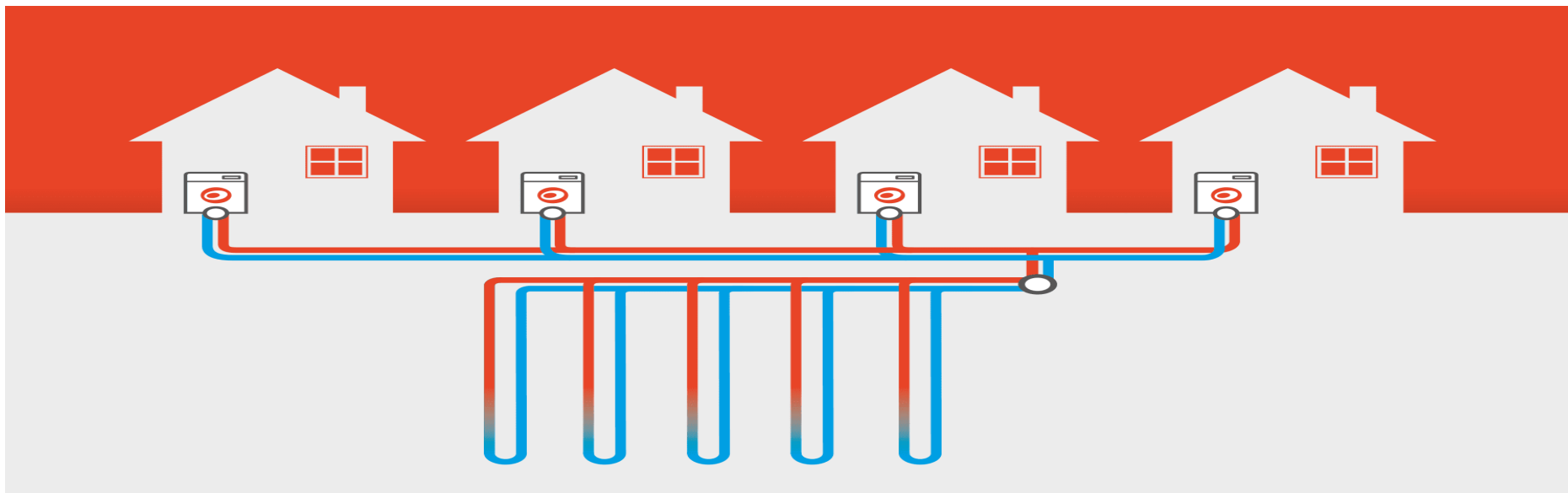


GROUND SOURCE HEAT PUMPS AND SHARED GROUND LOOP ARRAYS

Supporting Social Housing Decarbonisation



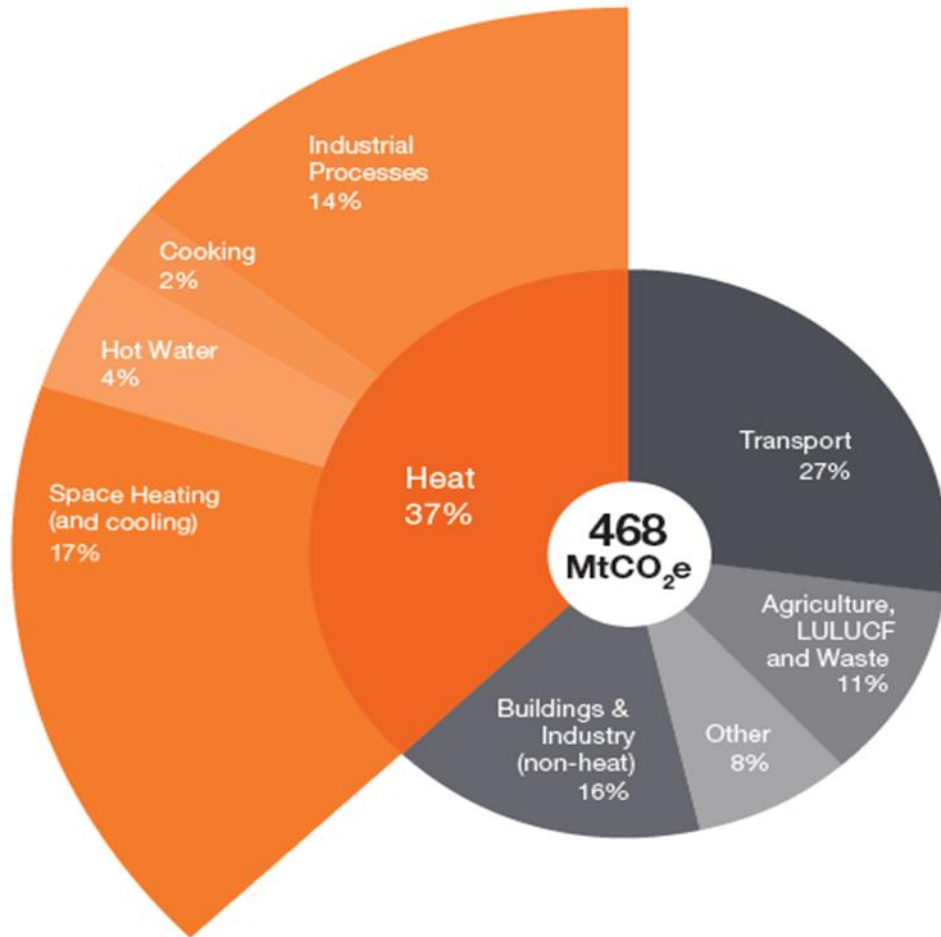
Ieman Barmaki

Director of Low Carbon Partnership



The UK's leading ground source heat pump manufacturer and installation contractor

The Carbon Emergency and Policy Drivers



Source: Energy Saving Trust

- Heating produces the largest proportion of emissions
- Only 6.2% of all heat in the UK is from renewables
- 20K Heat Pumps vs 1.6M gas boilers a year
- *“Deployment of 2.5m heat pumps is likely to be the minimum necessary by 2030” (CCC)*
- 280+ Councils have declared a climate emergency!
- Big opportunity for Councils to influence domestic and commercial heating strategy across their estates
- Climate emergency action plans
 - Opportunity to set renewable heating targets
 - Firmer objectives needed for decarbonisation of heat
- Policy drivers:
 - Climate Change Act Net Zero by 2050
 - Local Climate Emergency Declarations and Net Zero 2030
 - Clean Growth Strategy
 - Electrification of Heat
 - Future Homes Standard

Emerging Funding Streams- England

(Heat Pumps Eligible Under Every Scheme)

•Green Homes Grant Voucher Scheme

- £2 billion Green Homes Grant (GHG) scheme to upgrade homes across England.
- £5,000 per property is available for projects completed by 31st March 2021.

•Social Housing Decarbonisation Fund

- £3.8 billion allocated to this fund over the next 10 years to support retrofit at scale.
- Up to £22,000 per property could be applied for in the first round demonstrator project.
- Projects to be completed by December 2021.

•Public Sector Decarbonisation Scheme

- £1 billion fund available for energy efficiency and heat decarbonisation.
- 100% of project costs.
- Projects need to be completed by 31st March 2021.

•Clean Heat Grant

- Scheduled for commencements in 2022, the governments successor scheme to the RHI.
- Possibility of an upfront capital grant of £4000 per property installed with a new heat pump.

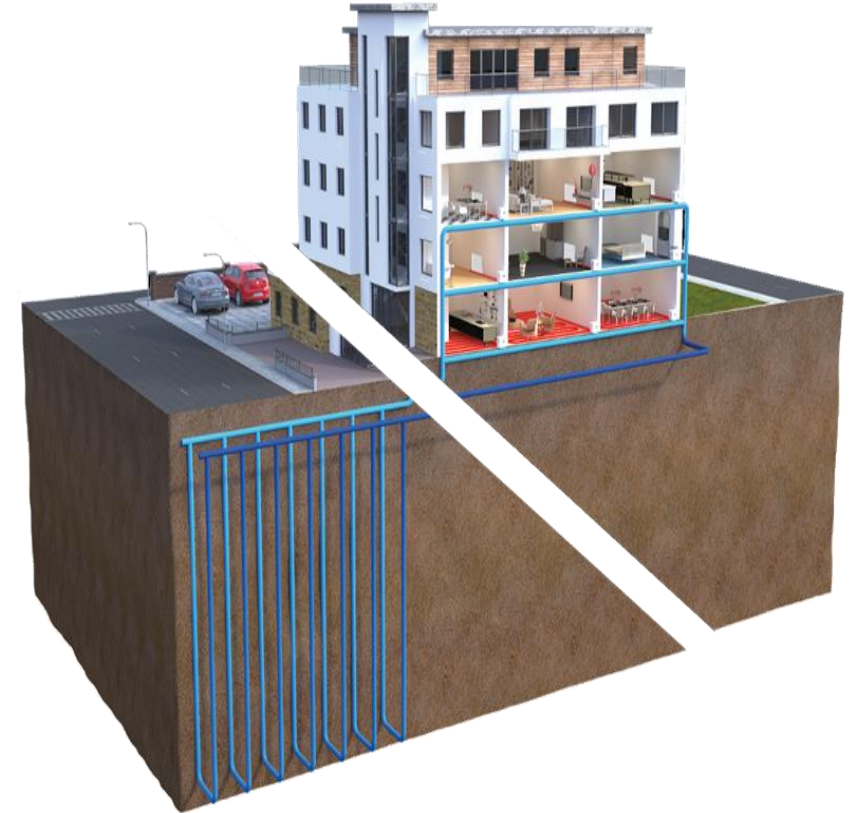
“OVEN READY PROJECTS !!”



Source: The London Economic

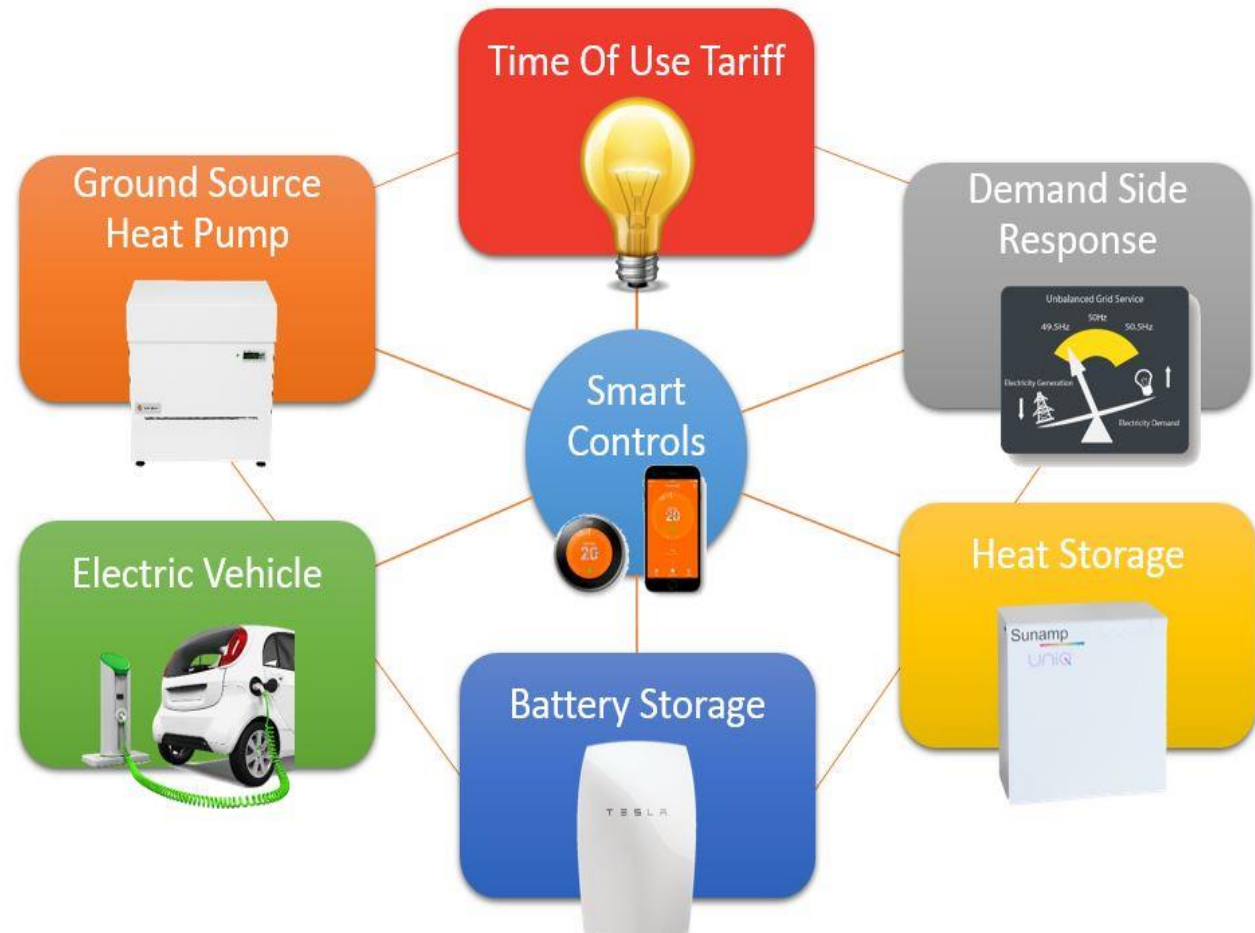
Opportunities- Commercial Income and Avoided Costs

- **Split ownership of ground array**
 - 100 year expected life of boreholes
 - Standing charge income potential of £10K per property over lifetime charged at 27p per day (similar to gas network charges)
- **Heat as a Service (HaaS)**
 - Similar to traditional district heat network owned and operated by the Council/SPV
- **Compliance cost savings £2,400 over 20 years**
 - No need for CP12's every year
- **Carbon Savings £700-£2,000 per property**
 - Potential to sell carbon saving to offsetting organisations
 - Use of Councils carbon offset funds (more prevalent in London)
 - ECO funding only applicable to E,F&G epc
- **Landlord electricity supply savings**
 - No plant room or distribution heat losses to budget for



How Can Kensa Help Your Council

- Kensa can provide tailored support to develop business cases to transition to net zero carbon heating
 - Soft market testing – feasibility
 - New business models to support city scale roll out
 - Officer Support- developing a robust business case
 - Focus on social impact
 - Offering innovation to support social housing whole house retrofit
 - OJEU compliant procurement Frameworks:
 - Northumberland County Council
 - Procure Plus
 - Fusion 21



The “Green” Business Case

Business cases can be broken down into 5 different aspects which are interconnected but distinct and carried through outline to full business case

1. Strategic Case

- Net zero 2030 -2050 National policy!
- Decarbonise heat, achieving climate emergency goals
- Electrification of heat

2. Economic Case

- Fuel poverty mitigation
- Social Economic impact
- Value for money

3. Commercial Case

- HRA 30-year business plan
- Making use of ‘Natural Capital’ such as parks and open spaces
- Recycling waste heat

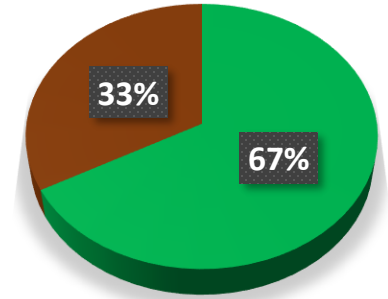
4. Financial Case

- Financial modeling, pay back periods
- Divested Pension Funds into infrastructure investment
- Whole lifecycle costing delivering best possible NPV

5. Management Case

- Project management, choosing contractor & delivery
- Development of local supply chain-skills
- Great Asset Management

Example Project



67% reduction in Carbon emissions



	Per Property Average	192 Properties Total
Gross price (outgoing)	(£18,000)	(£3,456,000)
Total RHI income - 20 years	£10,920	£2,096,671
Gross cost, less ECO, less RHI	(£7,080)	(£1,359,329)
Assumed budget for replacement costs	£3,263	£626,400
Assumed savings maintenance and compliance	£3,000	£576,000
Financial value of Carbon saved at £120 per tonne previously collected through S106 CO2 offset funds	£2,106	£404,352
<u>Net gain</u>	<u>£1,289</u>	<u>£247,488</u>

CONTACT DETAILS

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Accreditations



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