

DELIVERING LONDON'S ENERGY FUTURE:

District Energy and the Exploitation
of Secondary Heat Sources

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London's Journey

Targets and Policy Framework

Mayoral Targets for 2025

- **60% CO₂ Reduction**

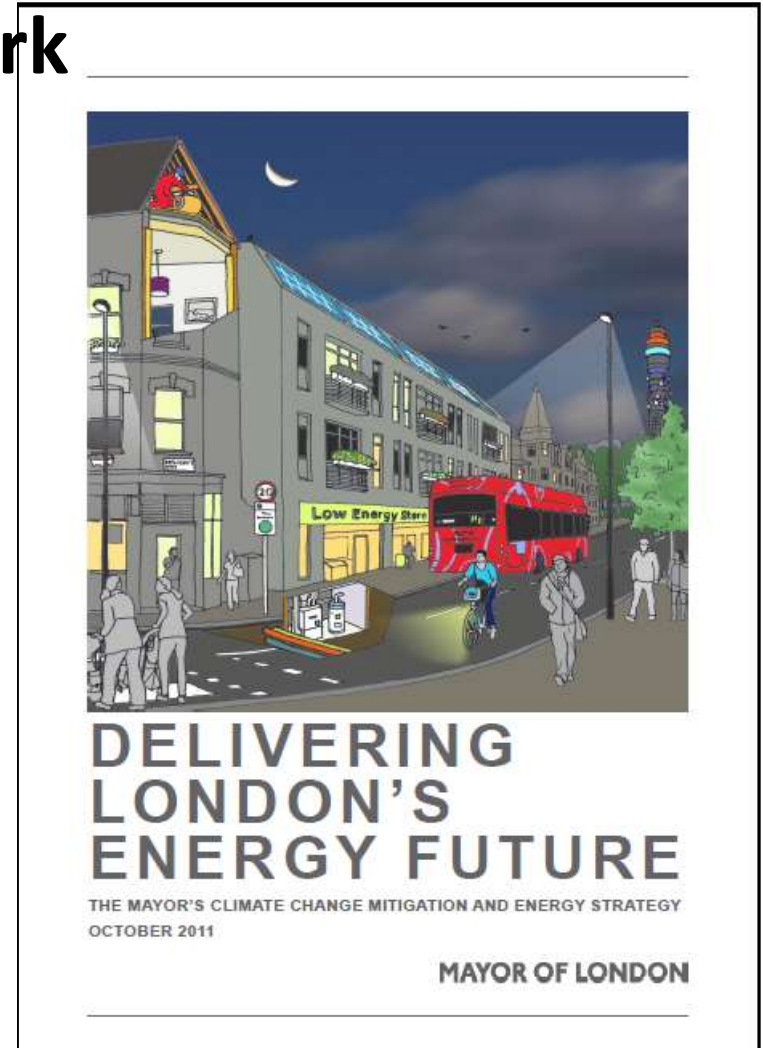
CO₂ emissions 1990 = 45.05 MtCO₂ p/a

CO₂ emissions 2012 = 40.75 MtCO₂ p/a

- **25% Decentralised Energy**

Mayoral Strategies

- **London Plan**
- **Climate Change Mitigation & Energy**
 - Mayoral Support Programmes

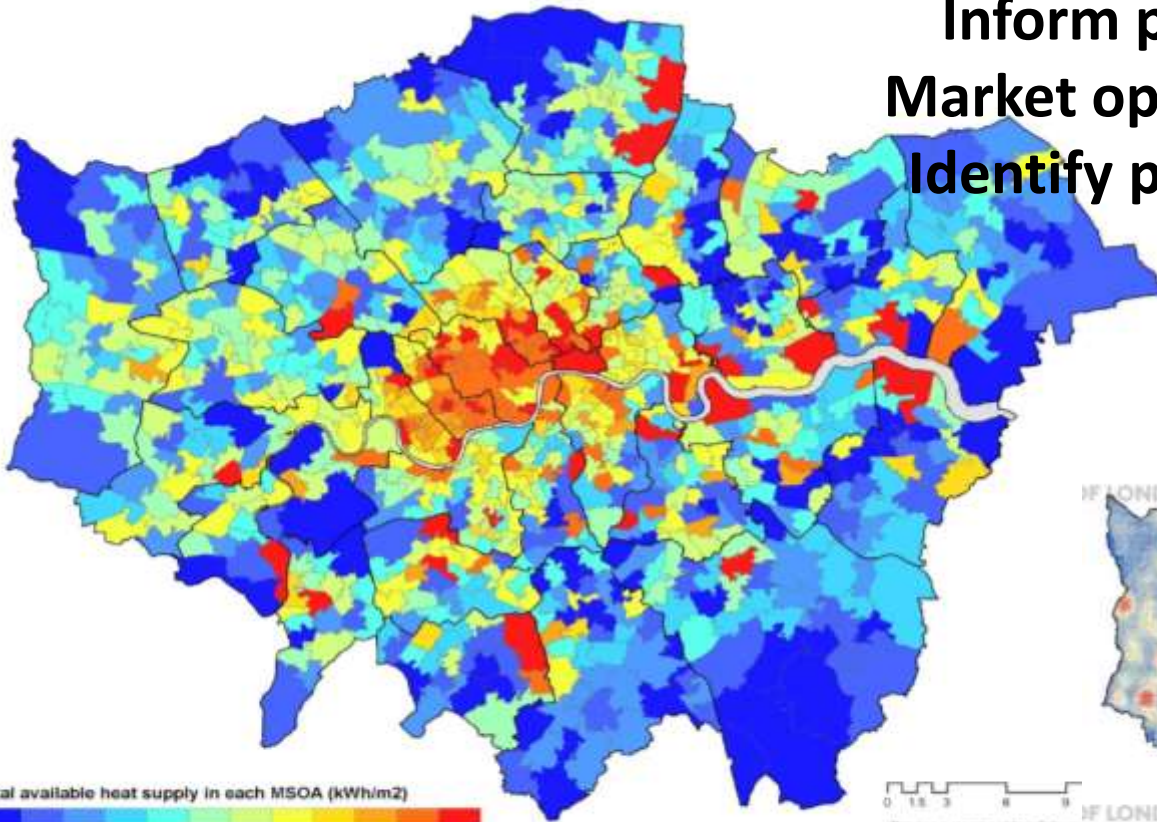


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London's Secondary Heat Resource

Objectives:

- Inform policy development
- Market opportunity for sources
- Identify project opportunities

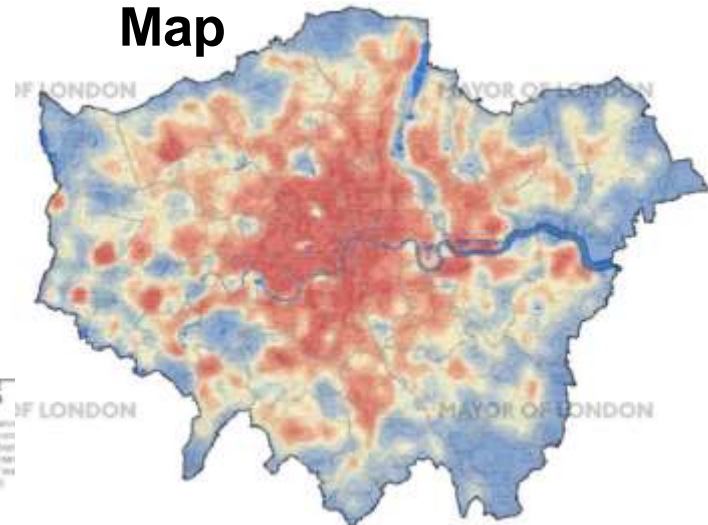


Source: Greater London Authority



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London's Heat Map



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London's Secondary Heat Resource

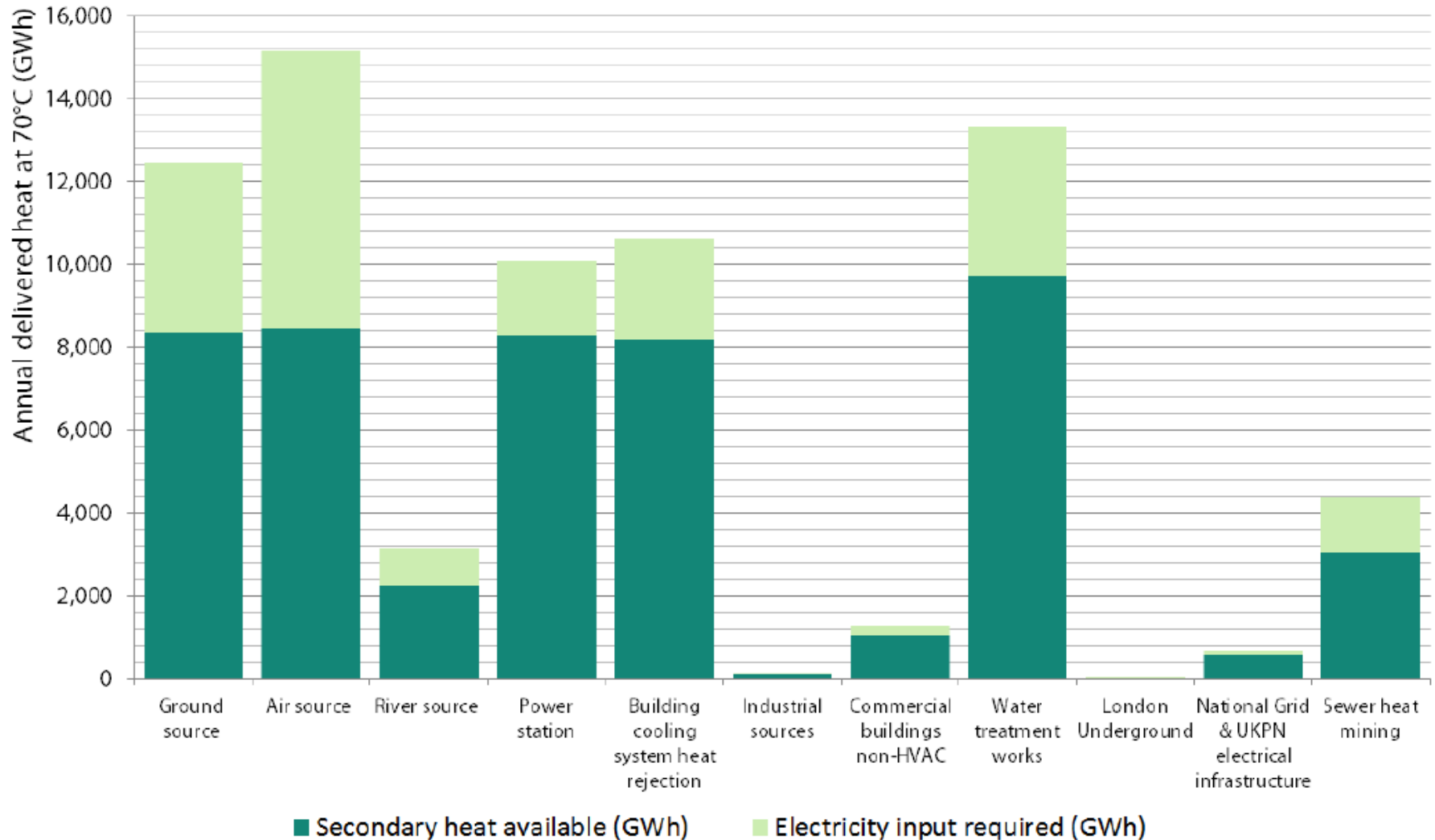
What is it?

- **Waste Heat** - emitted as a by-product from industrial, commercial and other operational activities
- **Environmental Heat** - Heat that naturally occurs in the environment - air, ground and water

What are the Benefits?

- Increases city's energy efficiency and security
- Reduces carbon emissions & primary energy demand
- Replaces use of fossil fuels for heat
- Supports long-term viability of heat networks
- Contributes to improved air quality

Size of London's Secondary Heat Sources



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Key Findings of Study

- Enough secondary heat to meet London's total heat demand, *in theory*
- Sources well matched to heat demand
 - Supply heat networks
- 82% is CO₂ competitive
 - when utilised via heat pump & heat network
- 18% (industrial sources) is already cost competitive without subsidy
- Insulating a building from an E to D rating would allow 96% of its heat demand to be met from heat supplied at 55°C

BUNHILL HEAT AND POWER

Owned and managed by Islington Council

Phase 1

- 1.9 MW CHP plant
- 1.4 miles of heat network
- 850 homes and 2 leisure centres
- Reduction in heating bills
- 1,800 tonnes CO₂/year
- Approx. 60% CO₂ savings



Phase 2

- Extend heat network and connect at least another 500 homes
- Waste heat from tube ventilation shaft and electricity sub-station
- Integrated into heating network using heat pumps



Thank You

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