

# Leading to a Greener London

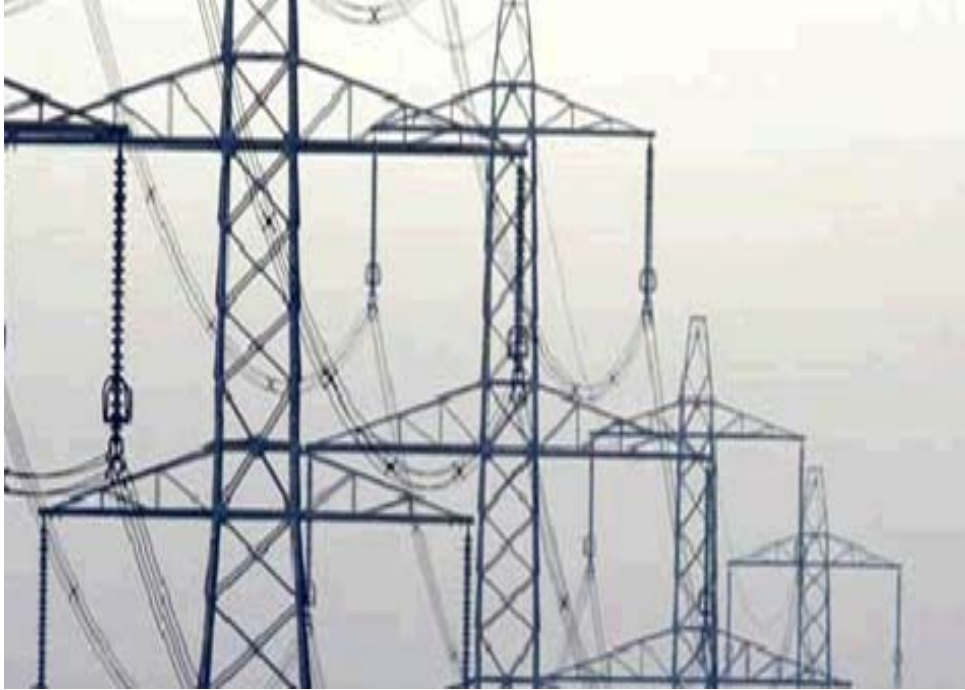
Isabel Dedring

Mayor's Environment Advisor

February 2010

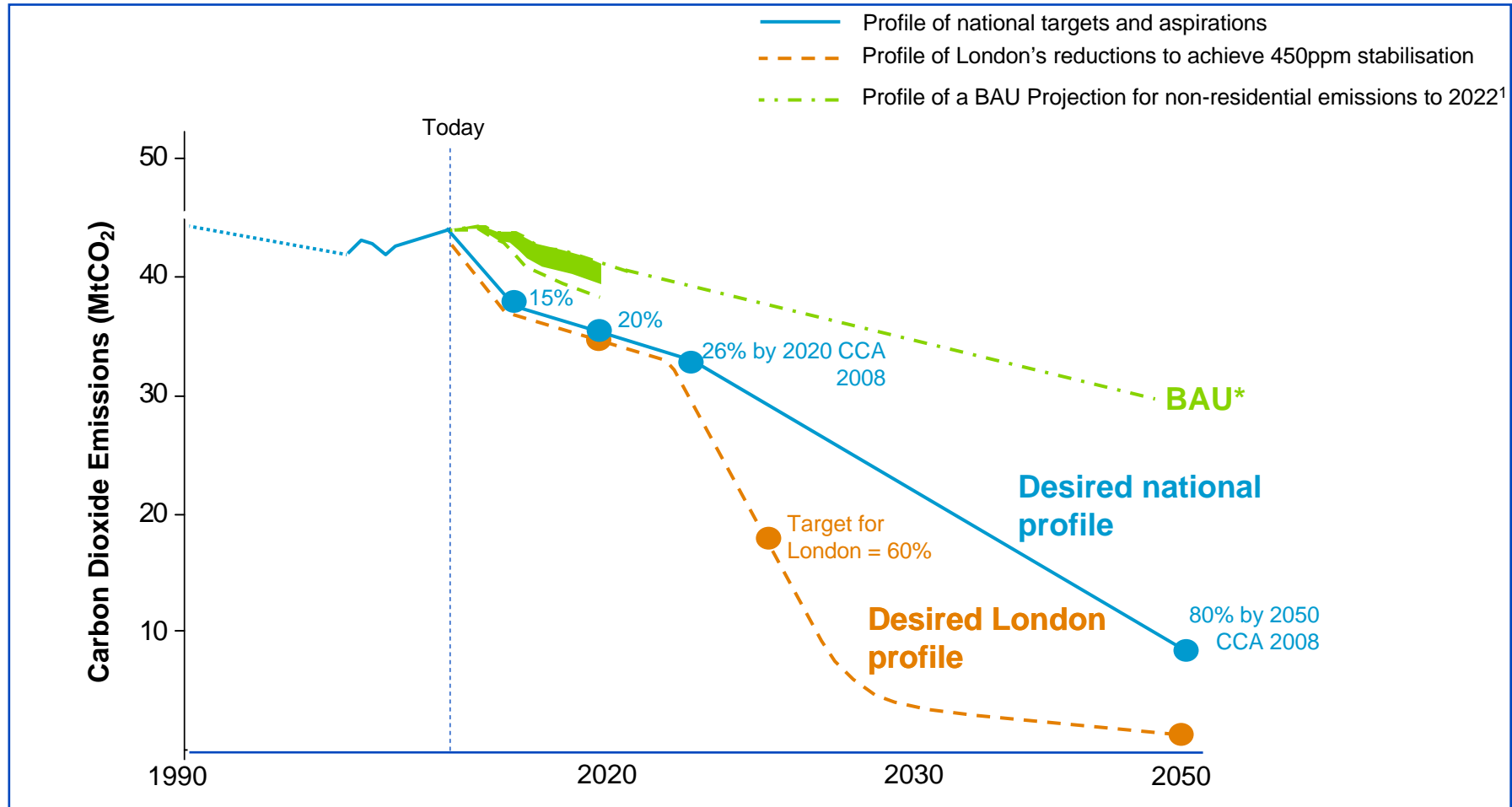








# London's carbon budget



## Other reasons

- Energy context
- Fuel poverty – 10% vs 25%
- Air pollution – 1/3 of NO<sub>2</sub>
- Waste context – 20m (4m) tonnes, 50% landfilled
- Jobs – 10-15,000
- Economic growth – £3.7b GVA



## London is

- Nearly 8m people
- Over 3m homes
- £12b energy bill each year
- 27m trips a day
- Over 2m registered cars
- Nearly 300,000 businesses



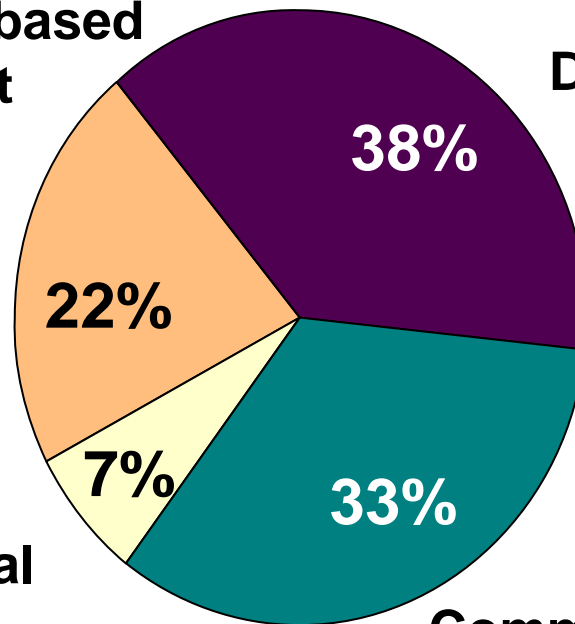
# 45 million tonnes of CO2



**Ground-based transport**



**Domestic**



**Industrial**



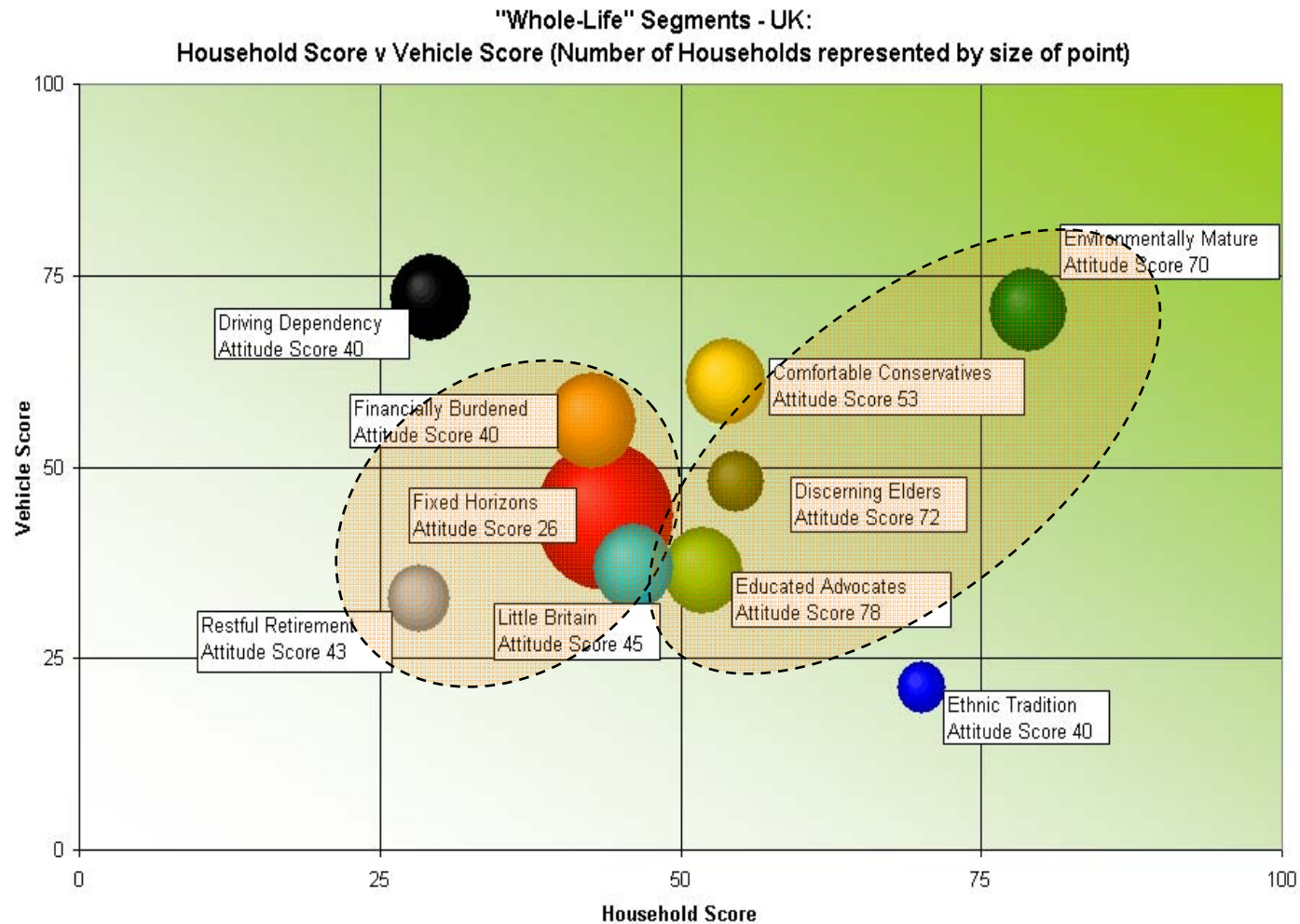
**Commercial & public sector**

## General approach

- Practical programmes that deliver
- At scale and pace
- Unprecedented level of resource from GLA (£100m over first 3 years)
- Hassle free
- Up front free
- “Stop overdosing on gloom”

# Perception vs reality

Axes show 0 = least energy intensive, 100 = most energy intensive (Source: EST)





Potters Fields - Before



Potters Fields - After

# Four ways Mayor and GLA can act

Decreasing influence of GLA group but increasing impact of interventions



# Key programmes

**Building energy efficiency  
(75% of today's emissions)**

**Low-carbon energy supply  
(50% of the CO2 opportunity)**

**Moving towards zero-emission  
transport**

# Key programmes

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**Moving towards zero-emission  
transport**

1. Homes programme
2. Public sector buildings programme
3. Private sector engagement
4. Decentralised energy
5. 'Banning the word waste'
6. Supporting mode shift
7. Low-carbon vehicle technologies
8. Efficient transport operations



# Homes

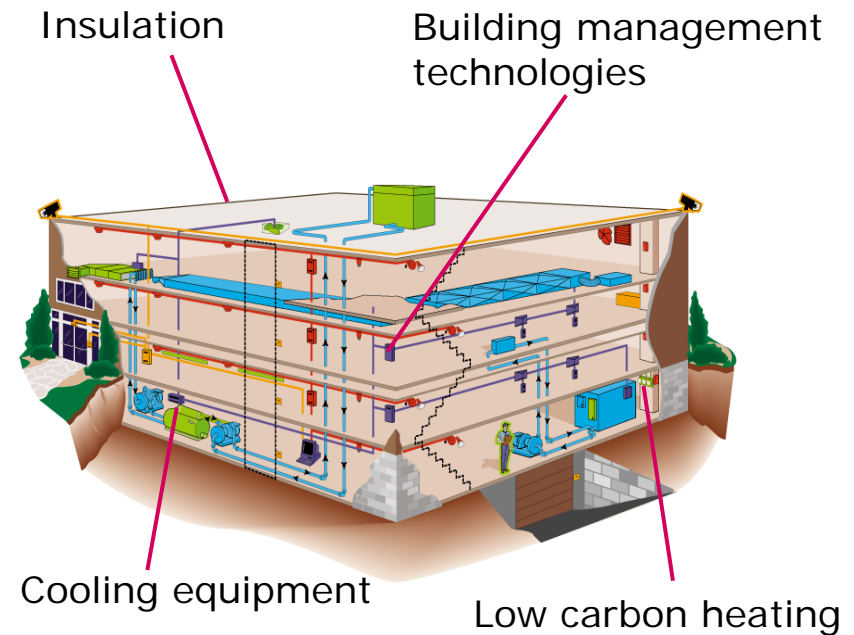
- Largest ever London homes retrofit programme
- Pilots completed, 10,000 home demonstration underway
- Will do 200,000 homes in next 12-18 months; target of 1.2m homes by 2015
- Just under 1 t CO<sub>2</sub>/home saved (~10-20%)
- Area-based, door to door approach
- 'Man with van' installs '10 easy measures' and books in for loft and cavity if appropriate
- Covers water efficiency, smoke alarm, benefits check
- Joint with EST, London Councils

# Building Energy Efficiency Programme

- ***A cost neutral means to reduce energy bills and carbon footprint of your buildings***

• **Energy service companies (ESCOs)** guarantee a set level of energy savings - therefore financial saving - over a period of years

• **This guarantees a future income stream** to fund investment in improvements



- ***If all municipal buildings, schools, universities and hospitals were retrofitted, could save 1m tonnes CO2 and represents 2% of London's CO2 emissions***



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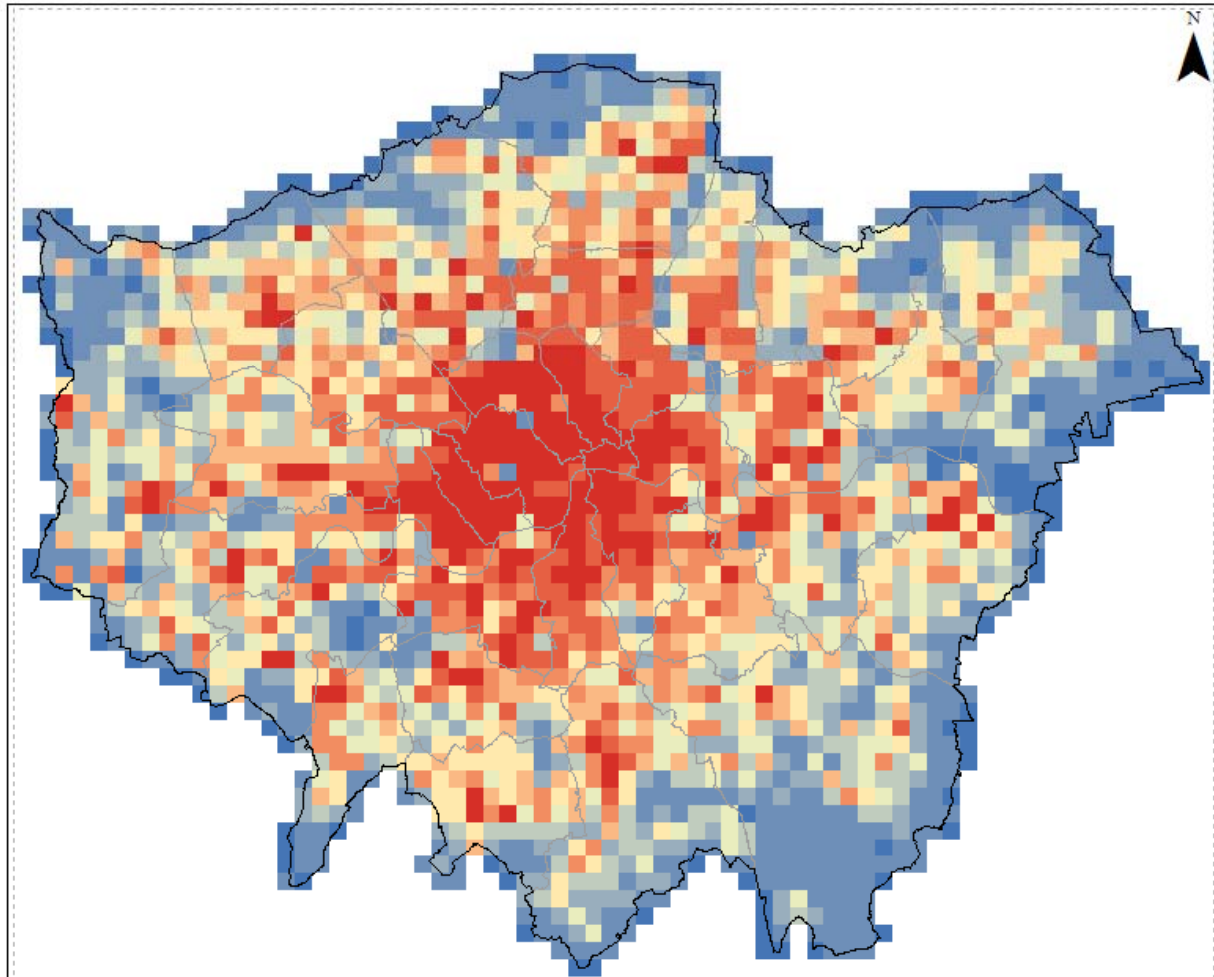
Boundaries

0.70

83%

- London Community Heating Development**
- Boundaries
    - GLA Boundary
    - Borough Boundaries
  - OS Layers
    - 50k Raster
    - Mastermap Topography Area
  - Development
  - Potential DH partner sites
  - 2005 CH Study Outputs
  - Actual Building Locations (Addresspoint)
  - Priority Areas, 2009
  - Contour factors for priority area identificatio
  - Input maps
    - Heat Demand (per building)
      - kWh/building, 850m grid
      - kWh/building, 50m grid
    - Heat Load Diversity (50% Diversified, 8:
      - kWh/year (50% diversified)
      - 0
      - 1 - 4,033,201
      - 4,033,202 - 9,679,682
      - 9,679,683 - 14,519,523
      - 14,519,524 - 18,552,724
      - 18,552,725 - 23,392,565
      - 23,392,566 - 29,039,047
      - 29,039,048 - 37,912,089
      - 37,912,090 - 55,658,173
      - 55,658,174 - 205,693,248
  - Social Housing
    - Social Housing dph, 850m grid
  - Fuel Poverty Indicator
    - FPI, 850m grid
    - FPI, census output areas
  - Total Heat Demand (per grid square)
    - Heat Demand, 50m Grid
    - Heat Demand, 100m Grid
    - Heat Demand, 200m Grid
    - Heat Demand, 200m Grid
    - Heat Demand, 800m Grid
    - Heat Demand, 800m Grid
  - Economy 7 Heating (not used in modellin

Inset map



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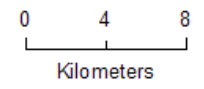
**London Community Heating Development Study 2009**

CSE on behalf of the Greater London Authority

19 June 2009

joshua.thumim@cse.org.uk

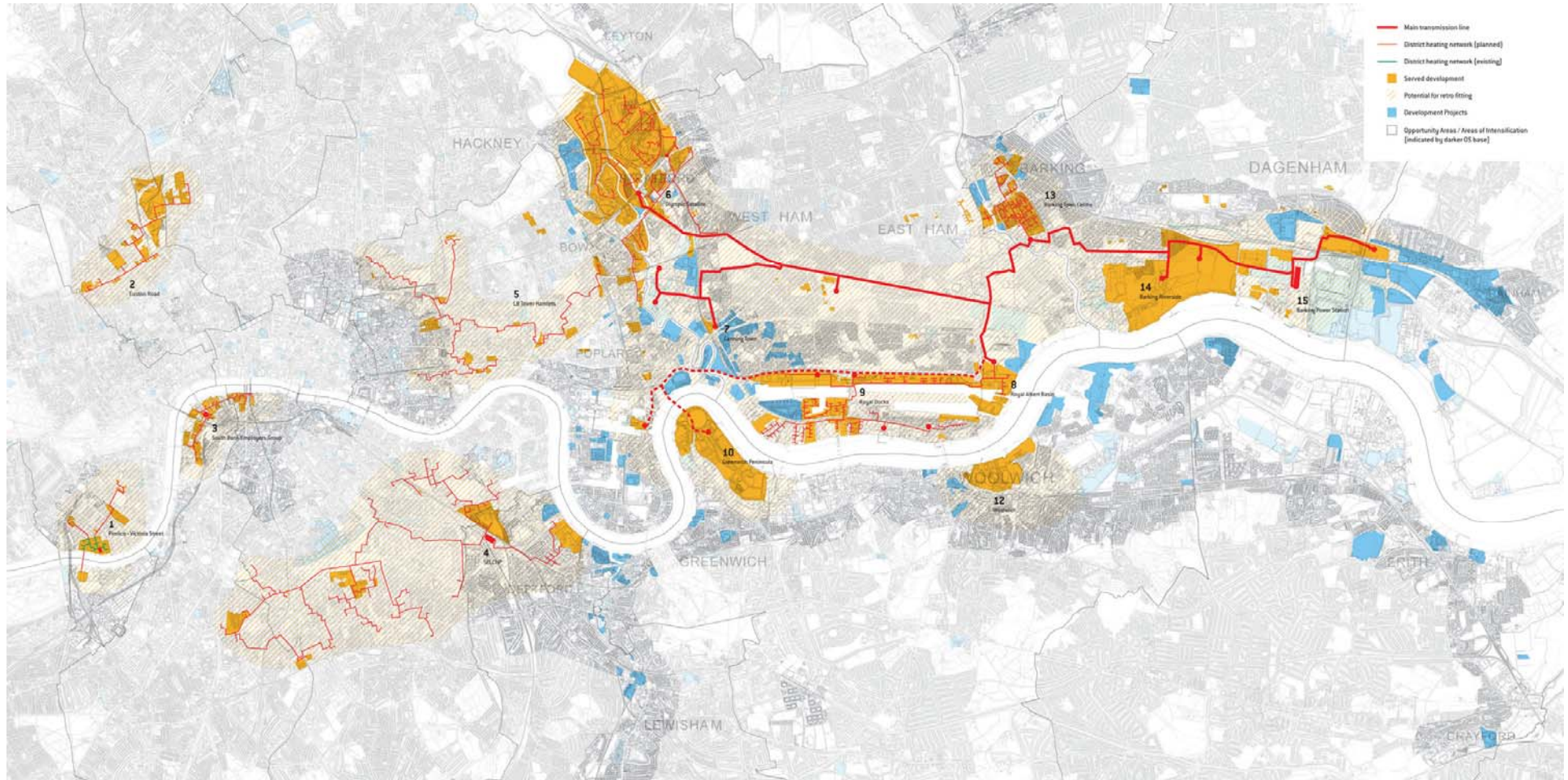
- GLA Boundary
- Borough Boundaries



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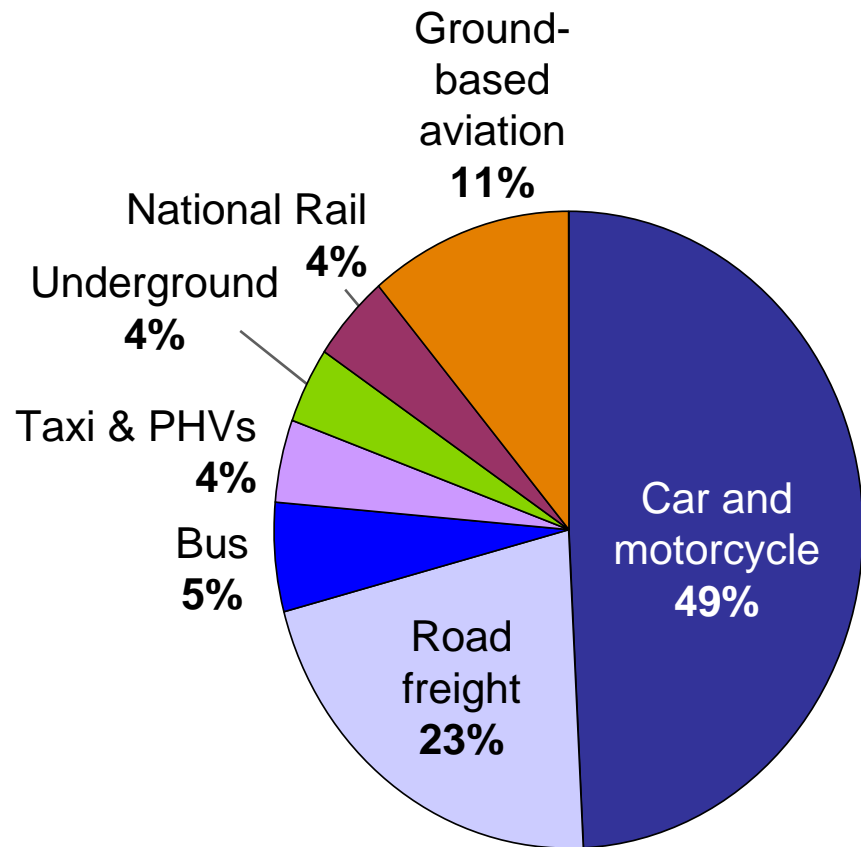
# London Thames Gateway Heat Network



# Waste as a resource

- 'Banning the word waste'
- Roughly £2b of London's £12b energy bill could be provided through energy recovery from waste
- London Waste and Recycling Board: £84m over 3 years
- Current performance poor
- Fragmentation and planning are big challenges
- Just issued Municipal Waste Strategy

# London's transport emissions



**Three quarters of emissions are from road transport**

**If everyone drove the most fuel efficient vehicle in their class, we would reduce car emissions by 1/3**

# Transport



- 'Cycling revolution'
- Hybrid buses
- LED traffic light conversion
- Underground green electricity procurement

- 1,000 EV's in GLA own fleet
- £20m commitment to EV rollout, including pan-London brand and charging platform starting this year
- 100,000 EV's in London by 2020



# Adaptation

- ‘100 years away’ issue?
- Linking it to London’s extreme weather experiences today
- Measures include
  - 10% target for Central London
  - Target of 2m new trees
  - Green Roof Fund
  - Neighbourhood Flood Plans



# New Build

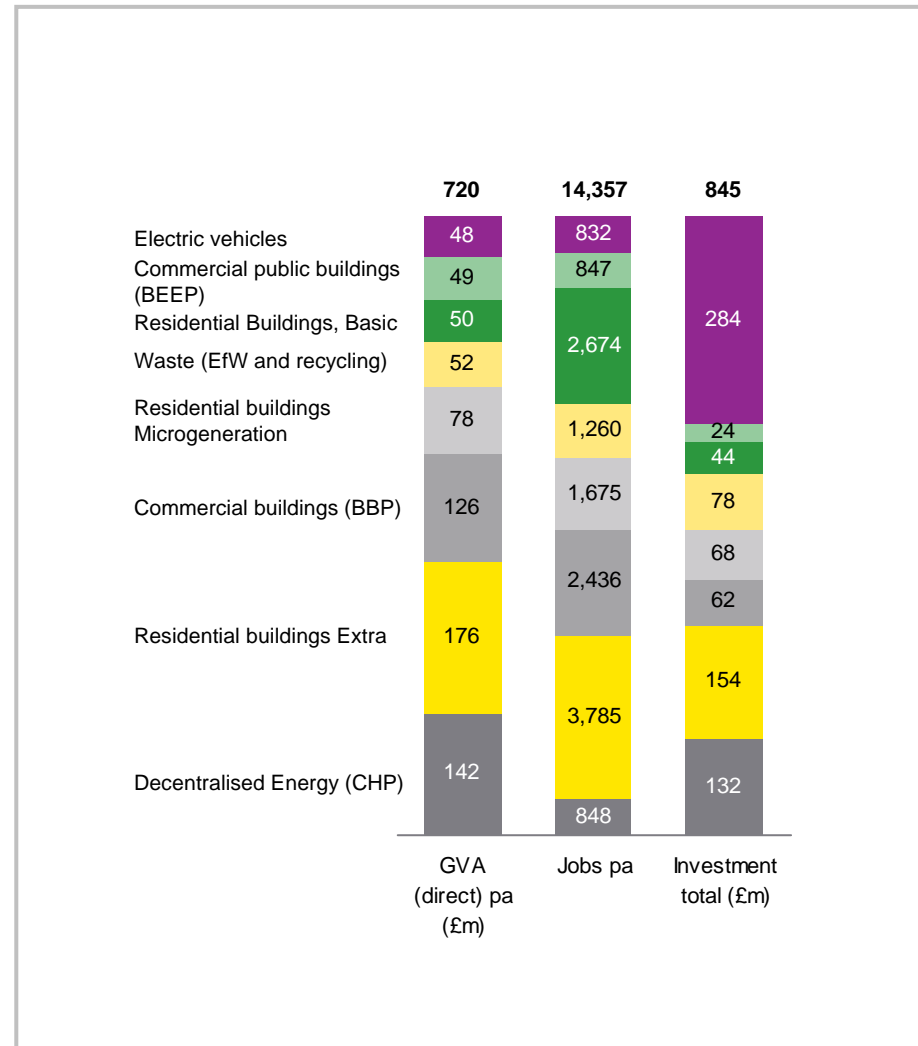


Zero carbon development



# Low-carbon economy

- 10-15,000 jobs; £600-700m GVA pa; most jobs from retrofit
- London USP
  - financial & business services,
  - Academia
  - VC, cleantech activity
  - Scale
- Olympic opportunities including Green Enterprise District



## How can we pay for this?

- Unprecedented levels of funding, and with much greater leverage already in place
- Pace, piecemeal approach and planning still huge issues
- ~£60b to 'retrofit London'
- Virtually all has commercial payback
- So has to be about leverage, not about lots more public money

An aerial night view of a city skyline, likely Shanghai, featuring several prominent skyscrapers with illuminated facades and windows. The sky is a deep blue, and the city lights create a vibrant contrast against the dark background. The buildings are densely packed, and the overall atmosphere is one of a bustling urban center at night.

**50 % of the world's population lives in cities**

**75% of the world's energy is consumed by cities**

**80% of the world's GHG are emitted by cities**

[www.london.gov.uk](http://www.london.gov.uk)

