



Greater
South East
Energy Hub

Supporting Heat Networks in the Greater South East

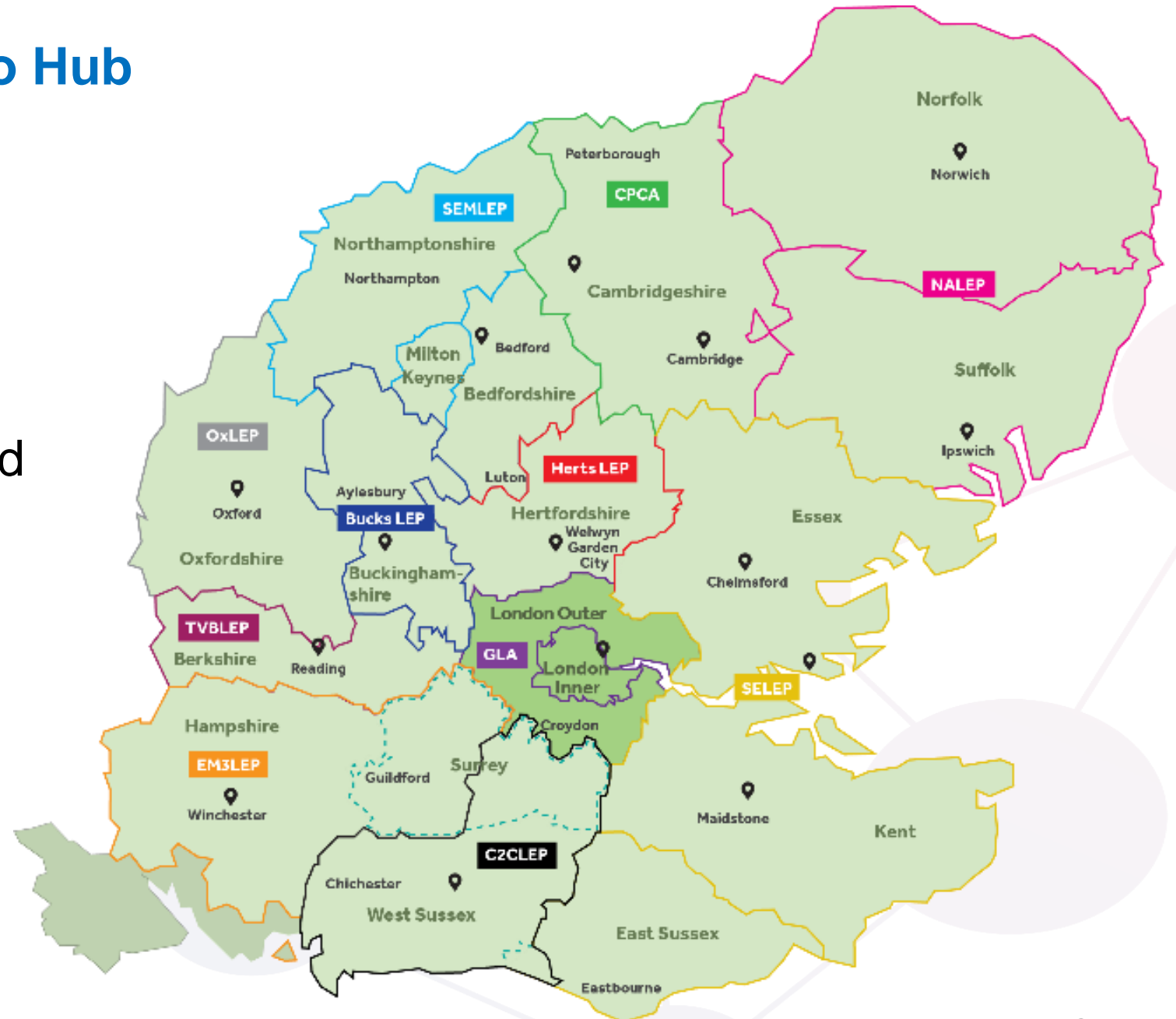
John Taylor, Greater South East Net Zero Hub

Greater South East Net Zero Hub

11 LEPs

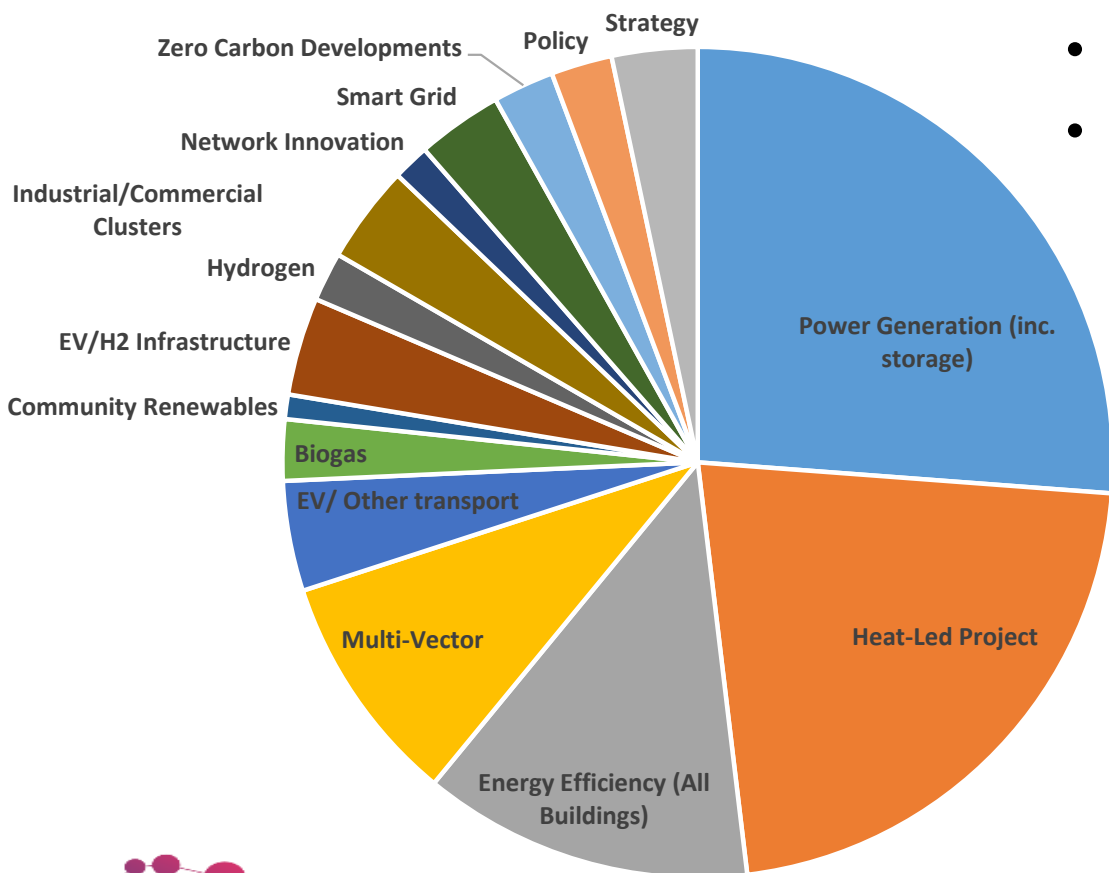
141 Local Authorities

1 of 5 Regional Hubs in England



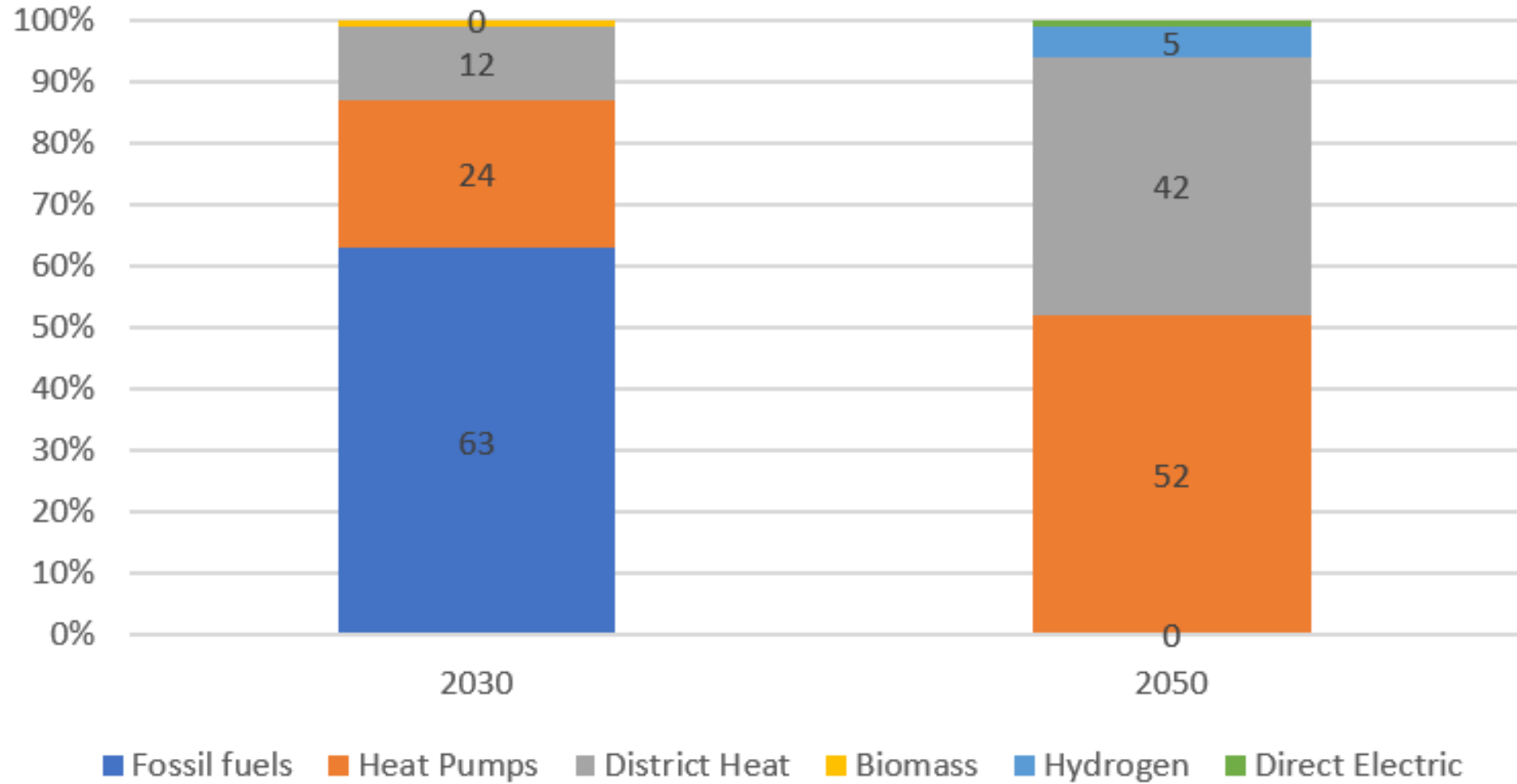
The Net Zero Hubs project pipeline

Breakdown of Projects by Sector/Workstream (All Hubs)



- **Over £4Bn project value across +200 major projects**
- Types of projects we have supported include:
 - ✓ Large scale solar
 - ✓ Estate-wide energy opportunities assessments
 - ✓ Heat Networks
 - ✓ Smart Grids
 - ✓ Fleet and depot decarbonisation
 - ✓ Hydrogen development
 - ✓ Network constraint
 - ✓ Building decarbonisation
 - ✓ Research & development

Renewable Heat in Public and Commercial Buildings



Data from Climate Change Committee 6th Carbon Budget

GSE Net Zero Hub – Support for Local Authorities

- Early Concept and Masterplanning
- Complement and guide through HNDU, HNIP and GHNF.
- Technical Consultancy budget.
- Advise on business model and financing, i.e. UKIB, joint ventures
- Support Local Area Energy Planning
- Synergies with other renewable energy and waste heat sources

GSE Net Zero Hub Technical Consultancy

- Technical consultancy budget: e.g. Worthing.
- 28 Civic building urban heat network
- Extra data modelling to reinforce business case for sewer source heat pump.
- 12 months real time data.
- £5 million HNIP funding

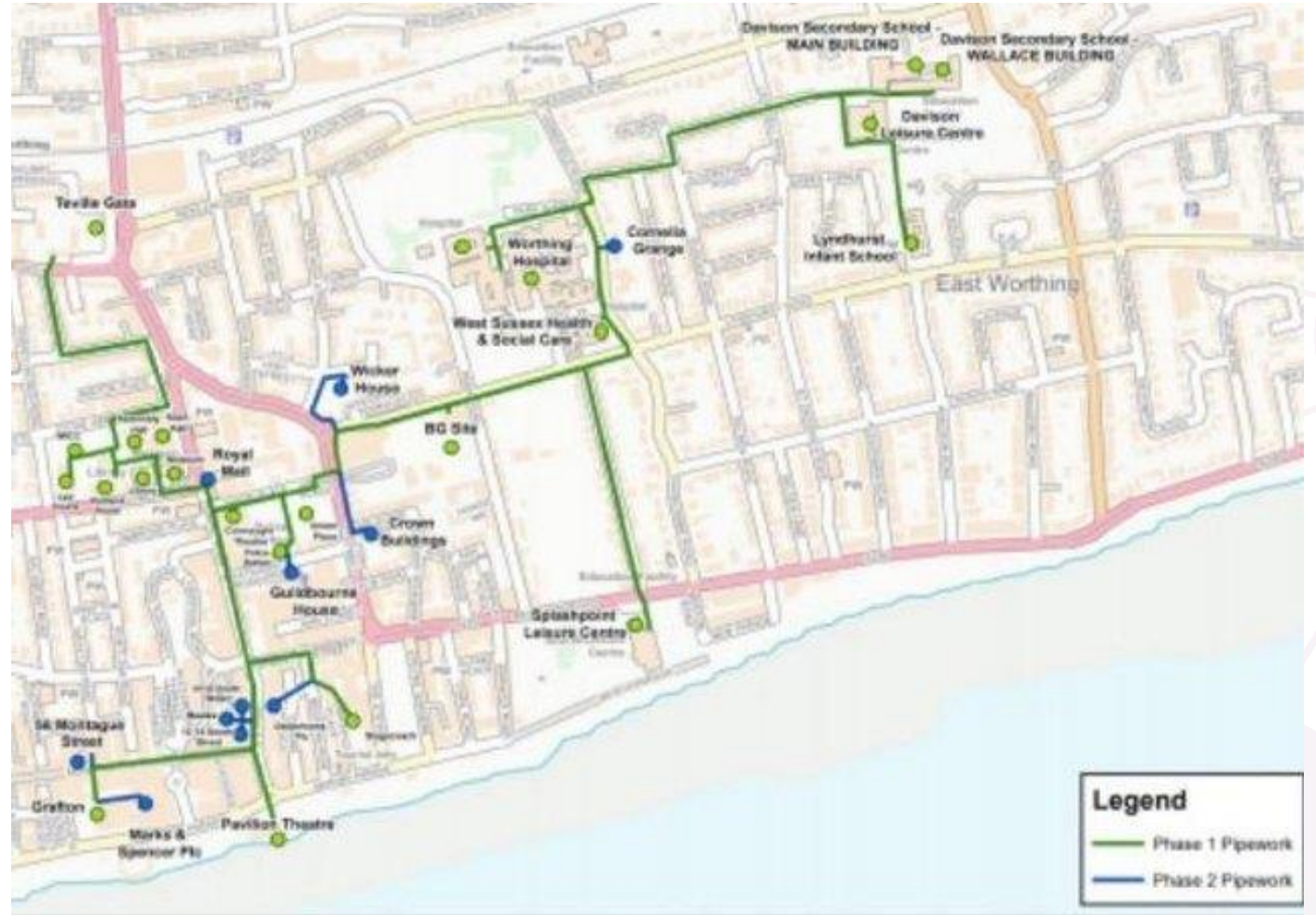
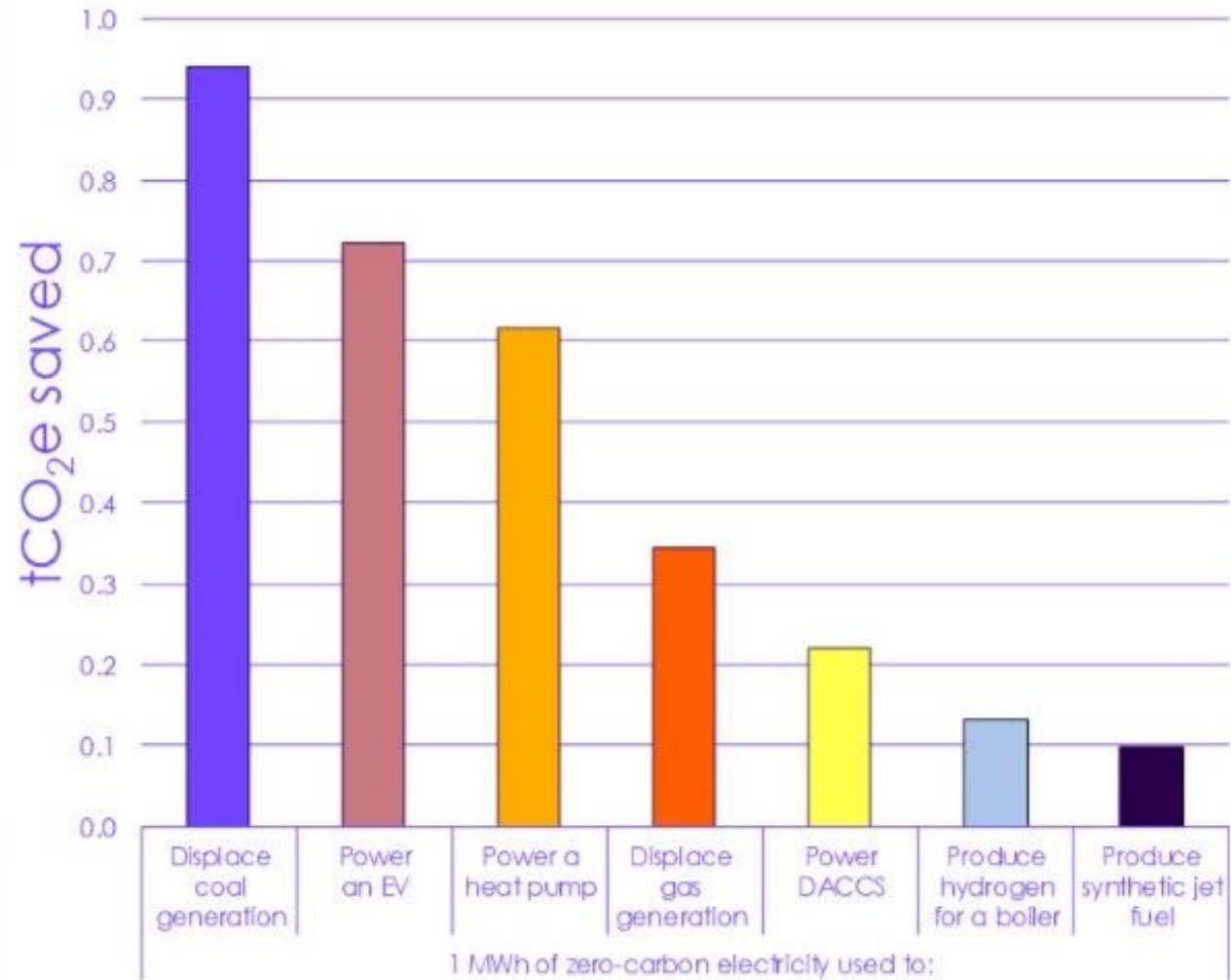


Figure M5.4 Emissions saved with 1 MWh of zero-carbon electricity a cross sectors



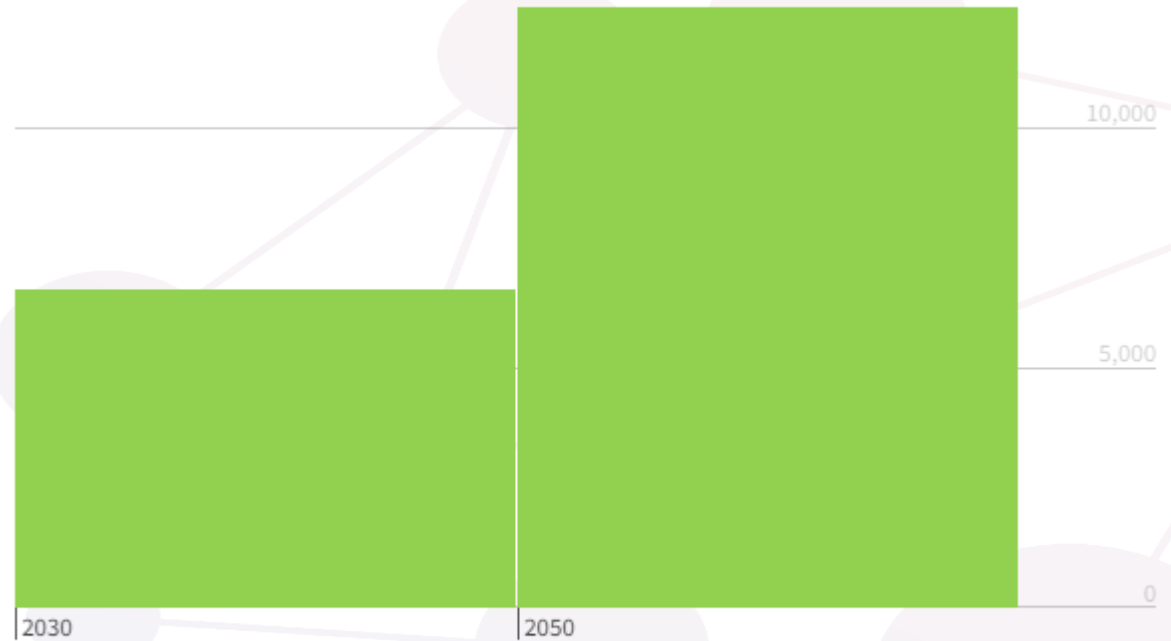
Source: CCC analysis.

GSE Net Zero Hub & Local Area Energy Planning

- Drawing together partners – DNOs, gas networks, local authorities, LEPs.
- UK Power Networks Heat Street cost optimal modelling
- Cambridge needs to connect 6,642 homes to heat networks by 2030, and 12,522 by 2050.

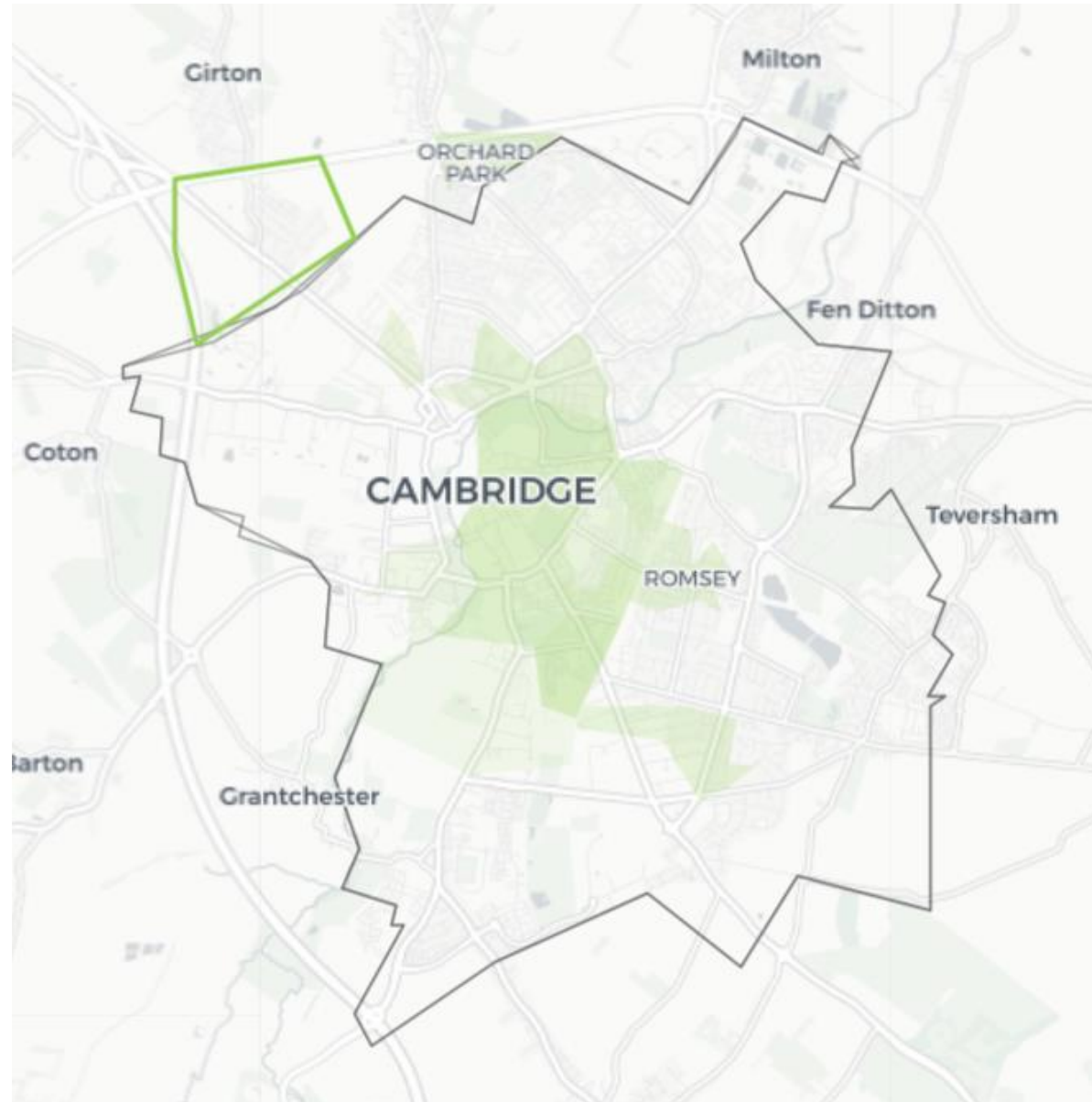
Cambridge

Low carbon heating uptake - District heating: 12,522 (2050)



The LA may have been clipped to UKPN's area

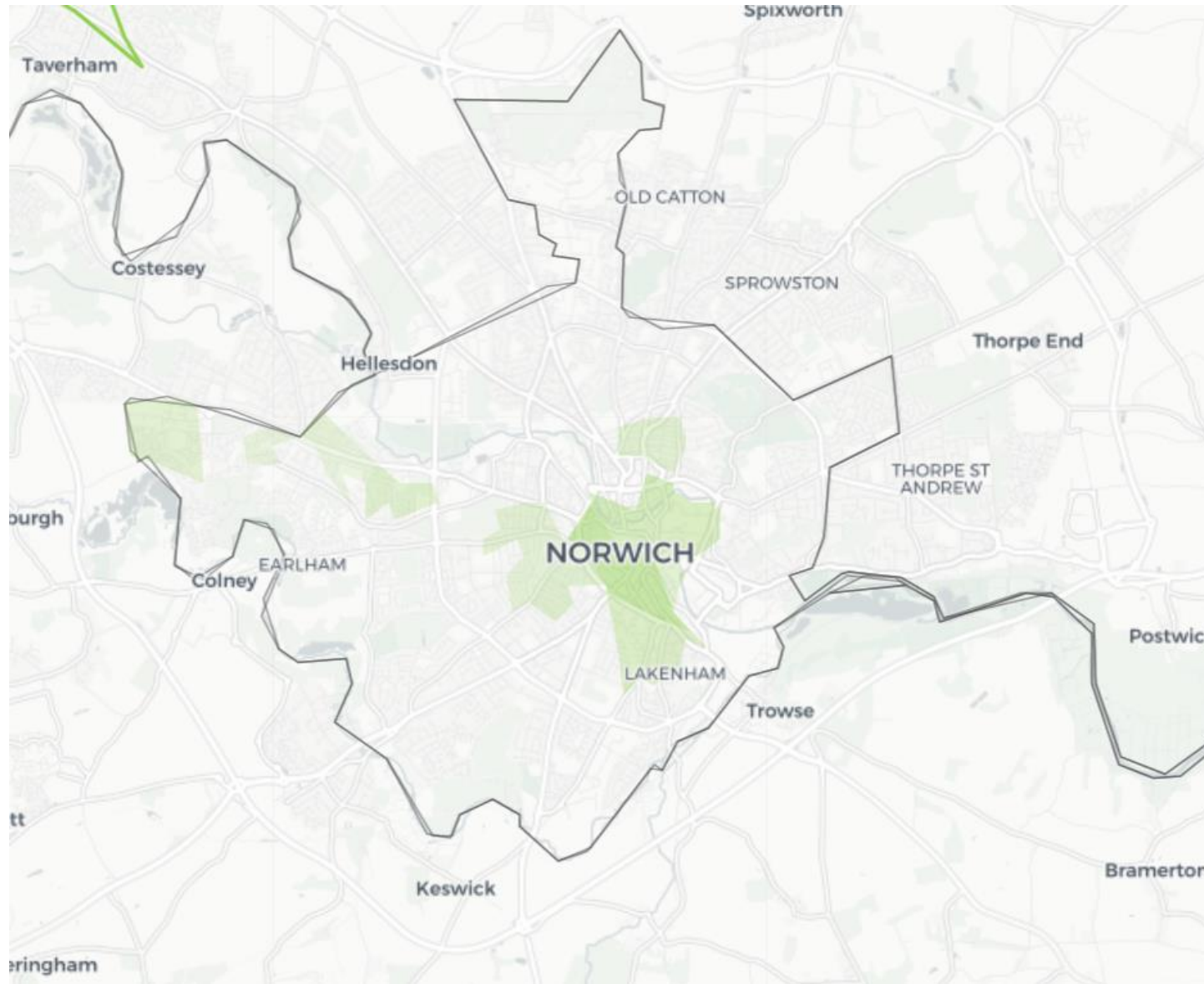
GSE Net Zero Hub & Local Area Energy Planning



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GSE Net Zero Hub & Local Area Energy Planning



Rural Community Energy Fund

Stage 1 Feasibility Grant – up to £40,000

- For projects where some work has been done but are still at an early stage , grant covers consultancy and professional costs to produce a feasibility study to a standard format.

Stage 2 Development Grant – up to £100,000

- For projects that demonstrate a good chance of securing planning permission and being implemented, grant funds can cover:
 - development costs
 - planning applications
 - Development of a robust business case so projects are investment ready.

www.energyhub.org.uk/rural-community-energy-fund



Rural Community Energy Fund



Typical rural community showing zoned heat densities

Electrifying Heat

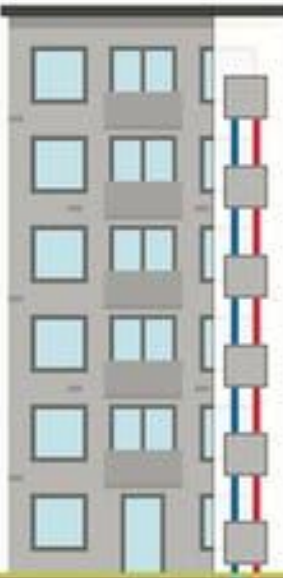
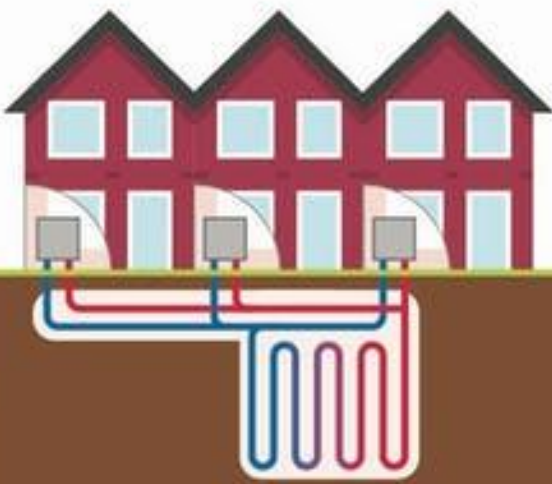
Individual

City scale

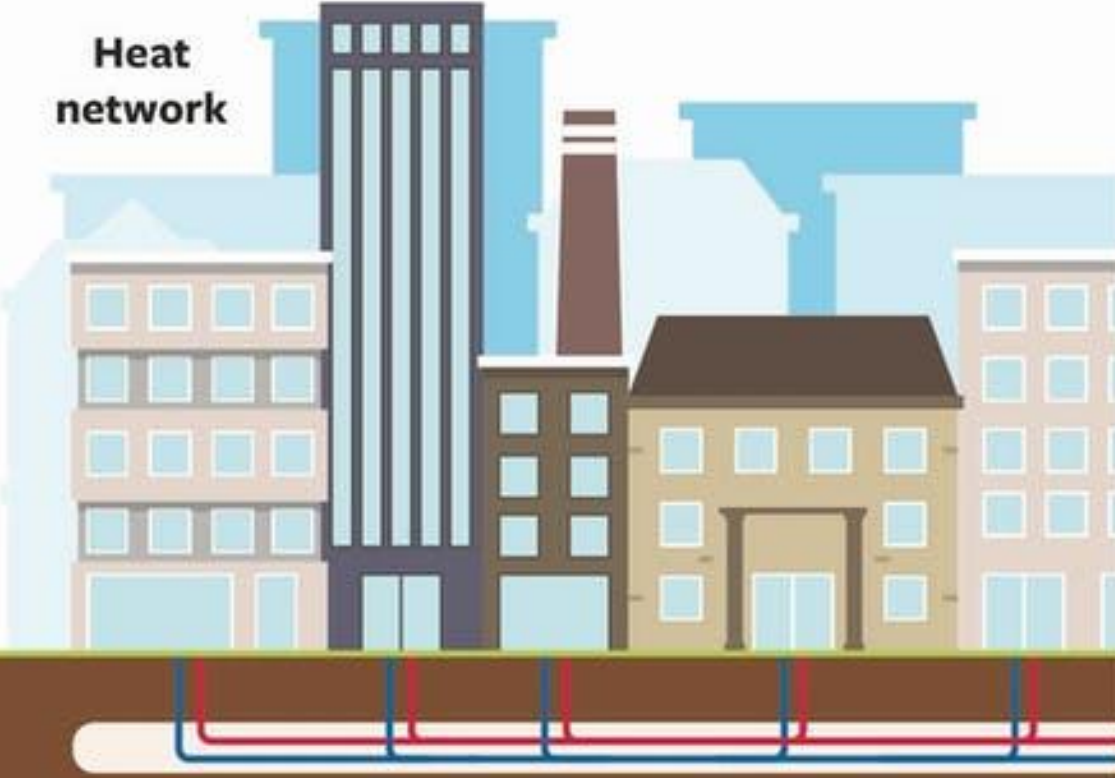
Individual heat pump system



Shared ground heat exchange



Heat network



Shared Loop Ground Source Heat Pumps

- Shared loop ground source heat pumps
- Several shared loops in a village.
- Each home has a small heat pump that connects to the shared loop.
- Heat supply contract with home.
- Can split ownership between the group loop and the heat pumps.
- Can be aggregated to meet Green Heat Network Fund criteria (min 100 homes).

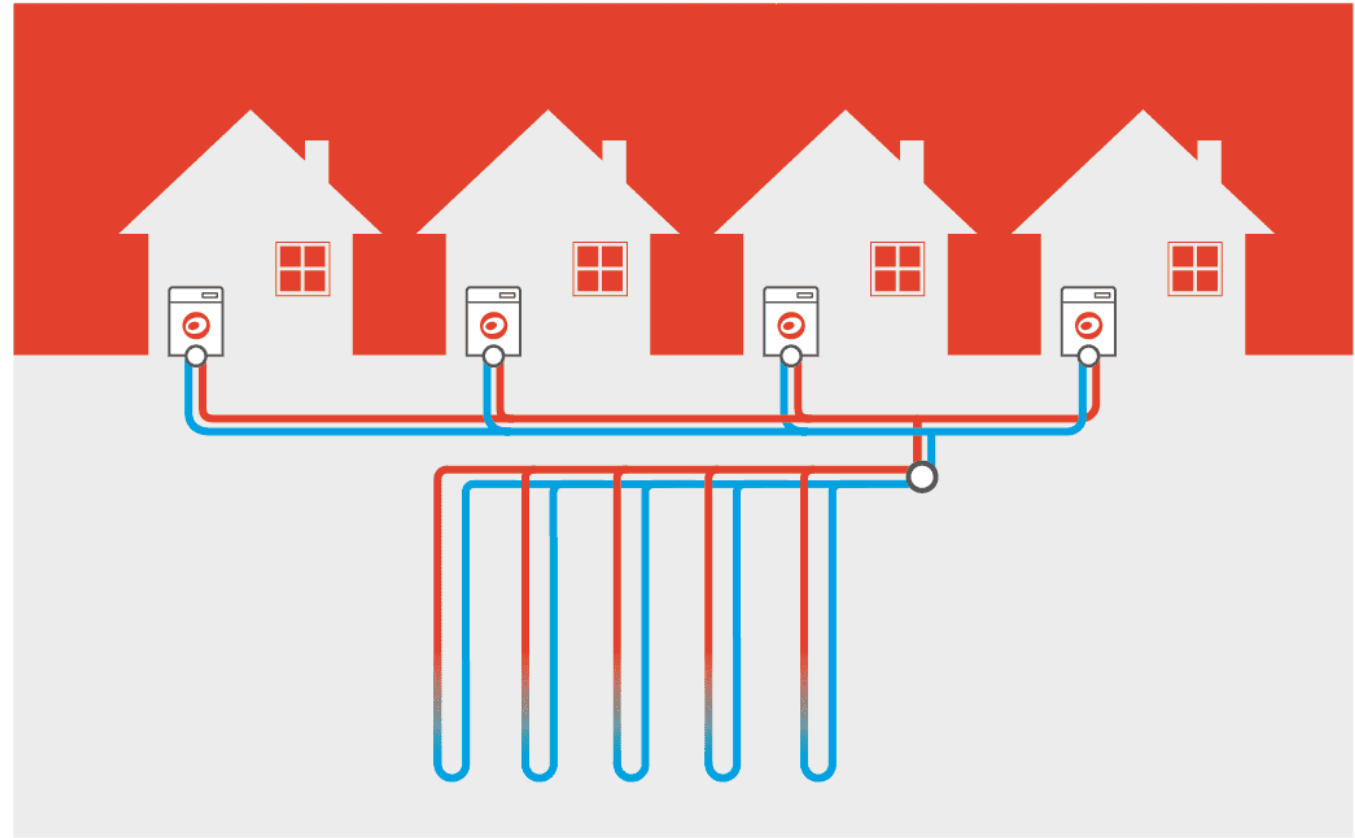
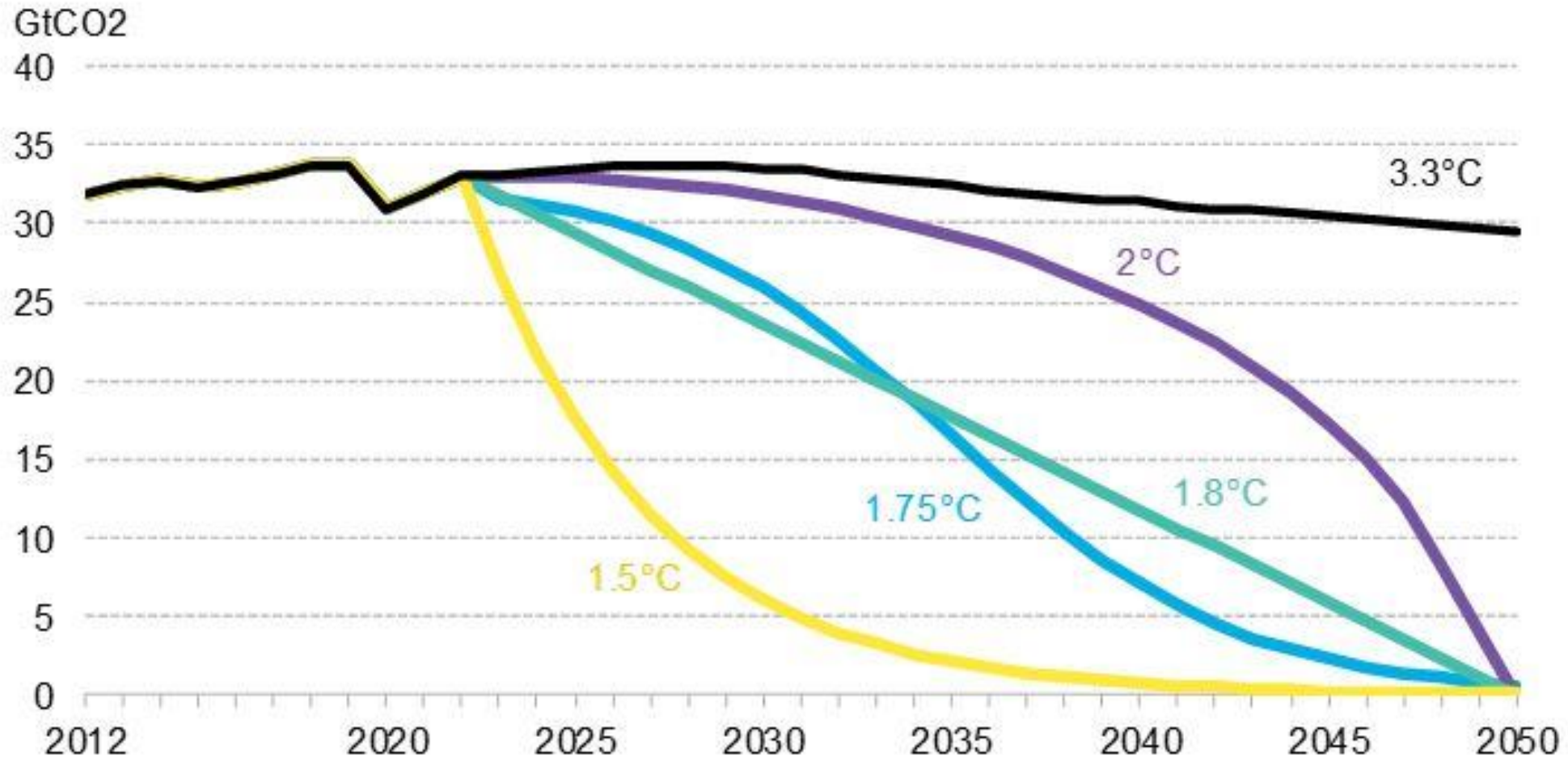


Figure 1: Budget shapes around net-zero



Source: BloombergNEF

Net Zero is not a long term challenge, it is a short term one.



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Contact Details

John Taylor

E – john.taylor@gsenetzerohub.org.uk