Street by street decarbonised heat at lowest cost

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Heat Pumps | Contracting | Utilities

We need to decarbonise 28m homes by 2050, with 26 years to go

That's nearly 1.1m homes *per year*

That means 20,000 homes *per week*

We need a street-by-street approach to address this scale

Agenda

1. Overview of Kensa
2. Ground-Source Heat Pumps & Myths
3. Street by Street Decarbonised Heat at Lowest Cost

Introducing Kensa

Unmatched Expertise

15,000 + Heat pumps installed in the UK, far and away the market leader

50% + Of the UK's ground-source heat pumps installed every year

1999 Experts since 1999, pioneering the industry

Best Product For High Quality Homes

Smallest, quietest and most efficient heat pump range on the market

Made in the UK, simplifying the supply chain risks

Multi-awarded

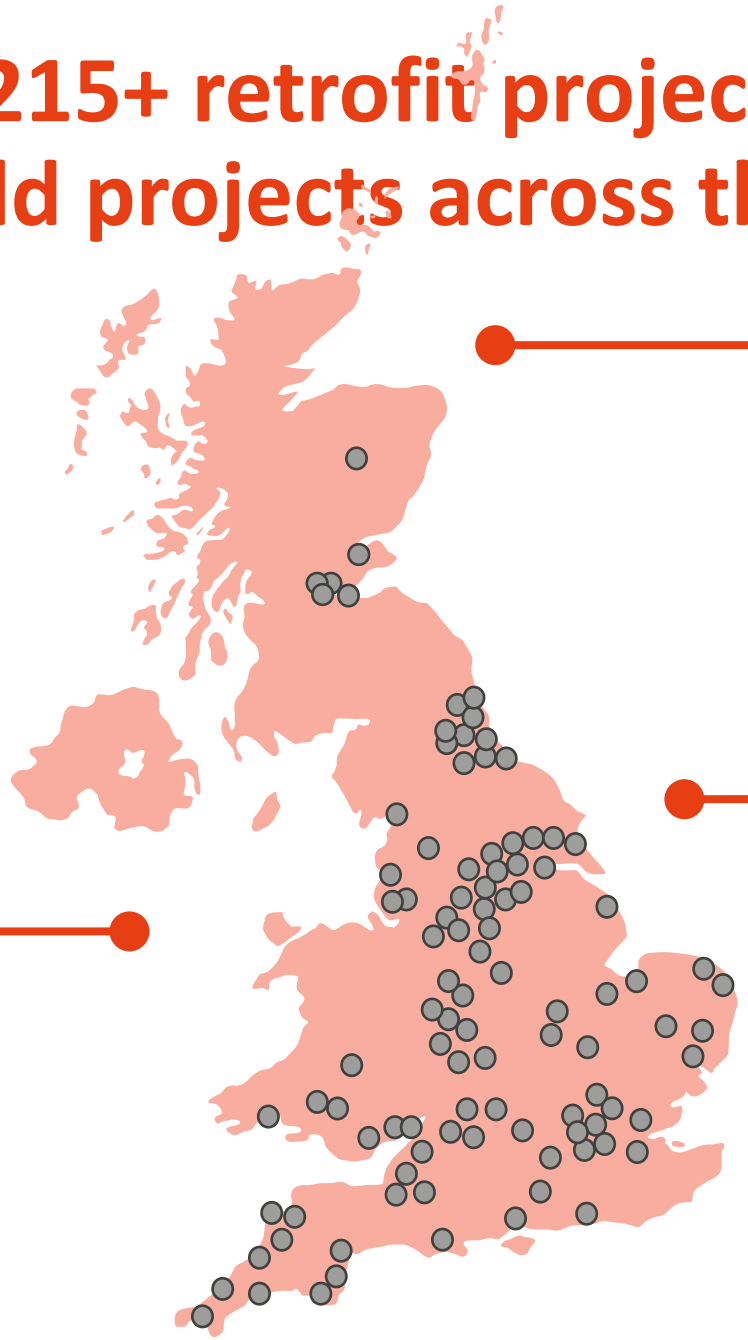
Trusted Utility & Customer Service

HEAT TRUST

We are the only ground-source utility registered with the Heat Trust, acting as a 'trust mark' for your customers.

Integrated nature of Kensa means we offer support from the array up to the heat pump, simplifying maintenance, callouts & customer service, giving ease of mind to your customers

Kensa has delivered 215+ retrofit projects across the UK and 100+ newbuild projects across the country



100+

NEW BUILD PROJECTS

Funded CapEx model delivers the best outcome for developers

20+

COMMERCIAL BUILDINGS

From university campuses to leisure centres to schools to listed buildings

33,300 +

TONNES OF CARBON SAVED

No solution gets you closer to net or zero carbon development

215

RETROFIT PROJECTS

Largest and most established player across new build and retrofit

We focus on 3 core markets today

Social housing

Housebuilders

Commercial and Industrial

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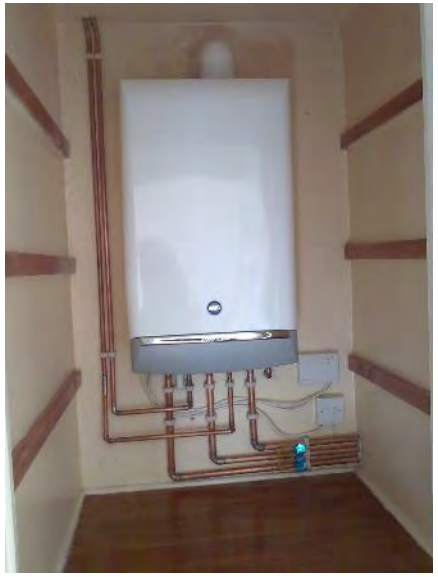
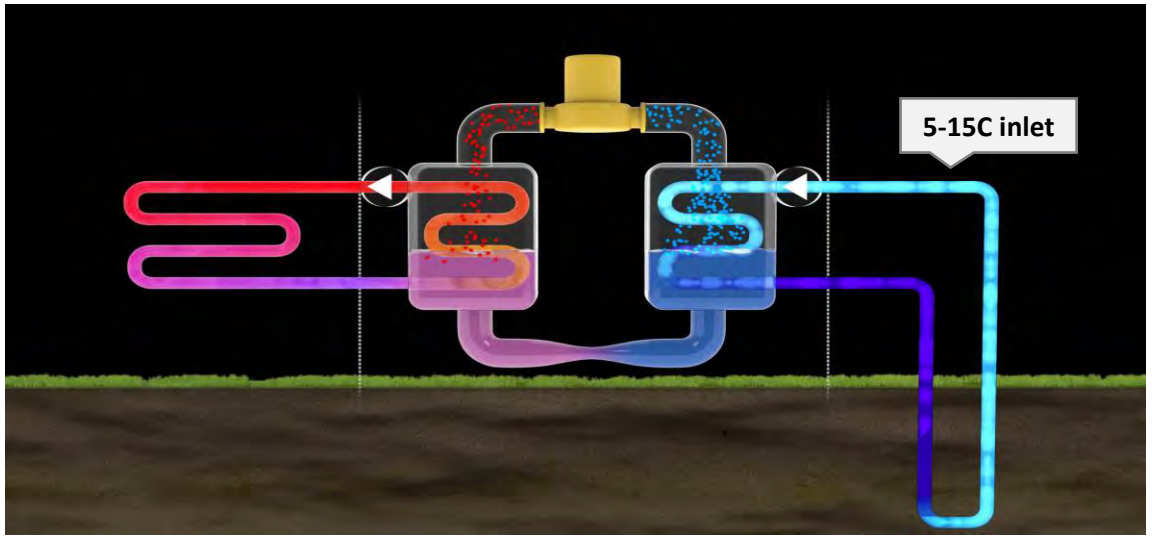
How a ground source heat pump works

Like a gas boiler…



…but 4-5x more efficient, with no combustion or NOx/SOx emissions



- White boxes that produce heating and hot water
- Domestic and non-domestic buildings
- New build and retrofit

Why Ground-Source

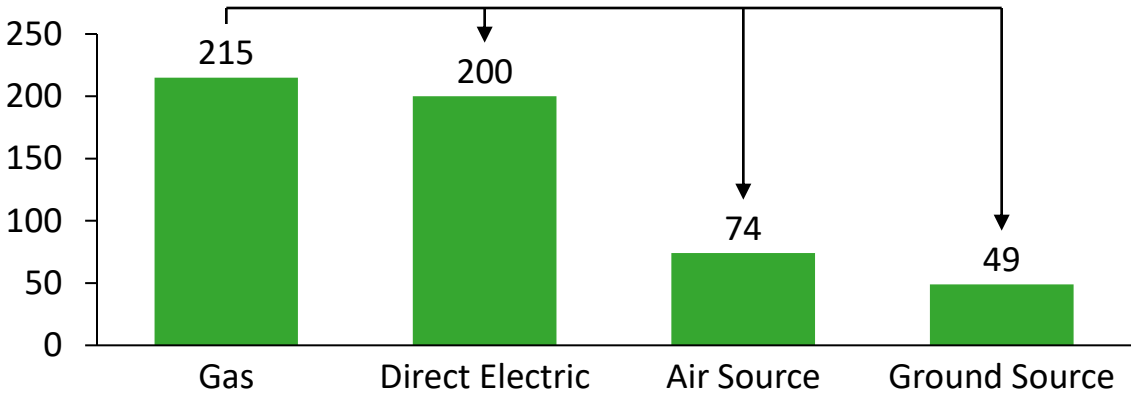
Lowest Running Costs

Least Noise

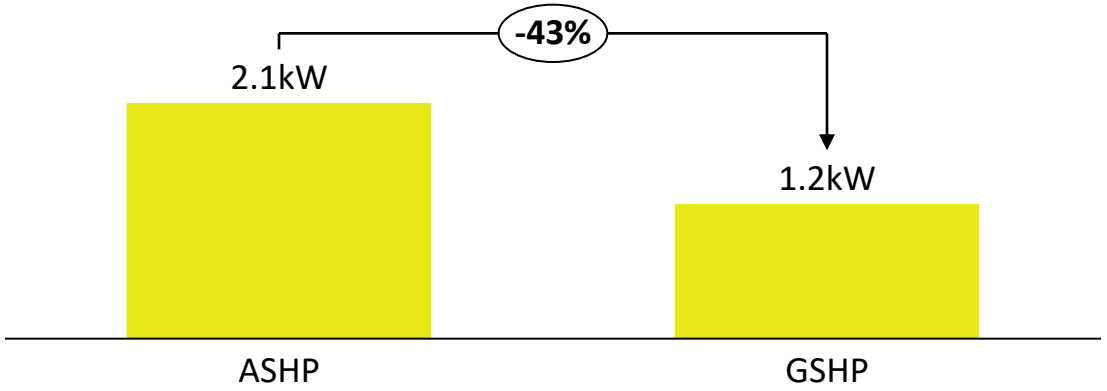
Least Maintenance & Replacement Hassle

No Visual Impact

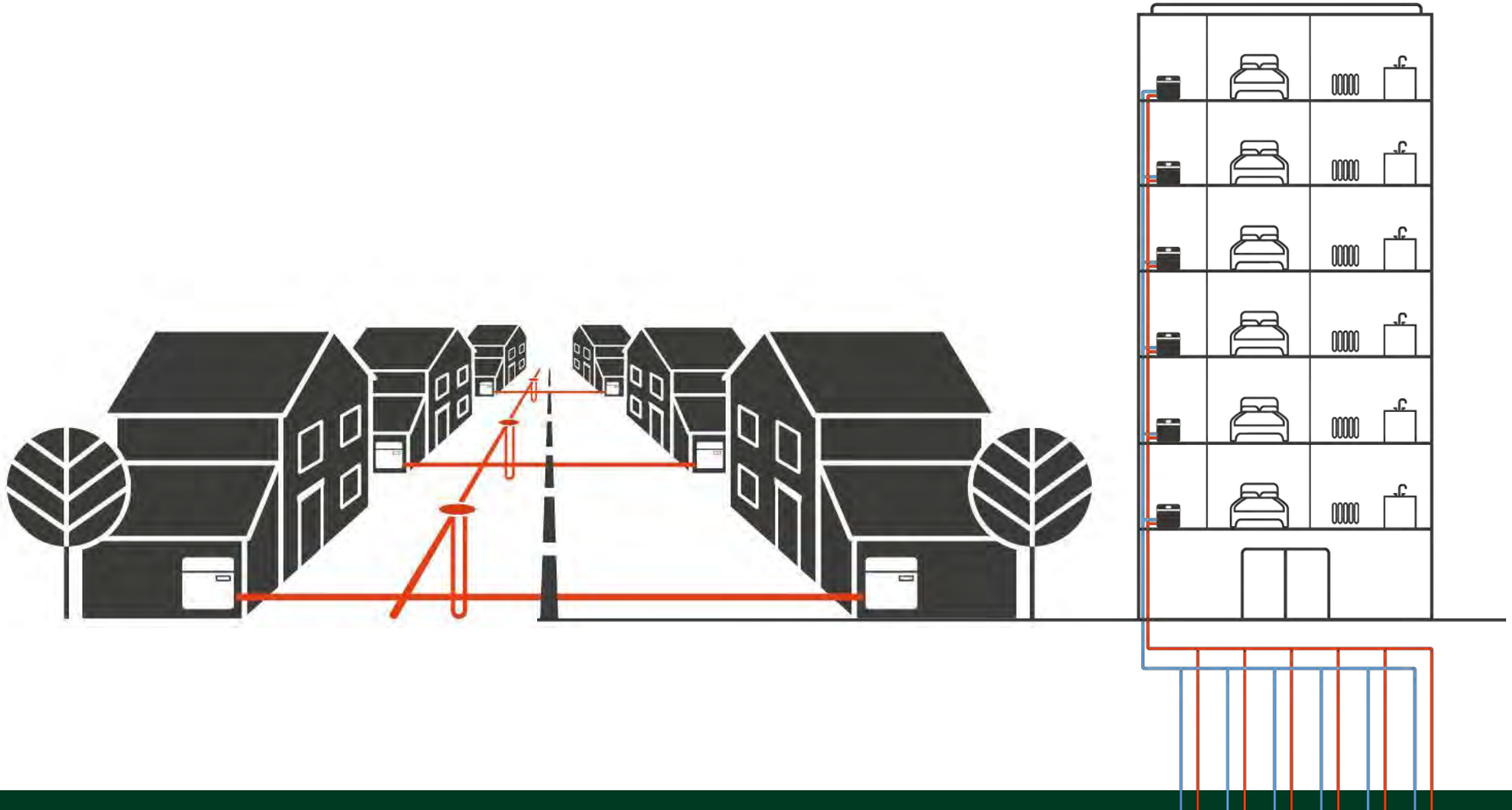
Heating Emissions (gCO2e/kWh-heat)



kW to deliver 5kW heat on the coldest day (peak)



Infrastructure

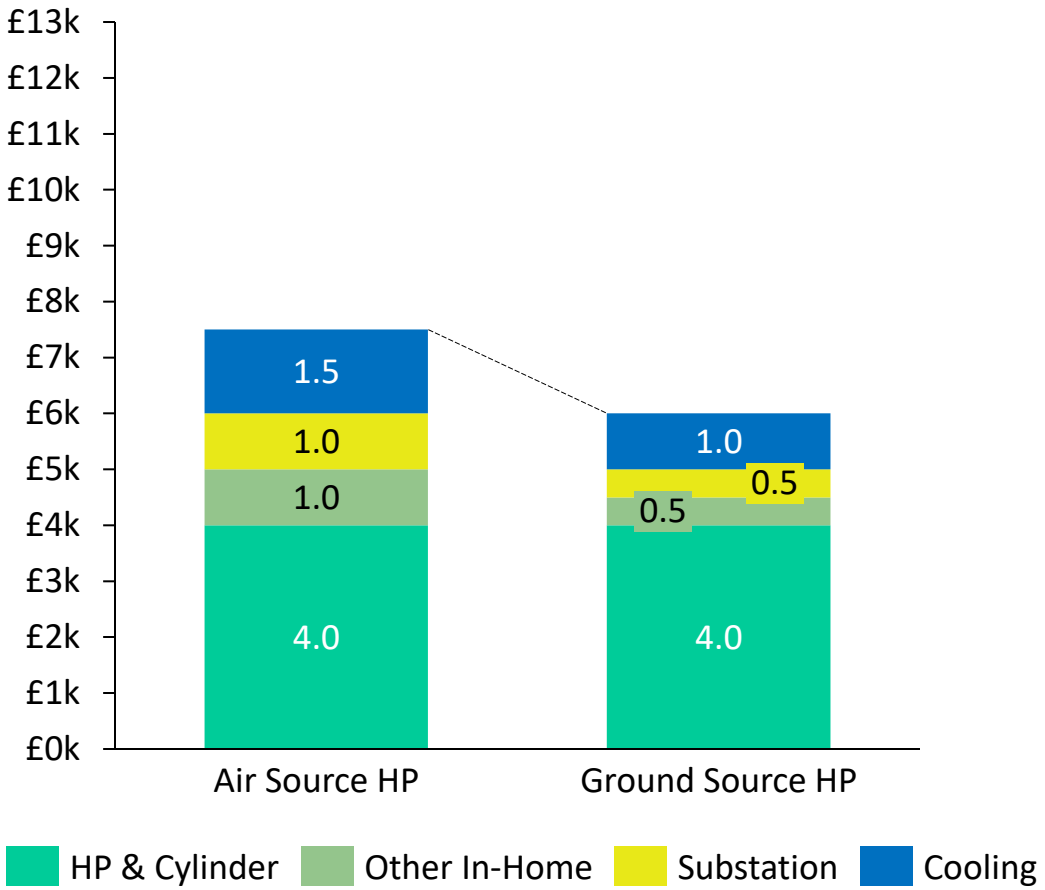


Myth 1: Need a large amount of space, and never in urban settings

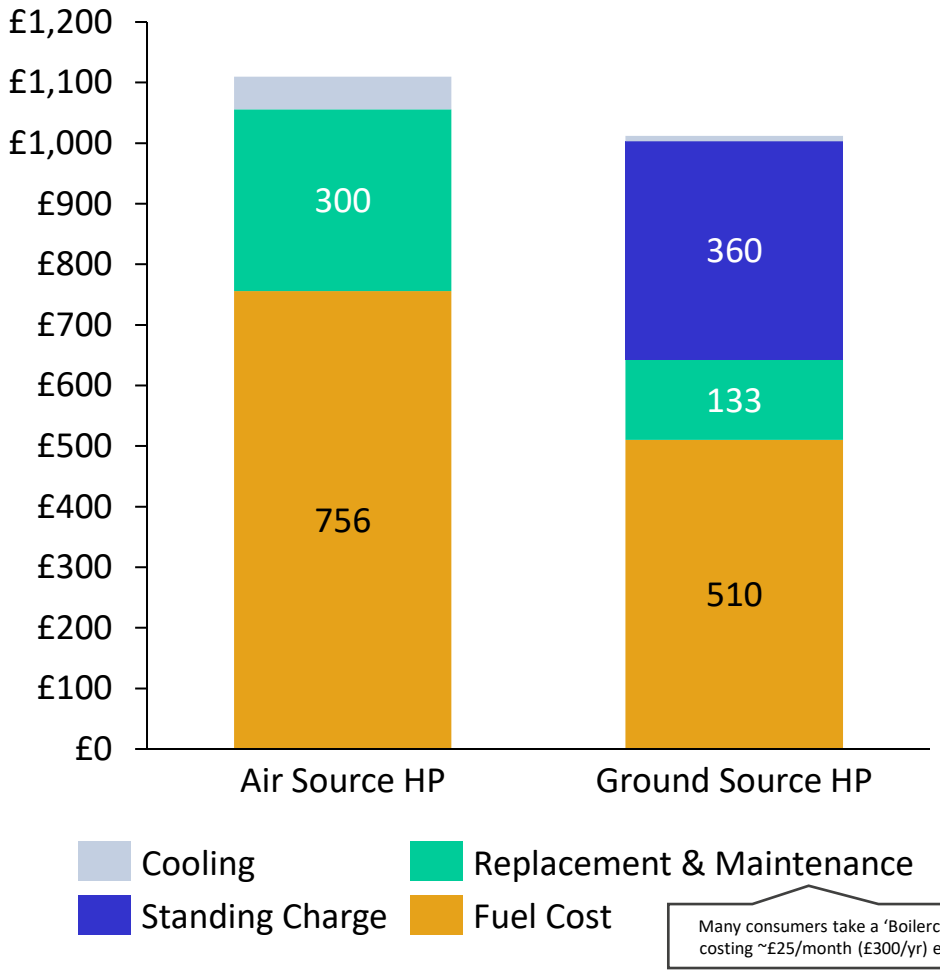
Myth 2: As the unit is inside, you need a lot of indoor space

Myth 3: But it will cost a lot more than an air source heat pump

Upfront Costs (£k)



Annual Running Costs (£/yr)



Many consumers take a 'Boilercare' type service for ASHP, costing ~£25/month (£300/yr) e.g. Daikin, Mitsubishi, CES)

Assumptions: 6,000kWh/yr heating + DHW, 800kWh/yr cooling; 2.7 ASHP COP inc Defrost cycle (DESNZ Electrification of Heat Trial data), 4.0 GSHP COP 0-45 Shoebox NX5, 34p/kWh elec, annual ASHP maintenance, 1 every 3 years GSHP; lifetime: 15 year ASHP, 25 year GSHP; Passive Cooling SEER 30; AC SEER 5. Sources: Element Energy Low Carbon Heating Study, industry analysis, DESNZ data

Myth 4: Heat Pumps don’t work in flats

Sunderland Gentoo Core 364

- 364 flats
- Gas to GSHPs
- 19,990 tonnes CO2 saved

Sunderland Gentoo Core 364

- 402 flats
- Direct electric to GSHPs
- 67%+ resident bill reductions

Sunderland Gentoo Core 364

- 273 flats
- Direct electric to GSHPs
- 60%+ resident bill reductions

Myth 5: GSHPs only for houses

Schools

10+ schools retrofitted with GSHPs by Kensa
(*detailed more on coming slides*)
Kensa staff fitted the UK's first GSHP into a school back in 2003

Care Homes / Retirement

Installed GSHPs in the UK's first net zero retirement village
https://www.kensaheatpumps.com/developer/uk-first-zero-carbon-retirement-community/

Universities

Marjon University Plymouth: 950kW load, 84 boreholes across campus covering academic blocks & accommodation

Leisure Centres

https://www.kensacontracting.com/ncc-case-studies/
62 282m boreholes in the carpark, with 700kW of heat delivery

Listed Buildings

Multiple listed buildings including Trelissick House (National Trust) and Walton Hall (a live wedding venue)

Water Source

https://www.kensaheatpumps.com/commercial/case-studies-commercial/taffs-well-wales/

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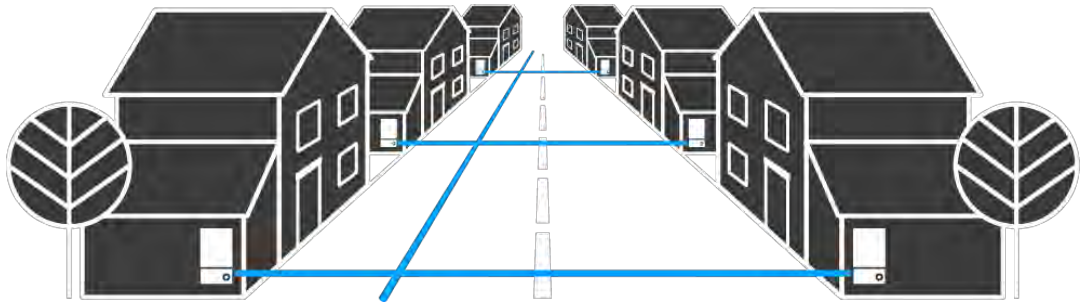
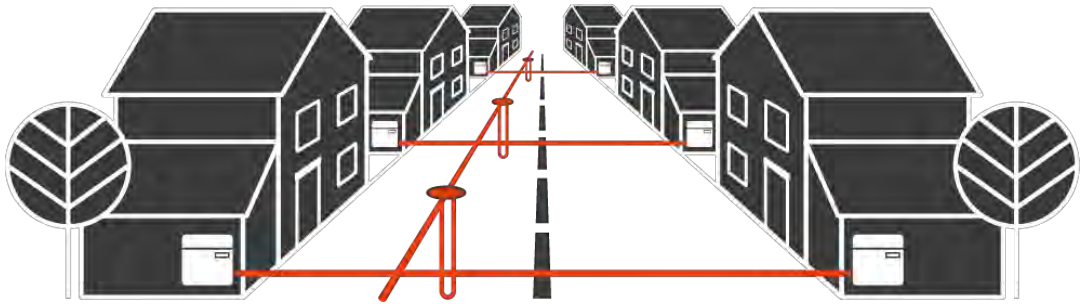
The 21st Century equivalent of the gas grid

Gas

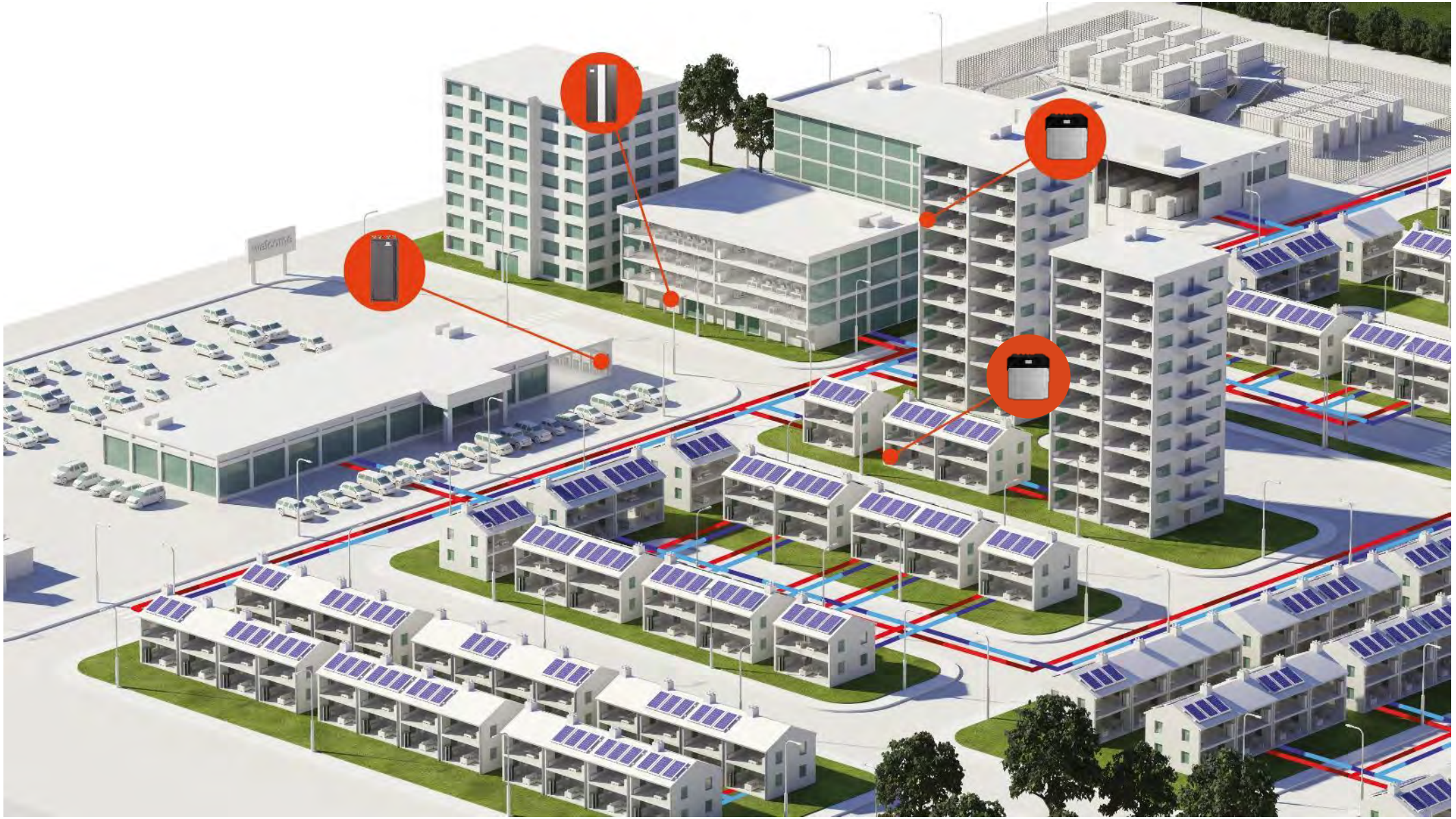


Ground Source Heat Pumps



- Utility company pays for installation of the network outside the property
- Consumers own a ‘white box’ in their property
- Consumers pay a standing charge through their energy bill to access the network

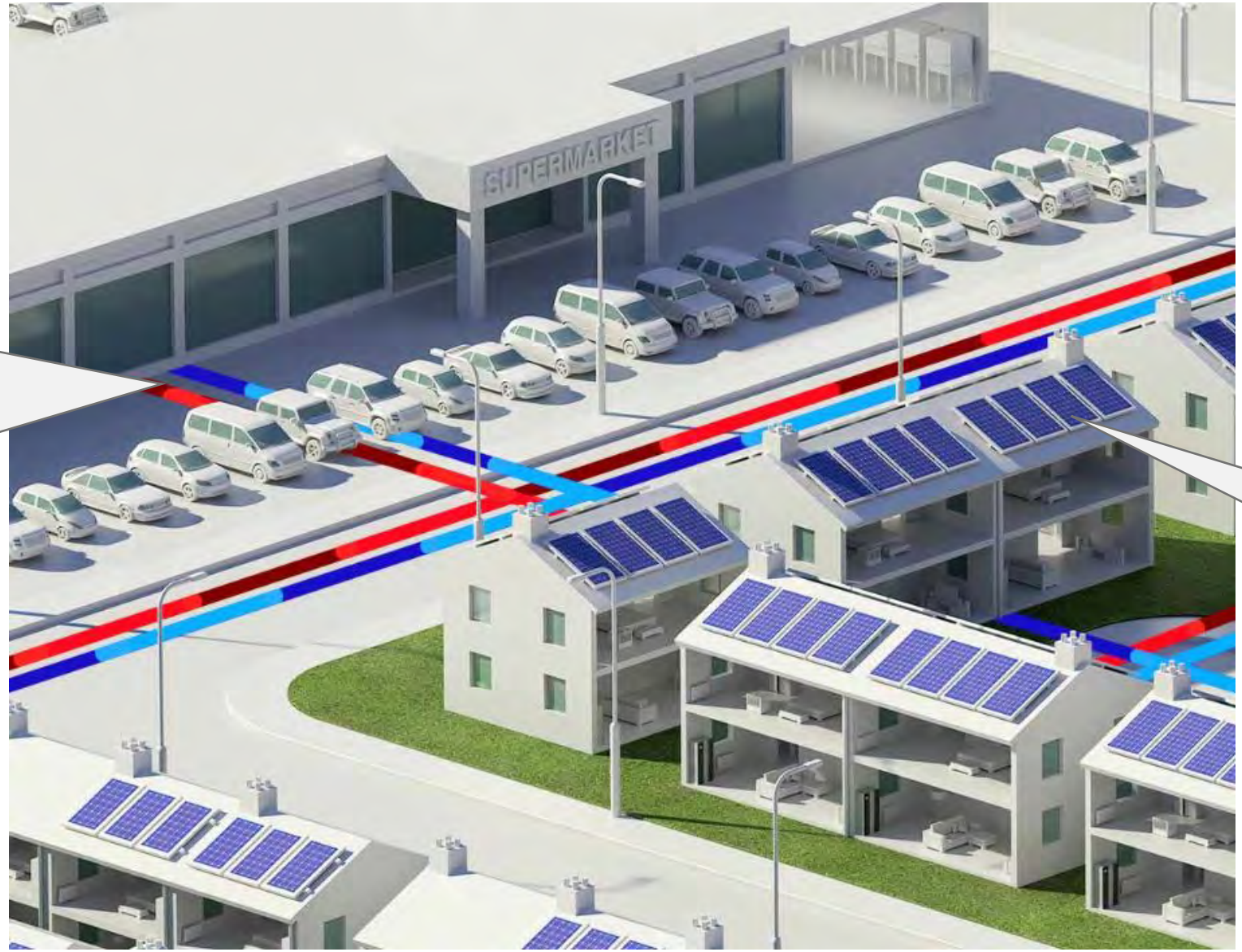
The 21st Century equivalent of the gas grid



The 21st Century equivalent of the gas grid

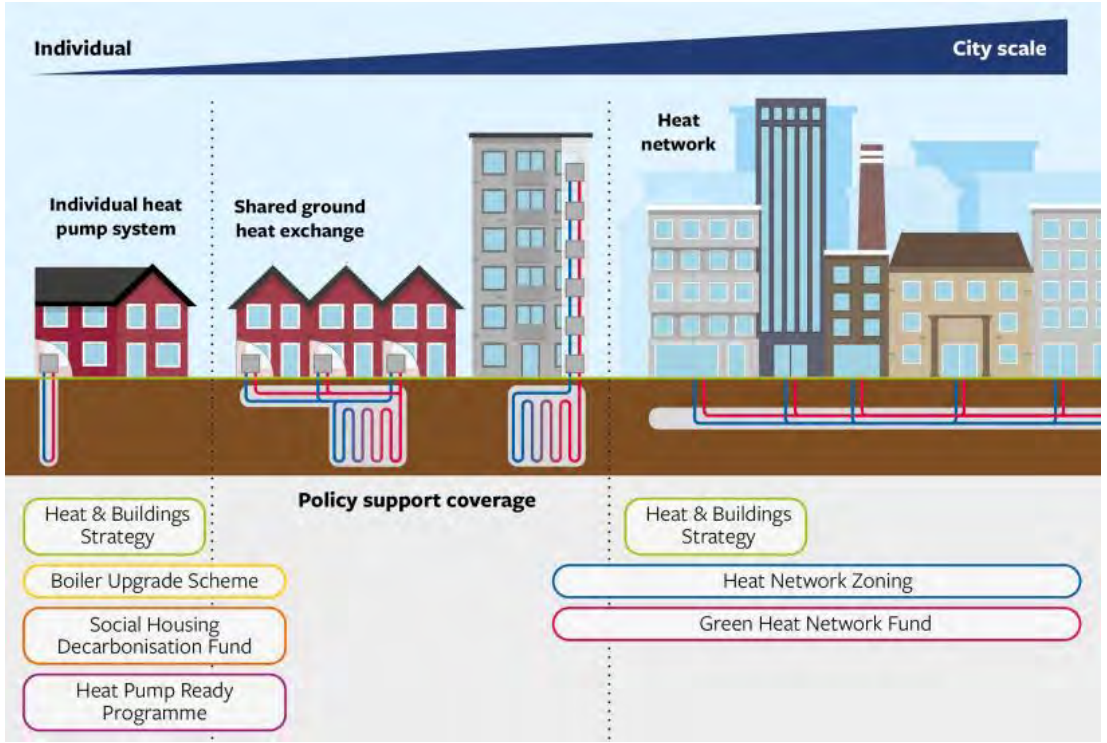
Integrating waste heat sources

Rejected heat from supermarket (fridges/freezers) and other sources (data centres, tube lines, cooling)



PV → PVT

The standout solution especially for the ‘middle’ of UK housing: terraced streets and flats



The 21st Century transition

In the 60's and 70's we moved off towns' gas (coal/oil) onto natural gas

In the 2020's we can transition to a cheaper, safer & greener heat source