Department for Energy Security & Net Zero

HEAT NETWORK EFFICIENCY SCHEME

Heat Network Efficiency Scheme (HNES)

Scheme Overview

Funding to help improve existing district or communal heating projects

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The Challenge

The 2018 Competition and Markets Authority[1] found that although operational heat networks offer customers a cost-effective and efficient supply of heat compared to alternatives, some customers experience poorer outcomes in terms of price and service. Work undertaken by DESNZ has indicated that some existing heat networks in England and Wales are operating sub-optimally leading to customer detriment. In addition, the cost-of-living crisis has resulted in additional pressures on energy tariffs for some heat network customers, particularly where networks operate at lower efficiencies and increasing fuel costs are passed through.

Large scale investment is essential to the development of this market and HNES forms a key part of the Government's Heat Network Transformation Programme (HNTP) – this aims to continue to develop and grow the heat network market and to address some of the challenges of decarbonising the UK's heat sector.

The Heat Network Efficiency Scheme was launched to help improve existing heat networks by enabling optimisation studies to identify actions to optimise heat network operation and in the delivery of eligible intervention / improvement measures.

[1]Heat Networks market study: summary of final report - GOV.UK (www.gov.uk)
[2]Heat Networks Consumer Survey: consumer experiences on heat networks and other heating systems - GOV.UK (www.gov.uk)

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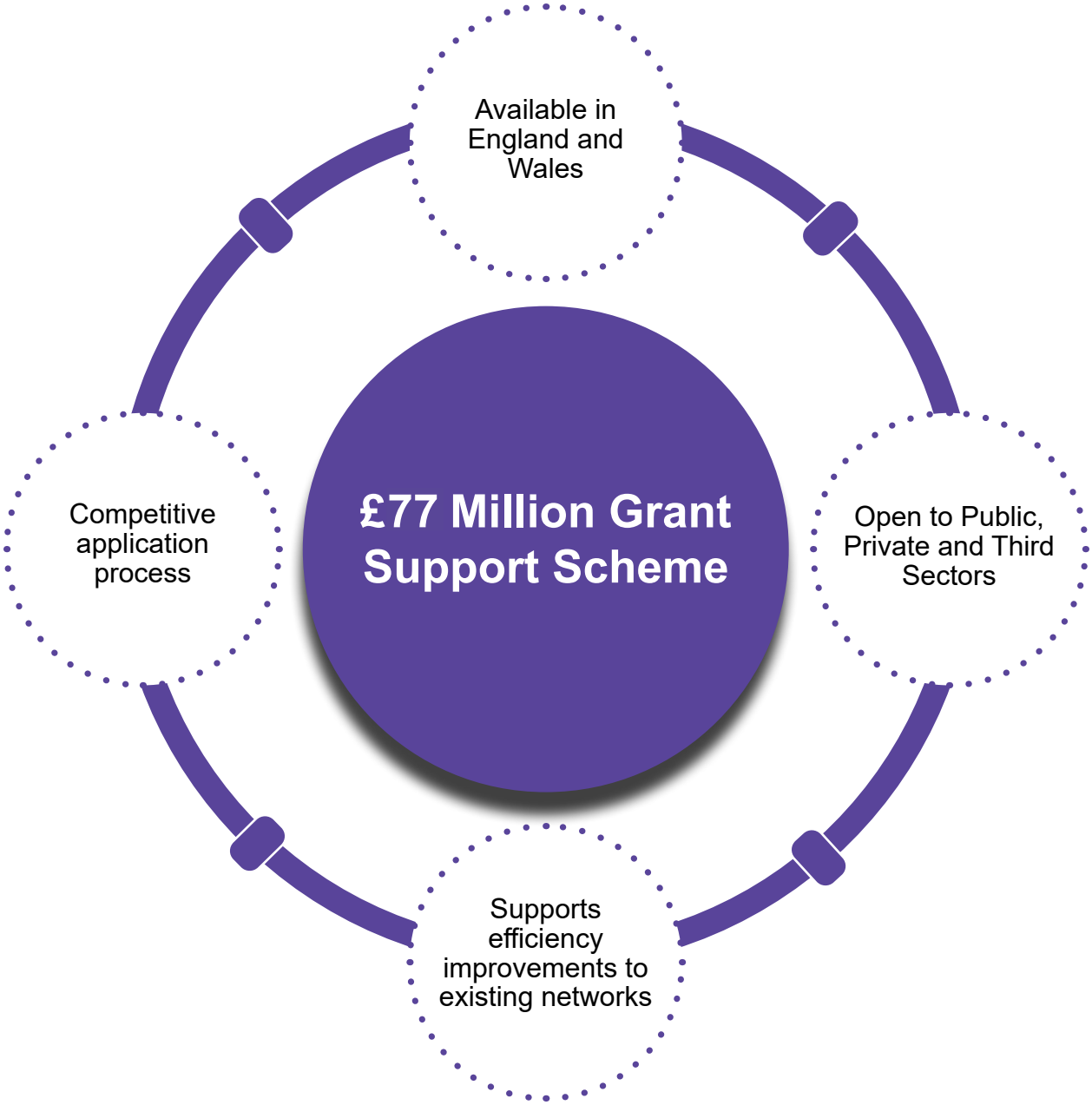
What is the Heat Network Efficiency Scheme (HNES)?

The aim of HNES is to improve heat network performance in existing/operational projects where customers and/or operators are experiencing sub-optimal outcomes. In particular, HNES focuses on addressing customer detriment as a way of supporting heat network consumers impacted by the cost-of-living crisis and the cost-of-energy crisis, with focus on where customer need is greatest. The grant scheme has proven extremely popular so far, and we have received many high quality applications which will deliver significant benefits for consumers, reducing cost and carbon emissions.



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HNES is open for applications from projects that will:

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

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Who Can Apply?

HNES is open to applicants that are responsible for operating or managing existing district heat networks or communal heating systems in England and Wales. This includes:

Public sector organisations including Local Authorities and other government departments.

Private sector organisations that are registered companies and submit annual accounts.

Third sector organisations such as registered charities, community investment companies and other such organisations that are officially registered and submit annual accounts.

Health and education sector organisations including NHS Trusts, universities and colleges.

Successful applicants will be the recipients of grant funding and will be responsible for ensuring that grant funds are deployed in accordance with the funding award, i.e., procuring or mobilising third parties to deliver the funded activities.

Applicants must be legal entities, with authority to sign off investment decisions for the heat network they are responsible for and instruct delivery of funded works. Individuals cannot apply to HNES.

Please refer to Section 2.1 of the Guidance for Applicants[3] document for further information.

- [3] Heat Network Efficiency Scheme (HNES): guidance for applicants (publishing.service.gov.uk)

What will HNES Fund?

Applicants can apply to HNES for either revenue grant funding or capital grant funding:

Revenue grants

- HNES budget up to £2m across FY23/24 and FY24/25, FY25/26 subject to budget availability.
- Funding is 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. Please see the Annex A of the guidance for more information.

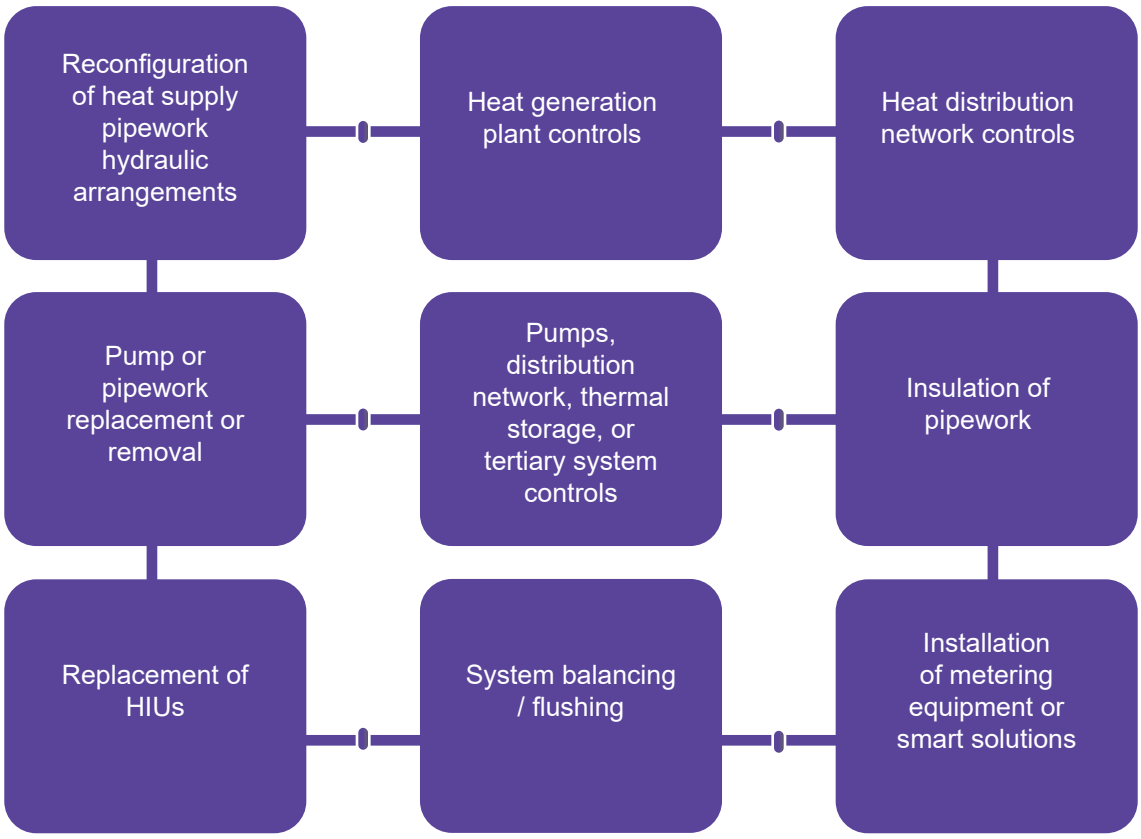
Capital grants

- HNES budget up to £75m across FY23/24 to FY27/28 subject to budget availability.
- Part-funding available for the delivery (installation) of eligible intervention/improvement measures.

Through these two grants, HNES supports existing/operational district heating or communal heating networks to:

- Identify improvement measures for addressing customer detriment and improving operational performance (revenue), or
- Address customer detriment and improve operational performance (capital).

Below are some examples of measures that may be eligible for support. A full list of eligible measures and ineligible costs is also provided in the HNES Guidance for Applicants document.



Applications can be made for projects that consist of different customer types (e.g., residential, commercial, or mixed), and there are no restrictions on the existing/operational primary heat generation plant (boiler, heat pump, CHP etc.). District cooling systems can be included within the scope of a project application, where improvements to these systems meet the HNES Objectives.

Level of Support

The funding can provide:

- Up to (but not including) 50% of eligible project costs (incl. non-recoverable VAT) for capital grant applications.
- Up to 100% of eligible project costs (incl. non-recoverable VAT) for revenue (Optimisation Study) grant applications.

HNES will typically fund between £15,000 and £24,000 (incl. non-recoverable VAT) per project for revenue grant funding applications, depending on the scale of each project for which the application is made. Applications for funding awards outside of this budget range may be submitted by applicants, but will need to include compelling justification as to why this is considered appropriate.

Case Study - Coventry District Energy Network, One Friargate (Revenue Grant study)

One Friargate is part of the Coventry District Energy Network, a district heating system powered by an EfW solution. The network provides communal heating, hot water, and cooling to several tenants within One Friargate.

Details of why the project was needed

With the building originally designed for single tenancy, its current multi-tenant use has exposed the limitations of the existing control and metering systems. This multi-tenanted building operation approach has revealed inefficiencies in heat distribution and control that have resulted in high energy costs and suboptimal operation.

Additionally, the low-temperature difference (dT) between the flow and return temperatures in the building's heating system indicates potential inefficiencies, necessitating a comprehensive optimisation study.

Recommendations proposed by the Optimisation Study

The optimisation study conducted by Hydronic System Optimisation Ltd (Hysopt) using their Hydraulic Digital Twin model resulted in the following key recommendations:

1. **Adaptation of Valves:** Replace all three-way valves at the absorption chillers and DHW calorifiers with two-way valves. This will convert the system from a constant flow to a variable flow installation, enhancing efficiency and reducing energy waste.

2. **BEMS Control Implementation:** Introduce new Building Energy Management System (BEMS) control over the low loss headers to minimise overflow and precisely control the primary and secondary flow temperatures. This will ensure the system meets the minimum boiler flow requirements while enhancing efficiency.

Proposed benefits if actioned

The recommended measures aim to transition the system from a constant flow to a variable flow installation, significantly reducing pump energy consumption and lowering the return temperature to the district heating network. This will help to reduce carbon emissions and ensure cost-effective heat delivery to end users.

Efficiencies gained from consultancy advice

The Hysopt study has provided a robust framework for understanding and addressing the inefficiencies within the One Friargate system. By using a digital twin model, Coventry City Council can preemptively assess the impact of any changes, ensuring that only beneficial modifications are implemented without unintended consequences.

Benefits to network customers

For the customers within One Friargate, the optimisation measures will result in lower energy costs and improved system reliability. Additionally, the reduced heat demand on the network will create opportunities for future connections, potentially benefiting other buildings and the wider community by facilitating a transition to low-carbon heating solutions.

Quote from Coventry City Council

"This study was vital for us to review our heating systems, improve their efficiency and ultimately cut down on heating costs.

"Using this model on the Friargate One, which is one of our larger buildings helped us identify areas for improvement and with further grant funding we can look to make those changes."

- Councillor Jim O'Boyle, Cabinet Member for Jobs, Regeneration and Climate Change

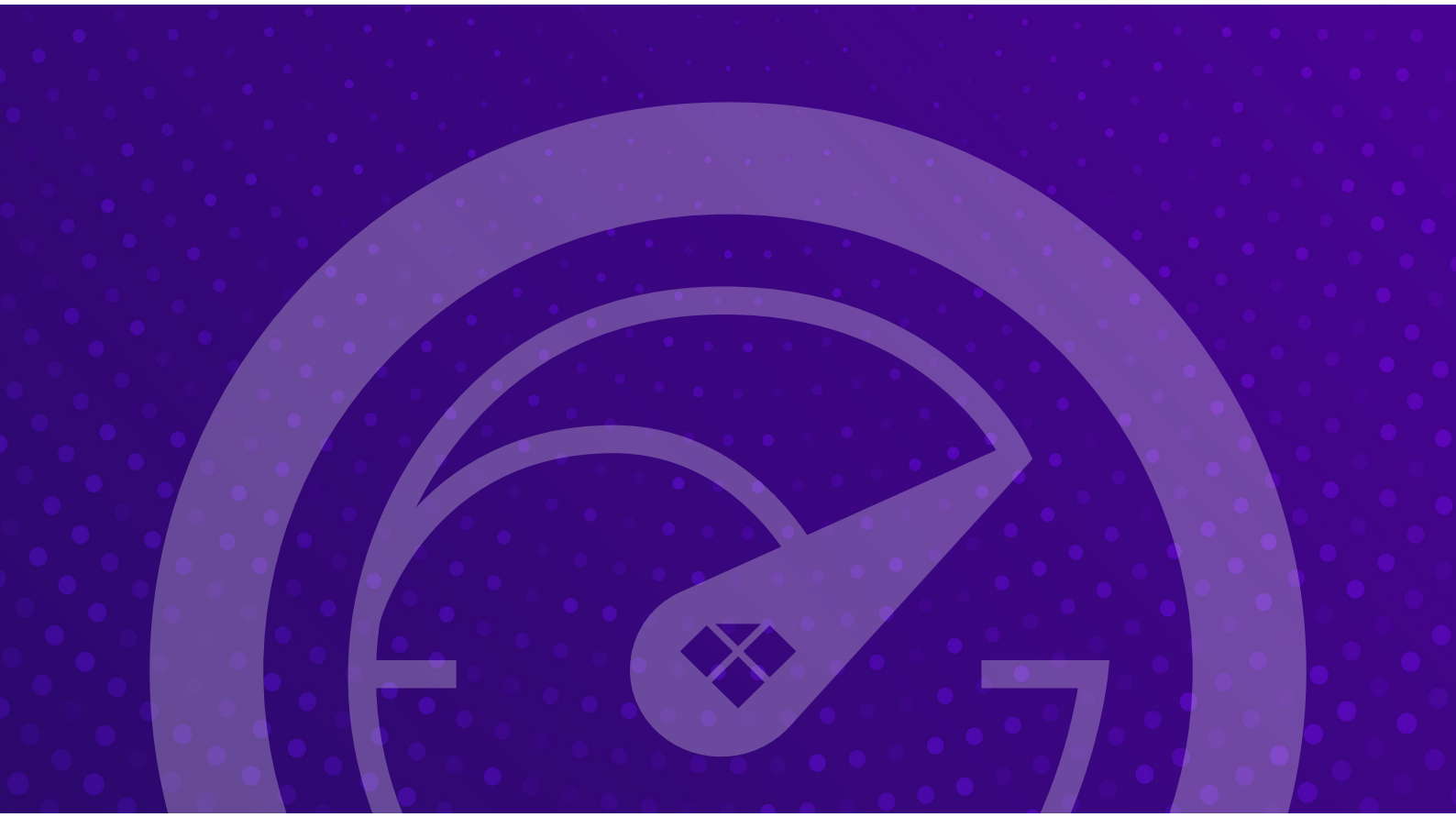
Assessment Process

Once projects have completed an application form and submitted this (with required supporting evidence), it will be assessed and scored against the HNES criteria by our technical assessment team.

Applications are awarded funding on a competitive basis. This means that even if an application meets all the eligibility criteria and scores well, there is no guarantee of a funding award. Funding will be allocated to maximise benefits and will prioritise projects which provide value for money and address:

- Customer detriment (prioritising projects with higher proportions of “residential customers in need”)
- Network operational performance (efficiency/losses) and deliver carbon emissions savings.

Details of the assessment process and criteria used are provided within Section 1.4 of the Guidance for Applicants document.



When can I apply?

HNES is a multiple-funding-round revenue and capital grant support programme with funding to be deployed from FY23/24 to FY27/28.

The timings of funding rounds are provided in the table below. Whilst we will endeavour to align rounds with these timings, changes could be made by exception. We will inform stakeholders via our mailing list of any changes to the submission dates[4].

HNES Funding Round	Funding Round Opening Date (date from which application forms can start being completed)	Funding Round Closing Date (final application submission date for inclusion in Funding Round assessment)
Round 10	4 August 2025	19 September 2025
Round 11	Expected to open 1 December 2025 (subject to budget availability)	Expected to close 6 February 2026 (subject to budget availability)
Round 12	Expected to open in March 2026 (subject to budget availability)	Expected to close in May 2026 (subject to budget availability)
Round 13	Expected to open in August 2026 (subject to budget availability)	Expected to close in October 2026 (subject to budget availability)

[4]Please contact hnes@gemserv.com to be added to the HNES mailing list.

Completing your application

Full details of the support available, the scheme criteria and the application process can be found in the HNES Guidance for Applicants that is available to download from the documents section of the HNES webpage on the GOV.UK website.

Our dedicated team is available to help guide you through the process and answer any questions you may have.

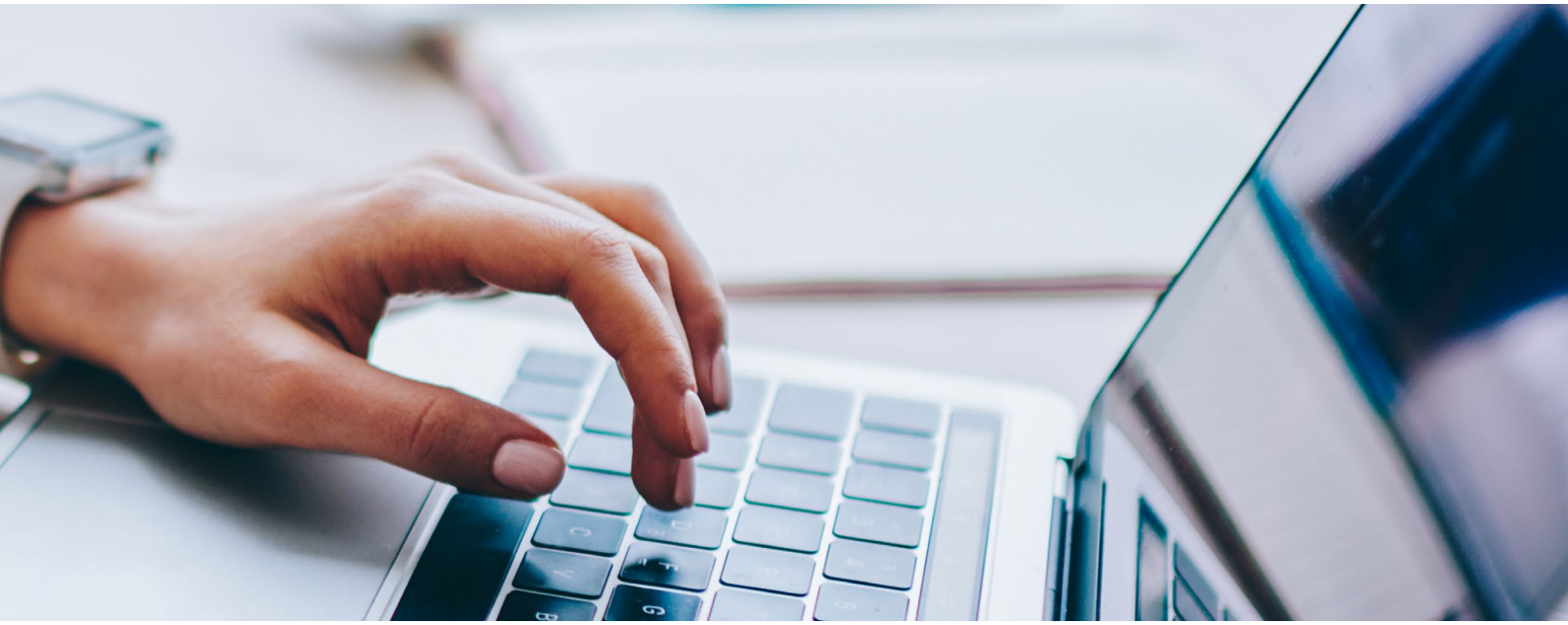
If you are considering applying for funding, please contact HNES@Gemserv.com with an overview of your scheme and an indication of which funding round you aim to submit an application. We recommend attending an application seminar and requesting a meeting with our relationship managers to discuss your application before preparing your submission.

Request the application pack and access to the online application form.

HNES@Gemserv.com to request the application pack.

Further Information

Should you or a colleague wish to join the HNES mailing list and be kept up to date with latest announcements, news and events, please email the HNES team via HNES@Gemserv.com. The HNES application guidance and relevant documentation can be found on the gov.uk website: Heat Network Efficiency Scheme (HNES) - GOV.UK (www.gov.uk)



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Case Study - Hull Royal Infirmary, Hull University Teaching Hospitals NHS Trust

Hull University Teaching Hospitals NHS Trust covers two main sites, and provides urgent, general, and specialist care to over 1.2 million people.

The Trust houses 1,300 beds. Therefore, reliable, efficient heating provision is critical infrastructure in such a large healthcare hub. Two bids were submitted to help improve the degrading heat networks serving both Hull Royal Infirmary and Castle Hill Hospital. These heat networks were becoming inefficient, with inadequate heat metering, and ageing and failing insulation.

Across both capital grant applications, HNES provided over £250,000 worth of support to Hull University Teaching Hospitals NHS Trust. This went towards the installation of 1,880 meters of pipework insulation and 22 heat meter installations. It is expected that the first years' worth of energy savings will be calculated at the end of 2025.

Upgraded pipework at Hull Royal Infirmary

Before

During

After

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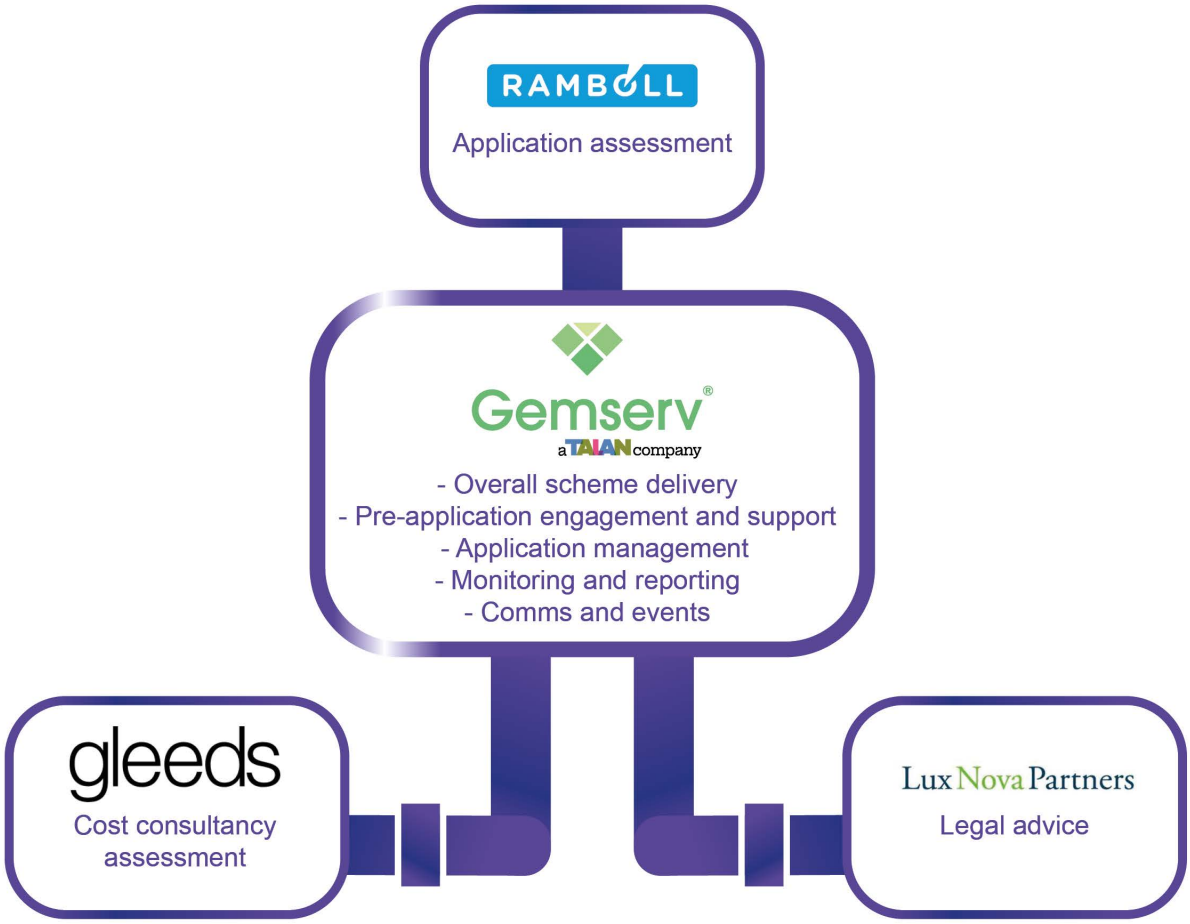
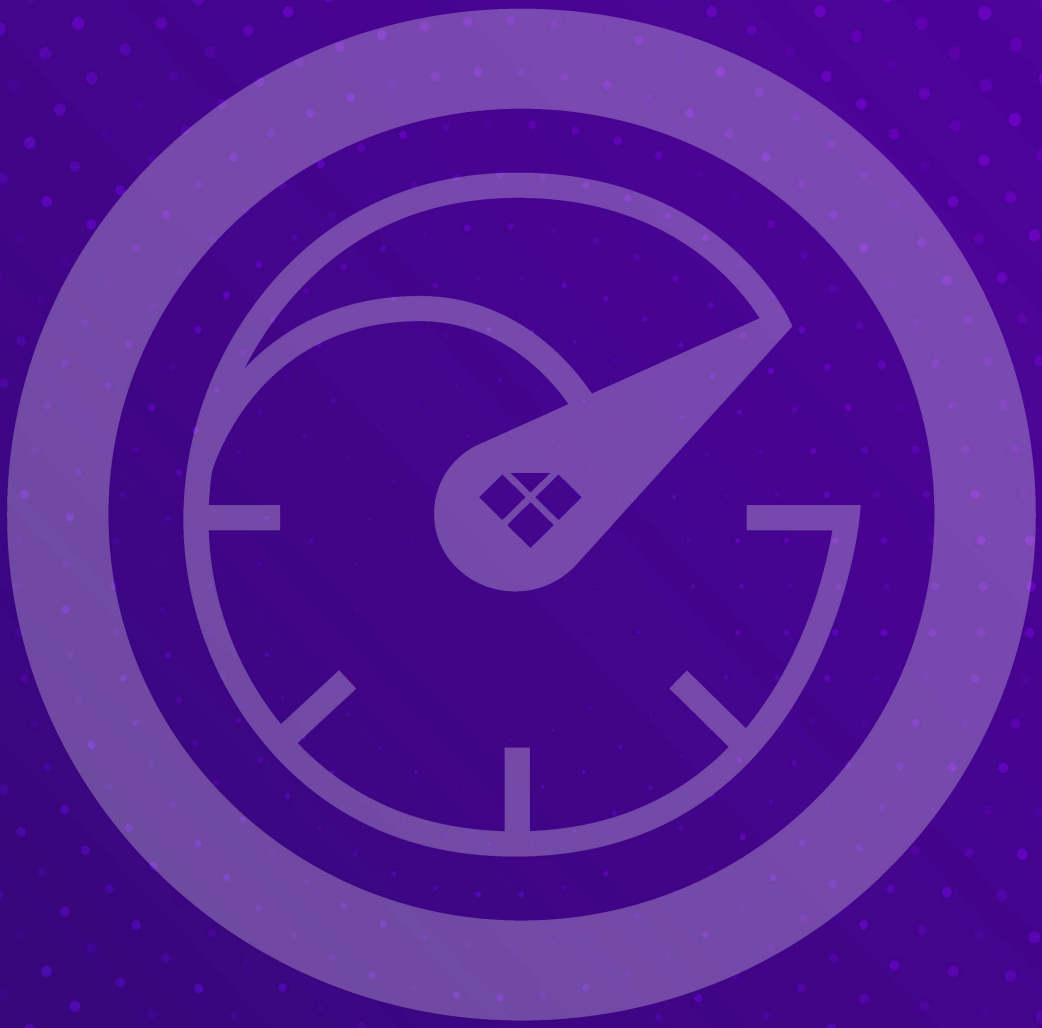
Who is running the Scheme?

Gemserv, a Talan company has been appointed by the Department of Energy Security and Net Zero as the HNES Delivery Partner, supported by Ramboll, Gleeds and Lux Nova.



More information about the HNES Delivery Partner team can be found on [Heat Network Efficiency Scheme HNES | Gemserv Delivery Partner]



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