

**MAYOR OF LONDON**

# **Draft London Environment Strategy**

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- London's first **integrated** environment strategy
- Aim: turning London into a **zero carbon city by 2050**, with energy efficient buildings, clean transport and clean energy
- Re-establish London's position as a **leader in tackling climate change**
- Ambition includes:
  - Zero carbon city and Zero waste city
  - World Health Organisation PM<sub>2.5</sub> targets for air quality
  - Increase green cover to 50%
  - Action plans for fuel poverty and solar
  - New funding to catalyse action
  - New businesses cases for energy efficiency and green infrastructure

## WHAT'S NEW?



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## RELATIONSHIP WITH OTHER MAYORAL STRATEGIES



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## AIMS FOR 2050

### Climate change and energy

London will be a zero carbon city – with a zero emission transport network and zero carbon buildings.

### Waste

London will be a zero waste city. 65% of London's municipal waste will be recycled.

### Adapting to climate change

London and Londoners will be resilient to severe weather and longer-term climate change impacts, such as flooding, heat risk and drought.

### Outcomes

#### Greener

All Londoners should be able to enjoy the very best parks, trees and wildlife. Creating a greener city is good for everyone – it will improve people's health and quality of life, support the success of businesses and attract more visitors to London.

#### Cleaner

Londoners want their city to be clean, attractive and healthy – living in a big city does not mean they should accept a dirty and polluted environment. The Mayor will clean up London's air, water and energy in a way that is fair, protects the health of Londoners, and contributes to the fight against climate change.

#### Ready for the future

Water, energy and raw materials for the products we consume will be less readily available in the future, and climate change will mean higher temperatures, more intense rainfall and water shortages. The Mayor will make sure the city does not waste valuable resources, is prepared for the future and is safeguarded for future generations.



### Green infrastructure

More than half of London's area will be green, and tree canopy cover will increase by ten per cent, by 2050.

### Air quality

London will have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities.

### Noise

The number of people adversely affected by noise will be reduced, and more quiet and tranquil spaces will be promoted.

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# **CLIMATE CHANGE MITIGATION AND ENERGY**



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## INSIDE THE ZERO CARBON HOME

### Solar panels:

Convert sunlight into renewable electricity and heat

### Green roof:

To manage rainwater and increase biodiversity

### Efficient building materials:

Triple glazing, solar shading and insulation to reduce energy demand

### Smart appliances and energy storage:

Batteries, high efficiency lighting, smart electronic devices and white goods allow flexible use of electricity to optimise consumption and reduce costs

### Zero carbon electricity:

Renewable generation provides clean energy from the grid

### Low-flow water fixtures:

Reduce water usage

### Home energy manager:

A control panel inside the home that allows homeowners to manage energy consumption

### Heating and cooling system:

Highly efficient low carbon energy supply through district heating or individual building heat pumps

### Water harvesting:

Greywater harvesting for toilet flushing and rainwater collection for irrigation



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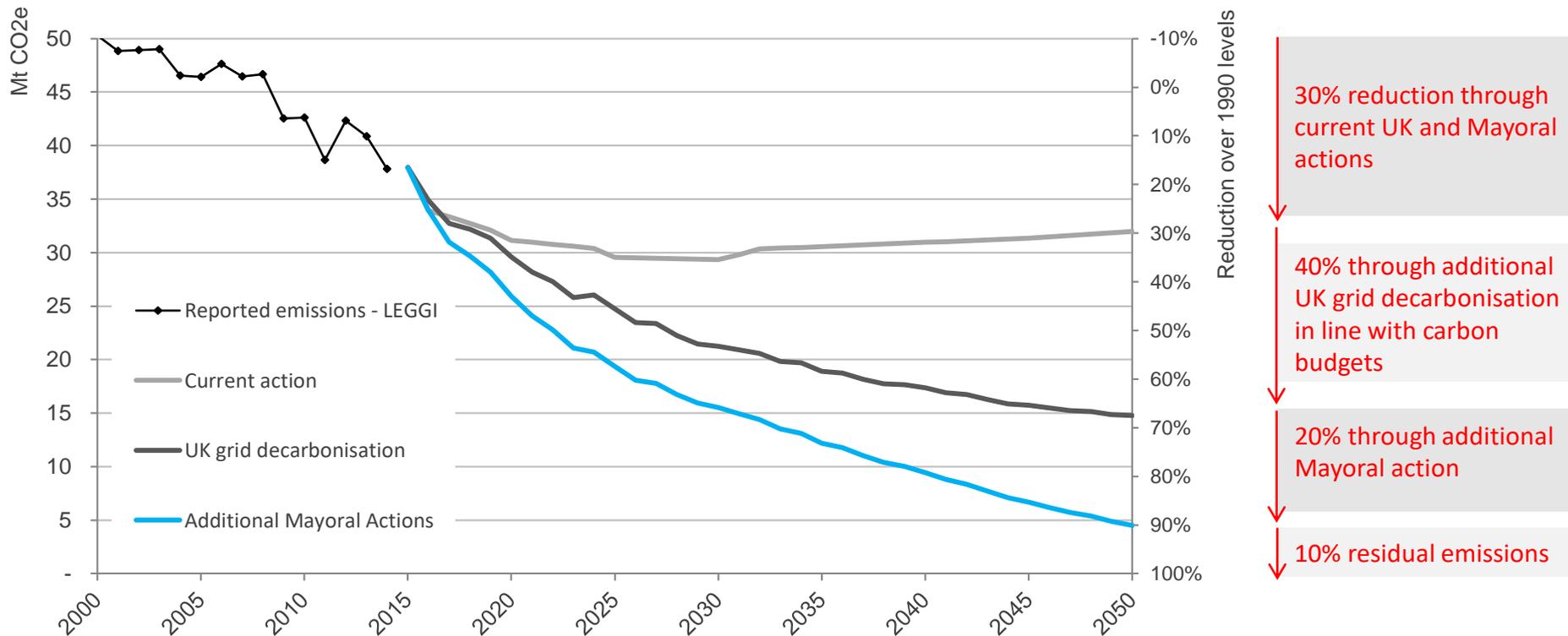
## The Mayor aims for London to be a zero carbon city by 2050 and will:

- **Help Londoners cut their energy use** by supporting efforts to improve the energy efficiency of **homes and public buildings** and helping to roll out smart meters
- **Support decentralised energy** by providing technical assistance to help increase the number of homes and businesses connected to communal heat networks that use local energy sources, including energy created from waste + **increase clean generation**
- Help workplaces reduce their GHGs e.g. supporting programmes to **replace old polluting commercial boilers** with new cleaner ones
- Make sure that **new developments are zero carbon from 2019**, with clean supplies of energy and high energy efficiency designed in from the start
- Tender for the delivery of an **energy supply company**, aiming to offer fairer energy bills to Londoners

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## Zero carbon London by 2050

- London is responsible for 8% of the UK's GHG emissions.
- In 2014 London's GHG emissions were 16% lower than 1990 levels.
- Achieving (net) zero carbon will require massive increase in energy efficiency retrofit, wide roll-out of heat pumps, electric vehicles and district heat networks



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**2016**  
Zero carbon  
new homes



**2017** Central  
London transport  
emissions surcharge



**2018** Minimum energy efficiency  
performance standards for all rented  
properties

**2019** All new  
buildings zero  
carbon



**2019** Central  
London Ultra  
Low Emission  
Zone (ULEZ)

**2020**



**2020** Smart  
meter in every  
home

**2021** ULEZ expanded to inner  
London for light vehicles

**2022** 40%  
reduction in carbon  
emissions over 1990  
levels

**By 2030** UK  
Government  
decision on the  
long term role of  
natural gas

**2030**

**By 2030**  
15% of demand  
met by  
renewable and  
community  
energy



**2020s**  
Insulation of  
remaining lofts and  
cavity walls and  
replacement of  
remaining low  
efficiency gas boilers



**2026** Zero  
waste to landfill

**2025** GLA car  
fleet zero  
emission capable



**2025**  
Local zero  
emission  
zones

**From 2030**  
All GLA group  
heavy vehicles are  
fossil fuel-free



**2030s** City wide  
deployment of  
low carbon  
heating systems  
eg. heat pumps

**2037** All bus  
fleet zero  
emission



**2040**

**2040s** Gas and  
electricity networks  
reach zero carbon

**2050** 2 GW of solar  
PV installations

**2050** any remaining  
residual emissions  
offset

**2050** zero emissions  
from all transport and  
buildings

**2050**

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## ENERGY FOR LONDONERS

### Objective 1

Reduce emissions of London's homes and workplaces while protecting the most vulnerable by tackling fuel poverty

Fair tariffs

Energy efficiency

Fuel poverty support

### Objective 2

Develop clean and smart integrated energy systems utilising local and renewable energy resources

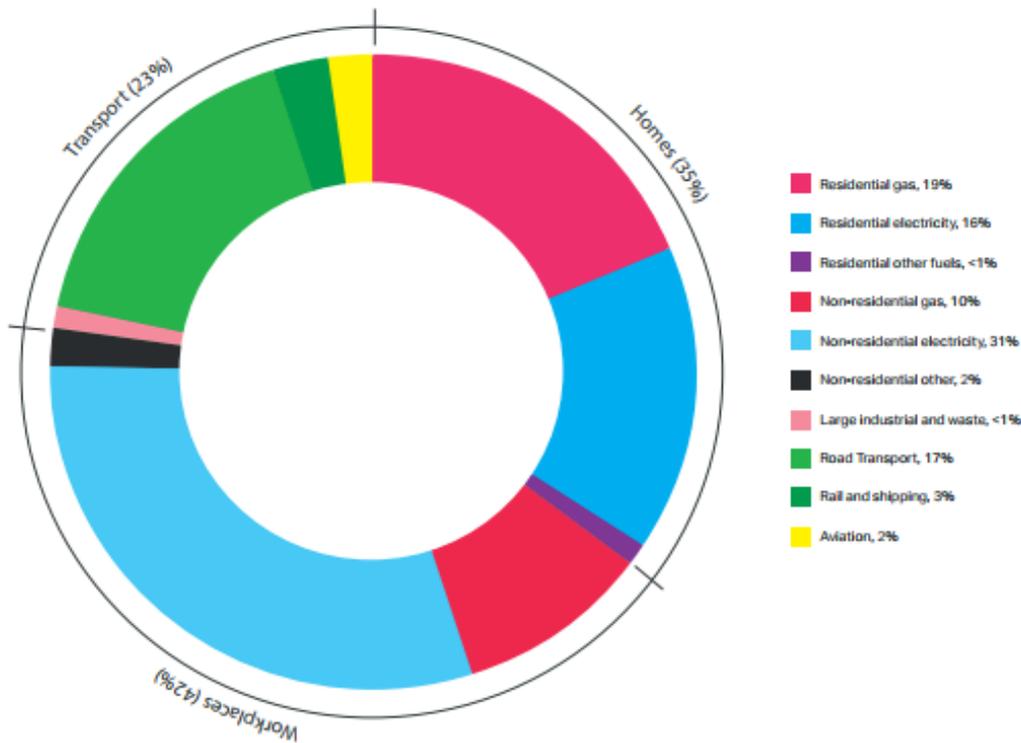
Decentralised energy

Solar generation and community energy

A smarter grid with demand side management

# The role of public sector buildings

Figure 29: 2014 emissions by sector (LEGGI)



Source: Greater London Authority (2017)

- 42 per cent of London's GHG emissions come from workplaces (2015)
- $\frac{1}{4}$  is from public buildings
- This year, over £3.1bn will be spent on heating and powering London's workplaces

## What's in it for the public sector?

- By helping Londoners improve the energy efficiency of their homes and workplaces through technical advice, support and funding – e.g. RE:NEW, DEEP, RE:FIT
- By piloting new approaches to retrofitting which make existing homes zero energy and eradicate energy bills (LEAP)
- By lobbying government for financial support and regulatory change to speed up the retrofitting of homes
- By supporting the roll out of smart meters to provide Londoners with the information they need to make better low carbon choices
- By tendering for the delivery of an energy supply company, aiming to offer fairer energy bills to Londoners
- By scrapping of the most polluting boilers from workplaces.

+ fuel poverty + solar action plan

RE:FIT (2016) - By 2020 the programme aims to have:

- reduced emissions by nearly **25,000 tCO<sub>2</sub>e pa**,
- saved at least **68 GWh** of energy and
- retrofitted over **400 buildings**

from a range of public sector bodies

### BOX 20: ENERGY FOR LONDONERS

To place London on track to a zero carbon city Energy for Londoners will:

- accelerate the retrofitting of buildings, while encouraging energy demand reduction and energy management practices, smart meter roll-out and demand side management
- decarbonise London's energy supply by developing and delivering
- decentralised energy, renewable generation, especially solar, community energy programmes
- protect the most vulnerable and tackle fuel poverty
- tender for the delivery of an energy supply company, aiming to offer fairer energy bills to Londoners as soon as possible
- attract finance for energy efficiency and renewable energy

## **Fuel Poverty Action Plan**

- £10m over the next four years for new energy efficiency delivery programmes
- £500k over the next four years to support the creation or roll out of local advice and referral networks, including home visiting services
- new online database of landlords and letting agents who have been convicted of relevant criminal offences
- make available a new open-source pan-London Energy Performance Certificate data model in 2018

## **Solar Action Plan**

- maximise solar on GLA group buildings and land
- encourage solar energy installations through the planning system
- pilot a solar reverse auction scheme to reduce installation costs for Londoners
- develop a grants scheme to help community solar energy projects get off the ground
- 2GW of solar installations in London by 2015

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## Consultation – reaching out to Londoners

- Londoners are invited to respond on Talk London – **2905** surveys were completed in the first fortnight
- Social media coverage - some messages reaching as many as **6 million people** (right)
- Additional YouGov polling – from a representative sample of 1000 Londoners
- Focus groups at City Hall – to better understand Londoners’ attitudes on key policy areas
- In home interviews to at-risk groups
- Youth engagement – through the GLA’s Young Londoners’ Participation network
- Community Engagement Event



## Consultation - how to submit your responses

- Stakeholders should respond via the online survey on: **[London.gov/environment-strategy](https://london.gov/environment-strategy)**
- You can complete the set consultation questions or upload your response as a letter
- The closing date for responses is 17 November 2017



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# Q&A



# EfL Supply Company

- Primary objective is to offer fairer bills to the fuel poor
- Tender for an arrangement with existing supplier for speed and to manage risk
- Integrate with other energy programmes
- In time, could cover broader objectives