Heat Network Government Financial Support

Dr Joel Hamilton PhD MEng
Heat Networks Delivery Unit, BEIS
Decarbonisation of Heat

Figure 3: UK carbon budgets and 2050 target

- Base Year: 3.016 Mt (35% lower)
- First carbon budget (2008-12): 2.782 Mt (37% lower)
- Second carbon budget (2013-17): 2.544 Mt (37% lower)
- Third carbon budget (2018-22): 1.950 Mt (51% lower)
- Fourth carbon budget (2023-27): 1.725 Mt (57% lower)
- Fifth carbon budget (2028-32):

Source: UK legislation; BEIS

NET ZERO

BEIS (2018), Clean growth: transforming heating - overview of current evidence, Report
Decarbonisation of Heat – the role of heat networks

... currently only 2% of UK heat is supplied by Heat Networks!
Government support for heat networks

• Heat Networks Delivery Unit (HNDU)

• Heat Networks Investment Project (HNIP)

• Previous: Heat Network Innovation Programme

• Indirect:
  • Industrial Heat Recovery Support Programme (IHRS)
  • Industrial Energy Transformation Fund (IETF)
  • Investor list

• Non-Financial Support
  • Industry led schemes: Heat Trust and technical Code of Practice
  • Heat Metering & Billing Regulations
HNDU & HNIP Separation

HEAT NETWORKS DELIVERY UNIT (HNDU)

ENERGY MAPPING & MASTERPLANNING

Short- and long-term strategic heat network masterplanning

TECHNO-ECONOMIC FEASIBILITY

Detailed technical appraisal and economic viability assessment

DETAILED PROJECT DEVELOPMENT

BASELINE ACTIVITIES
Commercial modelling, legal structuring, financial modelling, procurement strategy, business case

HEAT NETWORKS INVESTMENT PROJECT (HNIP)

COMMERCIALISATION

Development of Heat Network IT specifications

FINANCE
Finance, procure, negotiate contracts

CONSTRUCTION
Financial Core - Break Even

OPERATION
Build & Commission

Operate & Maintain. Possible refinancing, acquisitions, aggregation, unbundling

EXTERNAL PROJECT MANAGEMENT SUPPORT

ADDITIONAL ACTIVITIES - Further technical de-risking, detailed design and/or work required to meet local planning conditions

Preferred Option(s)

Multiple Options
Heat Networks Delivery Unit (HNDU)

- Established 2013

- Ninth round of development funding
  - ERYC funded in Rounds 2 and 8

- ~£20m in grants

- 50%-67% funding available

- 140+ Local Authorities

- 220+ projects / 500+ project opportunities
Heat networks investment project (HNIP)

- Investing £320m in heat networks to 2021
- Aims to unlock £1bn of investment
- 16-17 Pilot: £19m invested in 8 projects

Main scheme
- Open to all applicant types
- Grants and loans (up to 50%)
- Delivery partner: Triple Point
HNIP aims and objectives

- To help create a self-sustaining heat network market

Increasing the **volume** of strategic, optimised and low carbon heat networks that are built in the UK

Improving the **quality** of heat networks to meet local community and consumer needs

Building the **capacity and capability** of project sponsors and the supply chain in order to develop systems of the right type and quality
Previous: Heat Network Innovation Fund

- £7m Innovation fund (£6m awarded)
- Key objectives included:
  - support the deployment of low carbon heat networks out to 2050;
  - demonstrate the successful integration of innovative technologies and techniques on heat networks;
  - provide real world evidence on reducing costs and improving energy efficiencies;
  - improve the customer experience of heat networks; and
  - increase Government's understanding of heat network innovators and the heat network technology supply chain.
Previous: Heat Network Innovation Fund

• Topics:
  • Solar thermal, heat pump, PV and thermal storage integration
  • Ambient loop / 5G
  • Automated optimisation
  • Seasonal storage
    • Air source heat pump in summer to borehole for ground source in winter
  • Deep geothermal
  • Mini BEMS
  • Heat metering and insources billing
Indirect Funding

• Funding that could be used to supply energy to heat networks

• Industrial Heat Recovery Support Programme (IHRS)
  • Supports recovery of industrial waste heat
  • £18m fund
  • Feasibility studies and implementation

• Industrial Energy Transformation Fund (IETF)
  • £315m
  • Under development – Watch this space!
Non-Financial Support

• **BEIS offers guidance and reviews published material**
  - Code of Practice

• **Heat Trust**
  - Launched in November 2015
  - Common standard in the quality and level of customer service
  - Provides an independent process with the Energy Ombudsman for settling complaints
  - Managed by Heat Customer Protection Limited – a not-for-profit company.
Conclusions: Government support for heat networks

Why?
• Net Zero
• Heat accounts for 37% of UK carbon emissions
• Route to decarbonising heat

How
• Heat Networks Delivery Unit (HNDU)
• Heat Networks Investment Project (HNIP)
• Previous: Heat Network Innovation Programme
• Indirect:
  • Industrial Heat Recovery Support Programme (IHRS)
  • Industrial Energy Transformation Fund (IETF)
• Non-Financial Support
Questions and Answers