

Launch cohort
workshop event



Scottish Enterprise

Green Heat
Accelerator

Powered by **CLT** CARBON
LIMITING
TECHNOLOGIES



24th October 2022

Policy context – scale of transition



Neil Kitching

Scottish Enterprise, Energy Specialist (Water and Heat)

Policy lead on decarbonising heat

Green Heat Ambition

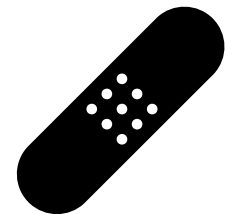
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Green Heat Solutions



- Heat pumps
- Heat networks
- Smart controls
- Direct electric
- Biomass
- Fabric first



Change Driven by Policy- timeline to zero carbon heat

2023

- Every Local Authority to have a Local Heat and Energy Efficiency plan

2024

- All new homes to use zero emissions heat and be highly energy efficient
- All non-domestic buildings to use zero emissions heat when a building warrant is applied for

2025

- Legislation introduced for heat and energy efficiency in existing buildings
- Zero emissions heating to account for >50% of replacement installations
- Phase out new fossil fuel boilers in off gas grid areas

2028

- All private rented properties to be Energy Performance Certificate, Band C

2030

- Over a million homes and 50,000 non-domestic properties to use zero emissions heat
- Heating systems in vast majority of off-gas grid properties are zero emissions
- Phase out any new gas boilers

2033

- All homes to reach Energy Performance Certificate, Band C where feasible and cost effective

2038

- All public buildings to have low carbon heat

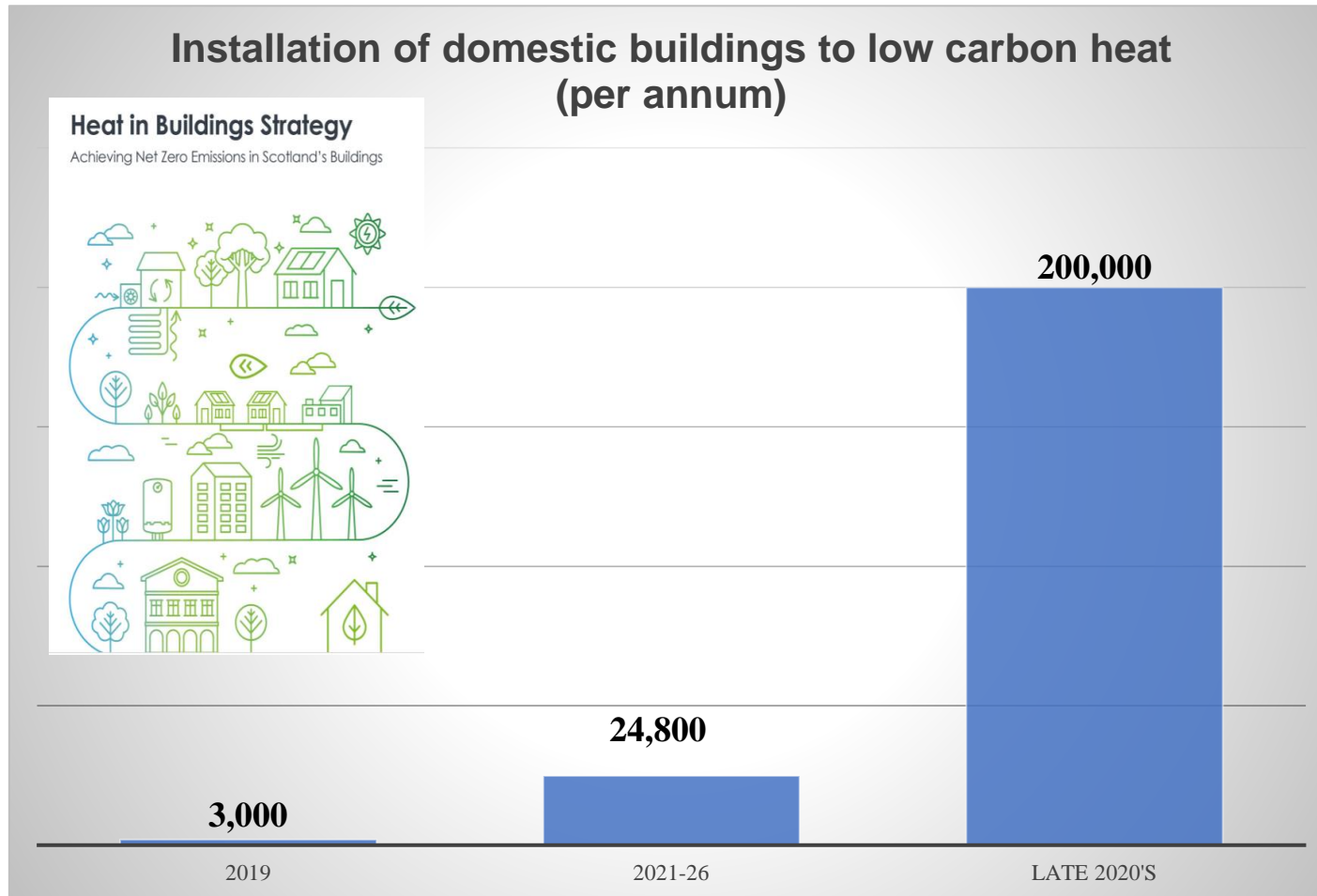
2040

- No household in Scotland is in fuel poverty

2045

- Emissions from heating homes and buildings “all but disappeared”
- Existing heat networks supplied by low carbon sources

Heat in Buildings Strategy



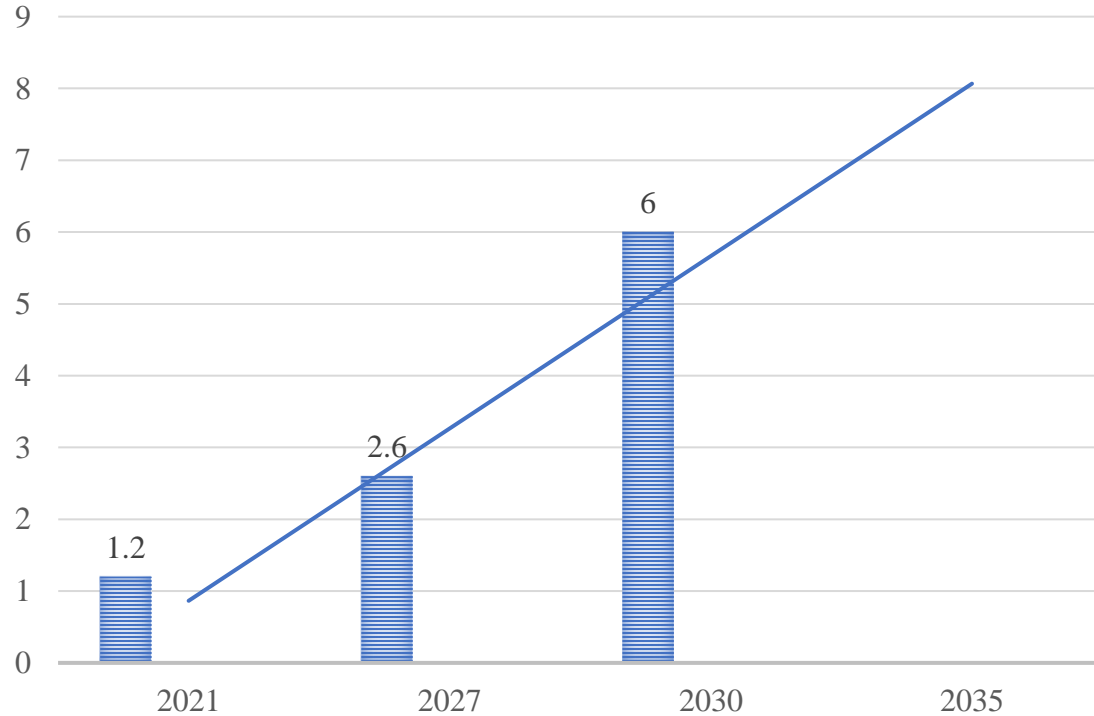
Zero emission heat (2030)

- 170,000 off gas homes
- 1 million on-gas homes
- 50,000 non-domestic buildings
- blending green gas to 20%
- 28,000 jobs

-
- EPC C by 2033
 - £33 billion to 2045

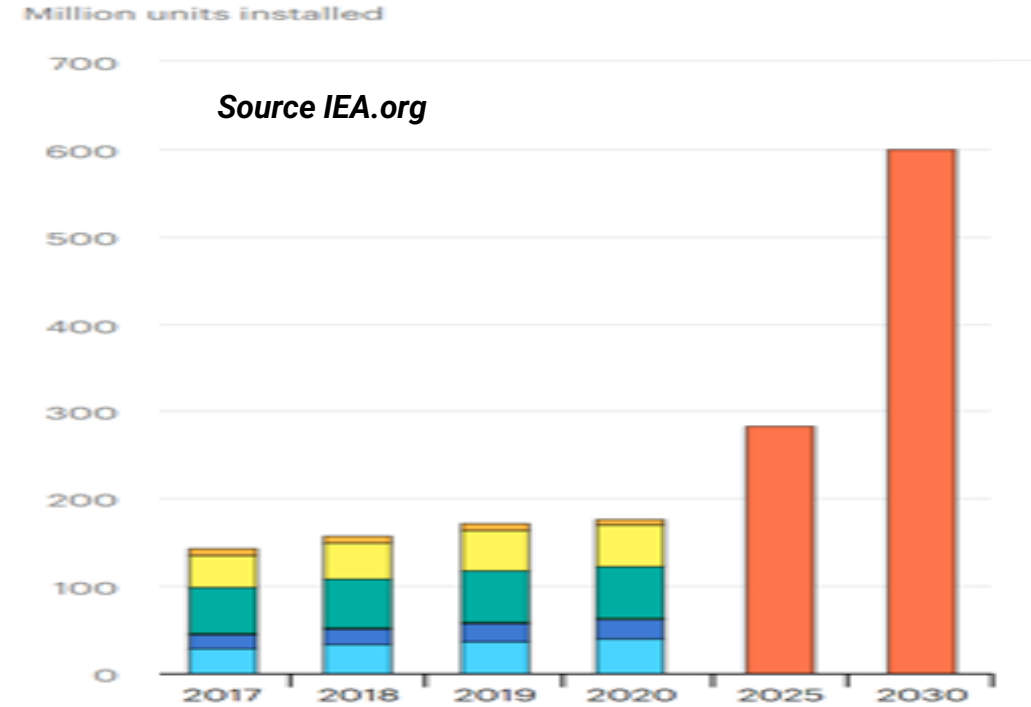
Market Opportunity

Heat Network Target for Scotland (TWh)



Source: Scottish Government Heat Network strategy

Global Heat Pumps



Source IEA.org

180 million Heat Pumps in 2020, increasing 10% per year over the past 5 years.

EU commission wants 30m heat pumps by 2030.

Market Opportunity

Heat Pumps

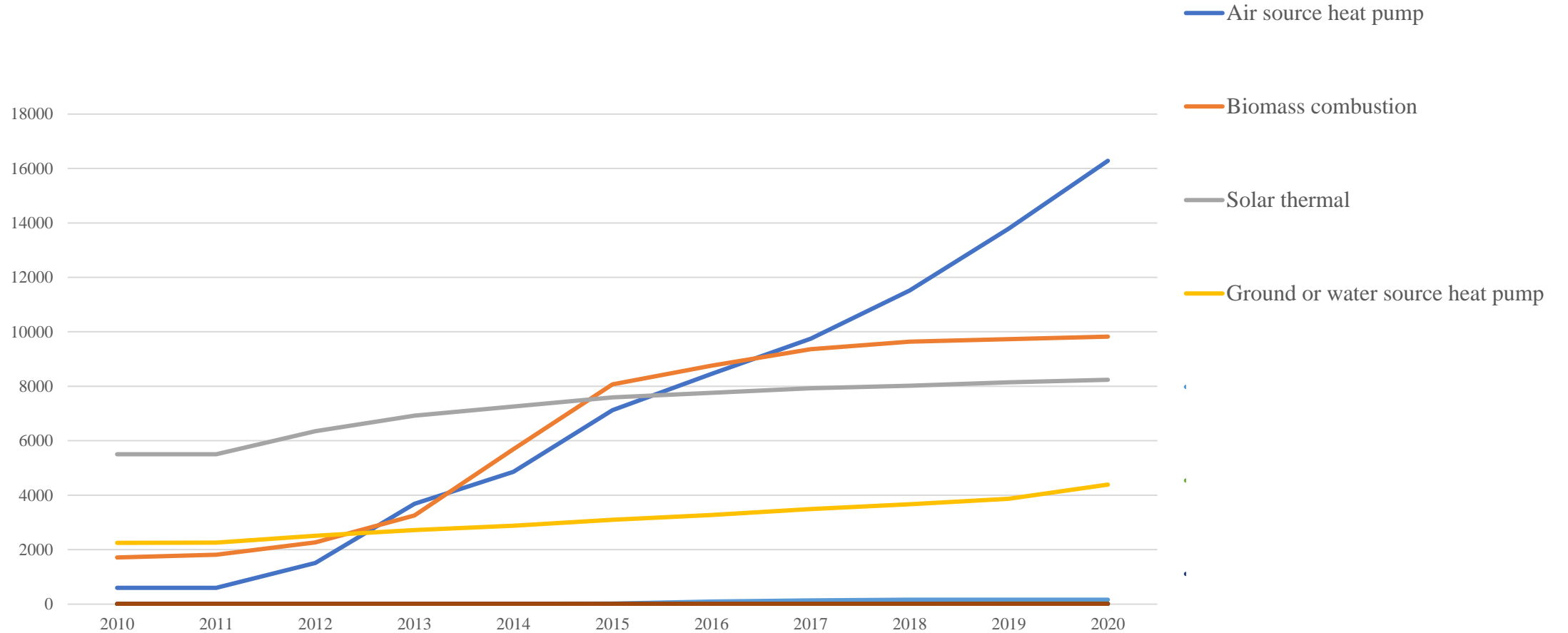
- 64,000 deployed each year by 2026
- £3.3bn cumulative expenditure to 2030
 - compressors £560m (17%)
 - control systems £360m (11%)

Heat Networks

- 6 TWh by 2030
- £6.5bn cumulative expenditure to 2030
 - insulated pipes £1.4bn (22%)
 - controls systems £0.8bn (13%)

Source: Ramboll for SE

Renewable Heat Installations Scotland



Pioneering Projects in Scotland

Hillpark District Heating (Glasgow)

UK's largest hybrid air sourced heat pump network replacing electric storage heaters in 7 tower blocks.

Queen's Quay (Clydebank)

Largest single heat network in Scotland - river-based heat pump that can heat 1200 homes & businesses.

AMIDS

Pioneering 5th generation district heat network using water from a sewage works outflow. Ambient heat is pumped round the network and boosted by heat pumps at each building.

Stirling Renewable Heat Project

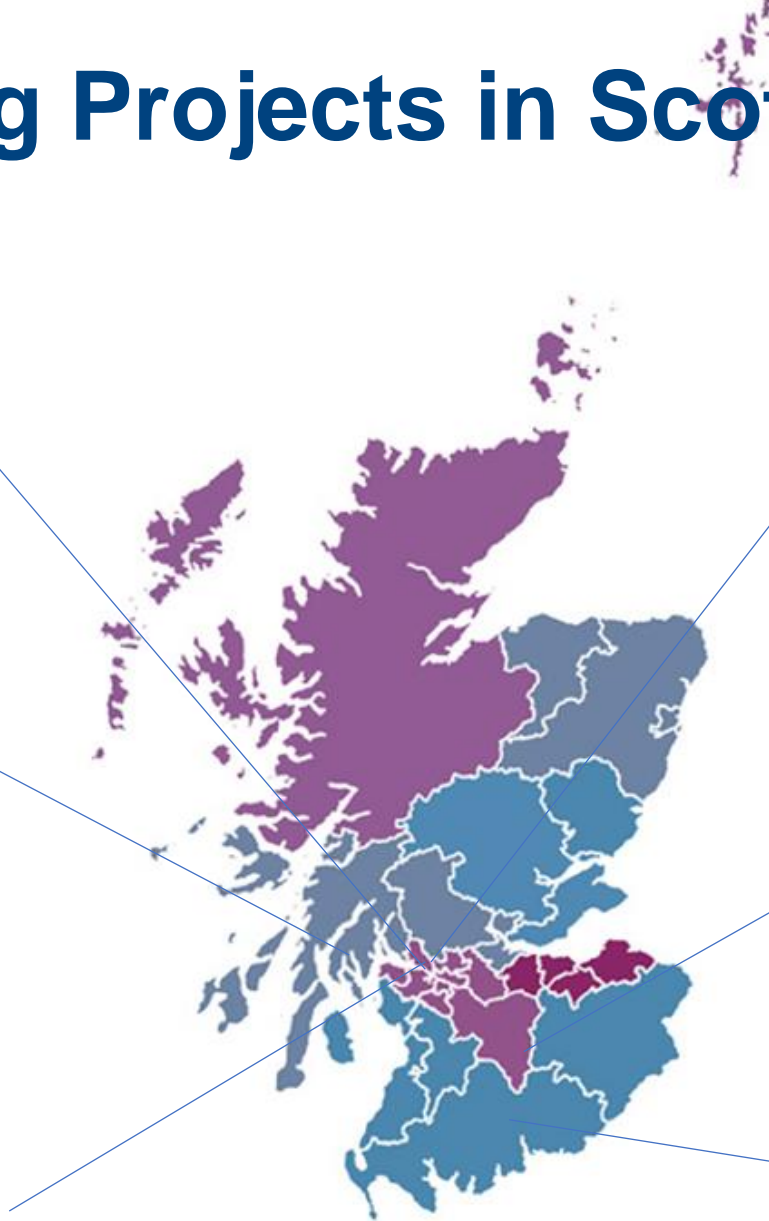
Pioneering district heat network to heat a leisure centre, school, sports stadium and offices.

EastHeat (Edinburgh)

Advanced heat battery thermal storage for 1000 tenants in over 650 homes.

Borders College (Galashiels)

Flagship heat from wastewater project, the first in the UK.



External Funding for Heat projects (£1.8 billion committed)

Heat Network Fund

£300m, capital projects, 50% funding

Heat Network Support Unit

www.heatnetworksupport.scot/

Home Energy Scotland

Loans and grants for homeowners eg £7,500 heat pump grant plus £2,500 loan

Plus Salix (public sector), CARES (community), Warmer Homes etc



Business Energy Scotland

- Support for business for to save energy and carbon
- Complete a form to request to speak to an advisor
- Business case studies
- Tools and guides (heat pumps, insulation, carbon footprinting, biomass etc)
- 1 to 1 energy efficiency support/ options appraisal
- SME loan fund (see over)



Visit the
**Business Energy
Scotland** website

SME Loans

**energy
saving
trust**

SME Loan Scheme

- Interest free loans up to £100k
- to install renewable heat systems for energy efficiency (insulation, solar pv, LEDs, ventilation)
- Plus cashback, max £10k for a heat pump

**administered
by Energy
Savings Trust**

SE's Green Heat National Programme

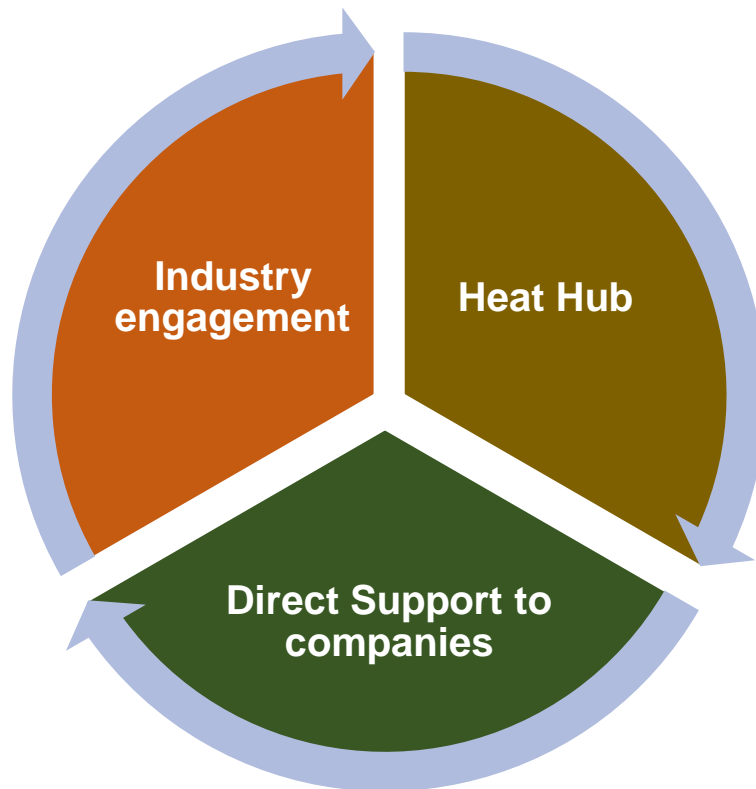
To maximise the economic benefit to Scotland from the green heat transformation

HeatSource

Built Environment – Smarter Transformation

To raise awareness of the market opportunity.

Connect companies, academics, public sector and investors. A focal point.



Green Heat Hub Grand Challenge

To position Scotland as the lead UK location for low carbon heat manufacturing.

Pull together industry leadership, collaboration, inward investment, demonstration projects, support the supply chain.

Business Support and Advice, Investment, Innovation funds, Export advice, Inward Investment

Coming soon – for heat innovation

Clean Energy Transition Partnership (Scotland - £4m for heat)

- Pan- European programme
- £2m for first call on heating and cooling solutions
- Innovate UK are part of partnership (but no initial funding)

Horizon Europe calls

SE can support companies to find partners and with their applications

Developing an Innovation Programme

Discussions ongoing with Scottish Government about launching innovation calls and other support for decarbonising heat



The [Scottish Industry Directory](#) is an online gateway to connect buyers and sellers and demonstrate Scotland's capability in low carbon heat.

367 companies:

- Installers and service
- Specialist contractors
- Energy efficiency installation
- Technical, professional services
- Low carbon fuel supply
- Manufacture



What next?

- Sign up to our Low Carbon Heat Newsletter – email me for a link – neil.kitching@scotent.co.uk
- Check your company is on the Scottish Industry Directory www.directories.scot
- Visit our website – search “Low Carbon Heat Scottish Enterprise”
- Visit and sign up to www.heatsource.org
- At the end of this programme, there will be an opportunity to meet and engage with various Scottish Enterprise specialists



Cala Homes - Scotland

Green Heat & Renewable Strategy

Current Position – SAP 2012

At present we have two main strategies for Heating and DHW provision to our homes in Scotland.

- Hybrid Air Source Heat Pumps (Monobloc ASHP's and Gas Boiler).
- Gas/PV (Boiler providing heating and top up to DHW).

Reasoning:

- SAP Rating
- Cost
- Grid Capacity
- Customer Perception



Future Position – SAP 10

Heating and DHW Post December 2022 Regulation Changes:

- Standalone Heat Pumps (Air or Ground Source).
- Gas/PV+. (Additional technology required i.e WWHRS)
- District Heating?

Cala pledge to remove gas from the equation entirely on sites starting after January 2024 across the UK.





Challenges & Considerations



Customer Perception



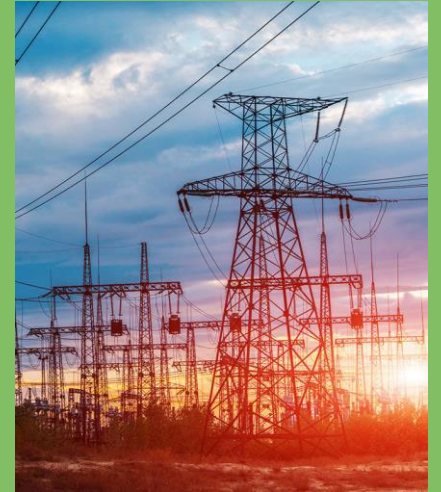
Installer Understanding



SAP Rating



Fire Testing



Grid Capacity



Opportunities & Engagement

- Previous points must have been considered and resolved.
- Ability to supply and support products nationally.
- Cala Values: Passion, Delivery, Quality and Respect.
- Contact our Central Design Team with any initial enquires : groupdesign@cala.co.uk or catch me later in the day.





Thank you

Ferguslie Park Housing Association





Federation of
Local
Associations in
Renfrewshire -
iFlair

8 Housing Associations 3 Local Authority Areas 10,000 Homes



Association	Stock
Barrhead	931
Bridgewater	846
Cloch	1,368
Ferguslie	803
Linstone	1,585
Oak Tree	1,735
Paisley	1,174
Williamsburgh	1,621
Total	10,603

October 2022
Gavin Johnston

National Targets Net Zero Carbon Emissions

01

Net Zero Emissions of **All Greenhouses Gases** by 2045



02

Comprehensively retrofit **60%** of the current housing stock



03

Decarbonisation of the grid




Sustainable
Development Goals

611,320
Housing Association
Dwellings

318,369
Local Authority Dwellings

Housing Associations
contributed **£1.64bn**
to Scottish Economy in 2014.
Projected to rise to
£2bn

Average iFlair income is
£40m



80%

of existing stock will still
be standing in 2050


64%

of domestic energy
use is gas

We have to comprehensively retrofit 60% the current housing stock to meet targets.

This equates to


35 million
homes in 30
years



833,000 per year
3,307 per day



£25,000
per unit



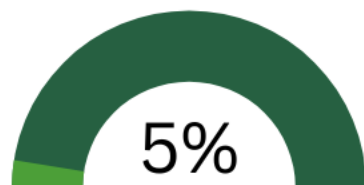
60%

of domestic energy use
is space heating

Challenges – National Targets Fuel Poverty

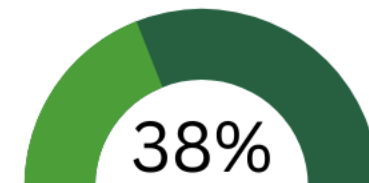
Target - 2040

No more than 5% of households should be in fuel poverty



Current - 2020

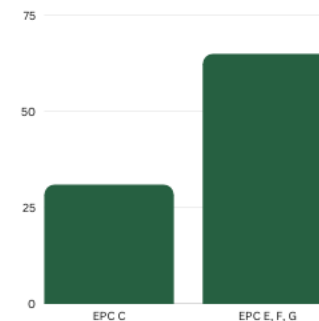
On average 38% of social renters are fuel poor, representing 41% fuel poor households in Scotland



No more than 1% of households should be in extreme fuel poverty

1%

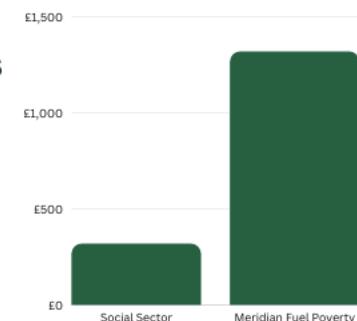
Social rental sector 31% of all households in EPC C or higher are in fuel poverty while the number climbs to 65% for those in EPC E F or G.



The median fuel poverty gap of households in fuel poverty is no more than £250 in 2015 prices before adding inflation



The social sector the median fuel poverty gaps are £320 and £1,320 respectively. Based on 2015 prices



Bruntwood



Q&A and discussion

