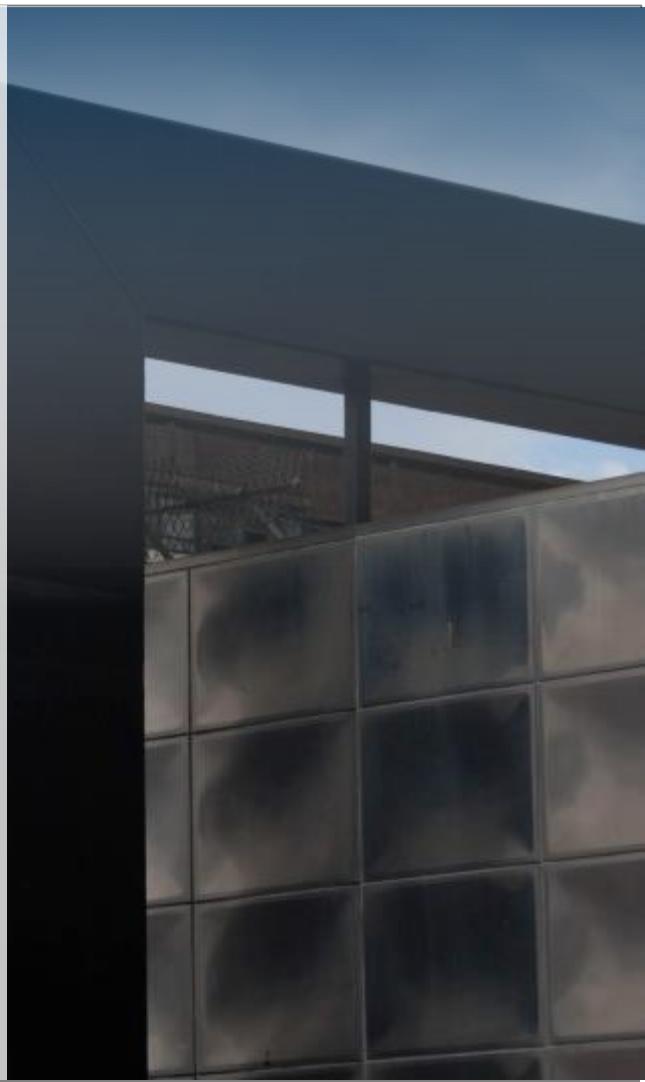
27th March 2019: Council assembly resolved to call on cabinet to:

- Call on other London boroughs to also work towards carbon neutrality by 2030.
- Lobby government to provide the power and resources to the Mayor of London and local authorities to accelerate the pace of carbon reduction.
- Lobby the government to take radical steps to divest away from fossil fuels, invest in new technologies to make innovative approaches such as carbon sequestering possible, and reduce the UK's reliance on greenhouse gases.





Carbon Neutral Southwark is
the **right vision**, but we
acknowledge it won't be easy...



 @lb_southwark

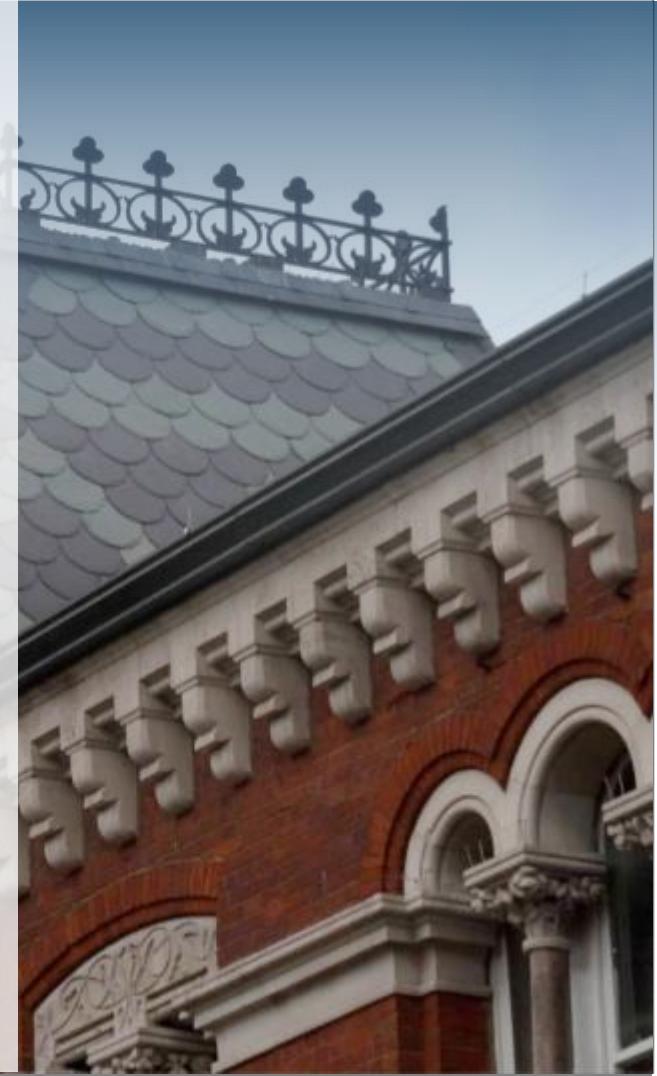
 facebook.com/southwarkcouncil

The right vision


Southwark
Council
southwark.gov.uk

This is a journey of discovery!

- We don't know what the end picture looks like
- We do know some of the likely key issues
- Southwark is not an island!
- We know we can't do this alone



Zero carbon London: A 1.5°C compatible plan

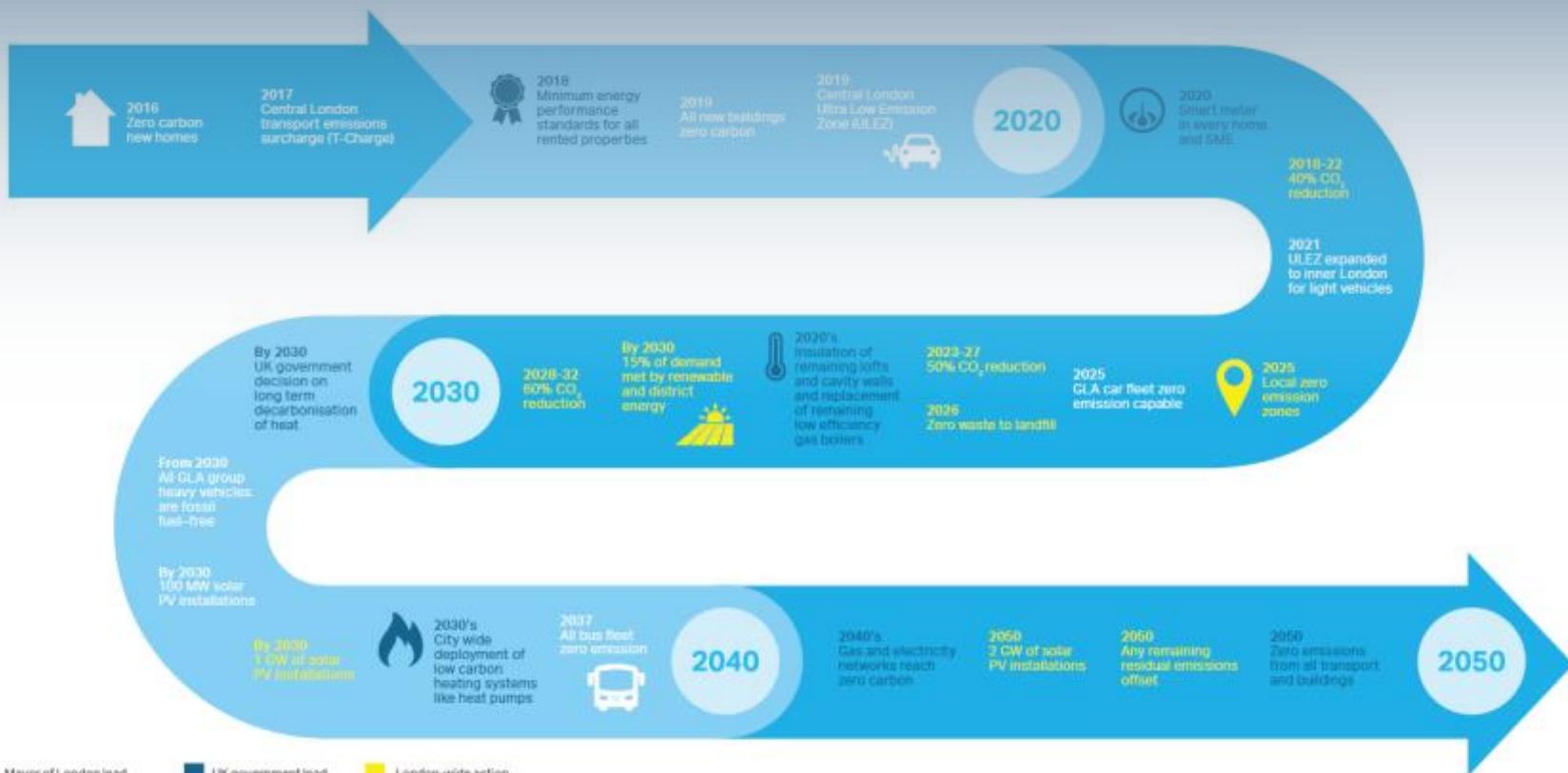
December 2018



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We are not an island

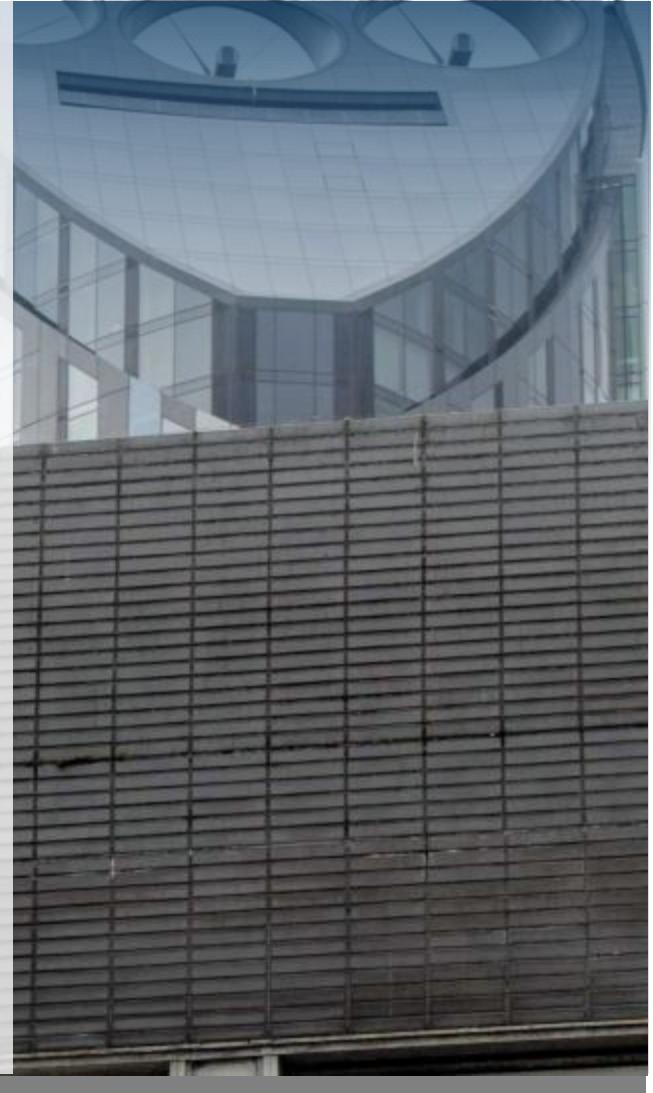


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The London plan

The Southwark picture

- Southwark has a growing population of over 300,000 residents
- There are approximately 130,000 households
- Around 42% are social housing.
- Largest social landlord in London with over 50K properties and 14K leaseholders
- It has the 9th highest population density
- It is the 8th most deprived in London.



The Southwark picture

- There are approximately 15,000 businesses in Southwark.
- Diverse and complex in affluence, deprivation, age and mobility
- Major transport hubs and arterial routes
- Increasing housing demand
- Large scale regeneration opportunities and projects
- Housing stock is in need of ongoing major investment



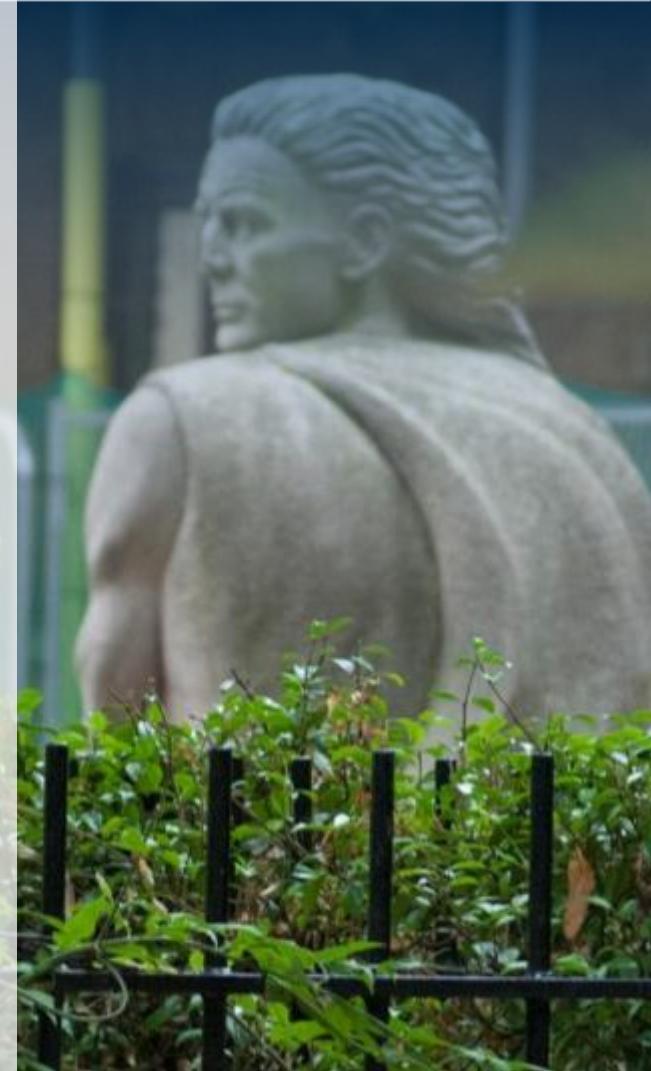
Where are we now?

- We need to refresh the data for the boroughs current carbon footprint.
- Figures from 2011 show that around **86%** of the boroughs CO2 emissions are not within direct council control .
- The majority is produced from workplaces and homes.
- **12%** of the borough emissions come from our own housing
- Around **16%** of the boroughs total comes from transport.



Where have we been?

- In 2005 the Council set itself the (*then*) highly ambitious target of an **80% reduction** in its own carbon emissions **by 2050**.
- The Council agreed the Energy and Carbon Reduction Strategy in 2011 which set out the two distinct roles the Council has in reducing CO2 emissions in the borough and how they would achieve this:
 - to lead by example and reduce its own energy use
 - to encourage others within Southwark to reduce their use



Where are we now?

- We set a Council target to reduce the emissions from our **own operations** by **50% by 2022**, based on our existing Carbon Reduction Commitment (CRC) baselines
- The 2008 CO2 baseline taken for the CRC was **41,306** tonnes per year. Against the same baseline, the figure for 2017-18 was 25961 tonnes. This was a **36.7% reduction on 2008**.



How are we doing this?

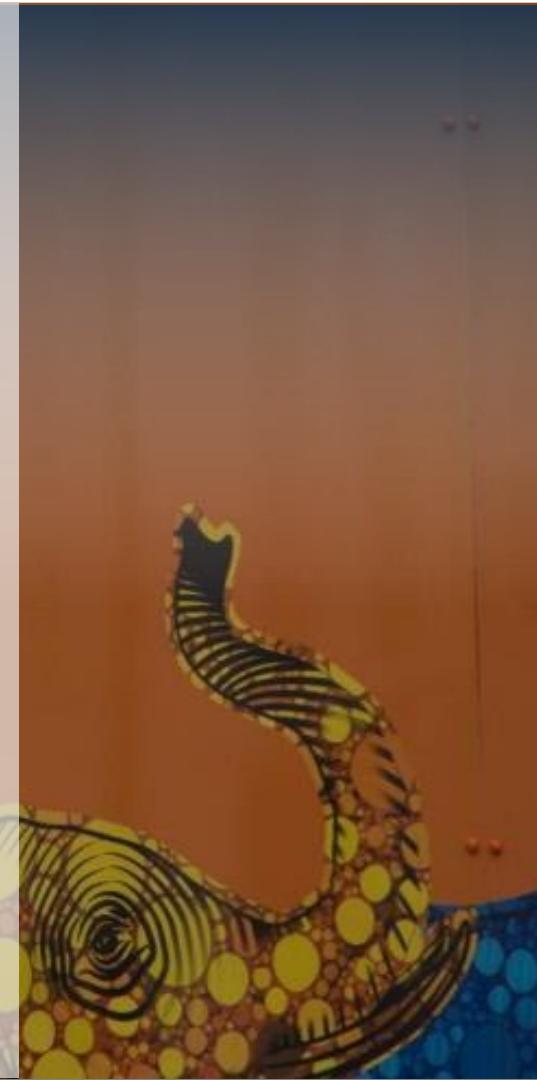
- **Consolidation of buildings.**
- **Better energy management**
- **Increasing use of renewables**
- **Capital investments** (boilers and insulation)
- **LED lighting** – Streetlights, and illuminated signs, Communal areas on housing estates
- **LED at Tooley Street** - 75% reduction in consumption, which equates to £110K saving and a 572 tonne CO₂ reduction per year.



- We are in partnership with **LEP** (London Energy Partnership) whom represent the majority of London Boroughs, the Police, LFP, NHS and TFL
- Southwark is a board member and working with them to explore increasing renewables and generation.
- Our current contract covers the supply of gas and electricity to the Council's operational estate, parks and street lighting, as well as to the communal elements of the Council's housing estates including supply of gas to the boiler houses and district networks.



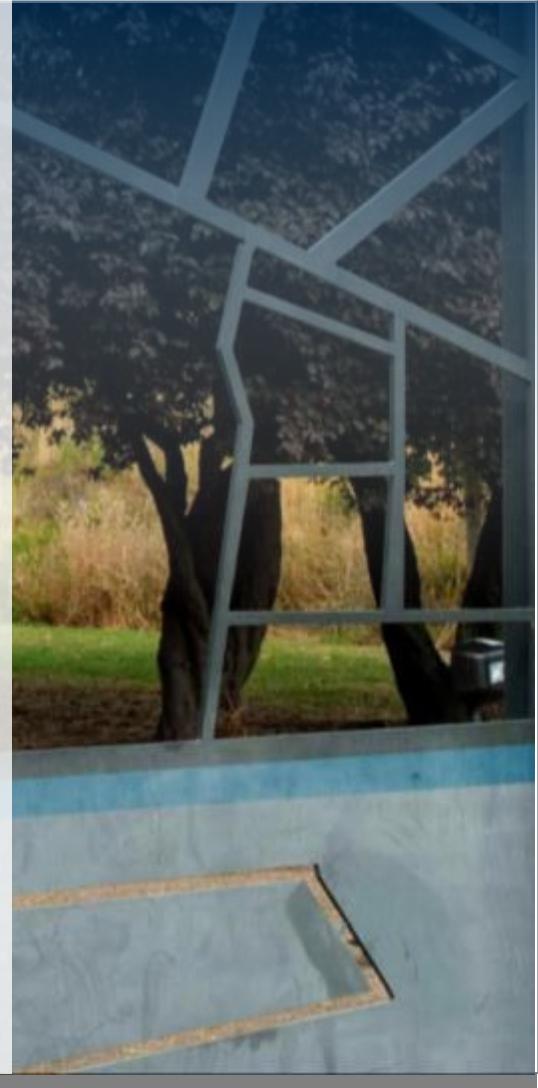
- We spend around **£14m** a year on gas and electricity through our LASER contract.
- Those sites that utilise our energy contracts are currently saving 38% on gas prices (operational), 41% on gas prices (housing), and 17% on electricity prices (housing) and 11% on electricity prices (operational) compared to individual procurements.
- We are in the process of procuring a new contract for 2020 with the aim of all electricity being from **100% renewable sources**.



- Southwark's waste is processed at the Integrated Waste Management Facility (IWMF) on the Old Kent Road.
- This is also the location of the Reuse and Recycling Centre (RRC) where residents can dispose of and recycle bulky household items.
- The current overall recycling rate is **35%**
- Once all the waste is sorted and recycled only **3.5%** on average goes to landfill.
- Of the 113,000 tonnes of Southwark's household waste that comes into the IWMF an estimated 5.3% is plastic – about 6,000 tonnes.
- Annually, Southwark is already recycling roughly 2,400 tonnes of plastic.



- The waste that cannot be recycled, reused, or recovered through processing in some way is incinerated at the SELCHP (South East London Combined Heat and Power) plant just across the border in Lewisham.
- This plant produces heating and hot water that supplies approximately **2,600** properties of nearby **Southwark housing estates** (fed from boiler houses at Abbeyfield, Clements Road, Pedworth and Tissington).
- The expansion of this network is being considered as part of a wider decentralised energy strategy and the regeneration of the Old Kent Road.



- **Southwark now has 7 Local Nature Reserves (LNR's) totalling 50.93ha.**
- **Since 2005 we have increased our LNR's from 2 to 7.**
 - Sydenham Hill Wood
 - Nunhead Cemetery
 - Lavender Pond
 - Dulwich Upper Wood
 - One Tree Hill
 - Stave Hill Ecological Park
 - Russia Dock Woodland.

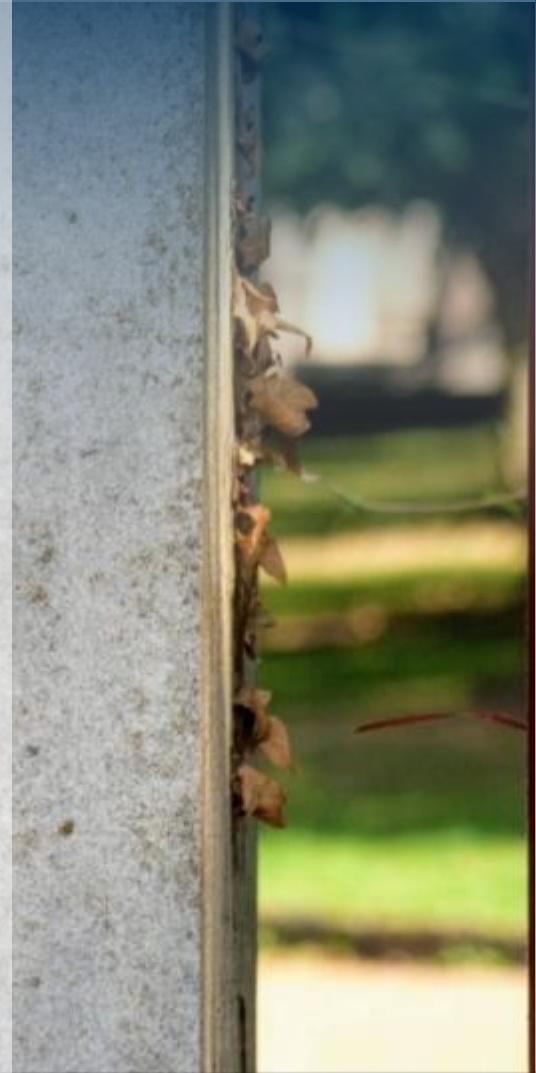


- There are 66 Sites of Importance for Nature Conservation in Southwark, and 17 new SINC sites proposed in the New Southwark Plan
- There are 17 species of bat in the UK, of these 9 are found in Southwark
- Over 50 Bird species of conservation concern recorded in Southwark Red and amber list species.
- Biodiversity Action Plan (BAP); We are producing the Third Southwark BAP this year.
- The current BAP is 95% delivered with 58 of 61 actions completed

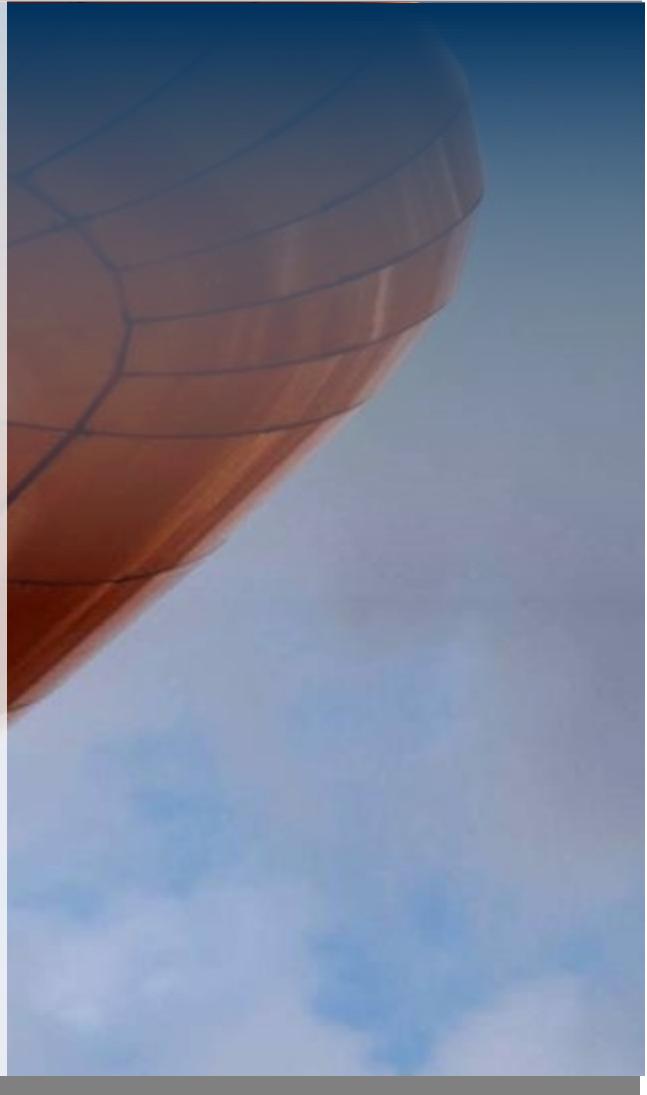


Wider action...

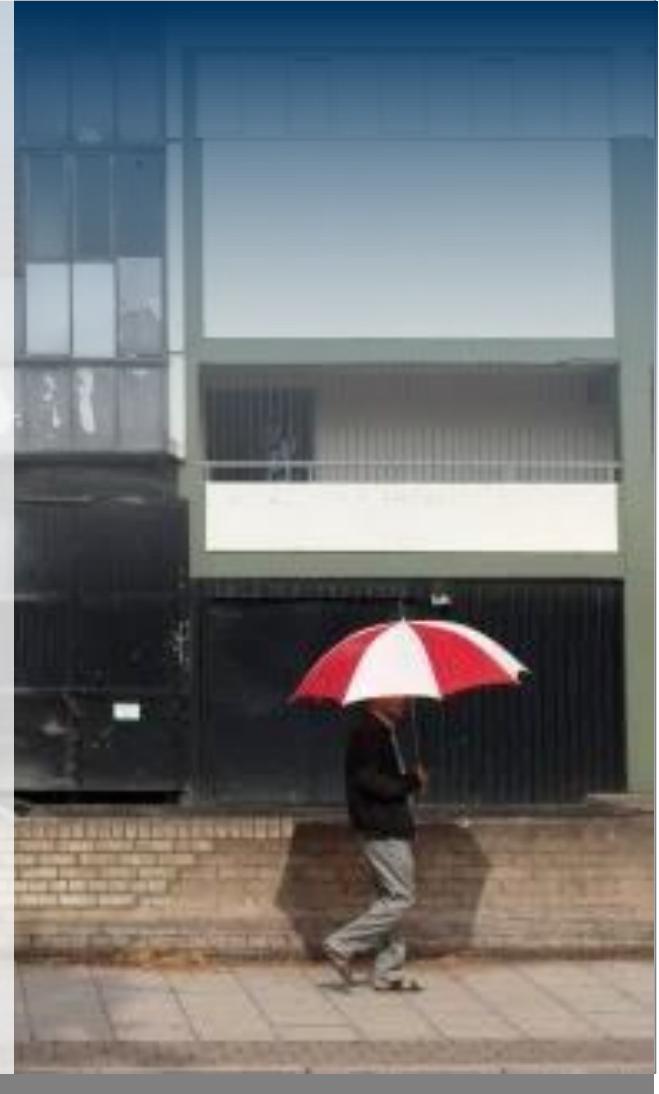
- Air quality action plan
- Launch of a Southwark plastics strategy
- Staff travel strategy
- Sustainable fleet
- Consolidation of depots
- Heat mapping and energy networks
- Divestment of pension funds from Fossil Fuels
- Public health strategies and action
- Council Sustainability group
- Removal of single use plastics



- Making all new homes, building, regeneration and developments really Zero Carbon (not using offsetting!)
- Make effective use of the carbon offset funding we already have and develop a long term programme for carbon neutral.
- Developing a borough wide decentralised energy network, with the replacement of our existing plant and stock and requiring new developments to connect.
- Introducing and enforcing carbon standards for all rented properties
- Rolling out smart meters and energy efficiency measures to all homes in the borough
- Create local zero emission zones within Southwark for both homes and transport



- Reduce waste to landfill to zero
- Move the council's own energy use to 100% renewables
- Work with partners such as TFL to make all public transport within the borough fossil fuel free or zero emission
- All journeys in Southwark being made by sustainable modes of transport, with the required infrastructure in place.
- Encourage the use of low carbon heating systems and networks such as heat pumps
- Develop local solar, wind and other renewable energy production
- Develop local agreements with business and private sector employers around zero carbon operations in the borough.
- Work with pension funds and other investors to divest from fossil fuels and increase investment in low carbon solutions



Climate Emergency

The Southwark context



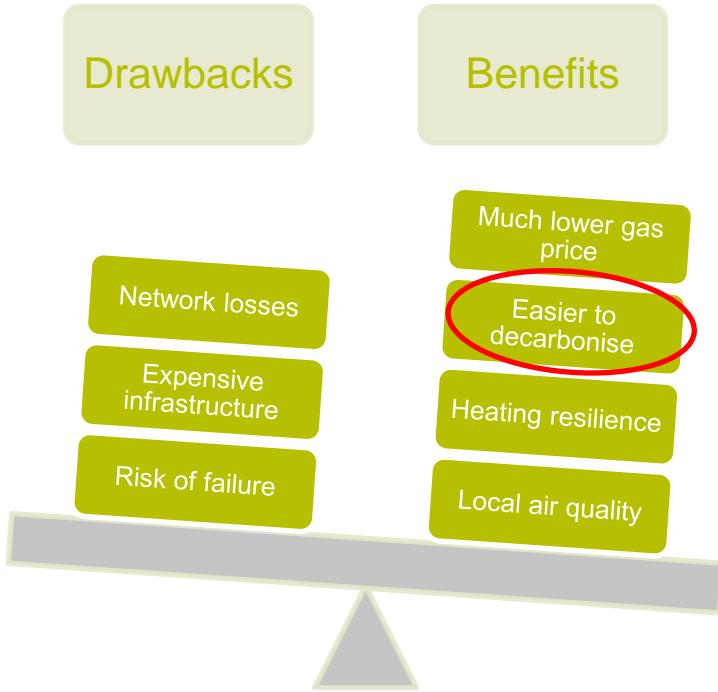
Climate Emergency Summit - Heat Networks Update

1st July 2019

Southwark's heat networks

Current situation:

- 100 separate heat networks
- 17,000 properties served
- Almost exclusively served by gas boilers
- Ageing assets with unplanned outages
- Uses ~250 million kWh gas p.a. (250 GWh)
- Around 50,000 tonnes CO₂ emitted p.a.



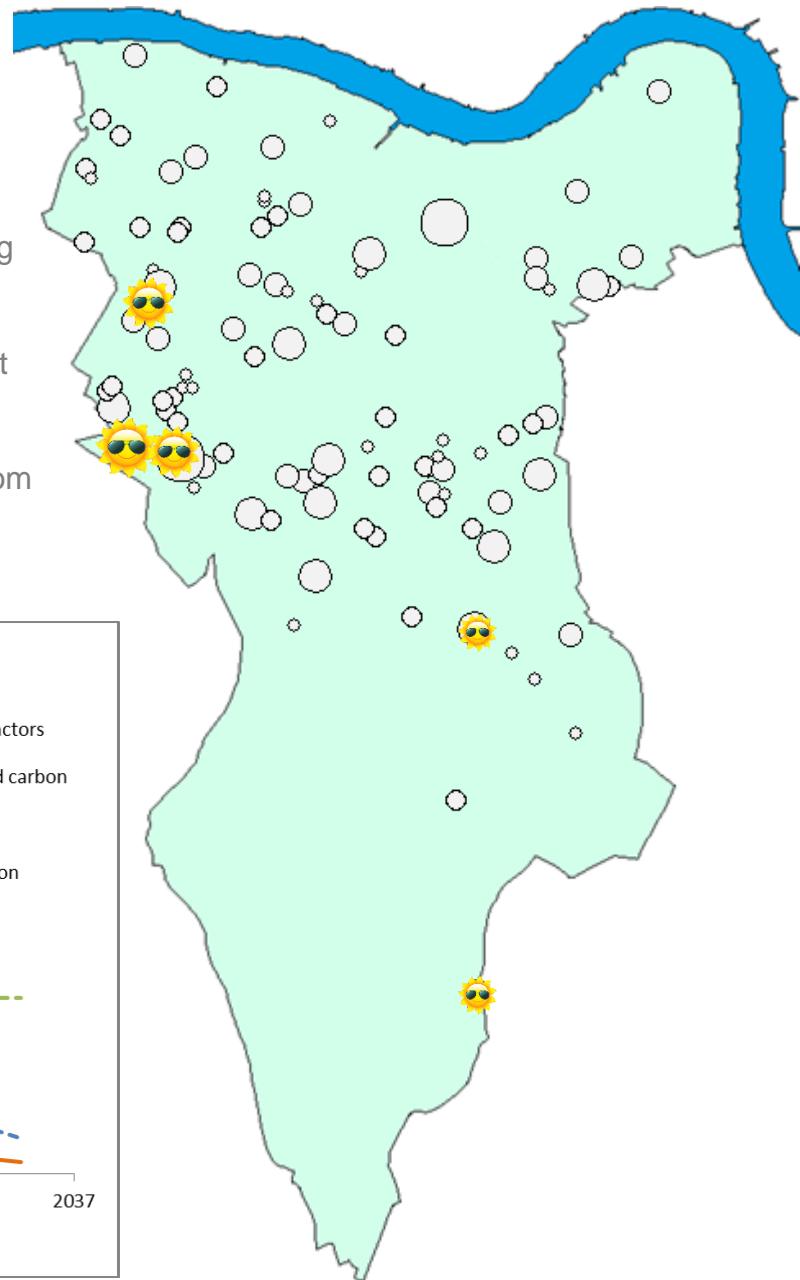
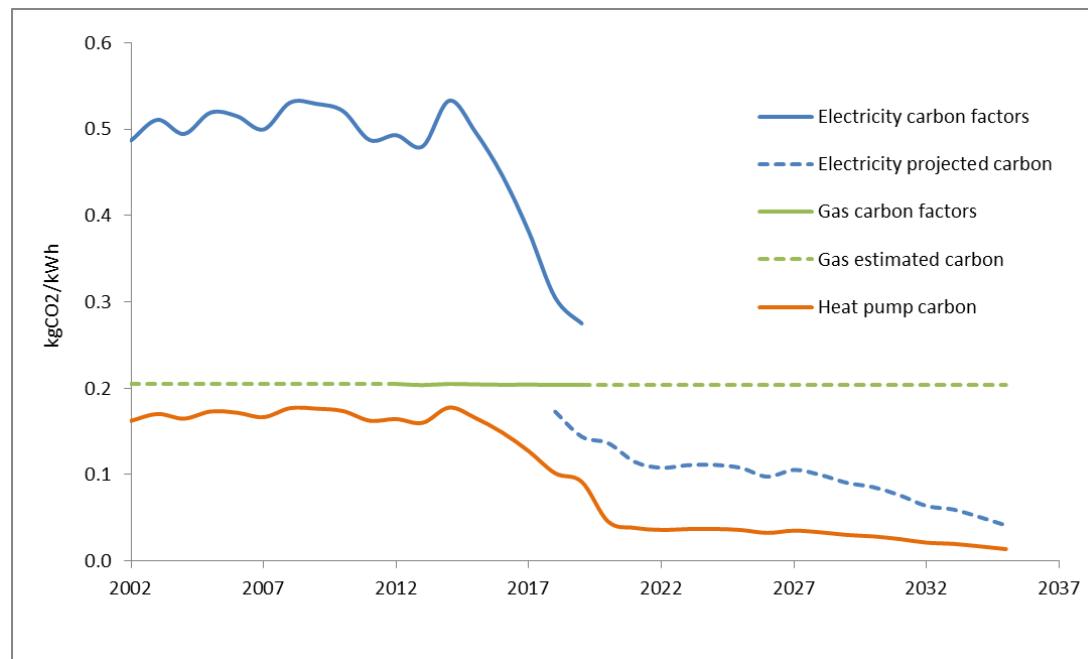
So what are our objectives:

- Improve reliability
- Maintain affordability
- Reduce carbon emissions

Current projects (1)

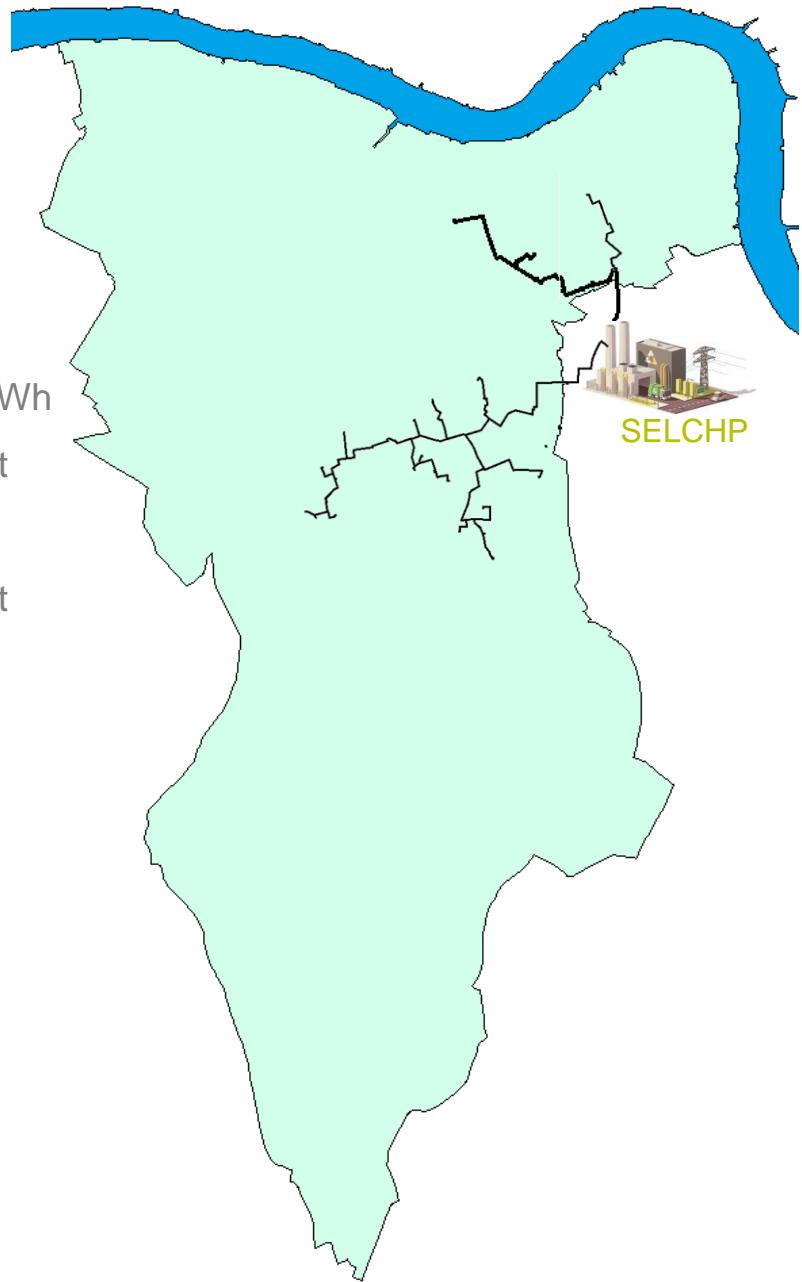
1. Heat pump installations

- Electricity has a higher carbon factor than gas but this is coming down fast
- The heat pump absorbs heat from the local environment so that ~3x more heat is produced than electricity used
- Aquifer geology in parts of Southwark means we can benefit from this as a heat source (and the Environment Agency supports such projects)



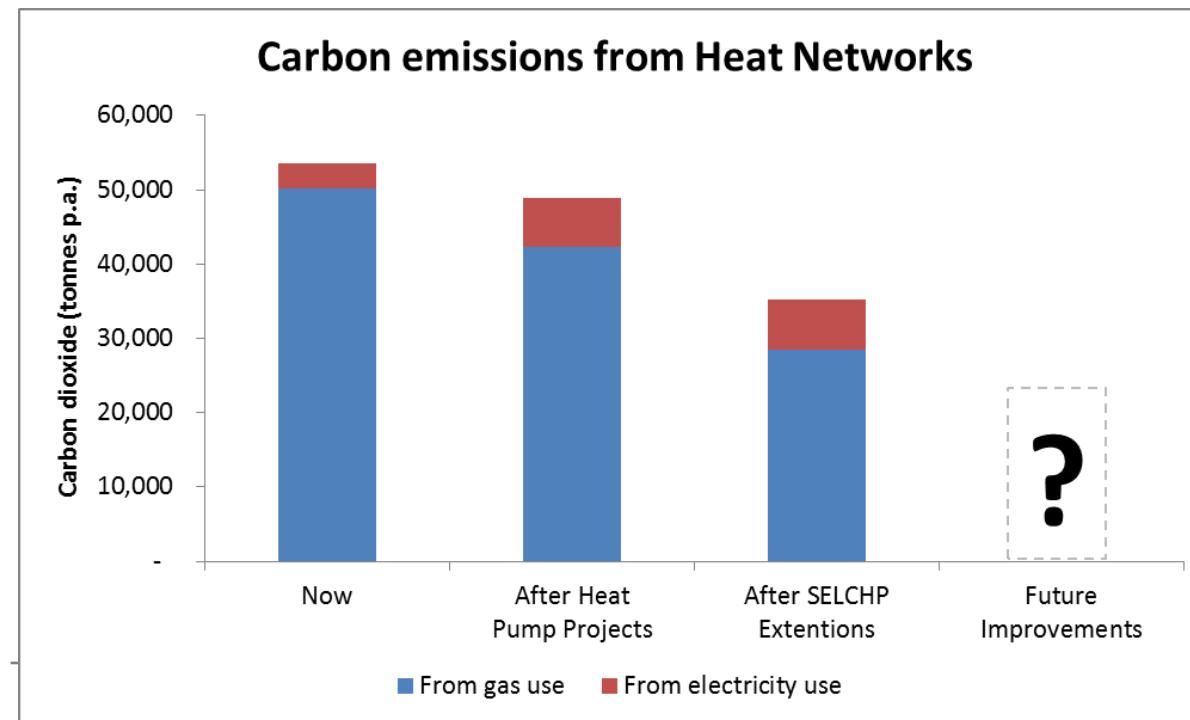
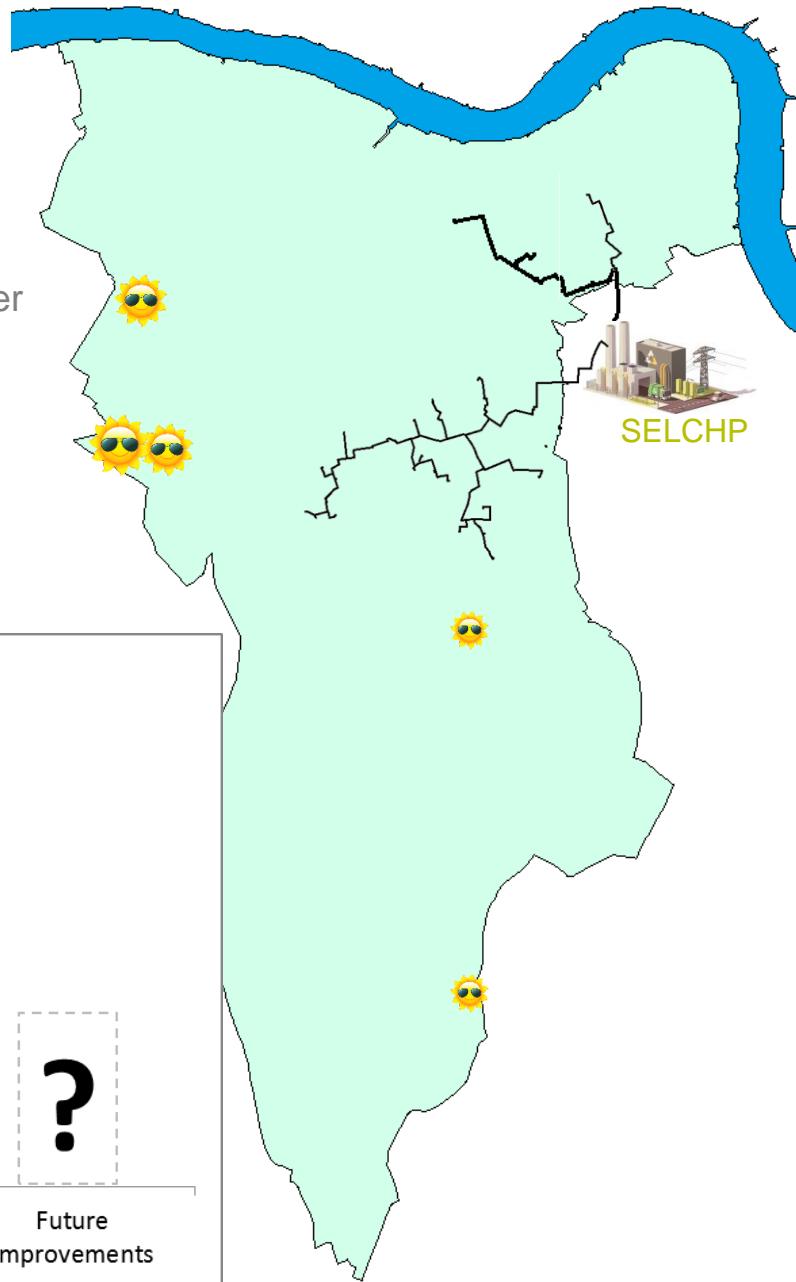
Current projects (2)

1. Heat pump installations
2. Expand our SELCHP heat networks
 - SELCHP has a carbon factor of around 0.06 kgCO₂/kWh
 - Council currently uses around 10-13MW of waste heat from SELCHP but there is lots more currently rejected
 - Hope to extend north towards Canada Water and west towards Peckham and the OKR regen area



Current projects (3)

1. Heat pump installations
2. Expand our SELCHP heat networks
3. Improve efficiency across the board and prioritise other investments
 - Needs a lot more data and analysis
 - Could involve heat metering to discourage wastage
 - Could involve new technologies
 - Could involve some quite long term investment



Carbon Neutral from a Regeneration and Construction Perspective

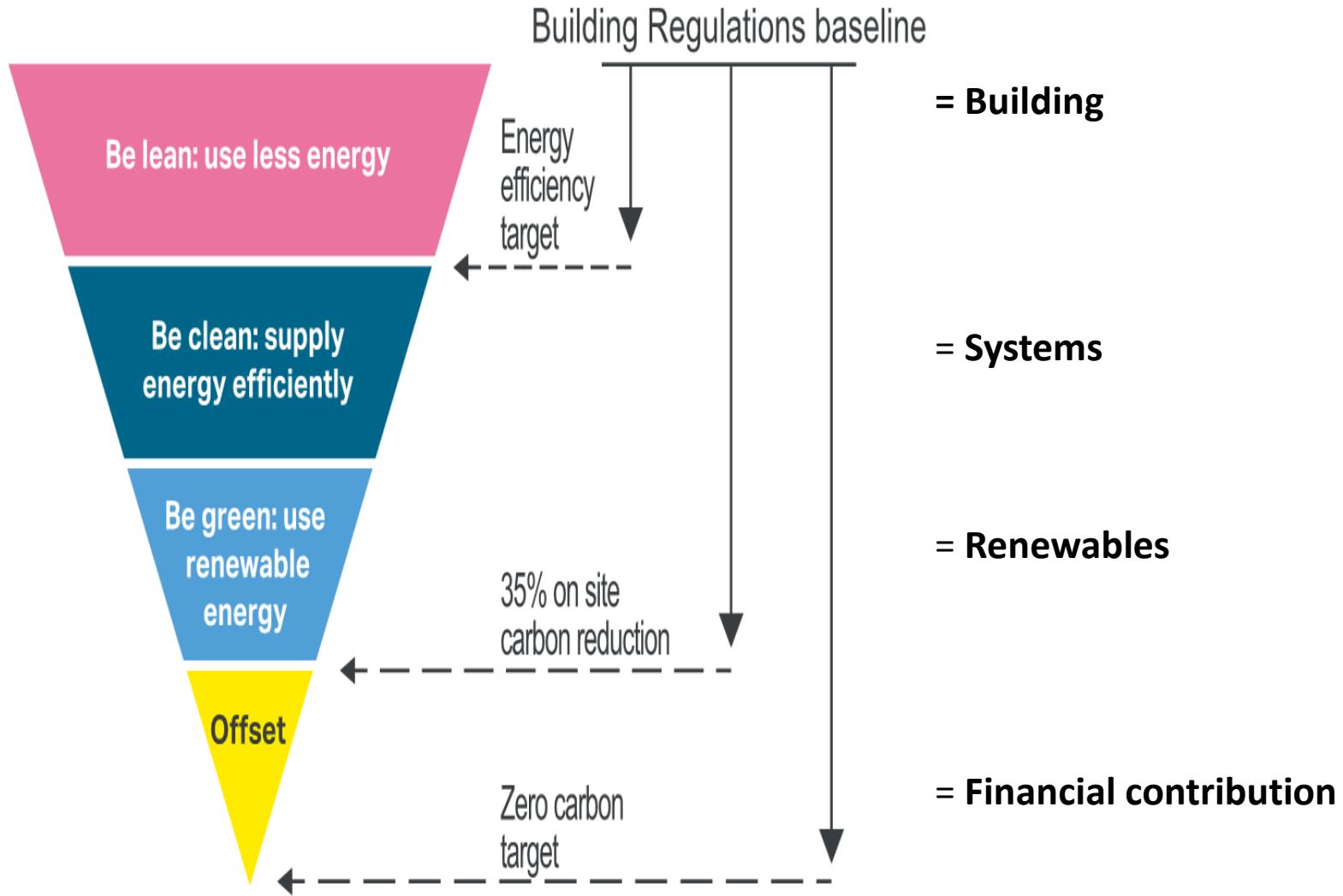
Some suggestions under discussion

Architects declare Climate and Bio diversity RIBA Council 27th June 2019

- *Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.”*
- *“Adopt more regenerative design principles with the aim of designing architecture and urbanism that goes beyond the standard of net zero carbon in use.”* www.architectsdeclare

What should Southwark do in regeneration and construction?

The net zero carbon buildings framework sets out definitions and principles around two approaches to net zero carbon, which are of equal importance: **construction** and **operational energy**.



Source: Greater London Authority

Reduce Construction Impacts

- Require Life Cycle assessment for all projects and require that the best **whole life performance** is achieved. (Sometimes higher embodied carbon can enable lower operational carbon performance)
- **Offset all construction impacts** at Practical Completion

Reduce Operational Energy Use

- Set an **Operational Energy target** for all projects
 - Non-domestic – DEC A or B,
 - Domestic - Passivhaus
- Embed Operational Energy targets into the **construction contract**
- Have an experienced **Soft Landing Champion** and use BSRIA Soft Landings framework
- Require the project team to **report predicted operational energy use** throughout process (using the CIBSE TM54 Methodology)

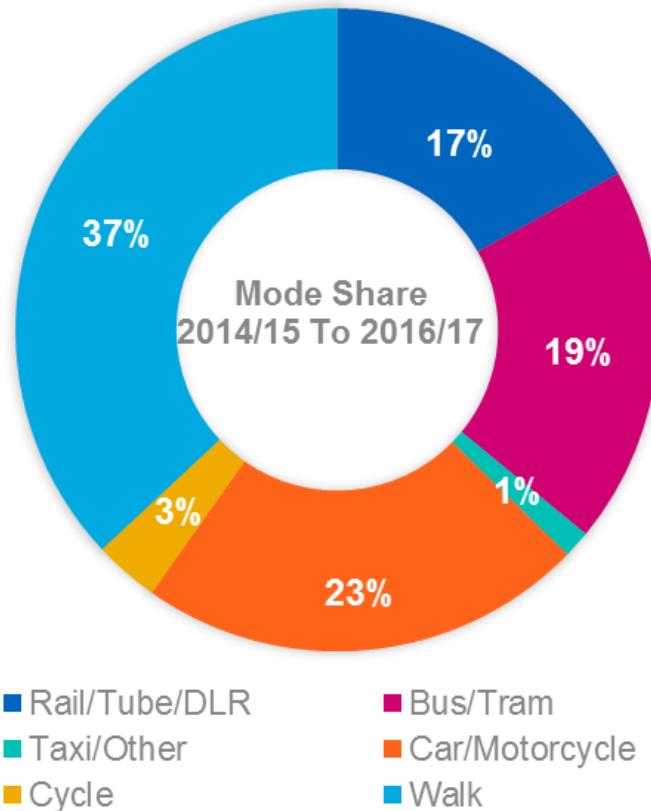
Reduce Operational Energy Use cont.

- Ensure that they have a **client-side commissioning manager** on all projects
- Require **3 year of after-care** for all projects
 - Year 1 – Ensure that all systems are operating as intended
 - Year 2 – Fine-tune the systems performance to meet the predicted energy targets
 - Year 3 – Continue fine-tuning and minimise energy intensive practices
- Conduct **Post Occupancy Evaluation** on all buildings. Act on findings

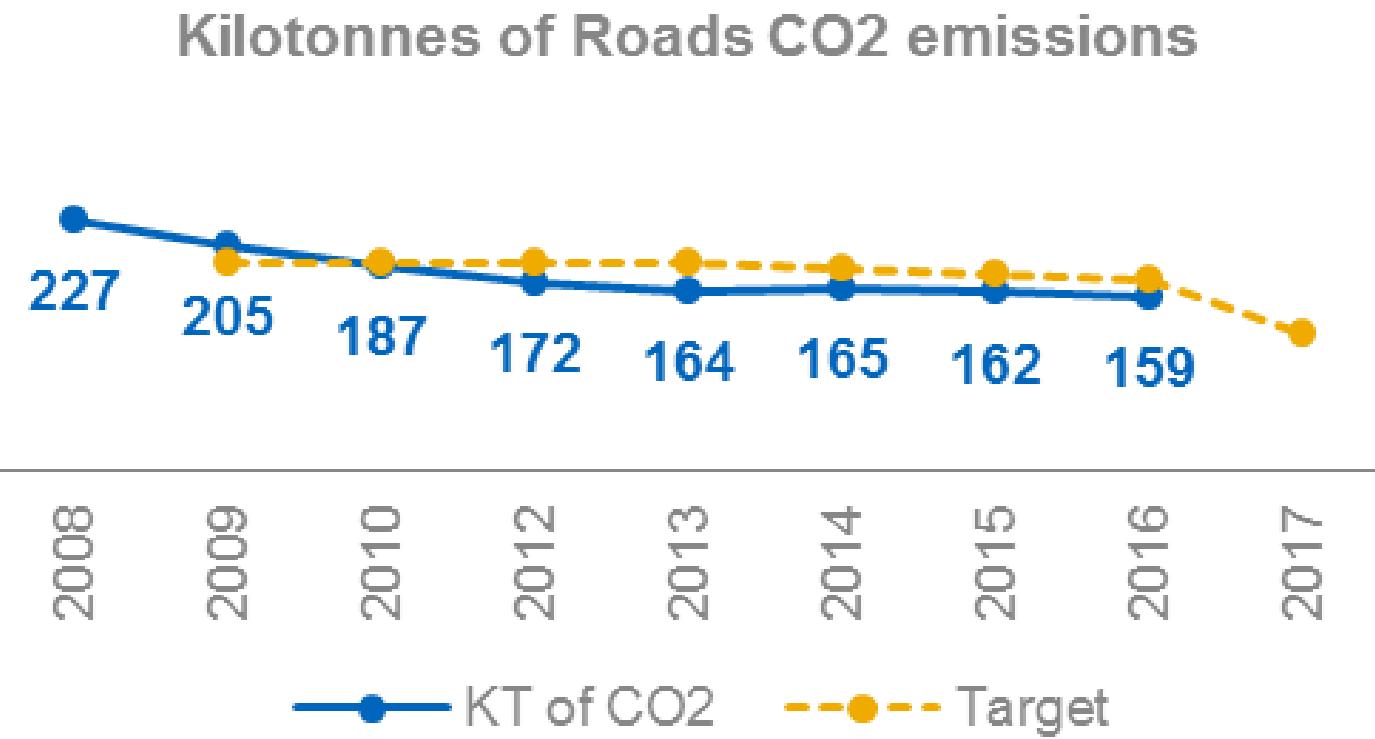
Climate summit

Role of movement

How people travel in the borough?

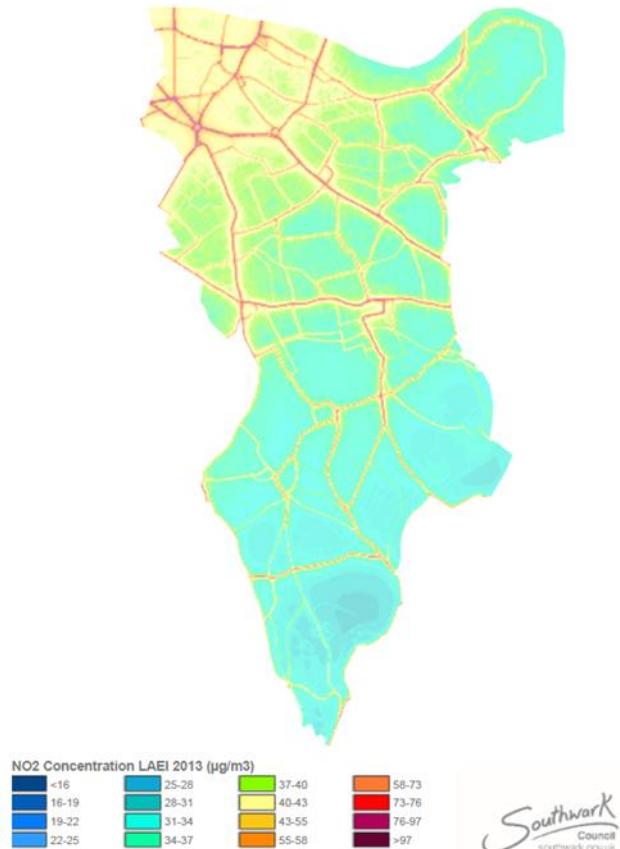


Carbon emissions



NO₂ and PM₁₀

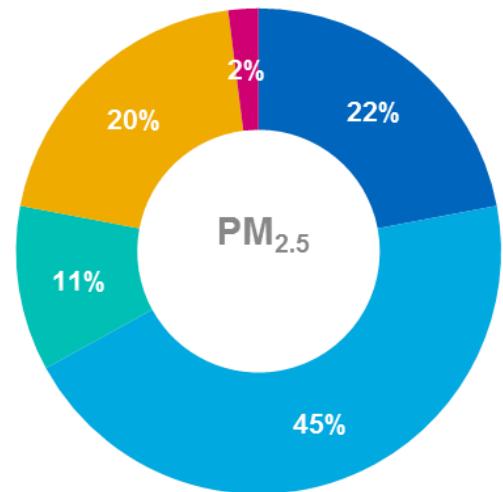
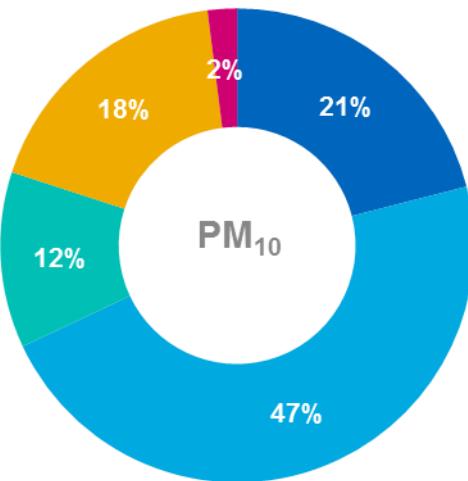
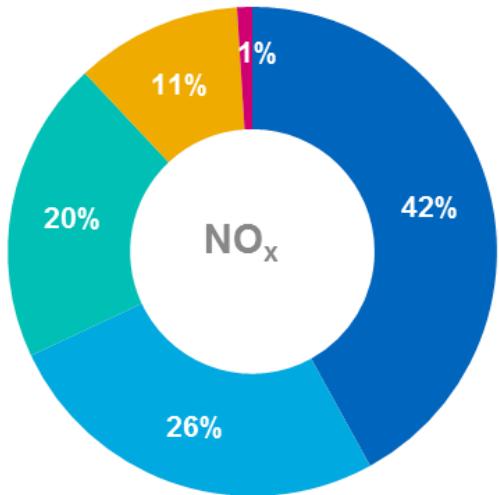
Southwark NO₂ Concentration



Southwark PM10 Concentration

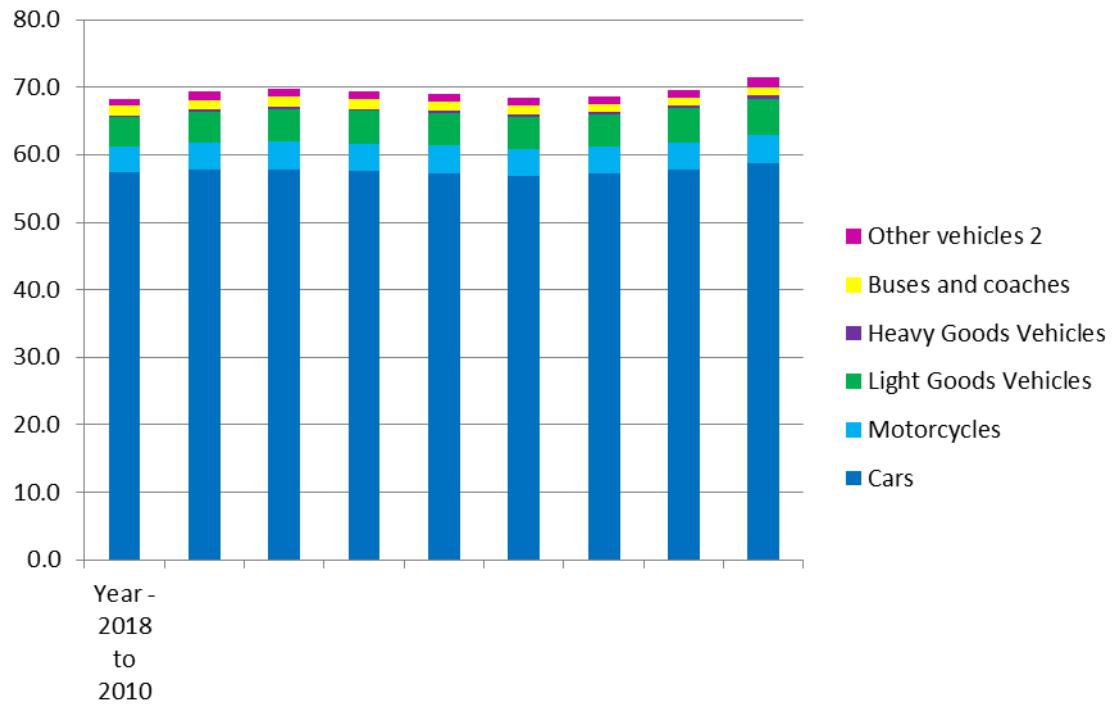


Emissions by vehicle type



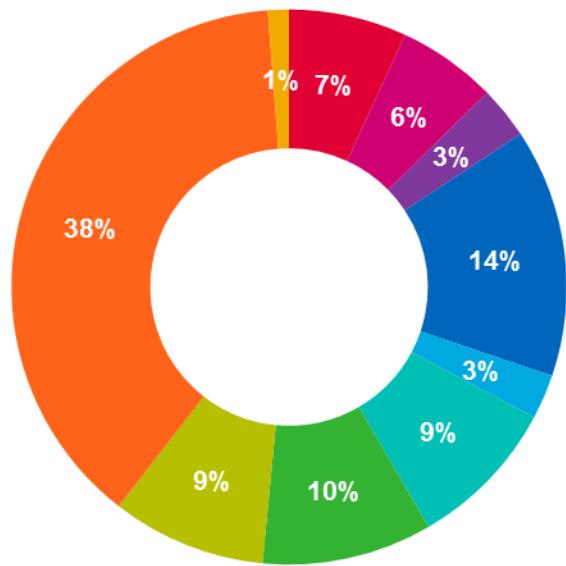
■ Cars ■ Commercial vehicles ■ Van & mini bus ■ Other

Vehicles registered in the borough



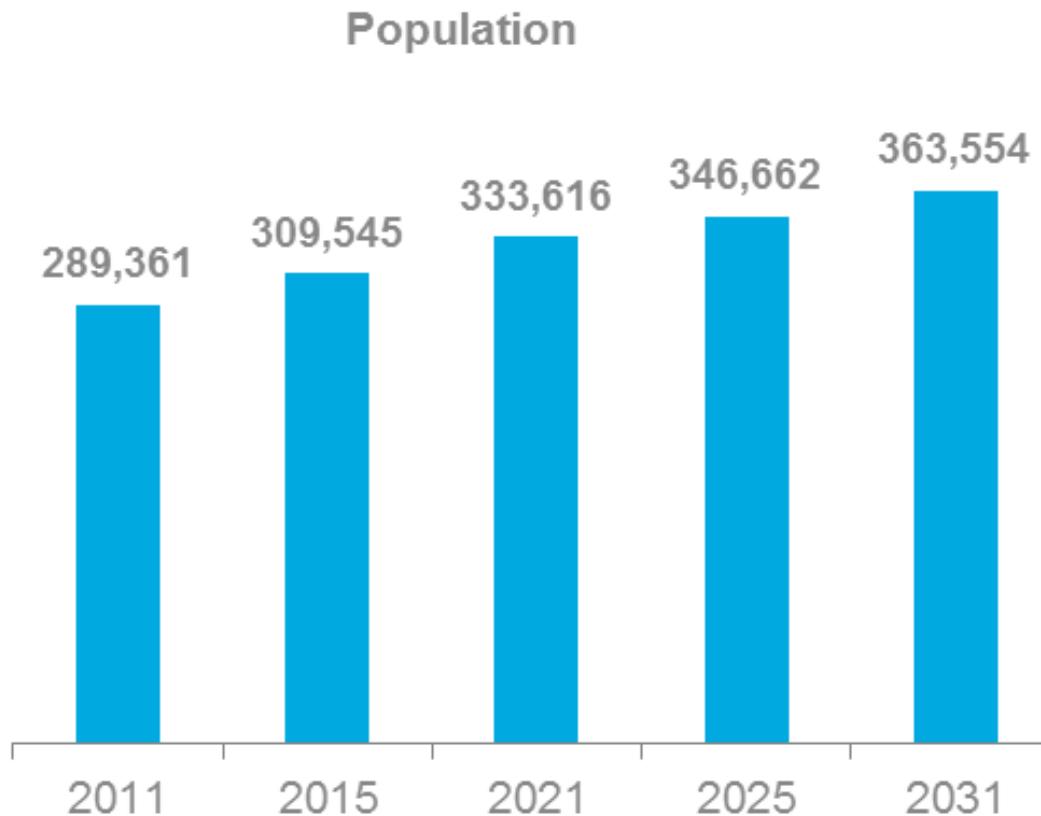
Buses operating in the borough

Bus vehicles serving Southwark by type of engine 2017



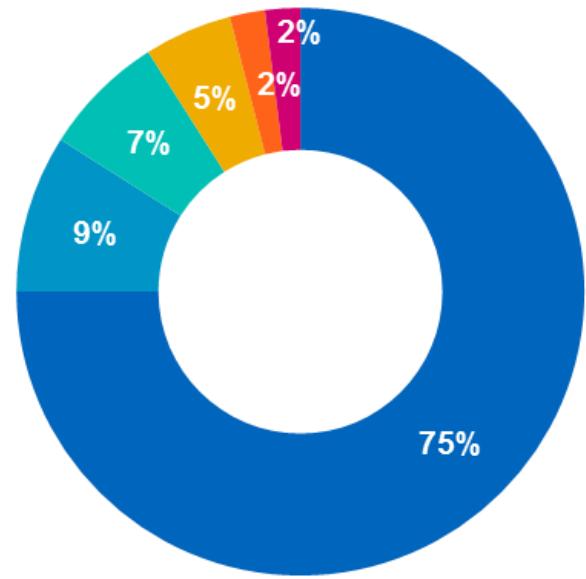
- Euro 3 + SCRT
- Euro 4
- Euro 5
- Euro 5 Hybrid
- Euro 5 Hybrid + RETROFIT
- Euro 6
- Euro 6 Hybrid
- Hydrogen

Growth



Managing congestion

Estimated causes of congestion



- Excess Traffic
- Accidents
- Road & street works
- Other
- Breakdowns
- Special events

Climate change and public health: a challenge and an opportunity

*Climate Change Emergency Summit
1st July 2019*

Place & Health Improvement Team
Southwark Public Health, Place & Wellbeing

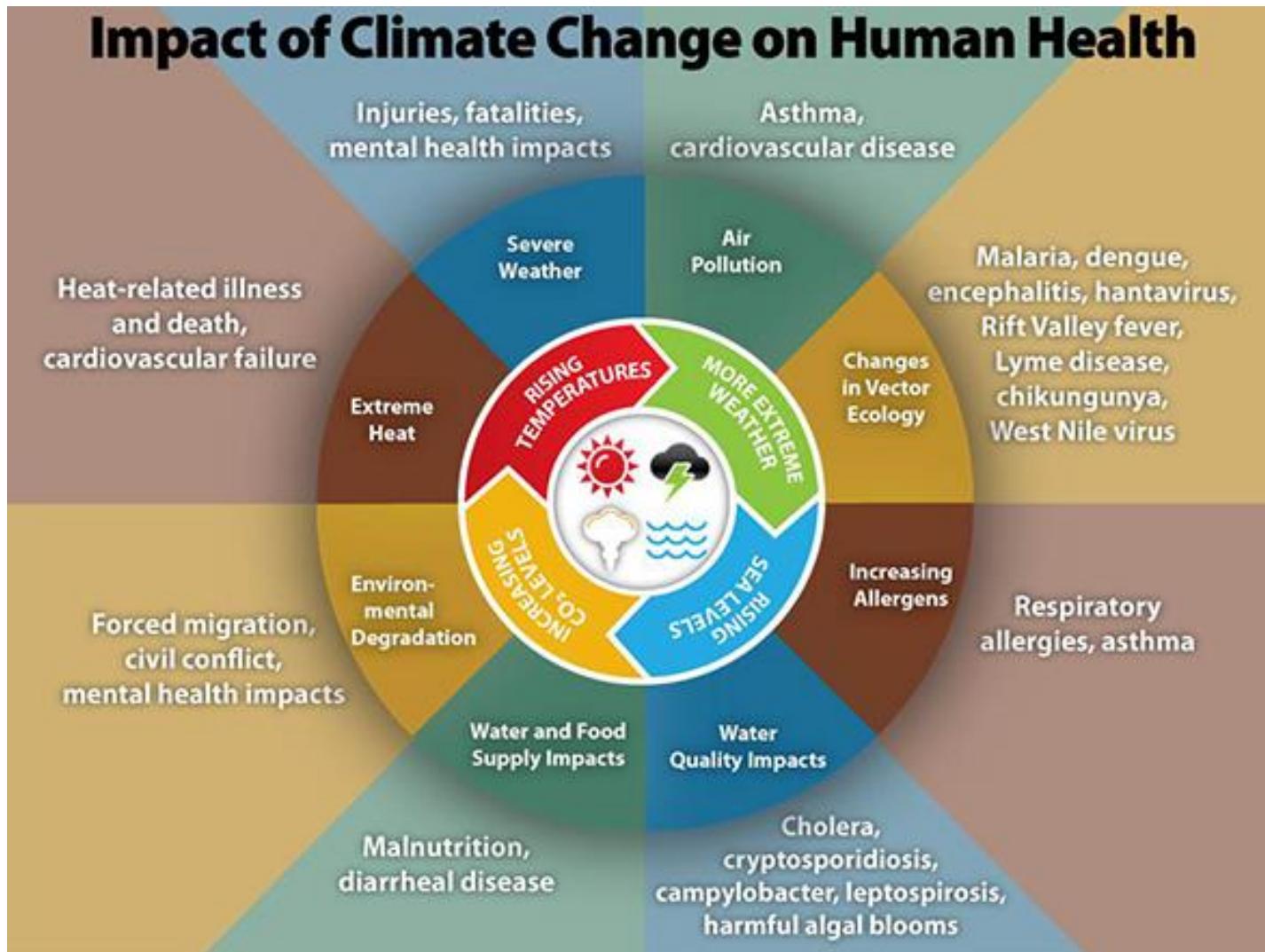
June 2019

Climate change is a risk to health both nationally and globally

- Climate change - the greatest public health threat of our time, but also the greatest global health opportunity of the 21st century
- Climate change will lead to greater seasonal variation:
 - hotter, drier summers, with more heatwaves and droughts
 - wetter colder winters, with more flooding and severe storms.
- Extreme weather impacts on public health, long term conditions, health and social care needs and mortality.
- Extreme weather damages and overheats essential buildings.
 - 20% homes currently overheating
 - 90% hospital wards may be prone to overheating.
- For the ageing, growing population in the UK, heat-related deaths are projected to increase by around 250% to over 7,000 by the 2050s.

1. <https://publichealthmatters.blog.gov.uk/2018/11/26/the-climate-change-act-10-years-on/>

Summary of impacts on health



Temperature effects of climate change on human health

- Heat-related mortality estimated to increase steeply in the UK in the 21st century: by 70% in the 2020s, more than doubling by the 2050s, and over 5x in the 2080s
- Cold-related mortality is projected to remain substantially higher than heat-related mortality in the first half of the 21st C. Estimated to decline by 2% in the 2050s and by 12% in the 2080s, compared with the 2000s baseline.
- The elderly, especially over 85s, more vulnerable to extreme heat and cold.
- Increased levels of ultraviolet radiation (UVR) and risk of non-melanoma skin cancers but dependent on lifestyle and behaviour.

1. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf/

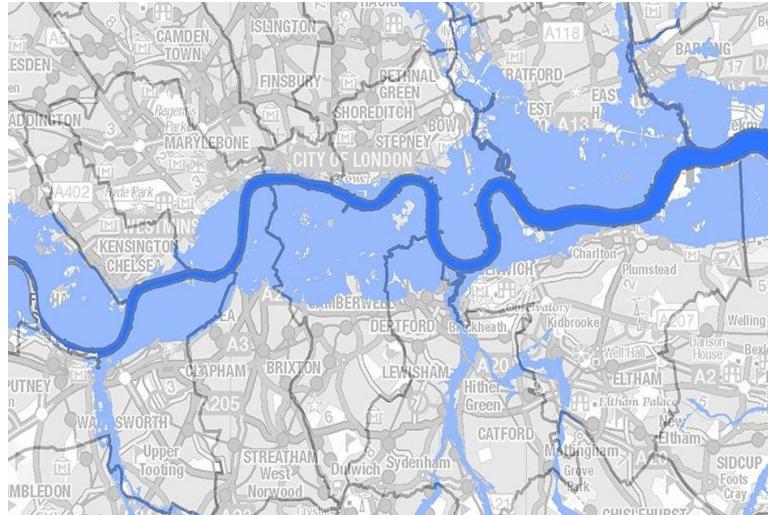
Health effects of climate change in the indoor environment

- Building overheating, indoor air pollution, flooding damage, and water and biological contamination.
- Increased airtightness - thermal stress and chemical and biological contamination.
- High risk groups include: elderly (especially those living on their own), pre-existing illnesses, overcrowded accommodation, and the socioeconomically deprived.
- Living on the top floor means exposure to higher temperatures. Living on or below ground level means vulnerability to flooding.
- Health infrastructure is vulnerable to overheating and flooding too, especially patient wards, primary care, care homes and pharmaceutical storage places.

1. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf/

Health effects of flooding and adaptation to climate change

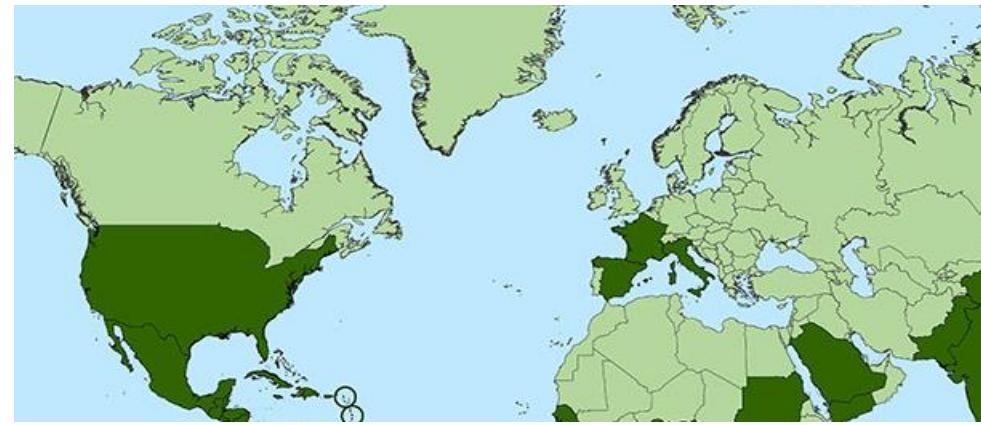
- Climate change is likely to affect river and coastal flood risk in the next decades.
- Flooding and water damage impacts on mental health and basic needs (eg housing, cooking)
- Implications on critical infrastructure (i.e., water supply and hospital services).



1. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health Effects of Climate Change in the UK 2012 V13 with cover accessible.pdf/](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf/)
2. <https://www.independent.co.uk/news/uk/home-news/london-flood-risk-map-shows-areas-of-the-capital-most-in-danger-10039405.html>

Effects of climate change on vector-borne diseases and water and food-borne diseases

- Predictions of vector-borne diseases are subject to complex influences but likely that the range, activity and vector potential of many ticks (eg Lyme disease) and mosquitoes (eg chikungunya virus) will increase across the UK.
- Most water, food-borne and enteric pathogens show seasonal variation linked to warmer temperatures. Increased risks for *Salmonella* and *Campylobacter* related infections and risks associated with flies and other pests that affect food safety.



1. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health Effects of Climate Change in the UK 2012 V13 with cover accessible.pdf/](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371103/Health_Effects_of_Climate_Change_in_the_UK_2012_V13_with_cover_accessible.pdf/)
2. <https://www.cdc.gov/chikungunya/geo/index.html>

Health and climate: co-benefits

Example interventions

These interventions have benefits both for health and for reducing climate change (also known as *mitigation*)

Produce more renewable energy



Improve insulation in homes



Encourage use of lower emission vehicles



Promote active transport



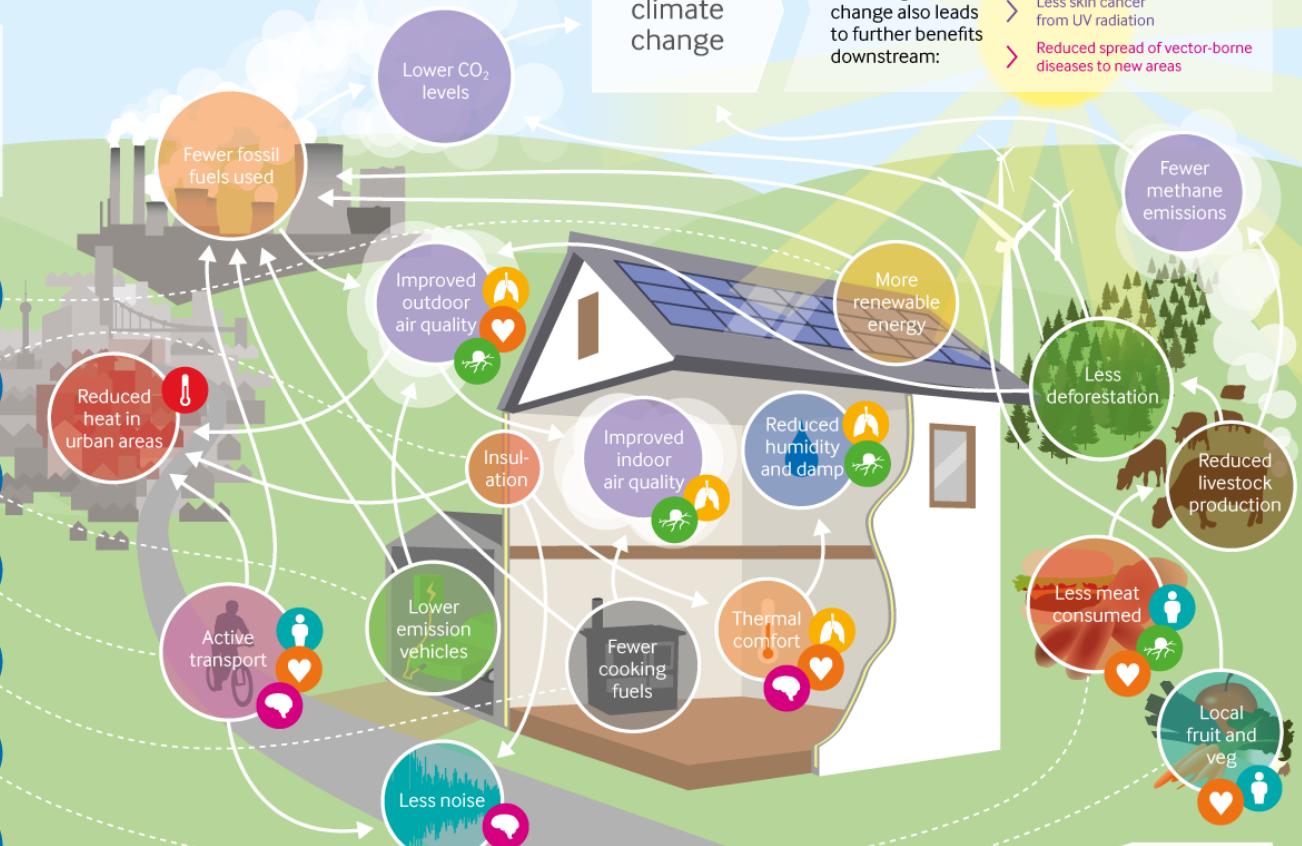
Reduce solid fuels used for cooking



Less food from animal sources



Encourage locally produced fruit and veg



Health benefits

Better mental health



Fewer deaths from extreme heat



Less cardiovascular disease



Less respiratory disease



Lower rates of cancer



Lower rates of obesity



v40: 30 Mar 2016

1. NHS is unprepared for risks posed by climate change, warn leading UK health bodies (2016) <https://www.bmjjournals.org/lookup/doi/10.1136/bmj.i1781>



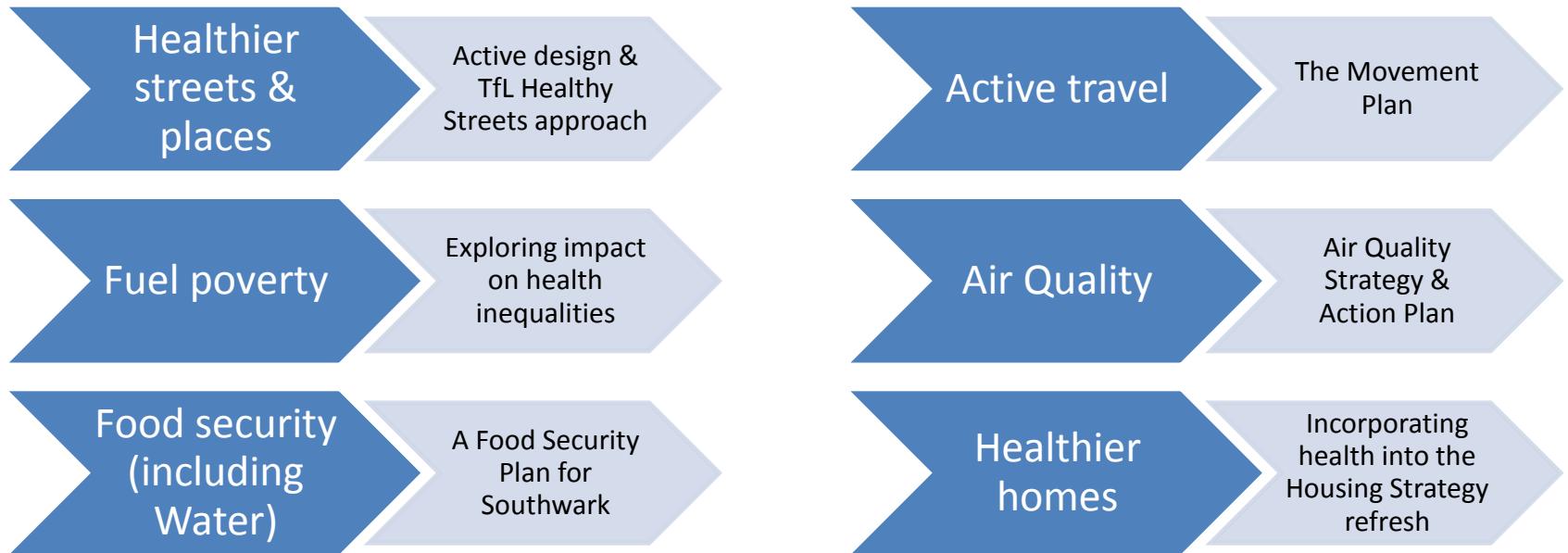
Designed by: Will Stahl-Timmins

Content: Nick Watts

Thanks to: Soledad Cuevas
Duncan Jarvis
John Waring

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Opportunities for a health in all policies approach to climate change in Southwark



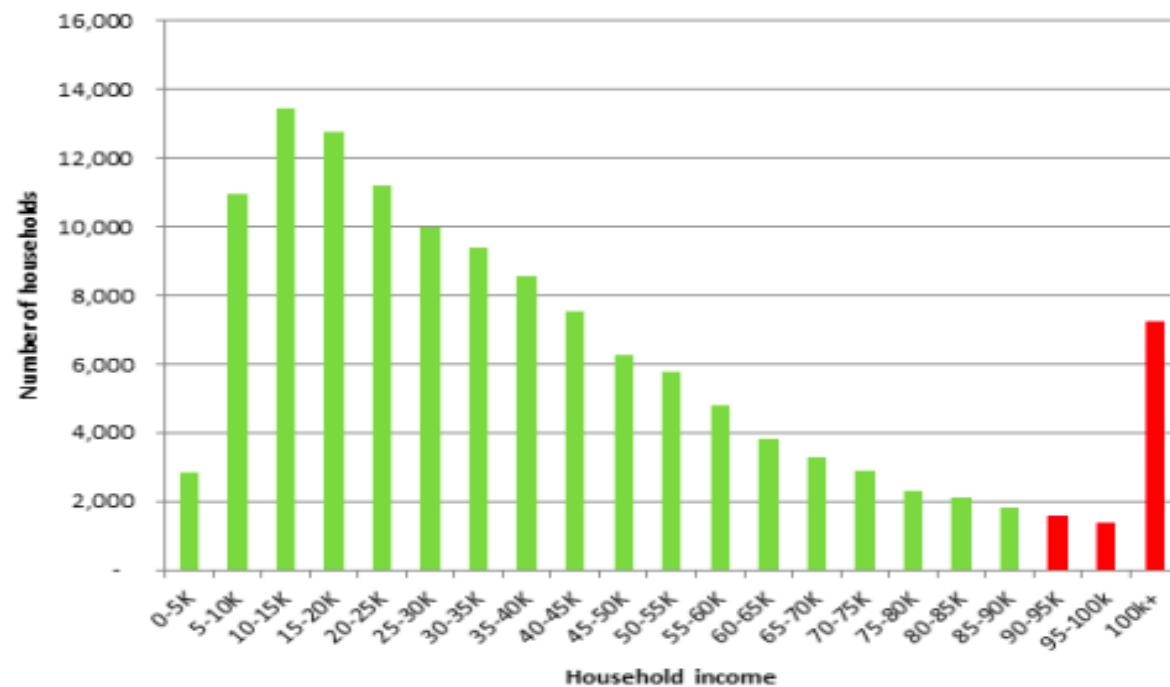
Responding to the climate crisis – options for the New Homes programme

Cllr Leo Pollak, Cabinet Member for Social Regeneration, Great Estates
and New Council Homes

July 2019

A housing crisis alongside a climate crisis

- The median sale price for a two-bed flat is £550,887 (Dec '18)
- The average asking rent for a two bed property is £2,759 per month (June '19)
- 11,233 households (comprising over 25,000 people) on our council housing waiting list (May '19)
- Over 2,300 children growing up in temporary accommodation in Southwark
- 92% of Southwark residents need some form of affordable housing



Southwark's response

Southwark's New Homes Programme – 11,000 to 2043

- 750 homes built (of which 635 council social rents), and a further 220 under construction, 823 with planning and contractor procurement, and 1456 in design and consultation across 70 sites.
- 50 new sites added to the programme this Summer
- Infill sites, rooftop sites, a new construction company to gear up supply
- Building a strategic land bank

Housing crisis and Climate crisis

- Updating design guide and technical specs:
 - New heat store, energy efficiency and renewable technologies incorporated into new developments
 - Beyond the building regs. Requirements and costs – Lessons from Camden ‘Passivhaus’ project at Agar Grove
- Supply footprint of building materials concrete vs steel vs timber – construction company options:
 - What can be built with fire-safe engineered timber products
 - Reforesting the Green Belt and Midlands. Councils and commercial forestry.
- Rooftop revolution:
 - Growing the city by building new homes on top of existing buildings within their life-cycle.
 - Preserving the embodied carbon and embodied energy of existing buildings; lower construction waste; thermal efficiencies in existing building.
- River living:
 - Networks of decks podiums and pavilions connecting new residential moorings and floating communities.
 - Challenges include wash, tidal range, regulating river transport

Reducing the impact of future buildings

➤ Updating design guide and technical specs:

- New heat store, energy efficiency and renewable technologies incorporated into new developments. What standards to set?
- Beyond the building regs – setting an ECP rating targets?
- Opportunities and costs – Lessons from Camden ‘Passivhaus’ project at Agar Grove

Supply footprint of building materials – construction company options

Concrete vs steel vs timber

Concrete:

- 410 kg CO₂ emissions for every m³ structural concrete
- 900kg CO₂ emissions for every tonne of cement

Steel:

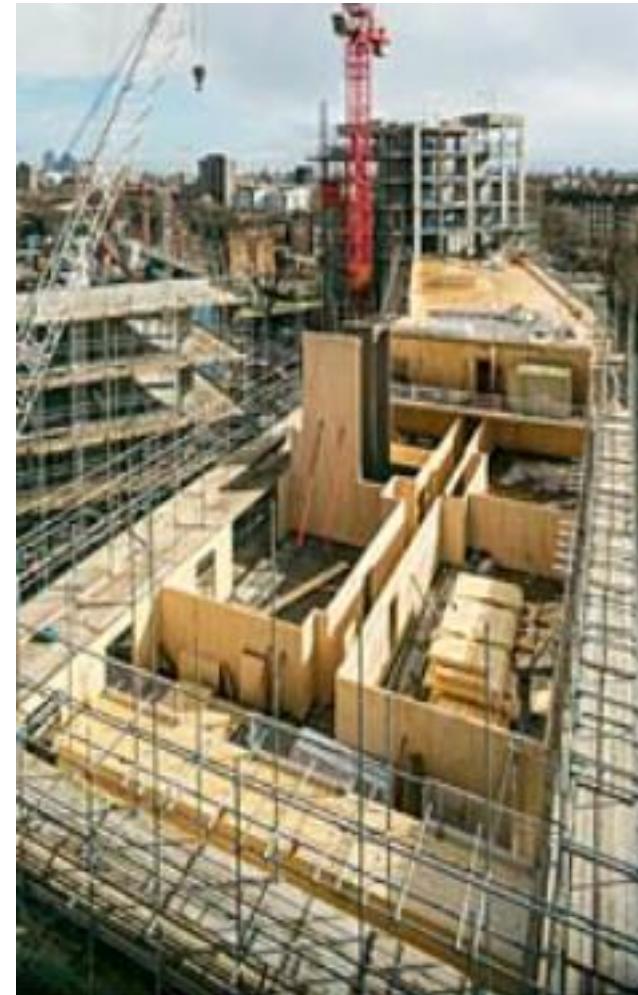
- 1,859kg CO₂ emissions for every tonne of steel production

Timber:

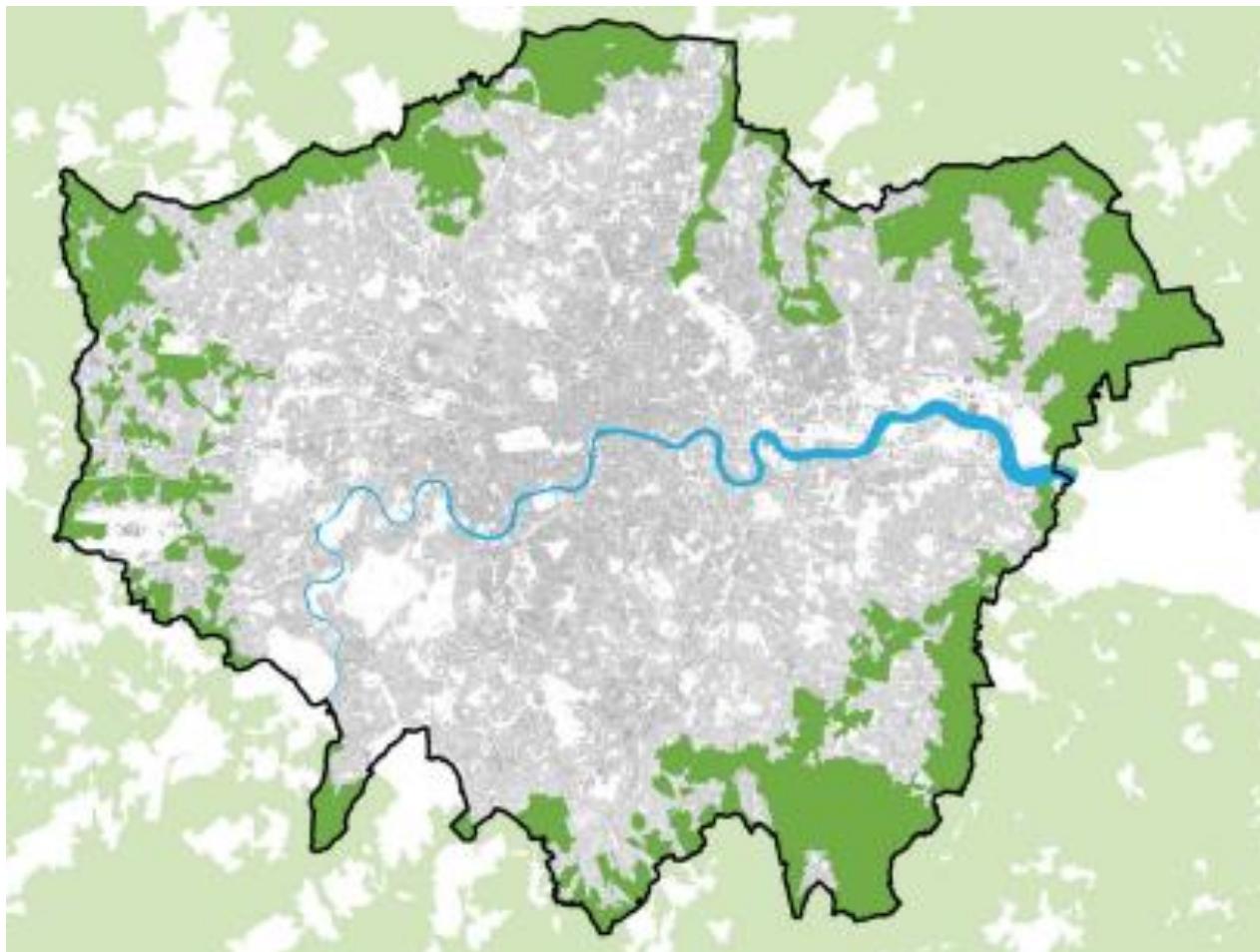
- Carbon fully sequestered when from actively managed, sustainable forests

Cross laminated timber buildings in Southwark

- Kingsdale school sports hall and music room, Dulwich
- Trafalgar Place, Walworth



London's Green Belt – what does it do?

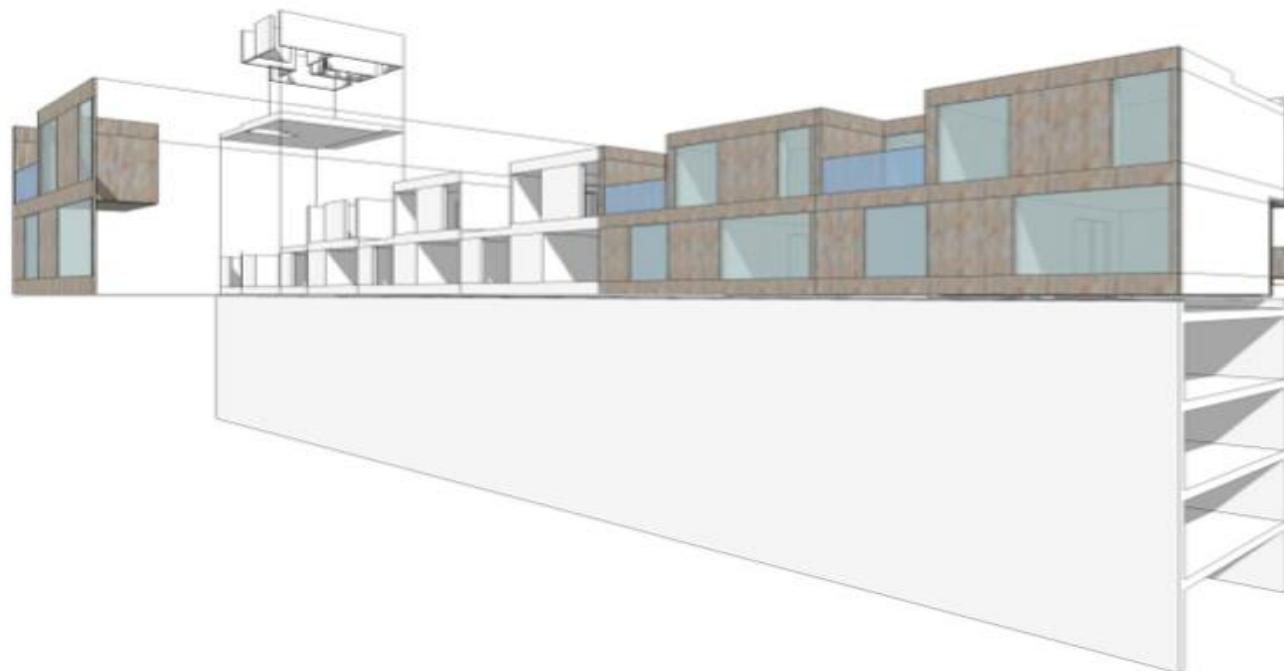


London's Green Belt – what does it do?



Rooftop development

- Growing the city by building new homes on top of existing buildings within their life-cycle.
- Hundreds of structurally-sound, flat roof blocks, with potential for clear secure access and no amenity impact.
- Preserving the embodied carbon and embodied energy of existing buildings; lower construction waste; thermal efficiencies in existing building.



Rooftop development

Rooftop Homes

Part of Southwark Council's plan to build 11,000 new council homes

June 2019

@lb_southwark  facebook.com/southwarkcouncil 



Rooftop Homes – Getting it right for our residents

Southwark Council has committed to build 11,000 new council homes. This ambitious promise is challenging for a small borough like Southwark, but is crucial if we are to tackle the housing crisis locally, and ensure all our residents have high quality homes that they can be proud of.

With land in short supply, one aspect of our plans is to explore building new homes on top of our existing council blocks.

We know any change to the environment where people live can be difficult, and we want to work with local councillors and residents to make sure that we all share an understanding of why it is so important to build new homes in every part of the borough, and what the benefits for existing residents will be.

Here we set out our initial thoughts, but we would welcome comments as we develop our plans to engage with local people about this programme of work.

Why the focus on rooftop sites?

- **Less nuisance and inconvenience.** The use of off-site modular manufacturing makes it more technically feasible to minimise the on-site 'installation' time (often weeks rather than months) comparing favourably with conventional construction projects built on new foundations.
- **The quality of the buildings.** Being manufactured in controlled and 'sterile' conditions the output of the product far exceeds the standard of construction being delivered in all weather conditions.
- **More sustainable.** Building on top retains the embodied carbon and embodied energy of an existing building. Thermal efficiencies can also be enhanced, likely reducing heating costs.
- **Communal improvements.** Under the new estate improvement plan approach we are looking to capture a wider range of improvements to existing blocks and to the wider estate to accompany new council homes. We will seek to tie in rooftop works with other communal works that really enhance the quality of the building, making it an even better place to live.
- **Protecting community space.** Another advantage with rooftop sites is they allow us to retain green spaces and parking spaces which are under pressure in the context of our housing targets.

➤ **What do residents get out of it?** Desperately needed larger homes for overcrowded families, new homes for existing households, additional investment in existing blocks and creating enhanced shared spaces for all to enjoy.

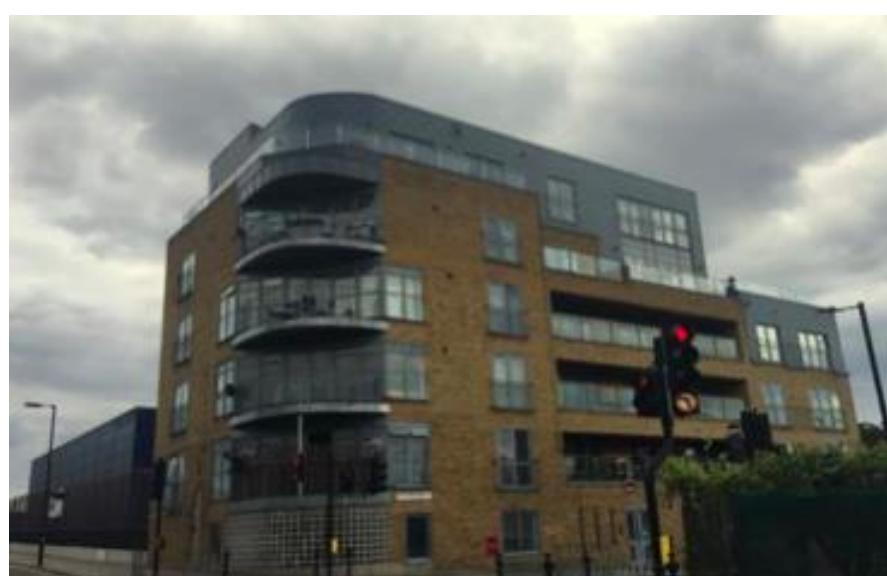
Our proposed commitments:

- We will minimise disruption for existing residents by drastically reducing works periods by carrying out most construction off-site. Any structural works will be organised to minimise noise and dust and to ensure as brief an 'installation' period as is possible.
- Existing residents in a block will be prioritised when the brand new rooftop homes are allocated within a block, with the vacated homes then allocated to people on our housing register.
- Additional estate improvements to the wider area will be offered as part of the estate improvement plan approach in our Great Estates programme and may include community spaces, play areas and communal decoration, as examples.
- As many programmed works to the block (e.g. insulation, roof works) will be incorporated into the new homes scheme as is practical and in doing so reducing additional site works visits and reducing leaseholder bills.
- We will work closely and flexibly with residents to achieve design excellence with additional storeys complementing the existing block.
- Detailed and relevant design and structural information will be shared with all residents to maximise confidence that access, amenity and the integrity of the block is fully respected, and the works are structurally sound.
- Where applicable we will provide new lift access.

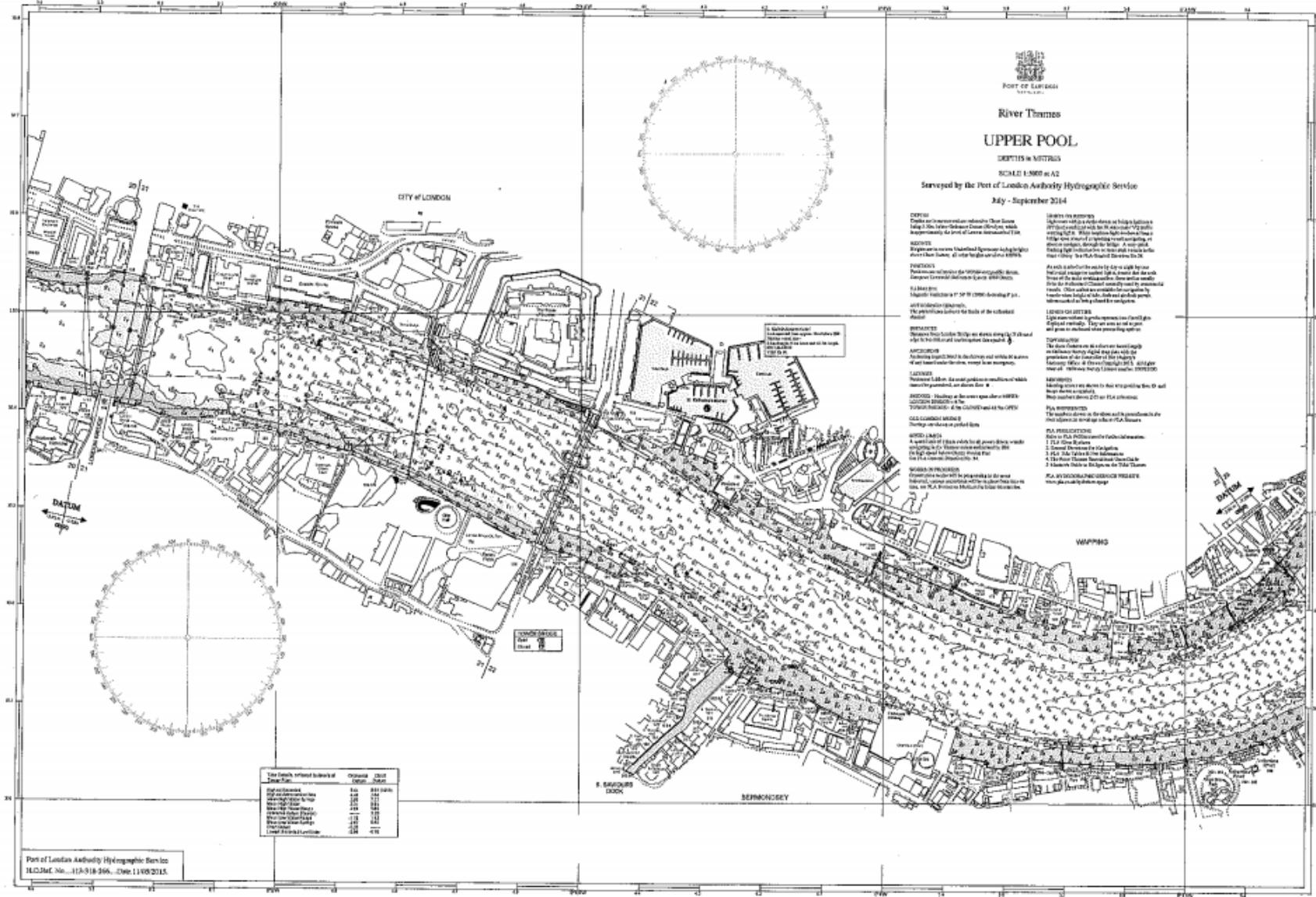
Additionally, for leaseholders who we know are often concerned about service charge bills for major works, we would also offer:

- No charge for the works and benefits associated with the additional floor (e.g. a new roof and possibly a new lift for free)
- Future charges spread across a larger pool of residents
- The option to swap their flat for an equivalent new one, subject to availability.

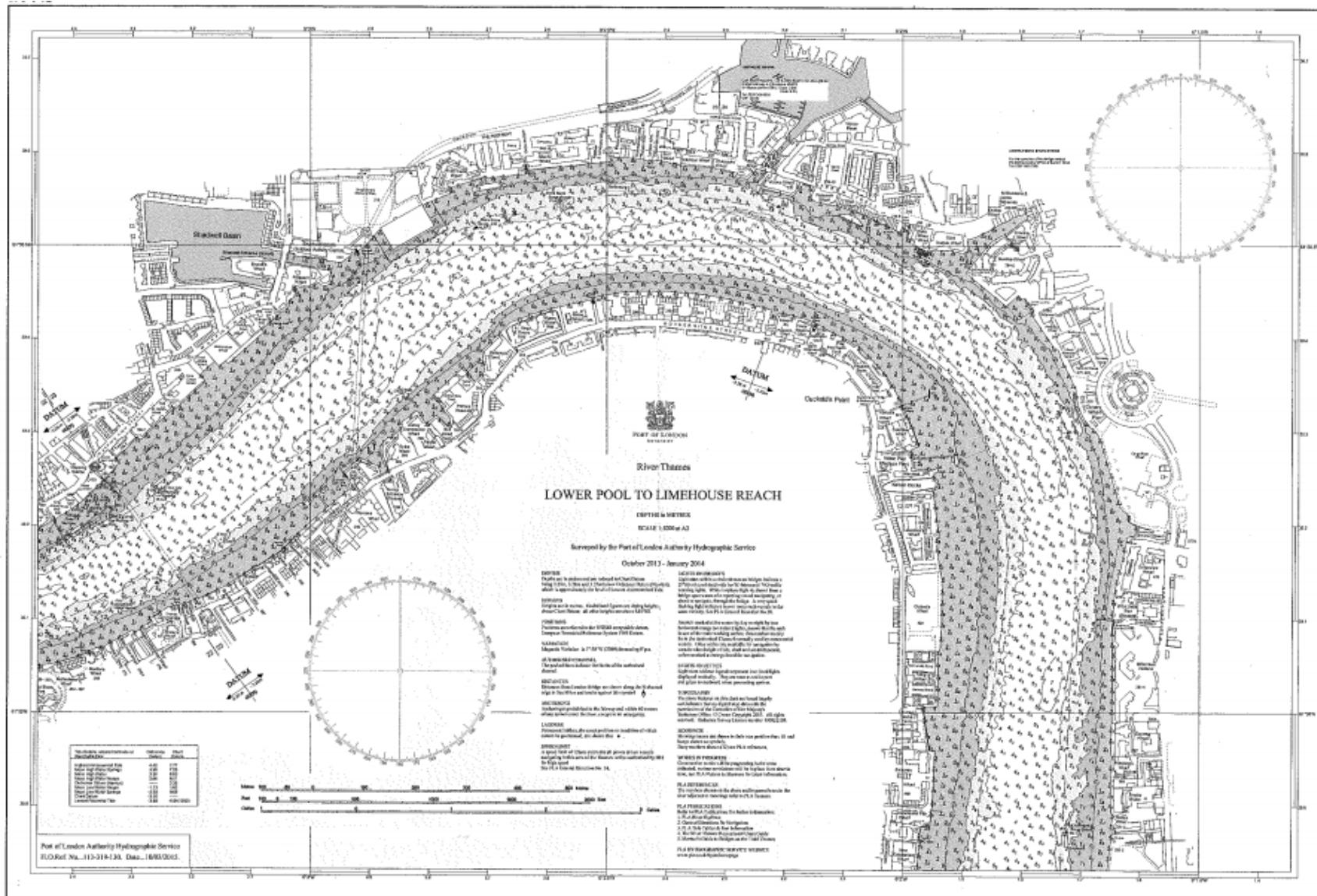
Rooftop development



River living



River living



Low impact river living

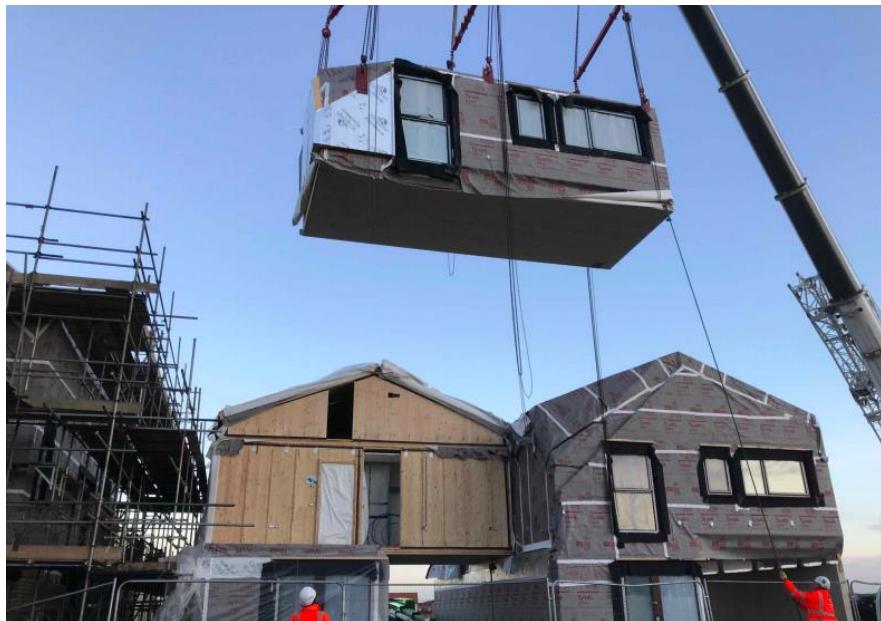


- Taggs Island floating homes
- Tower Bridge moorings



Modular homes on the river?

Ijburg second houseboat district, factory
manufactured from low waste CLT



Modular homes on the river?



Modular homes on the river?



Tackling the housing crisis and climate crisis together

- Updating design guide and technical specs:
 - New heat store, energy efficiency and renewable technologies incorporated into new developments
 - Beyond the building regs. Requirements and costs – Lessons from Camden ‘Passivhaus’ project at Agar Grove
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 - Challenges include wash, tidal range, regulating river transport

A short break

Workshop

Questions to consider

What three things/changes will **reduce levels** of emissions the most, based on your knowledge and work?

What things can **the council** do in its role as local authority in the following areas?

What things can **the organisations around your table** do to help meet the goal of carbon neutrality by 2030?

What three things will you and the people around your table commit to in order to achieve the goal of carbon neutrality by 2030?

Suggestions of areas to consider: Housing, Transport, Energy, Businesses/work places, waste and recycling

Discussion and summary

Cllr Richard Livingstone, Cabinet Member
for Environment, Transport and the Climate
Emergency, Southwark Council

Thank you for coming!

ClimateEmergency@southwark.gov.uk