Kensa Contracting
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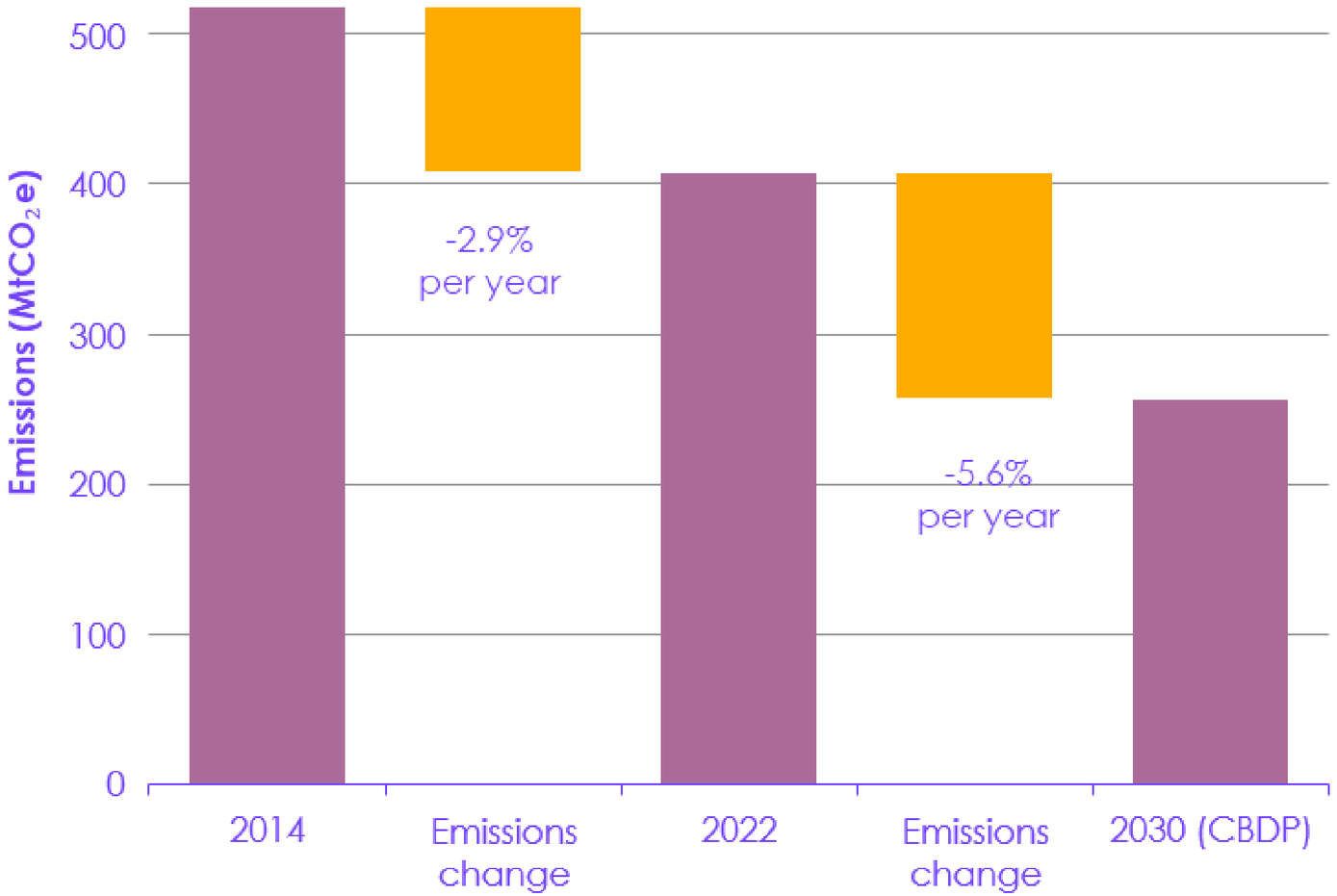
Mark Potter

Scottish housing decarbonisation: If not now, when? If not you, who?

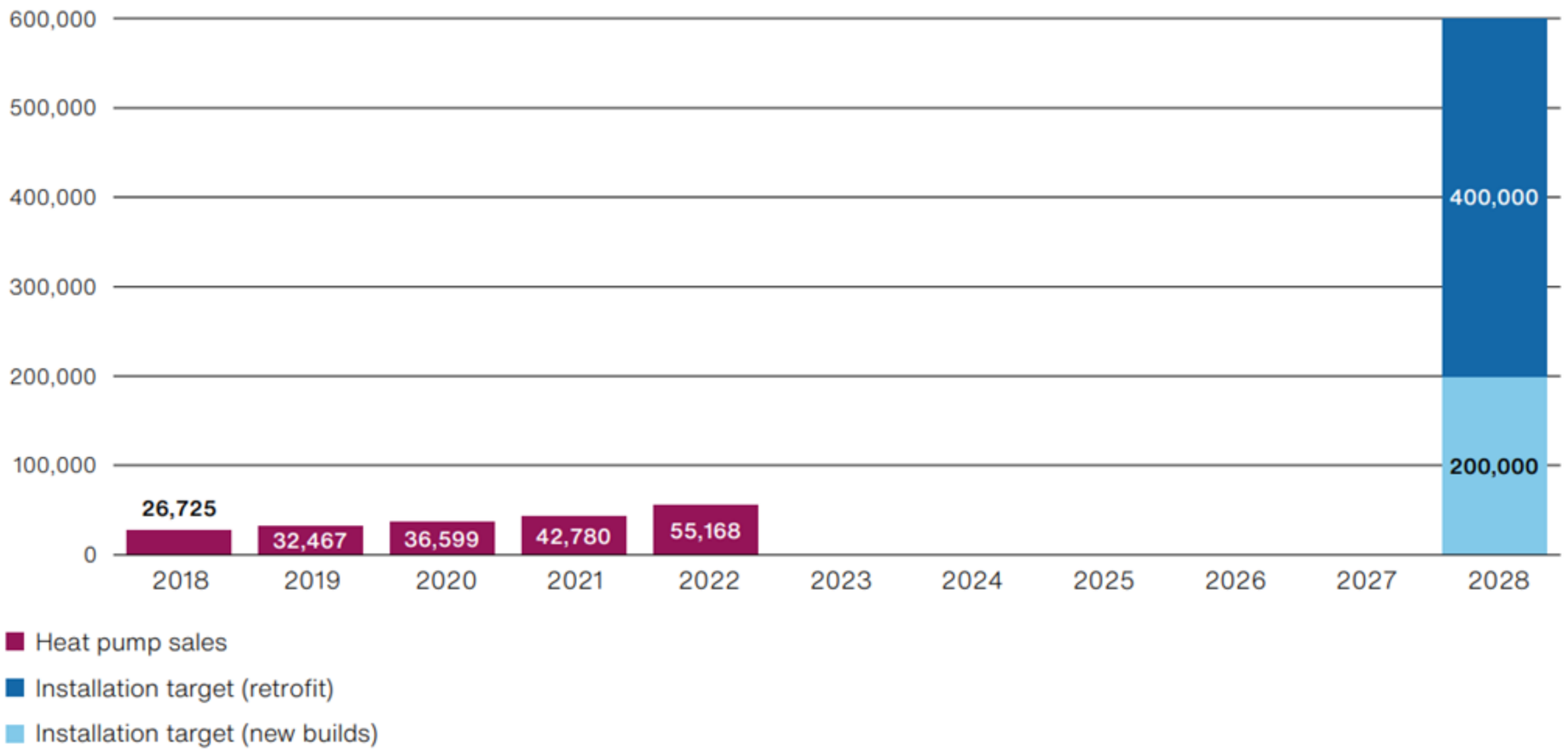
A burning platform

Change in UK emissions from 2014 to 2022 and required change from 2022 to 2030



Source: CCC, 2023 Progress Report023 Progress Report

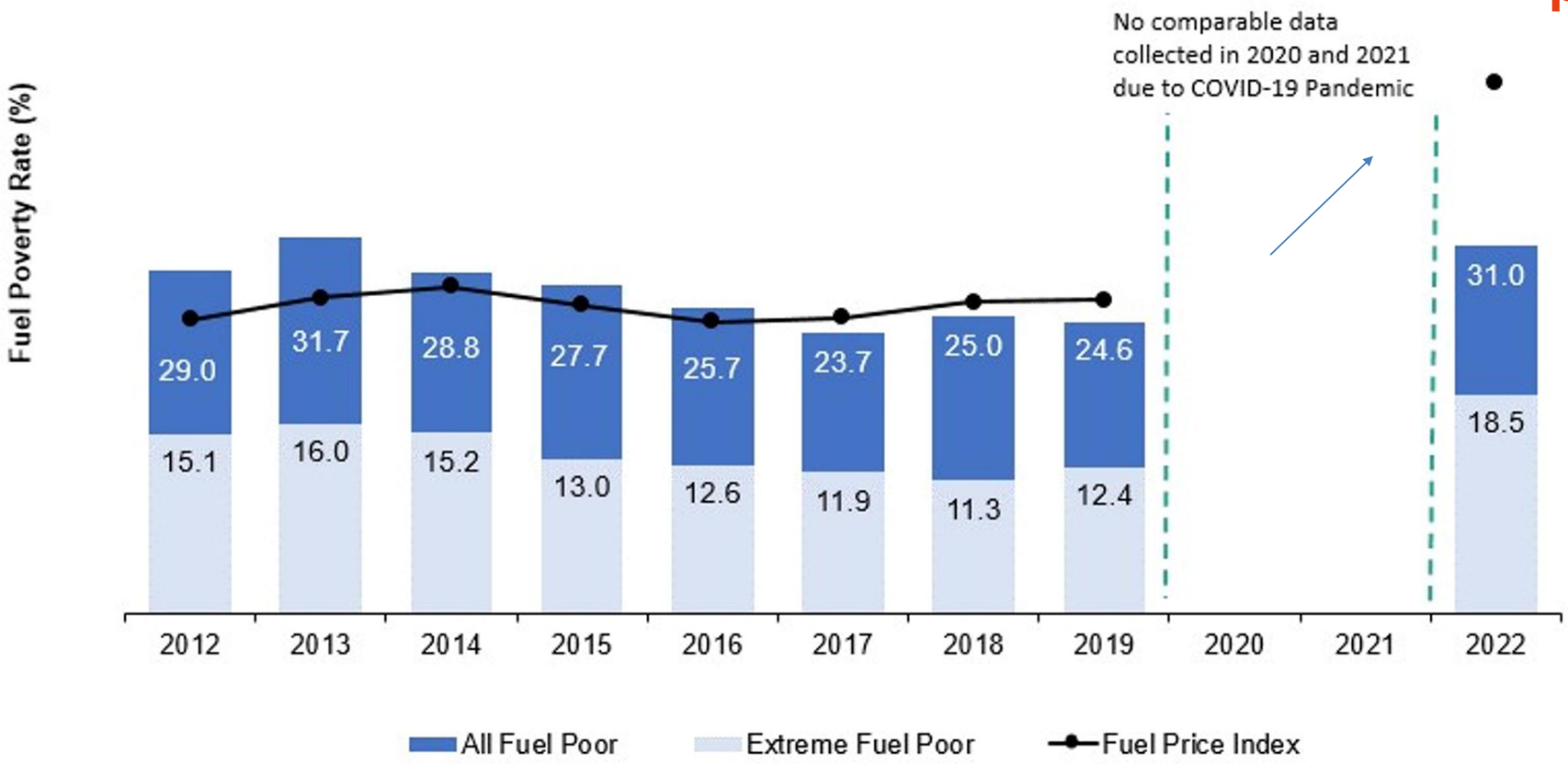
UK Heat Pump Sales 2018 to 2022 compared to the 2028 Heat Pump Installation Target



Source: NAO: Decarbonising home heating

Fuel poverty and extreme fuel poverty have accelerated in Scotland in recent years

…and now prices rising again



Source: Scottish Government

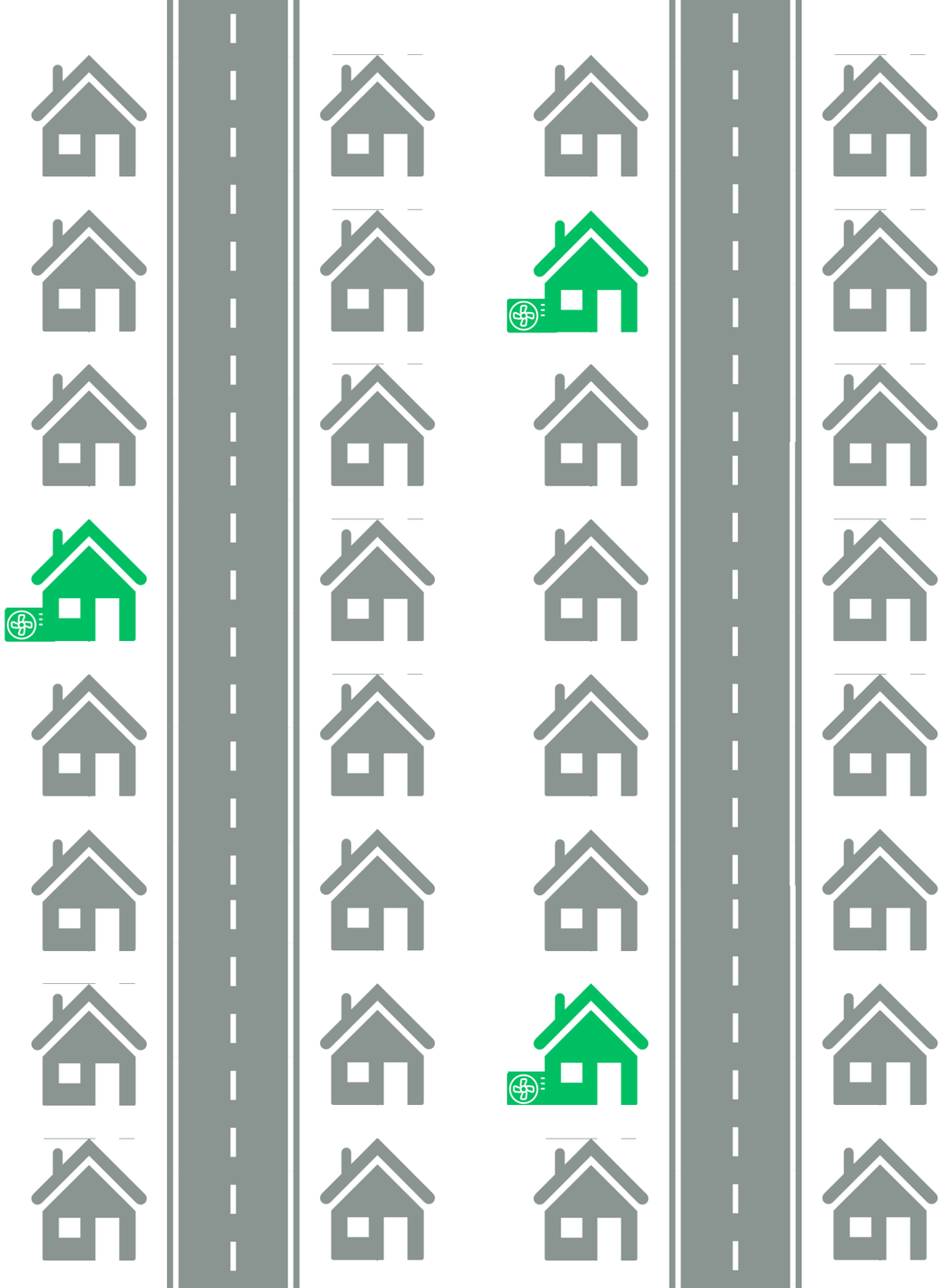
House-by-house or area-by-area?

The house-by-house pathway

Able-to-pay and willing-to-be-disrupted

Acquiring ASHPs, solar PV, storage, and efficiency upgrades

Capturing running cost and comfort benefits first



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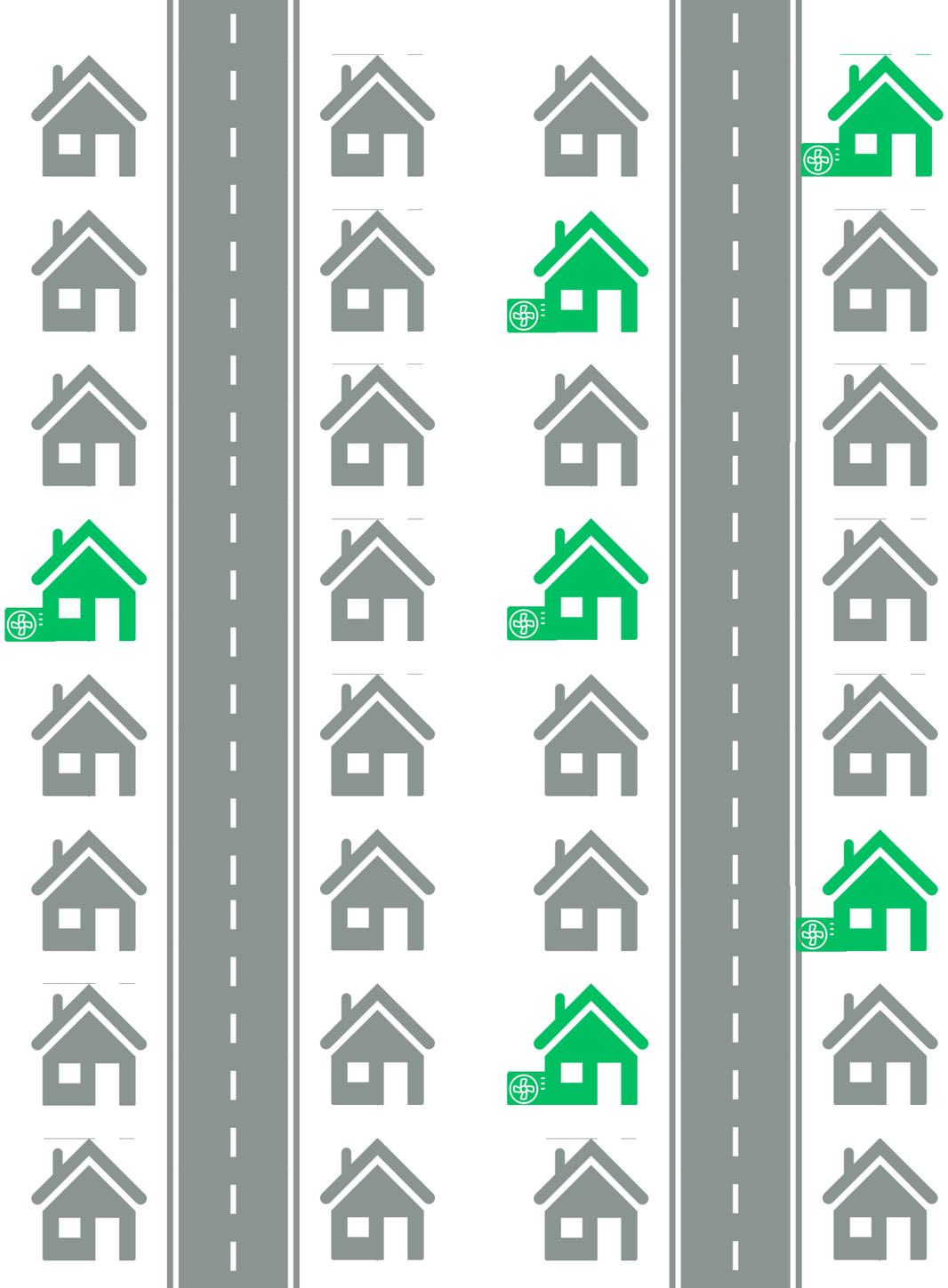
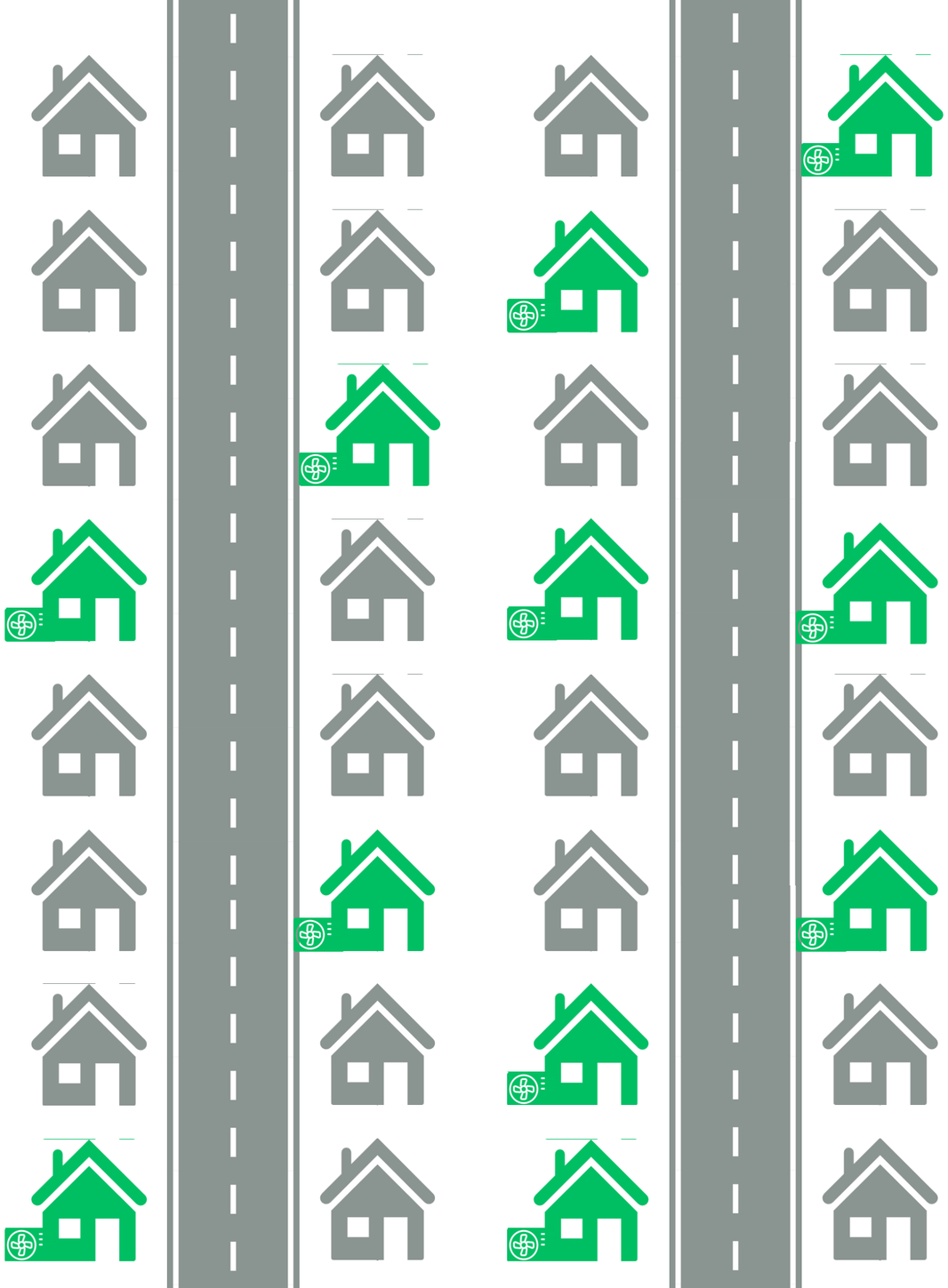


The house-by-house pathway

With fewer gas customers, covering the same fixed costs

The least-able-to-pay left shouldering the costs

Exacerbating fuel poverty, and higher overall transition costs

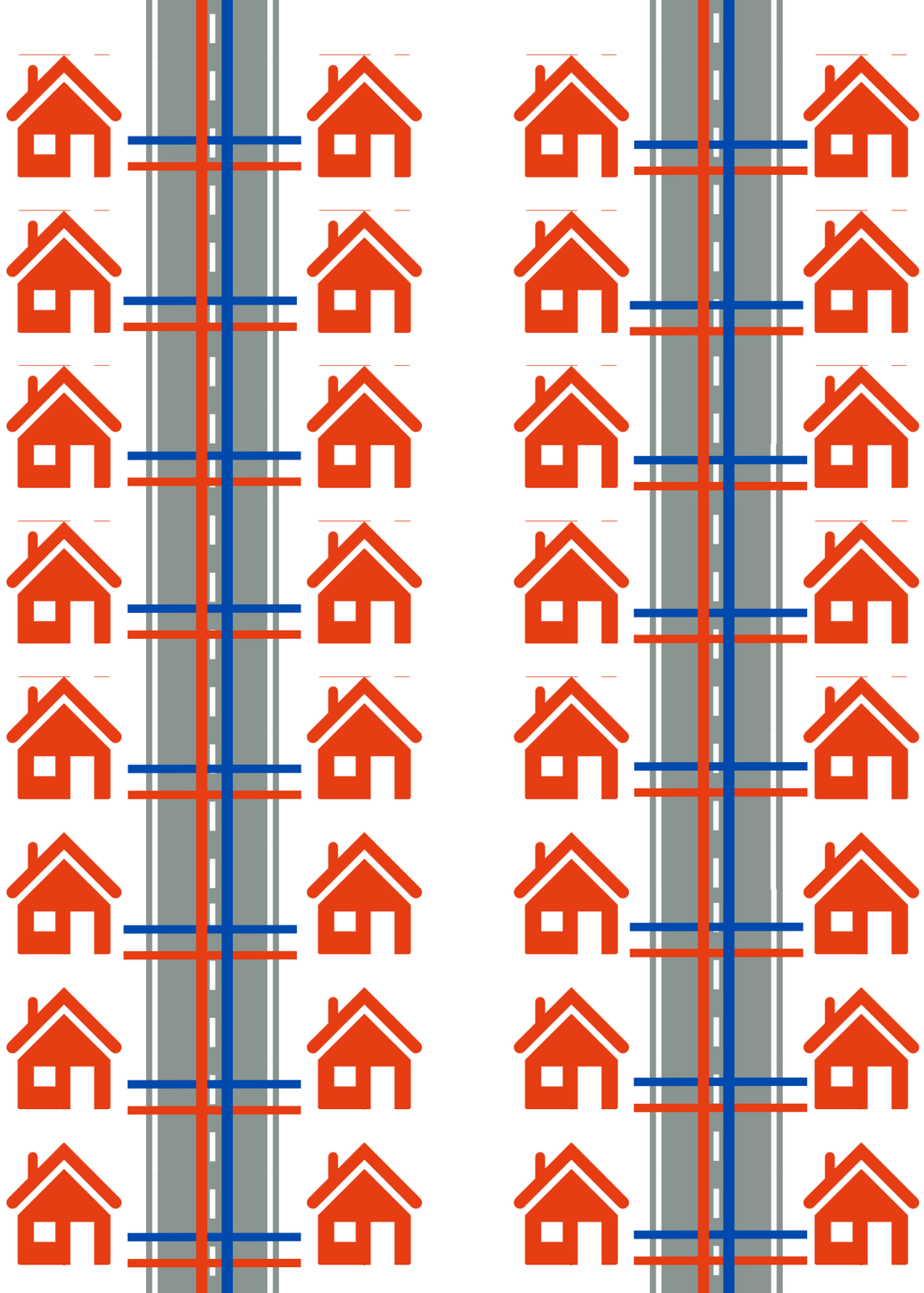


Taking a networked approach: opportunity for a smoother, more equitable transition

Higher system efficiencies, lower costs

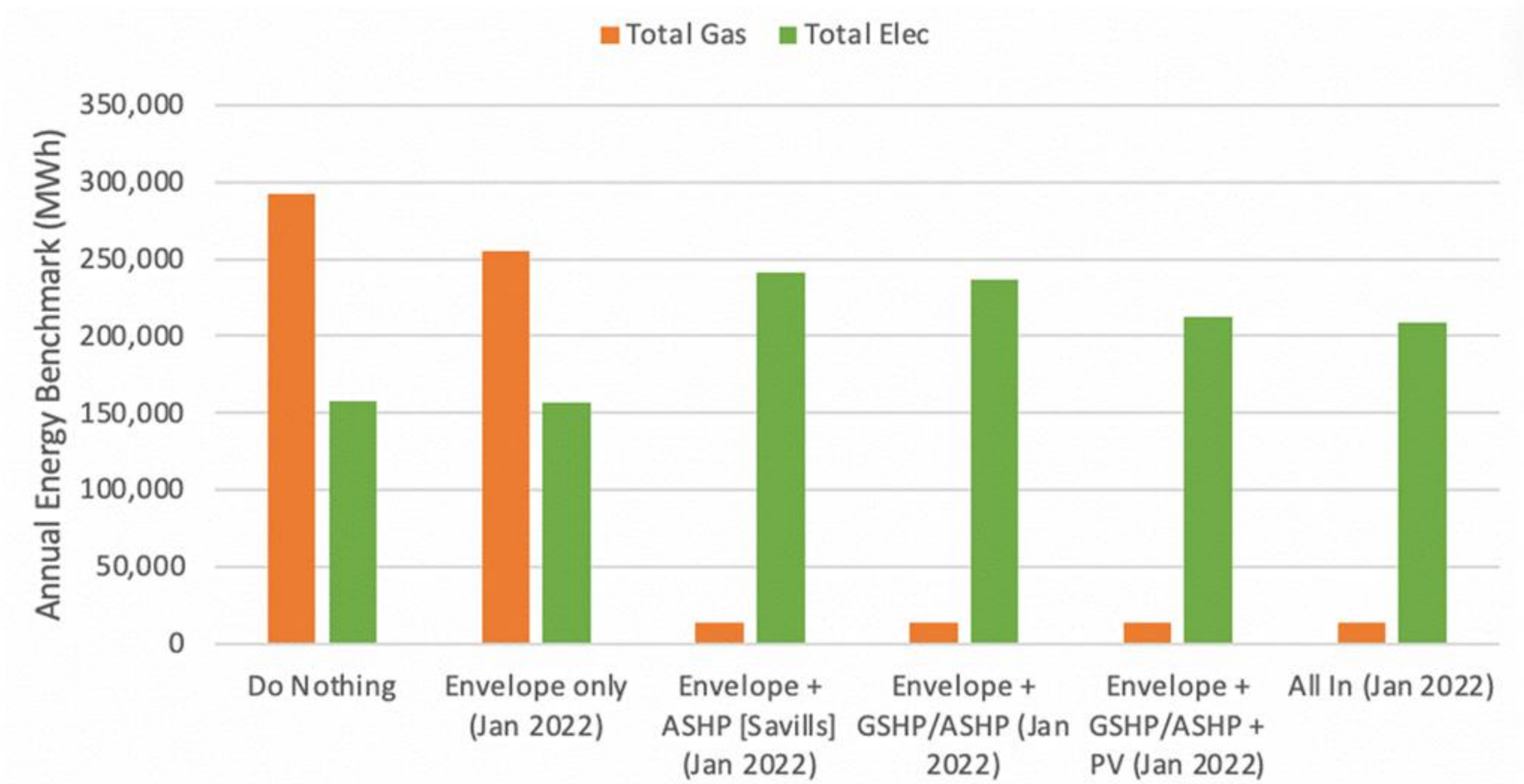
The scale necessary to meet climate targets

More systematic decommissioning of the gas grid



Fabric first (or a bit later)?

Resulting expected change in the use of gas and mains electricity



Source: UCL, Bartlett Review: Decarbonising London's Social Housing

“Most of the housing stock that exists now will still be here in 2050,” - Steve Evans, Senior Research Fellow and part of the University College London Energy Institute team

“We can’t just make newer, better buildings to improve efficiency. New builds are just the tip of the iceberg – to achieve net zero, these existing buildings must have their energy efficiency improved, and they need to stop using fossil fuel to heat them.”

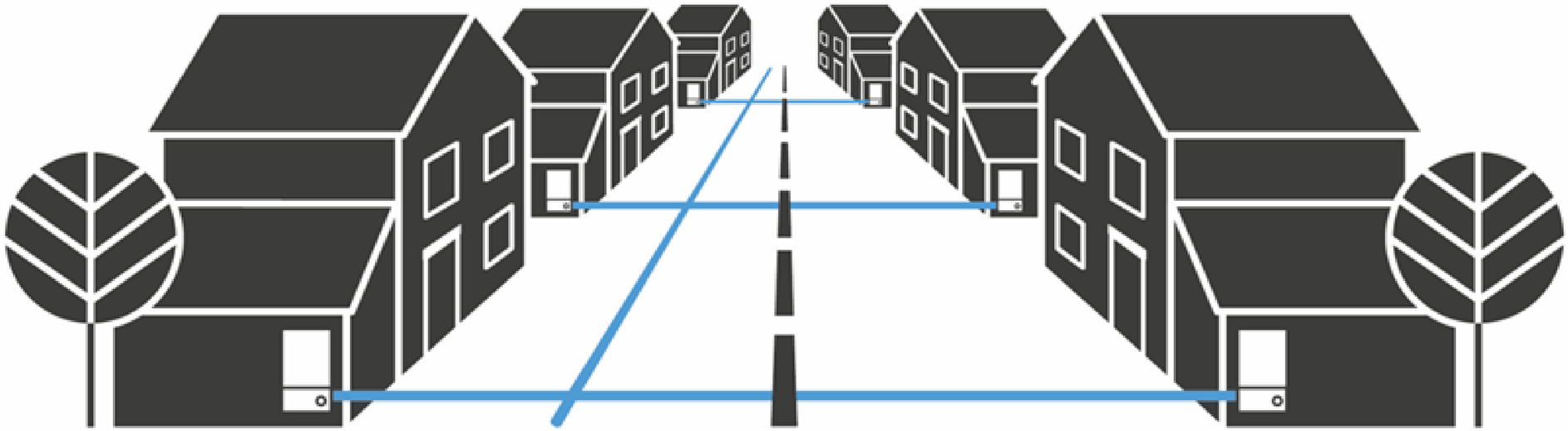
“Heat pumps make a far greater impact. Insulating buildings alone won’t get you to net zero.”

Decarbonising London’s social housing (ucl.ac.uk)

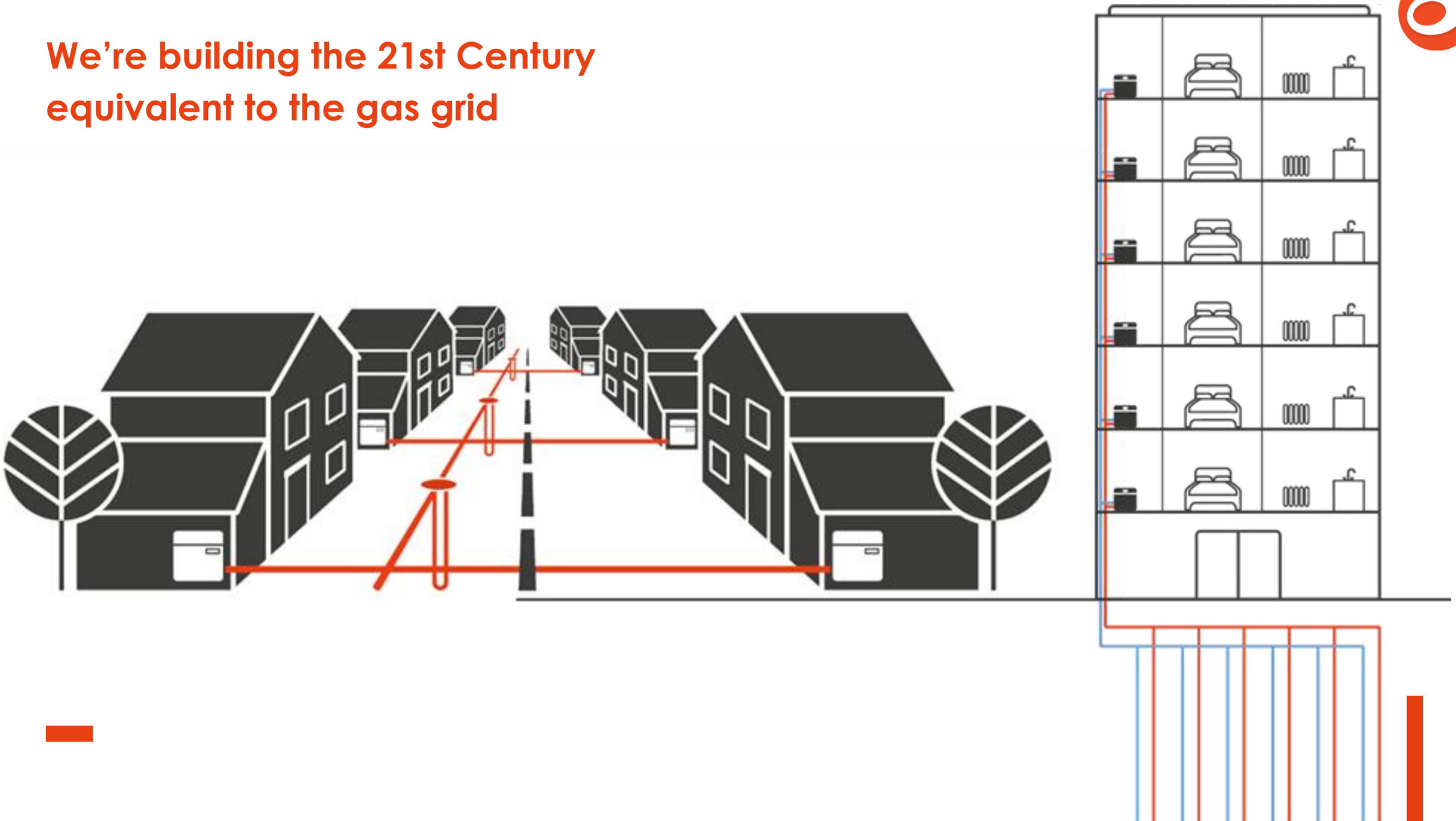
Fabric first (or a bit later)?

Our approach

How streets look today



We’re building the 21st Century equivalent to the gas grid



Examples of our work

Gentoo Core 364, Sunderland

- 364 flats (7 tower blocks)
- From gas to networked heat pumps
- 19,990 tCO2e saved over lifetime of heat pumps
- Saving residents on fuel bills

Chadwell St Mary, Thurrock Council

- 273 flats (3 tower blocks)
- From direct electric to networked heat pumps
- 7,080 tCO2e saved over lifetime of heat pumps
- Resident bills cut by 50%

Clarion Housing, Chelsea

- 81 period social homes in London
- Renovated from derelict
- Had these had gas boilers installed, typical carbon emissions reduction would have been c80%

Rope Walk, Lar Housing Trust, Edinburgh

- 10 affordable / low income homes
- New build
- Annual kgCO2 saved: 11,809

Grampian Housing Association, Ballater

- 24 social rent properties
- Renovation of an old school, from direct electric heating
- Annual kgCO2 saved: 13,135

Here’s what we’re currently looking at

Old Shettleston Road, Glasgow

- Decarbonising ‘hard to decarbonise’ tenements
- Scottish Heat Network Fund
- 39 homes

Near term opportunities

Funding routes

Scottish Heat Network Fund

- Up to 60% of eligible CapEx, including system construction and internals, excluding grid connection costs
- New low or zero direct emissions district heat networks, new zero direct emissions communal heating systems, expansion of existing heat networks

Social Housing Net Zero Heat Fund

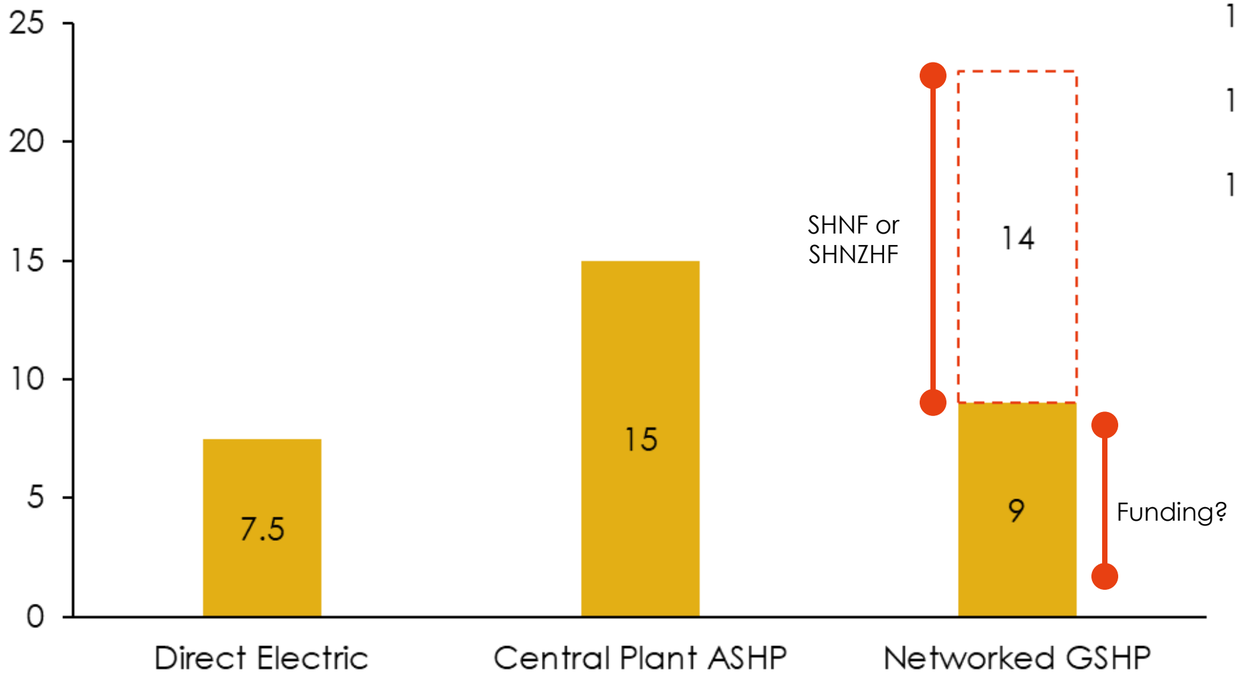
- Up to 60% of eligible CapEx
- Must deliver significant emissions and energy consumption reduction, and savings for social home residents.
- Must align to one of two themes:
  - Zero Direct Emissions Heating Systems
  - Fabric First Energy Efficiency, **with** zero direct emission heating systems

Self-fund + with KUL funding

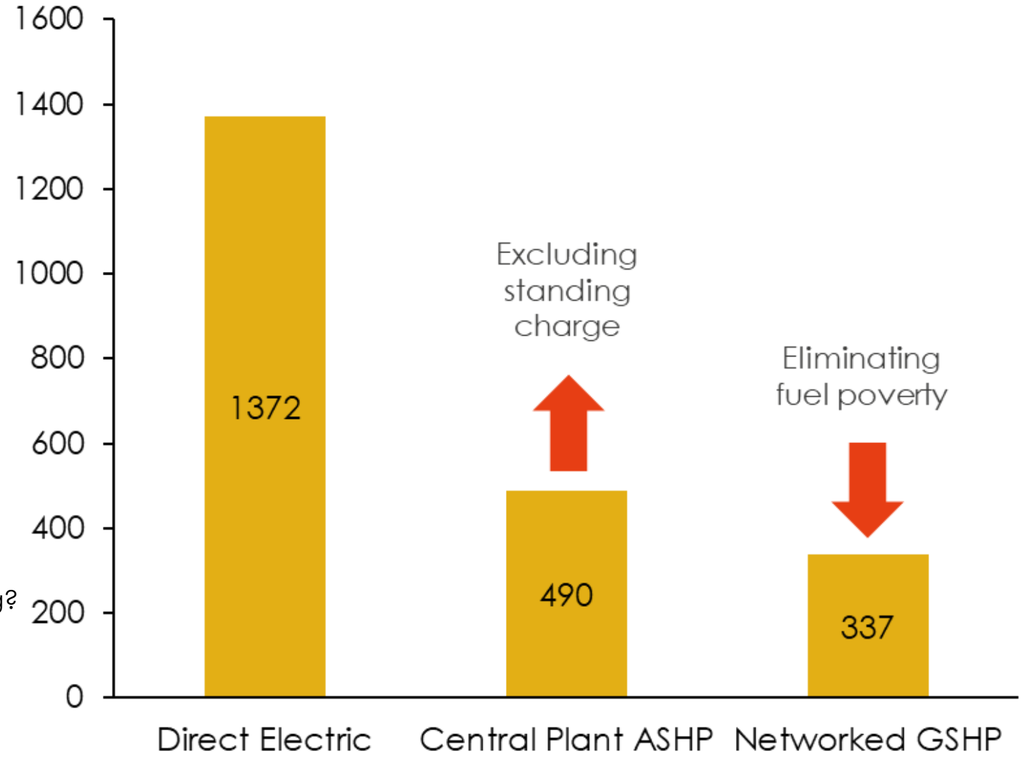
- If you can self-fund, but want to manage working capital, Kensa Utilities can provide competitive funding for the shared ground array, paid back via a standing charge over 40 years.

Making the costs work for everyone

Upfront costs for you (£k per flat)



Annual running costs for residents (£ per flat)



	Energy price cap per unit and standing charge	
	1 October to 31 December 2024	
Electricity	24.50 pence per kWh	up 9.5%
	60.99 pence daily standing charge	
Gas	6.24 pence per kWh	up 14%
	31.66 pence daily standing charge	
	Net effect - reduces Spark Gap	3.9 (from 4.08)

Energy Use	Example – home type and number of residents	Typical annual gas use (kWh)	Typical annual electricity use (kWh)
Low	Flat or 1-bedroom house; 1 to 2 people	7,500	1,800
Medium	2-3 bedroom house; 2 to 3 people	11,500	2,700
High	4+ bedroom home; 4 to 5 people	17,000	4,100

What it costs

Heating Efficiency		kWh IN	Fuel Cost	SC+FC	saving @90%	saving at 80%
Boiler - 5000kWh	90%	5,556	£ 346.67	£ 462.23		
Boiler	80%	6,250	£ 390.00	£ 505.56		
GSHP	300%	1,667	£ 408.42	£ 408.42	£ 53.81	£ 97.15
GSHP	400%	1,250	£ 306.25	£ 306.25	£ 155.98	£ 199.31

What it costs

Thank you

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