



EnergyBox - The Innovative Low Carbon Heat System



# Low-Carbon Technology Makes Sense..



**There's never been a better time to think about on site renewables**



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Low Carbon Heat Networks

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# The Clean Heat Challenge

## The Problem

- **High-Cost Heating** - “the New Normal”

Heating accounts for 40% of buildings’ energy use and 17% of UK’s carbon emissions.

- **Energy Insecurity**

Fossil Fuel supply chain disruptions, impacts heat availability

- **Carbon Emissions**

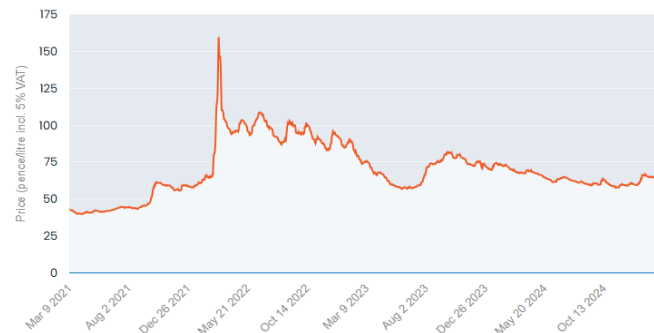
Rural oil-heated homes produces average of **5.5 Tg** CO<sub>2</sub> per annum

## The Opportunity

- **Net-Zero Target** - decarbonising community heat networks
- **UK homes off-gas grid** – over 2 million - a £multi-billion transition market
- **UK Initiatives** - £450 million Boiler Upgrade Scheme - a catalyst to heat pump adoption
- **Leave No-One Behind** – Rural communities need to benefit

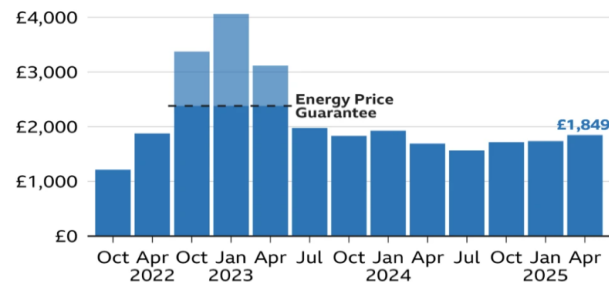
Today's PPL for 1,000 litres of heating oil

viewing 4 years



### How the energy price cap has changed

Typical household's energy bill\*



\*For a typical household on a price-capped, dual-fuel tariff paying by direct debit

Source: Ofgem

BBC

# EnergyBox – The Journey

## Stage 1 – Off-Grid Community Heat Network Investigation

Energy  
Assessments

Toolkit  
Development

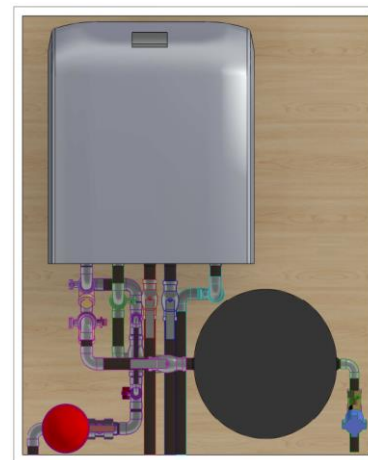
Borehole  
Tests

EnergyBox  
Technical  
Specification

EnergyBox  
CAD Model

Low Carbon  
Heat  
Webinars

Industry  
Engagement



# Innovation by Design - National Manufacturing Institute Scotland (NMIS) & RG Luma

## Stage 2 - “Design for Manufacture” Finite Element Analysis & Manufacturing Process Study

- Condition 1: System is under its own weight. (50L buffer tank is full)

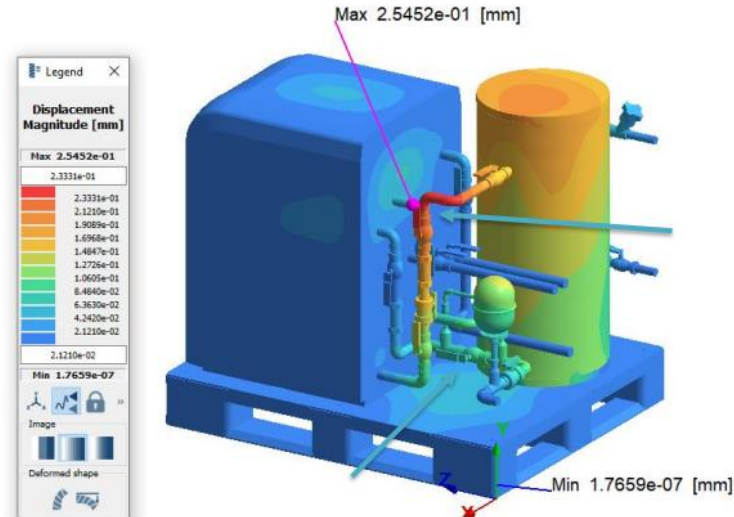


FIGURE 16: DISPLACEMENT IN CONDITION 1

- Condition 3: System lost one of the slings.

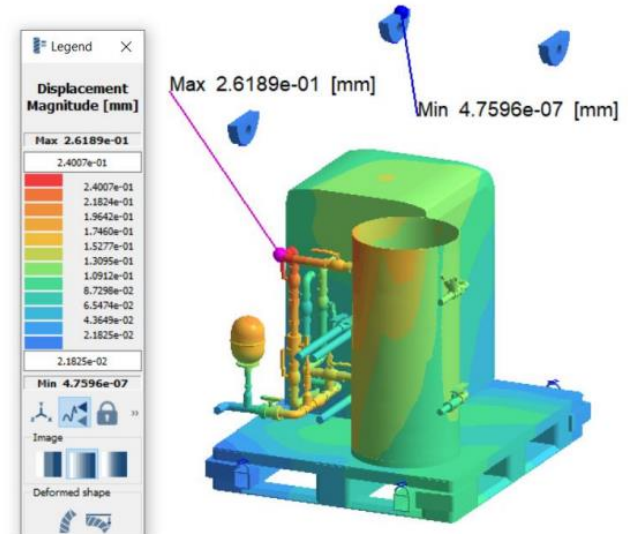
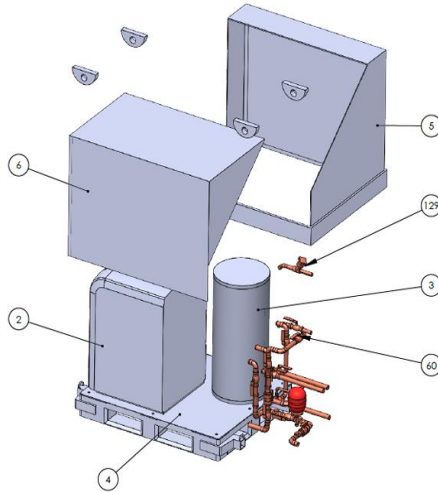


FIGURE 21: DISPLACEMENT IN CONDITION 3

# Innovation Matters...

## The EnergyBox

Efficient Ground Source Heating in a pre-assembled, sustainable enclosure



### Product USP

- “**Drill and Complete**” Strategy - Reduce Time & Cost
- Plug & Play installation
- Open Source Monitoring
- Sustainability – Maximise Recycled Materials
- Scalable: Variable heat capacities
- Dedicated or manifolded heat supply
- Trademark Application Filed



# EnergyBox: A Commitment to Clean Heat Delivery

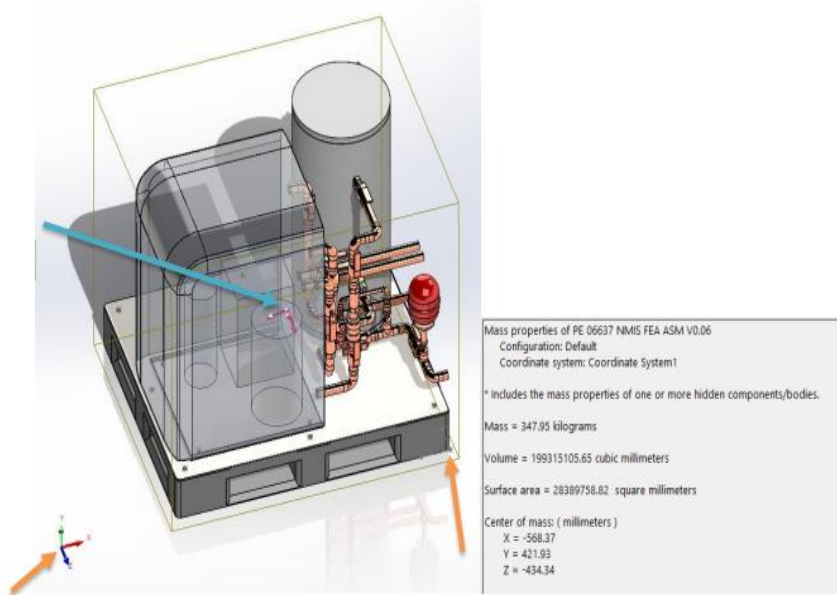
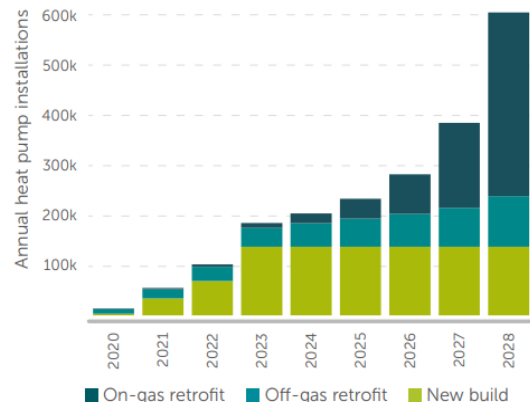


FIGURE 7: CAD MODEL V0.06/FEA MODEL V0.8 (ENERGY BOX MODEL- ENCLOSURE HIDDEN)

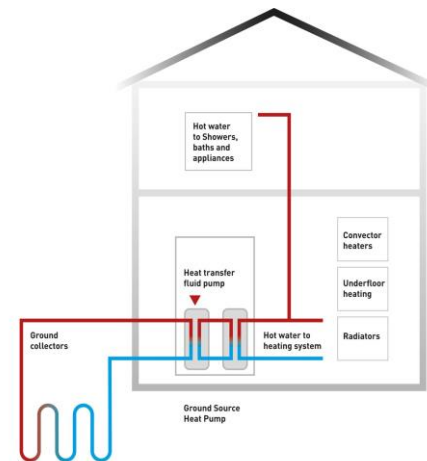
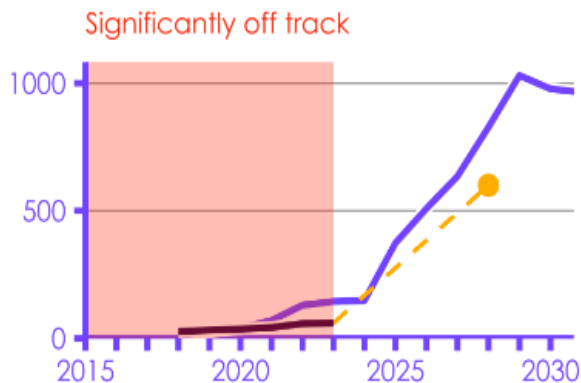


# Clean Heat Solutions – Off Grid Low Carbon Heat Network Market

How domestic heat pump installations might increase to 2028



Heat pump installations (residential)(thousands)



- Heat pump installation rate to increase by **factor of 10** from 2023 levels to meet UK Govt target of **600,000 units per year** by 2028

- 16% of UK households use heat pump as primary heating equipment, adoption levels identical across all income levels
- Almost all **new build homes** need to switch to heat pumps at current rate of replacement of off-gas boilers

- Most cost effective** over time and most **environmentally friendly** form of any heating and cooling system available today
- Heat pumps** provide high user satisfaction and comfort

## Key Customers - B2B



## Memberships – B2B



# Find out more...

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**Website:** [www.pureenergyuk.com](http://www.pureenergyuk.com)

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