



HEAT NETWORK EFFICIENCY SCHEME





HEAT NETWORK
EFFICIENCY SCHEME

2 years on: Heat Network Efficiency Scheme (HNES) Successes and Stories



Welcome



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Please mute microphones to limit disruption



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Please ask questions using the Q&A functionality



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Agenda



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Session	Presenters
Introduction	Alex Trebowicz, Head of Capital Schemes, Heat Networks, DESNZ
HNES: Overview, Success and Future	Louise Singleton, HNES Programme Manager, Gemserv
Funded Project: Hull Royal Infirmary District Heating Network	Marc Beaumont, Head of Sustainability, Hull University Teaching Hospitals NHS Trust
Funded Project: Church Elm Lane	Greg Falder, Heat Network & Energy Manager, Southern Housing
How you can benefit from HNES funding	Katy Ansari, HNES Relationship Manager, Gemserv
Q&A	All



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Introduction

Alex Trebowicz, Head of Capital Schemes, Heat
Networks, DESNZ





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HNES: Overview, Success and Future

Louise Singleton, HNES Programme Manager

Aims and Objectives of HNES

1. Reduce carbon emissions by making heat networks more efficient
2. Reduce customer detriment to improve consumer confidence
3. Help prepare the heat network market for sector regulation and technical standards



What HNES has achieved so far...

233

Heat network projects funded

Capital and revenue funding awarded

£34.8M

43,000+

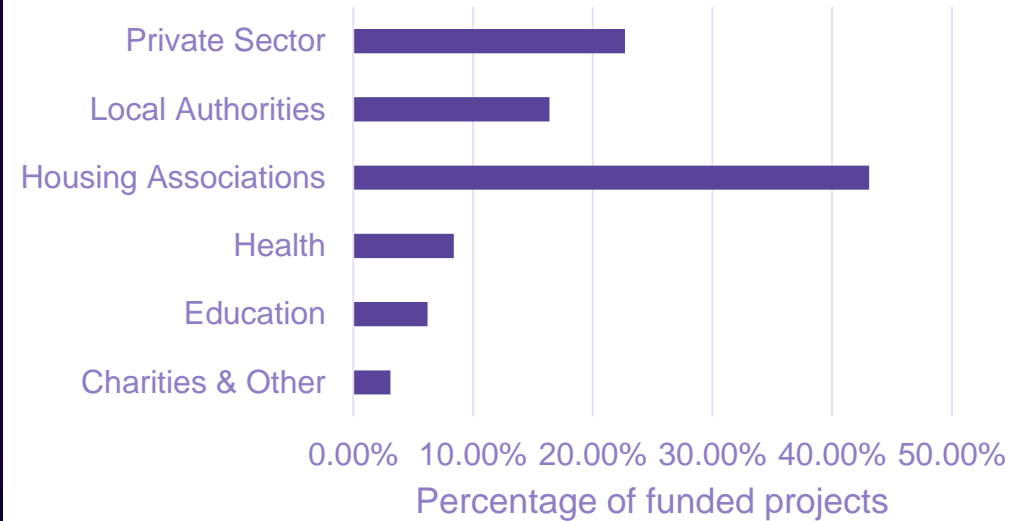
Residents benefitting

One-way flights from London to New York worth of carbon emissions saved

36,480

Averaged over 40 years

Percentage of Funded Sectors



Private Sector includes resident associations



Funded Projects

176

Heat network
projects funded

Revenue Projects



£3.44M

Funding Awarded

57

Heat network
projects funded

Capital Projects



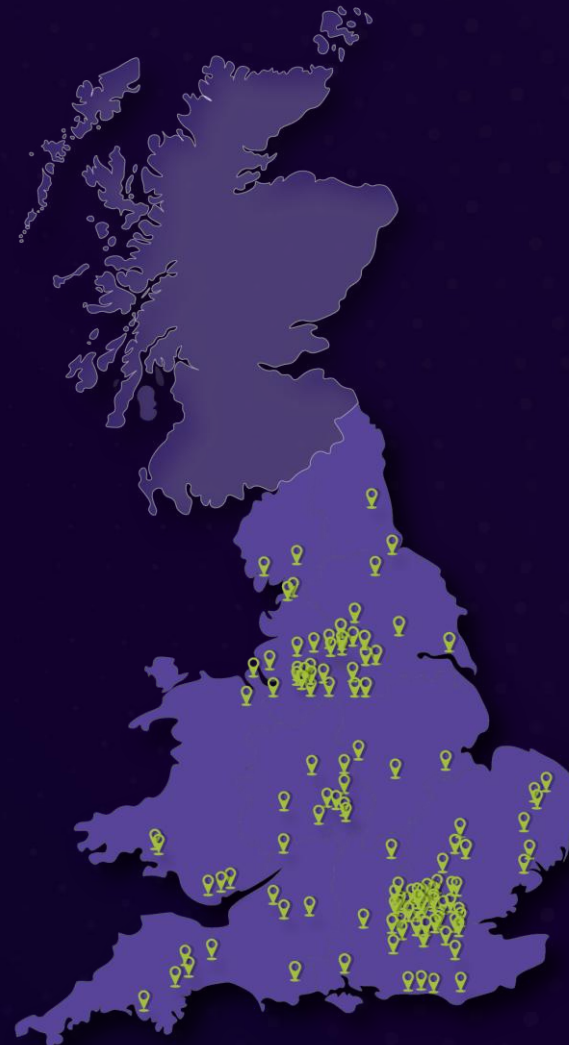
£31.37M

Funding Awarded



What has been funded and where?

Upgrading pipework	Improving insulation
Updating controls	Replacing HIUs
Improving water quality	Reducing leaks





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Round 6 Successful Projects

£2.7
million
awarded

33
heat
networks

Set to
benefit
1,945
residents



Future of HNES

1. Funding available out to FY27/28
2. Funding Round 9 closes 28th March 2025
3. Further funding rounds planned, with dates to be announced
4. Upcoming HNTAS requirements will require many heat networks to improve their performance



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Funded Project: Hull Royal Infirmary District Heating Network

Marc Beaumont, Head of Sustainability,
Hull University Teaching Hospitals NHS
Trust



Heat Network Efficiency Scheme & HUTH's Progress

Marc Beaumont
Head of Sustainability
Hull University Teaching Hospitals NHS Trust

Hull University Teaching Hospitals NHS Trust

- Large acute teaching hospital
- Two main sites
- 8,400 WTE
- Provides urgent, general and specialist services to 1.25M people
- 1,300 beds
- Now part of Humber Health Partnership



Castle Hill Hospital



HNES Process

- Application process
 - Access to relationship manager
 - Simple application form
- Reporting requirements
 - Monthly during project delivery
 - Quarterly for 24 months following completion

HUTH's bids

- Two bids
- Steam systems
- Upgrade of aging and failed insulation
- New heat metering

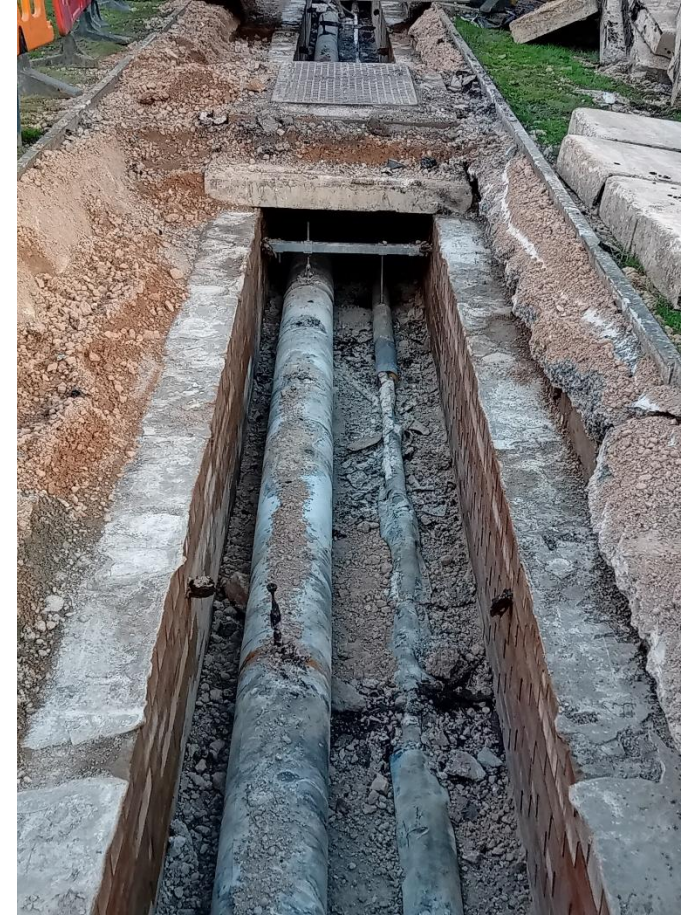
HUTH's bids

- CHH bid
 - Total cost £309,883
 - Grant funding £147,139
- HRI bid
 - Total cost £222,918
 - Grant funding £104,242

Previous Condition



During Replacement



Post upgrade



Post upgrade



HUTH Issues

- Costs Higher than projected
- Condition of pipework and infrastructure
 - Failed brackets and valves
- Asbestos delays
- Civils delays due to access
- **Buried services give unexpected issues**

HUTH Achievements

- 1,880 Meters of pipework insulated
- 22 Heat meters fitted
- Energy Savings are still being calculated due to project only completing in December 2024.

Questions?



www.zero30.uk



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Funded Project: Church Elm Lane

Greg Falder, Heat Network & Energy Manager, Southern Housing



Church Elm Lane HNES funded capital works project

SOUTHERN HOUSING

CREATING
COMMUNITIES
TOGETHER

Contents



- Why HNES funding was needed
- benefits that this has provided for the heat network and residents connected to it.

Profile



- 82 Dwellings
- Tenure: General Needs housing
- Constructed: 2014
- London Borough: Barking & Dagenham



Process



December 2021:
Low heat network
efficiency identified through
benchmarking

March 2022:
HNES Demo
funded
optimisation
study

May 2023:
HNES
Round 4
capital
works
application

March 2024:
Capital works
programme
completed

March 2024
onwards:
Monitoring
& evaluation



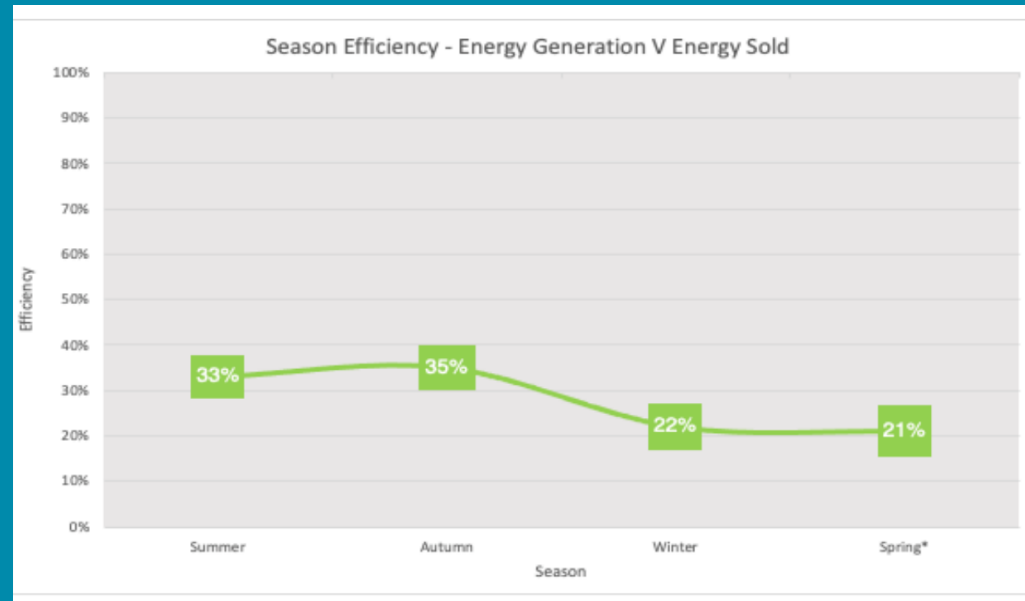
Heat Network efficiency



Benchmarking and identifying inefficiency

Southern Housing Group's sustainability team identified Church Elm Lane as an underperforming heat network during calculation of the tariff and through benchmarking. In 2022 around 765,000kWh of gas was needed to deliver 180,000 kWh heat.

Church Elm - Energy Statistics			
Energy generation (gas in kWh)	Heat and hot water consumed (kWh)	Total energy lost (kWh)	Efficiency (%)
765376	179561	585815	23%



Heat Network efficiency



Cost of heat

The issues with efficiency at Church Elm Lane led to higher heat tariffs relative to other heat networks with a similar gas input price.

Following a hike in gas prices in 2022 the cost of heat quickly became unaffordable with higher incidences of complaints and fuel poverty.

Site	2022 Tariff (p/kWh)	2023 Tariff (p/kWh)
Church Elm	10.37	32.31
Fulneck	7.33	
BRV1	6.79	
Dalmeny Ave	6.11	
Dace Road	5.9	
Kidbrooke	5.88	
Pankhurst	5.88	
The Fairings	5.53	
BRV2	5.35	
Cranmere Court	5.26	
Cyprus St	4.36	
Humphreys	4.23	
Knights Rd	4.22	
Vega	4.21	
Marsh Court	3.3	
Featherstone	2.71	

Optimisation study findings



The HNES funded optimisation study identified a range of issues, their cause and a programme of works to resolve

- Plant room
 - 23%-28% Heat network efficiency (usable energy ÷ energy input)
 - Flow/return ΔT of 4°C
 - Boilers unable to condense resulting in efficiency drop of around 10%
- Distribution
 - Block pumps on max speed and not modulating according to demand
 - Permanent bypass on risers
 - Large sections of uninsulated pipework
- Within dwellings
 - Poorly balanced radiators with inefficient heat transfer
 - Poorly located thermostats
 - Numerous quality issues with insulation and pipework
 - High levels of resident dissatisfaction and complaints

Capital works scope



The capital works programme was developed into a technical specification and tendered by in-house teams.

- Plant room
 - Recommission shunt pumps and circulation pumps
 - Recommission BMS
 - Rinse and dose system to improve water quality
- Distribution
 - Install differential pressure sensors to control block pumps
 - Fit CP1 compliant riser bypass
 - Re-insulate pipework sections and replace push fit pipework
- Within dwellings
 - Relocate thermostats
 - Install pre-settable TRVs and rebalance radiators
 - Replace heat interface units



Impact

Impacts are monitored against internal KPIs and through monitoring and reporting returns



Energy & carbon performance

- Average Winter-24 efficiency of 48%* against a target of 54%
- 35% reduction in baseline gas use
- 90 tonnes p.a. CO_{2e} reduction over baseline

Tariffs & affordability

- Immediate tariff reduction from 32.3p/kWh to 19.3p/kWh
- Further reduction from 19p/kWh to 12.7p/kWh
- Reduction in annual heating/hot water bill of around £325 over baseline, increasing to £490

Residents

- Much higher customer satisfaction with heating system
- Better engagement with metering and billing agent
- Positive impact on health and wellbeing

Summary

The Church Elm Project enabled by HNES capital works funding met internal KPIs and is considered a success

Key highlights included:

- 49% funded works programme
- 35% energy saving over baseline and 26% increase in efficiency
- Average investment cost of £4,500 per dwelling - which compares extremely well when benchmarked against other projects



Q&A





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How you can benefit from HNES funding

Katy Ansari

How much funding is available?

Revenue Grants

Full funding available for procurement or mobilisation of external third-party support to carry out Optimisation Studies.

These studies will assess heat network projects to identify causes of sub-optimal performance and recommend costed intervention or improvement measures.

Up to £2m across FY23/24 and FY24/25 plus further funding anticipated in FY25/26 and FY26/27

Capital Grants

Part funding
(up to but not including 50%)
available for the delivery (installation) of eligible intervention / improvement measures.

Up to £75m across FY23/24 to FY27/28

- Capital projects can apply for funding in FY25/26 and FY26/27
- Revenue projects can apply for funding in FY25/26, however FY25/26 funding is subject to availability
- Grant funding must be spent within its allocated financial year
- Match funding does not have to be spent at the same time as grant funding



Who can apply?

Operators of existing district heating networks or communal heating systems

Heat networks situated in England or Wales

Public sector, private sector or third sector organisations

Legal entities, with authority to sign-off investment decisions for the heat network they are responsible for



Funding round closing dates

Round	Last Day to Request a SharePoint Space	Closing Date for Applications
Round 9	21 st March 2025	28 th March 2025
Round 10	TBC	TBC

The following application forms are being used for Round 9:

- **Version 8.0** for capital applications
- **Version 6.0** for revenue applications

Guidance for Applicants document can be accessed [here](#)



Where to find help and support

- 🕒 Email hnes@gemserv.com for general enquiries and to request application forms and SharePoint spaces
- 🕒 Read our [HNES Guidance for Applicants](#) document for further detail on the scheme
- 🕒 Sign up to our [Mailing List](#) for the latest information and updates about the scheme
- 🕒 Read DESNZ's [optimisation guide](#) and watch these [heat network optimisation guidance videos](#) for helpful tips on how to improve your network



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Q&A

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