

The London Plan

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Introduction

1. The London Plan
2. Mitigation
3. Adaptation
4. Water
5. Urban greening

Key Challenges

- A growing (and changing) population
- More households
- A growing (and changing) economy
- Meeting infrastructure requirements
- Persistent poverty and disadvantage
- Regeneration (i.e. securing the legacy of the 2012 Olympic Games)
- Quality of Life
- A changing climate
- Changes to the UK planning system

The Mayor's objectives

1. A city that meets the challenges of economic and population growth;
2. An internationally competitive and successful city;
3. A city of diverse, strong, secure and accessible neighbourhoods;
4. A city that delights the senses;
5. **A city that becomes a world leader in improving the environment;**
6. A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

The London Plan

- A bold strategic 20 year vision
- Greater London's second full plan
- Overarching policy of sustainable development
- Identifies growth and associated infrastructure needs
- Links partnerships and implementation
- Guides and controls development





Structure of the London Plan

Chapters:

- 1: Context and strategy (Mayor's vision and objectives)
- 2: Places (spatial vision)
- 3: People (housing and social infrastructure)
- 4: Economy (employment & economic growth)
- 5: **Response to climate change** (including resource management)
- 6: Transport
- 7: Living places and spaces (built/natural environment)
- 8: Implementation, monitoring and review

The London Plan – Chapter 5: London's Response to Climate Change

- Provides overarching policy framework for London
- Supported by other Mayoral initiatives:
 - Strategies
 - Investment programmes
- Develops the approach in the previous London Plan and provide further clarity to regional stakeholders (particularly the London Boroughs and the development industry)
- The approach is divided between **mitigation** and **adaptation** responses

London's response to climate change

Mitigation



Strategic target

Policy 5.1

- London wide **target** of reducing carbon dioxide emissions by **60% below 1990** levels by 2025
 - Through planning and other strategies



Linked strategies

- Climate change mitigation and energy strategy
 - beyond planning measures
 - funding to support retro-fit public buildings
 - funding to support retro-fit homes
 - community lead schemes
 - Low Carbon Zones
 - supporting decentralised energy
 - supporting energy from waste
 - supporting electric vehicles and infrastructure
- Climate Change Adaptation
- Transport (TfL lead)
- Biodiversity
- Municipal Waste
- Air Quality

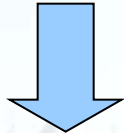


Minimising Carbon Dioxide Emissions

Policy 5.2

The 'Energy Hierarchy'

1. Use Less Energy
(Be Lean)

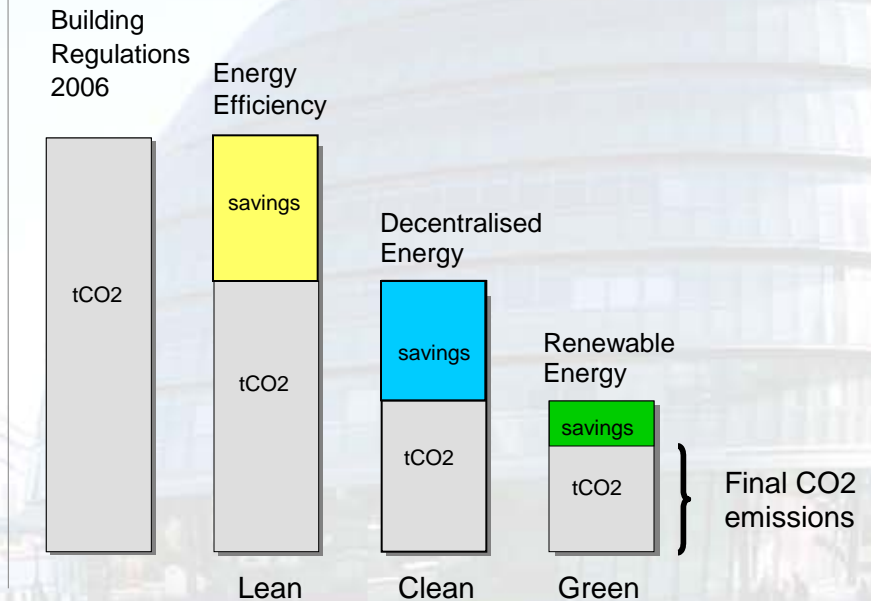


2. Supply Energy Efficiently
(Be Clean)



3. Use Renewable Energy
(Be Green)

Tonnes CO2



Minimising Carbon Dioxide Emissions

Policy 5.2

- Fullest contribution to minimising carbon dioxide emissions
- Major developments to include an energy assessment
- **Minimum targets** for major development proposals in London

Residential buildings:

Year	Improvement on 2010 Building Regulations
2010 – 2013	25 per cent (Code for Sustainable Homes level 4)
2013 – 2016	40 per cent
2016 – 2031	Zero carbon

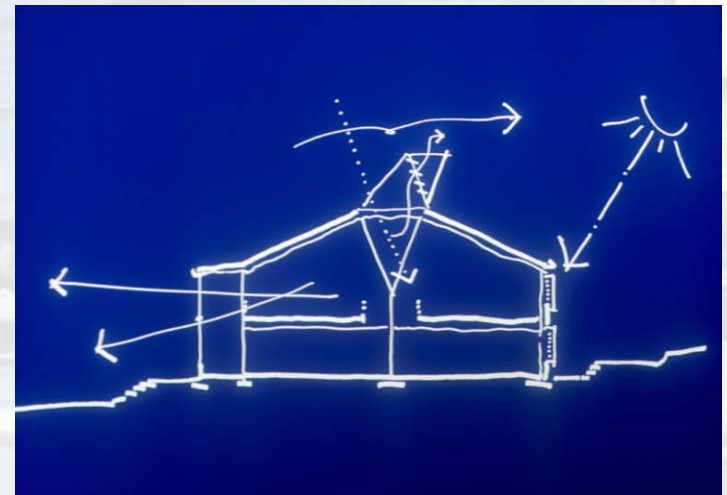
Non-domestic buildings:

Year	Improvement on 2010 Building Regulations
2010 – 2013	25 per cent
2013 – 2016	40 per cent
2016 – 2019	As per building regulations requirements
2019 – 2031	Zero carbon

1. Use less energy

- Sustainable design and construction policy (policy 5.3)
 - detailed design
 - orientation
 - insulation
 - natural ventilation
 - windows location and sizes
 - services
 - heating and cooling systems
 - management systems
 - MVHR
- Energy assessment guidance for developers

<http://www.london.gov.uk/priorities/planning/strategic-planning-applications/pre-planning-application-meeting-service>



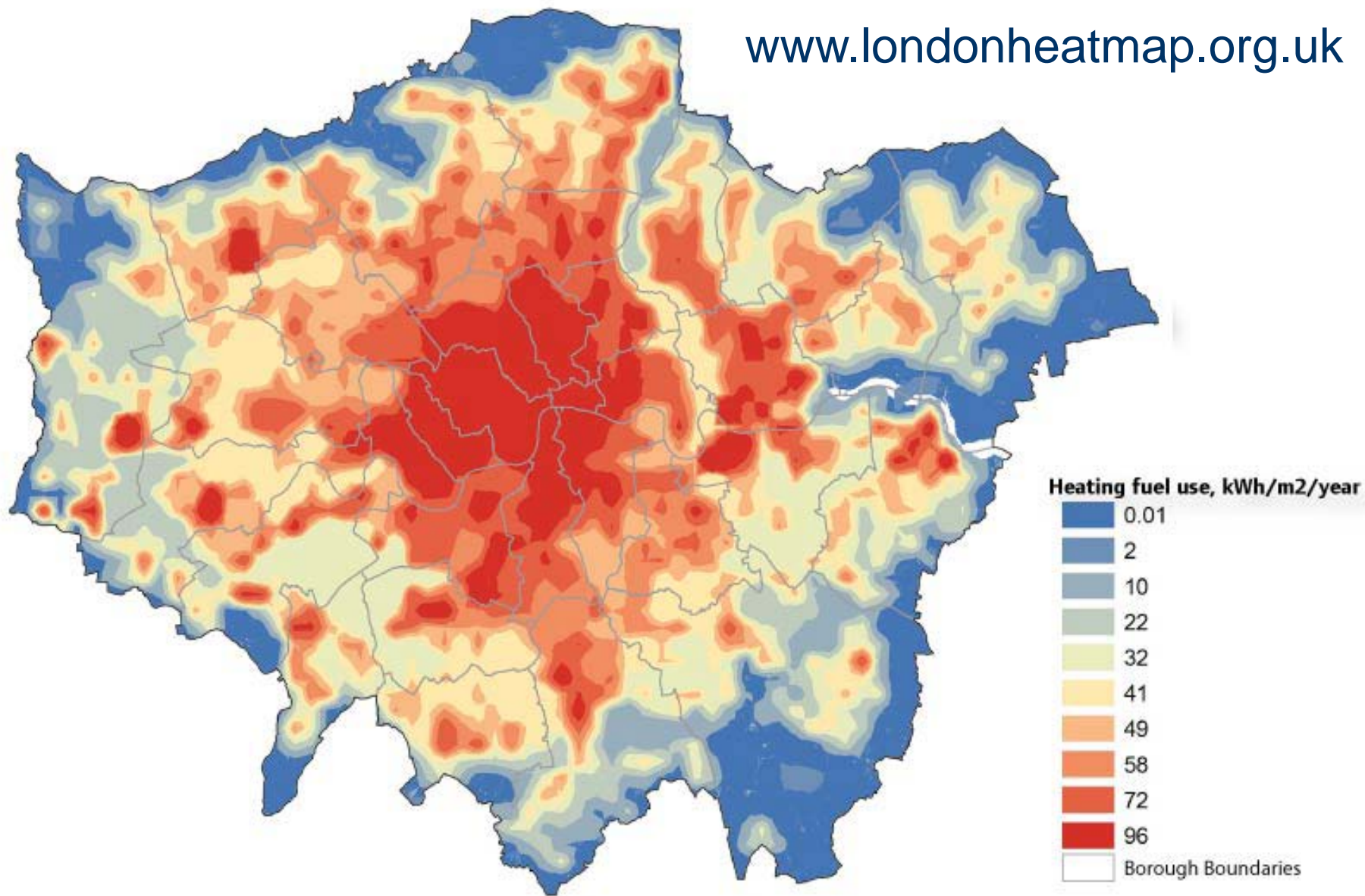
2. Supply Energy Efficiency

Decentralised Energy Networks

Policy 5.5

- Strategic **target** that decentralised energy to comprise **25% of all energy used by 2025**
- Boroughs to identify decentralised energy network opportunities
- Boroughs to develop energy masterplans.
- The GLA is providing support and guidance (i.e. The London Heat Map and DeMap programme)





Decentralised Energy in Development

Policy 5.6

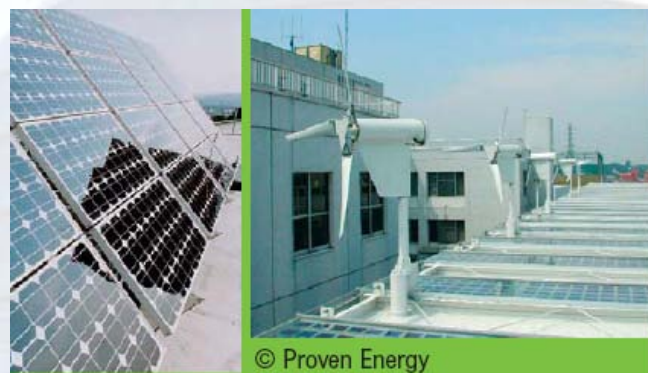
- Development proposals need to demonstrate the heating, cooling, and power systems have been selected to minimise CO2 emissions
- CHP & CCHP systems to be evaluated
- A Order of Preference is outlined
 - Connection to existing network(s)
 - Provide site wide network
 - Community heating and cooling



3. Use Renewable Energy

Policy 5.7

- UK policy is 15% by 2020.
- no target in policy
- supporting text includes presumption that major development will reduce CO2 emissions by at least 20% through on-site renewable energy generation
- the most common applications of renewable energy in London are:
 - Solar Power (PV Panels)
 - Biomass
- key opportunities from waste



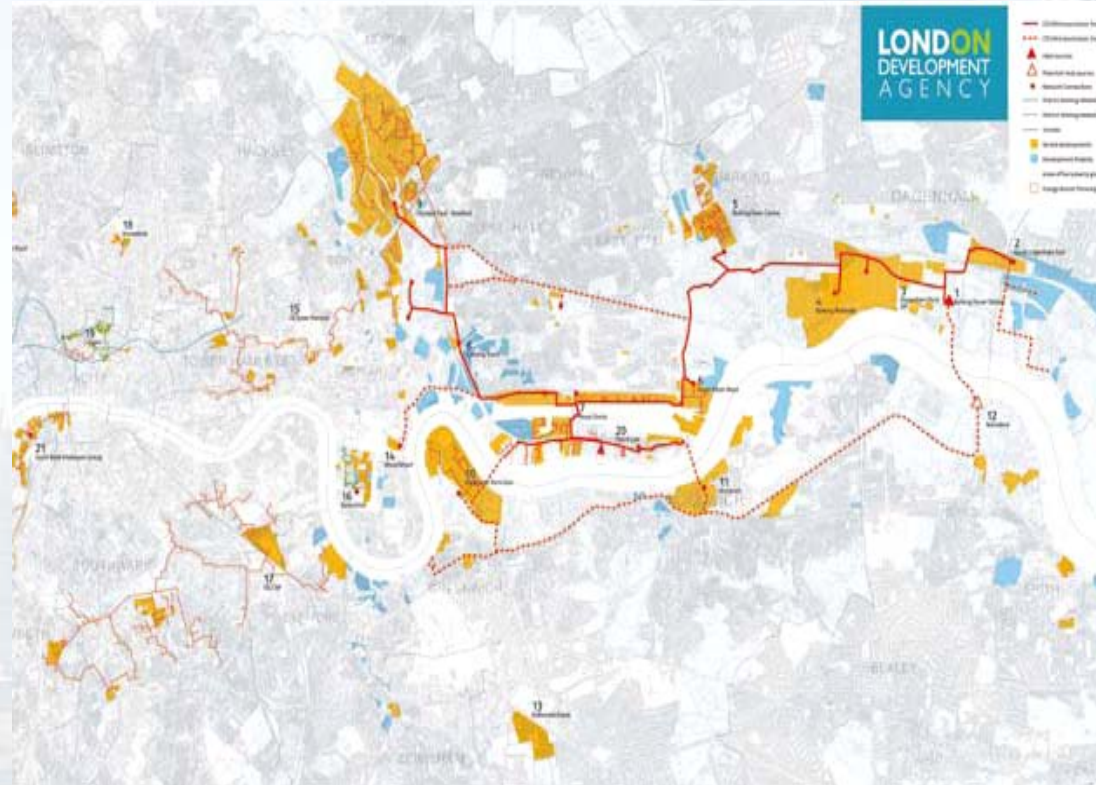
DE potential across London

Existing networks

- Olympic Park and Stratford City
- Citi-gen
- Pimlico District Heating Undertaking (PDHU)
- Barkantine Heat and Power
- Whitehall District Heating Scheme
- Bunhill energy centre
- Gower Street
- Bloomsbury

Proposed networks

- Vauxhall Nine Elms
Battersea
- Euston Road



Retrofitting

Policy 5.4

- Applies the mitigation and adaptation policies to existing buildings where possible (i.e. major refurbishments or estate renewal projects)
- Key focus: minimise CO₂ emissions
- Supported by other Mayoral initiatives to address existing development



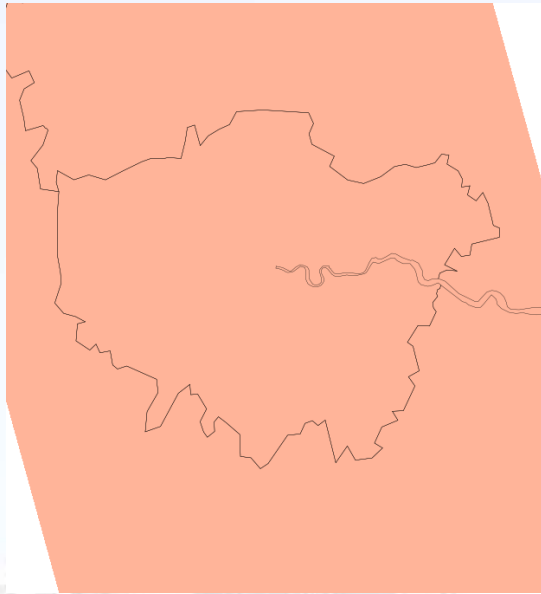
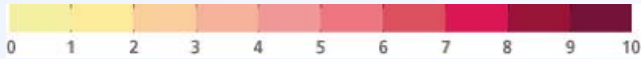
Climate Change Adaptation

Key impacts on London:

1. Overheating
2. Flooding
3. Drought

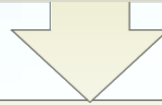


Summer average temperature: significant increases



**But the temperature on the
hottest day of the year could
increase by up to 10°C**

2020s
+1.6°C



2050s
+2.7°C



2080s
+3.9°C

London
central estimate
Medium emissions

Infrastructure risks

**Risks to
biodiversity**

Comfort

Heat related deaths

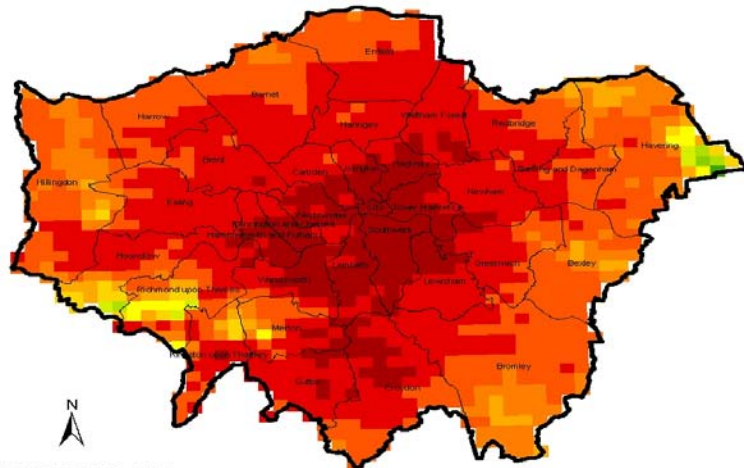
**Risk to Food
Security**

1. Overheating

Heat island effect

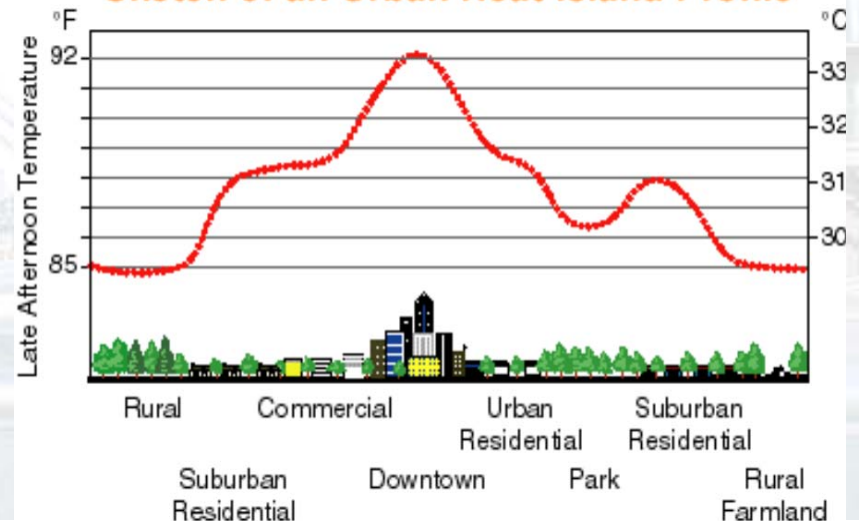
- London's microclimate amplifies the impact of hot weather
- London is up to 9°C warmer than the greenbelt on summer nights

Temperature distribution in London, August 2003



MODIS 7.08.2003 21:30

Sketch of an Urban Heat-Island Profile



Overheating and Cooling

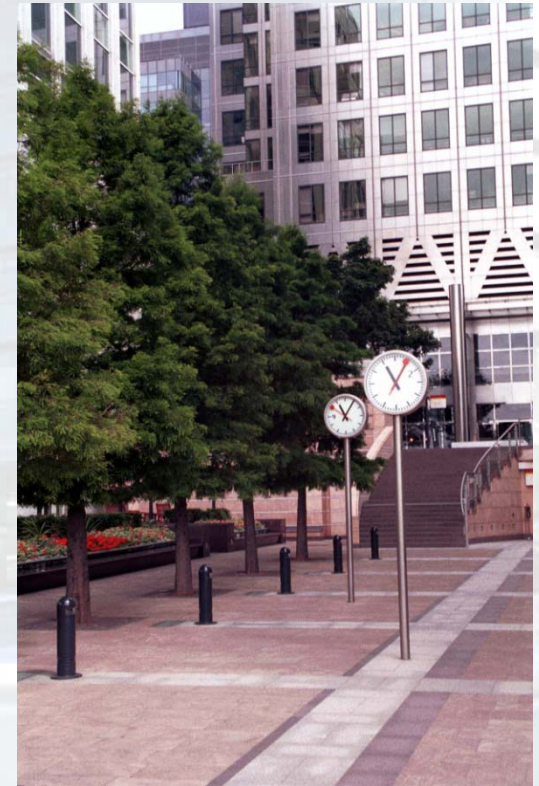
Policy 5.9

- Encourages the design of places and spaces to avoid overheating and excessive heat generation
- Requires developers to follow a cooling hierarchy
 - Supports wider Sustainable Design and Construction principles
- Seeks to avoid reliance on air conditioning systems

Urban greening

Policy 5.10

- Increasing the 'greening' – vegetation of the public realm
- More trees, landscaping, parks and gardens
- Increase the 'green' surface area in the Central Activity Zone (CAZ) by at least 5% by 2030
- Development schemes required to incorporate green infrastructure



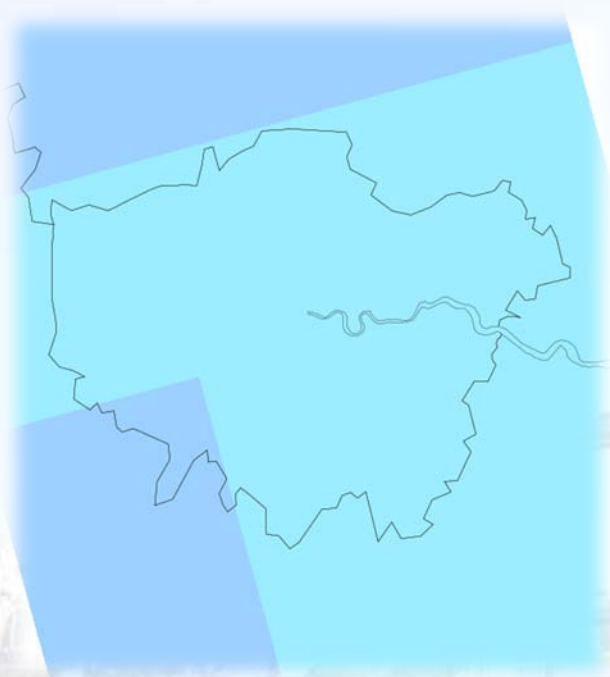
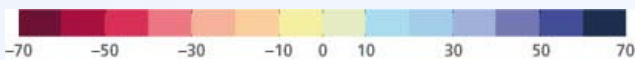
Green Roofs

Policy 5.11

- Key aspect of urban 'greening'
- Development schemes are to incorporate green roofs and walls where feasible
- Benefits include
 - Local cooling
 - Urban drainage
 - Energy efficiency
 - Biodiversity
 - Open space

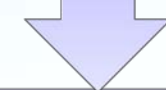


Winter rainfall: significant increases



2020s

+6%



2050s

+14%



2080s

+19%

London
central estimate
Medium emissions

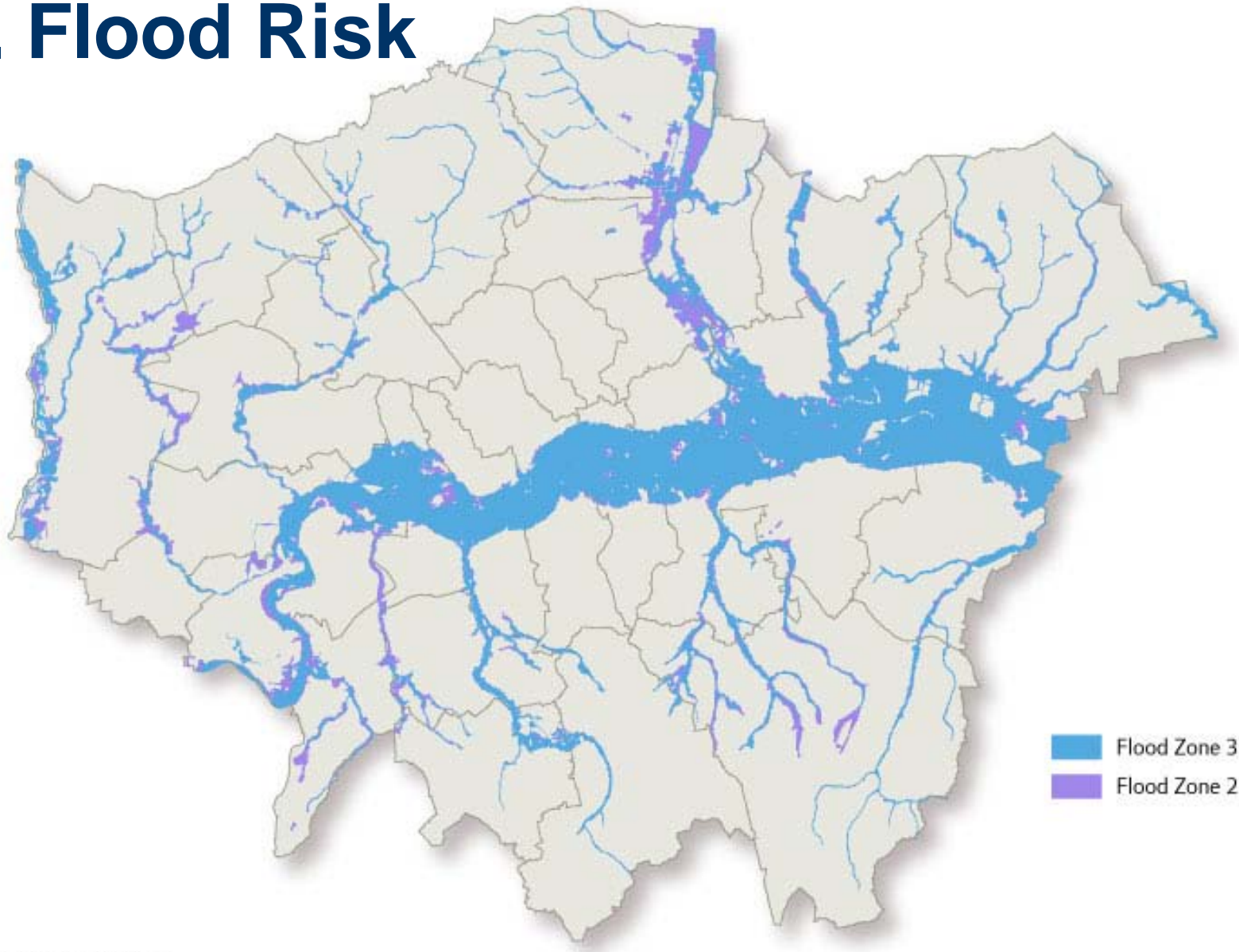
**Increased winter
flooding**

**Risks to urban
drainage**

**Severe transport
disruption**

**Risks of national
Infrastructure**

2. Flood Risk



Source Environment Agency
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Greater London Authority 100032379 (2009)

The London Plan Review Draft Consultation Plan (2009)

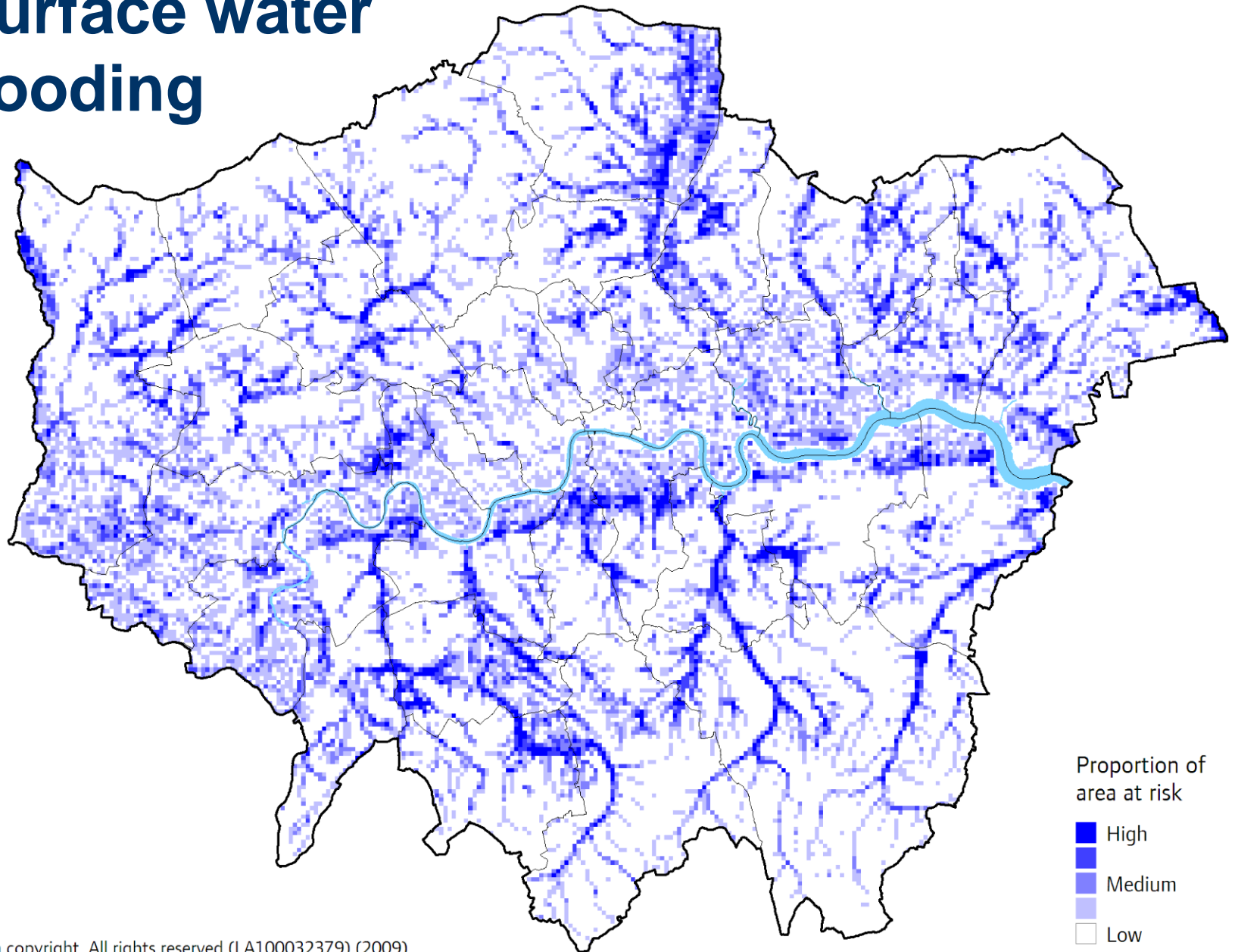
Flood Risk Management

Policy 5.12

- Strategic response to flood risk
- Greater emphasis on flood resilience and emergency planning for development in flood risk areas
- Flood risk assessments
- Flood resilient design



Surface water flooding



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Sustainable Drainage

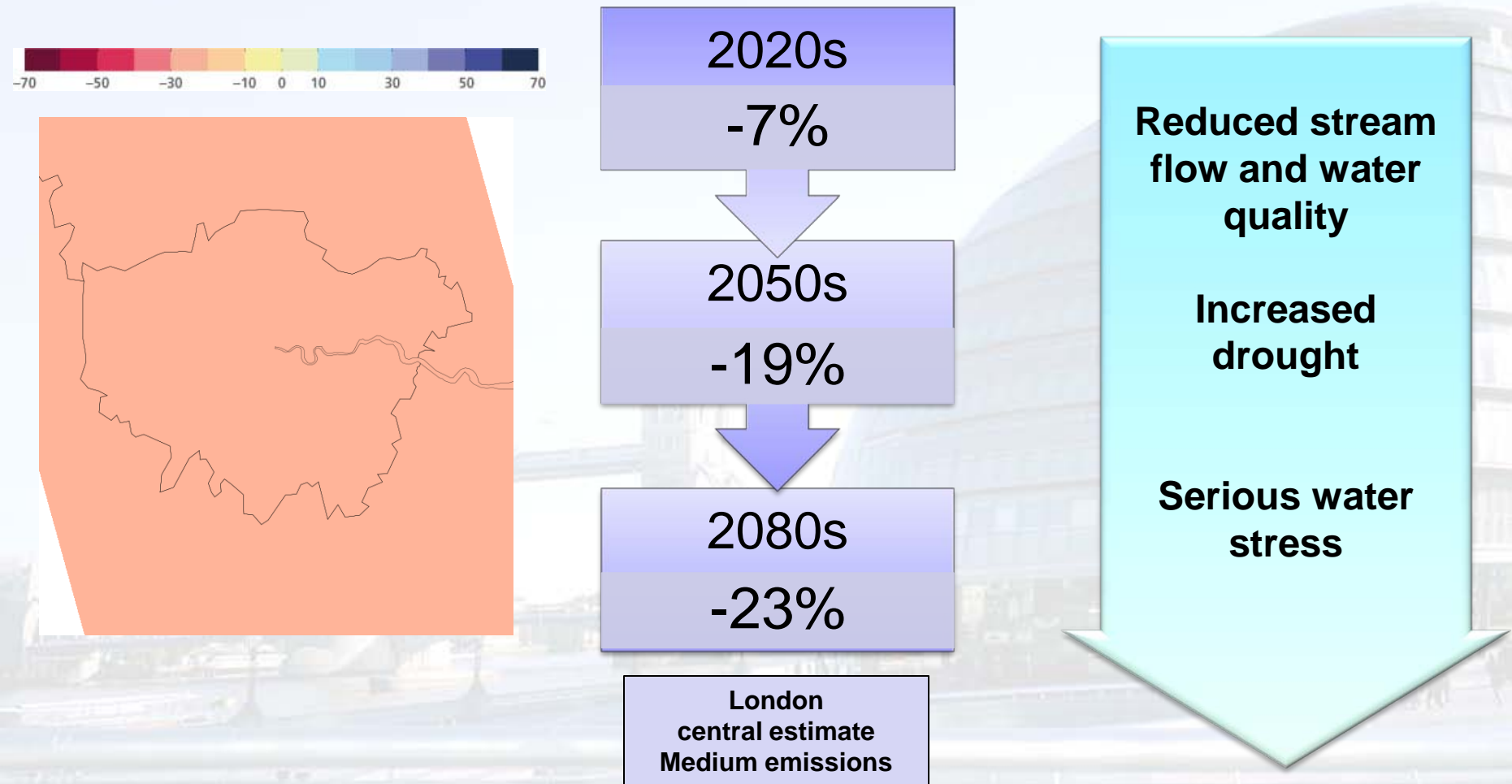
Policy 5.13

Sustainable drainage hierarchy :

- Store water for later use
- Use infiltration techniques
- Attenuate rainwater in ponds or open water features for gradual release
- Attenuate rainwater by storing in tanks or sealed water features
- Discharge rainwater direct to a watercourse
- Discharge rainwater direct to a surface water sewer / drain
- Discharge rainwater to the combined sewer



Summer rainfall: significant decreases



3. Drought

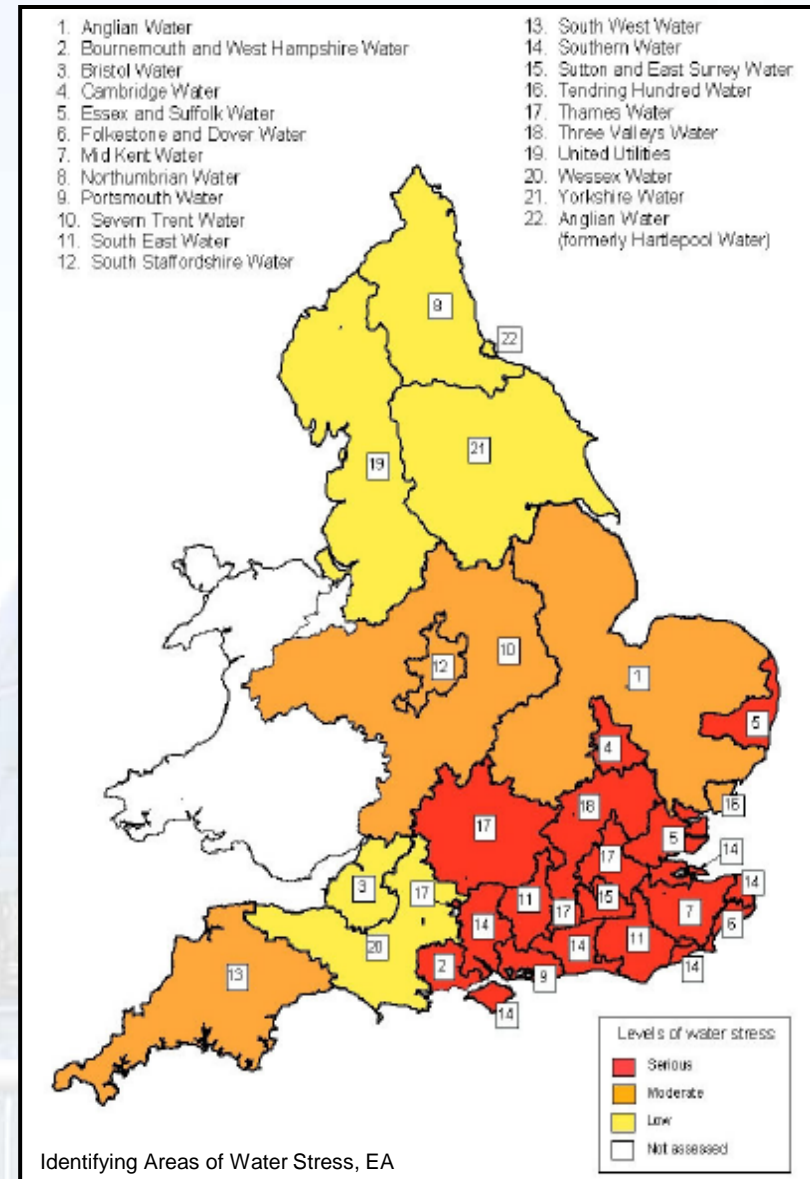
The south east of England is already seriously 'water stressed'

London's water resources are already over-abstracted, or over licensed

80% of London's water supply from the rivers Thames and Lea

20% from aquifer

Londoners use more water than the national average (161 l/p/d vs 150 l/p/d)



Water Use and Supplies

Policy 5.15

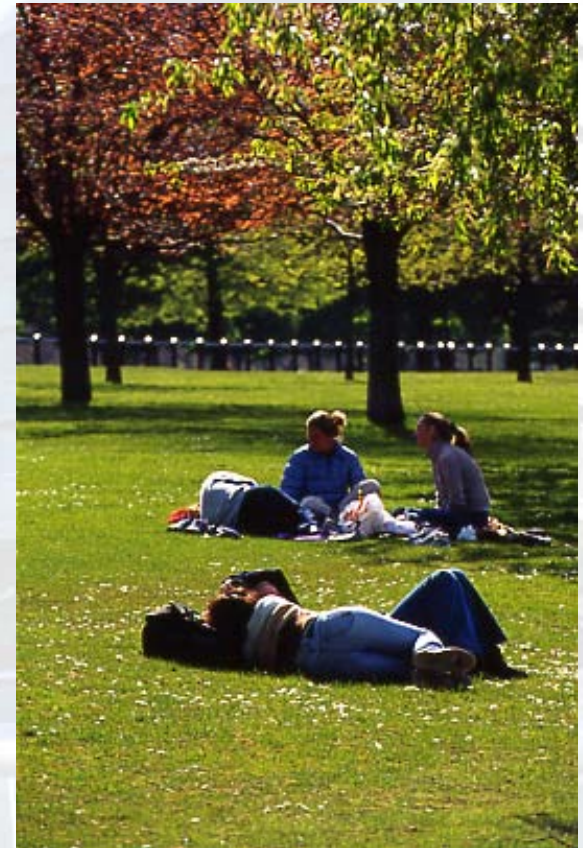
- Minimise demand for treated water (taps, toilets, showers and meters)
- Provide dual potable/non-potable systems
 - Greywater recycling
 - Rainwater harvesting
- **Target:** 110 litres per person per day
- Exploring the concept of 'water neutrality'



Other Open Space Policies

The London Plan:

- Recognises a valued and protected network of open space in London
- Seeks more accessible and enhanced open spaces
- Promotes Open Space Strategies
- Expand the 'Green Grid' principle
- Protect, enhance, create biodiversity



Implementation

- More planning skills/resource within the GLA
- More energy/planning skills/resource in boroughs and wider industry
- Wider initiatives and investment programmes
 - EU funding
 - London Green Bank
- Exemplar projects – eg Olympic Site
- The Mayor's Strategies
 - Climate Change Mitigation and Energy
 - Climate Change Adaptation
- Annual Monitoring Reports

Implementation

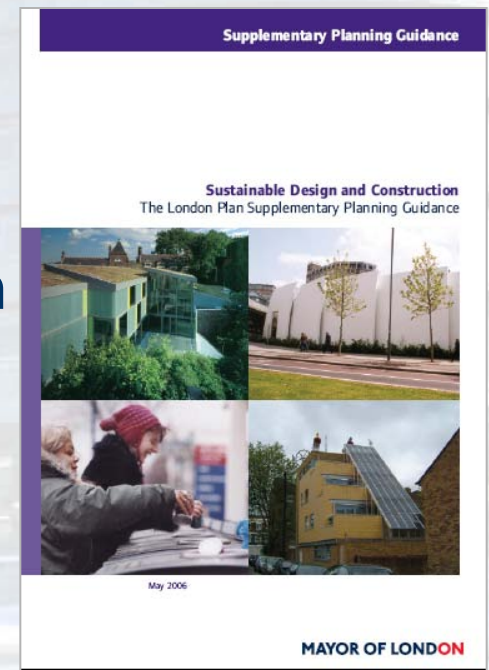
- The GLA is working through partnerships with:
 - The GLA Group
 - London Climate Change Partnership
 - London Hydrogen Partnership
 - Industry partnerships

MAYOR OF LONDON



Supplementary planning guidance

- Guidance (SPG) which also covers the other responses to climate change outlined in the plan.
- Design to minimise CO₂ emissions from the outset by adopting sustainable design and construction principles:
 - Minimise energy use (passive solar design, natural ventilation, vegetation on buildings, etc)
 - Make the most effective use of land, location and existing buildings
 - Make the most effective use of natural resources



www.london.gov.uk/shaping-london/london-plan

Thank you

