Llywodraeth Cymru
Welsh Government

PUBLICATION, DOCUMENT

Public sector low carbon heat grant: guidance

Funding for low carbon heat solutions in public sector owned buildings.

First published: 1 October 2024

Last updated: 1 October 2024

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1. Introduction

This guidance has been provided alongside an application form for the Public Sector Low Carbon Heat Grant (PSLCHG).

The funding is available to public sector organisations with projects that are ready for implementation. It is intended for capital works associated with retrofitting low carbon heat solutions in non-domestic, public sector owned buildings.

This funding gives public sector organisations the support to implement low carbon heat projects as part of their journey towards achieving Net Zero.

Note: The funding is not available to Local Authorities or higher education bodies. Each of these may apply to the Local Authority Low Carbon Heat Grant or the Digarbon schemes respectively. Further education bodies may apply.

2. Grant objectives

The objectives of the Public Sector Low Carbon Heat Capital Grant are:

- To reduce carbon emissions as part of the drive towards achieving net zero
- To accelerate the transition away from burning fossil fuels for space heating and hot water
- To provide funding for low carbon heat projects, enabling schemes with challenging financial situations
- To encourage a whole building approach for low carbon heat
- To build capacity and capture learning within the public sector enabling low carbon heat to become business as usual

3. Timescales

To reflect the available capital and timeframe of the scheme there will be a single funding round: 30 September 2024 to 1 November 2024 (subject to change).

Funds cannot be rolled over into the next financial year. All eligible costs should be within the current financial year and spent by the 31 March 2025.

4.1 Application: approach

Application Types

There is a single application form, which allows for:

- Single year applications for financial year 2024 to 2025: projects are required to complete by 31 March 2025

It will not be possible to flexibly move allocated funding over from one financial year to the next. We expect single year applications to be completed within this financial year.

Up to 10 buildings can be added to a single application form. If you have more than 10 buildings, they will need to be split across multiple application forms.

4.2 Application: assessment

Applications will be reviewed on a 3 to 4 week basis. While funding will be

allocated on a first come, first serve basis in principle, limitations may be imposed on the scale of funding commitments, as well as a cap per organisation.

We envisage that application review meetings will be needed with applicants.

4.3 Application: project maturity

We expect projects to be in an investment ready position.

Our experience from previous low carbon heat projects has shown that the projects with the most success in timely delivery and spend of grant funding start early, and have a clear project plan.

Key areas to consider, which will be scrutinised during the assessment process are:

- Planning permission status, if required, or confirmed as a permitted development by the local planning team
- Procurement position, whether suppliers are in contract
- DNO engagement status, or confirmation that DNO upgrades are not required
- Design stage, we expect at least Riba stage 2
- Monthly payment forecasts (when the applicant will expect to be requesting payments from the Energy Service)

5.1 Eligibility: organisation

This funding currently is open to public sector organisations in Wales.

The following entities are excluded:

- Town Councils
- Community Councils
- Local Authorities
- Higher Education bodies (Further Education bodies may apply)

5.2 Eligibility: project type and position

This funding is for capital works for the retrofit of low carbon heat solutions to replace fossil-fuel heating systems in non-domestic, public sector buildings. Eligibility criteria include the following:

- Buildings must be owned or under a long-term lease (at least 10 years) by the organisation. Buildings subject to grant must be retained for 10 years following the grant award
- Buildings must be part of the organisation's annual carbon reporting to Welsh Government
- Buildings heat must currently be supplied by fossil-fuel heating systems (e.g., natural gas, LPG, or heating oil)
- The proposed works on site must not have started yet

All project eligible spend applied for must be delivered within the financial year, by 31 March 2025. Funding is committed on a financial year basis and must be spent within the specified financial year. Approved funds cannot be rolled from one financial year to the next.

Projects should have been the subject of previous feasibility and development work, with the applicant organisation knowing the technology solution and have committed to deliver the future low carbon heat scheme.

Applications can include all necessary building envelope / associated works to complete the installation. Any items included in an application that can be funded from another source will not be approved for funding from this fund. The inclusion of an ineligible item will not affect the approval of eligible items, they will just be removed, and where appropriate signposted to other funding (e.g. Wales Funding Programme funding for energy efficiency measures).

5.3 Eligibility: technology and measures

Acceptable inclusions within the capital works:

- Building fabric improvements, including draft proofing where it can't be funded from other sources (e.g. backlog maintenance funding).
- Heat distribution and emitter upgrades (including modifications to air handling unit (AHU) heat batteries)
- Thermal storage upgrades
- Heat pumps (air/ground/water), and Electric Boilers (for top up/back up purposes only)
- Electrical infrastructure capacity upgrades to allow heat pump installation
- Biomass where local air quality is not significantly adversely impacted, and heat pumps are not viable
- Heat Networks around a single site/campus, e.g. a large secondary school campus
- Upgrades to existing district heat networks (low carbon heat generation). Note that eligible Heat Network Efficiency Scheme projects will not be supported with this grant.
- Development works – further design and exploration works (e.g. trial boreholes)
- Phased projects

5.4 Eligibility: ineligible costs

The Public Sector Low Carbon Heat Capital Grant will not support funding for:

- Any primary fossil fuel heating plant e.g., gas boilers, gas CHP
- Replacement of existing low carbon heat systems (the grant is intended for replacing fossil-fuel systems)
- District Heating – both new installations and extensions to existing systems, where there is a financial case and return from heat sales
- Feasibility or concept work
- Internal staff costs
- Contingency costs - additional costs should be managed by the applicant
- Projects where installation has already begun
- Recoverable VAT – applicants will need to manage this cash flow aspect appropriately where VAT is paid in one financial year, but recovered the next
- Operation and maintenance costs

6. Whole building approach

We expect applicants to adopt a 'whole building approach' towards decarbonising heat and transitioning away from fossil fuels. Applications should propose fully decarbonised solutions, with the removal of fossil fuel provisions.

Heat pump solutions typically require lower temperature systems to operate at their most efficient. Therefore, we expect to see applicants lowering flow temperatures as much as possible (between 35 to 55 ºC) to ensure the optimal performance of their low carbon heating systems. This might necessitate heat emitters and measures to enhance insulation.

Applicants who do not propose to reduce flow temperatures must explain their

approach and demonstrate a fully decarbonised solution.

We expect a minimum heat pump Seasonal Coefficient of Performance (sCOP) of 2.5. Where electrical backup / top-up boilers are included, we would expect them to cover no more than 20% of the total heat demand.

For a whole building approach that includes further electrical efficiency or renewable energy generation, funding can be accessed via the Wales Funding Programme.

Costs for electrical connection upgrades, potentially covering other measures like EV charging or photovoltaic (PV) systems, should be outlined in the applications. We will then consider how grid upgrade costs might be supported.

7. Available funding

Grant Request

Each project can apply for funding up to 90% of the total project capital costs.

Applicants are required to contribute a minimum of 10% of the total project value, either via cash reserves, central budget, or external finance. Note: Other Welsh Government applied for funding schemes cannot be crossed over.

The PSLCHG will not duplicate any existing or planned pipeline funding. We encourage applicants to utilise other funding sources where appropriate, to maximise carbon emission reductions.

8. Assessment criteria

Key criteria

- We expect systems to produce heat at less than 100g CO2e/kWh

While projects will not be directly assessed against the parameters listed below, we will consider them as part of the application to determine suitability for funding.

Metrics considered

- kW heat output installed per £ funding
- kWh/m2 existing vs. improved
- £/tCO2e saved (over technology lifetime)
- Information on financial return/impact
- Expected heat related CO2e emissions after low carbon heat source installed
- Percentage of heat pump usage vs. electric boiler

Qualitative aspects considered

- Deliverability, project maturity, and supporting evidence
- Resilience and forward evolution plan
- Technical options appraisal undertaken, including primary energy use reduction / fabric first approach
- Project governance
- Confirmation of retained estate

9. Other key requirements

Provision of supporting information

Applications for funding should be accompanied by the following supporting information :

- Evidence of costs, such as a supply quotation or design cost schedule
- Feasibility work demonstrating that:
  - The system can technically be installed
  - The system is expected to deliver heat at less than 100g CO2e/kWh
- Specification sheet for the heat pump or other low carbon heat source
- Evidence of the sCOP of the heat pump
- A risk assessment outlining major risks to project deliver.

Please note, drawings illustrating the location and scale of the plant are not required with the initial application. However, they may be requested as part of the project review.

10. Conditions

Special conditions, data, information and communication requests

- To receive the grant, applicants must provide the Energy Service with evidence of costs, such as a supply quotation or design cost schedule.
- Public bodies are required to provide access to operational staff for interviews/surveys, respond to requests for case studies and press releases, and agree to reasonable requests to share learning and insights. This includes, but is not limited to, sharing design/performance information, supporting site visits, and sharing case study information/photos.

- Please note that the pot is limited, and in the event that application requests exceed the funding available we will consider aspects such as deliverability, potential carbon impact and prior feasibility/options appraisal work to prioritise funding.
- Approved projects will receive a grant approval letter setting out the terms and conditions of the grant. To accept the grant the applicant will need to complete and sign a grant claim form.

11. Additional guidance: learnings from LA scheme

Lessons learned from Local Authorities installing low carbon heat

- Delivering low carbon heating can be complex, however, despite the challenges, the market is engaged and there are learnings from the increasing number of ongoing local authority projects as low carbon heat starts to become ‘business as usual’.
- The key considerations when planning for low carbon heat projects are:
  - Whole Building Approach
  - Electrical loading and capacity
  - Appropriate sizing of the low carbon heat technology & thermal storage
  - Design & Planning considerations
  - Installation Programme
  - Ongoing Measurement & Verification
- The number one lesson learned and key advice we’d give to any low carbon heat applicants to be very proactive and seek early engagement with the DNO, even in advance of the final design. Across LCH projects we see a mix of needs for DNO related works, some do not need upgrade works, as they have enough site capacity, and some need DNO connection works. We

strongly encourage applicants to have a clear understanding of their DNO position upfront.

- The following things were not included in contractors' initial quotes, but were later identified as needed:
  - concrete plinths for ASHPs
  - security enclosure for ASHP (where applicable)
  - fabric improvements/drafty gaps in doors/openings
- Please consider whether these items are included in your contractor's specification.
- Not all buildings are currently suitable for LCH. Ancillary works (grid, electrics, additional insulation etc) are often the most complex part of installing low carbon heating project on an older property.
- Expertise in designing efficient LCH systems is improving but still lacking in industry. You may need to look outside current M&E contractors when procuring LCH. Training of in-house teams on the efficient use of LCH systems will also be required and should be included in the project specification.
- Project timings can be a challenge, especially for education buildings; this requires careful consideration. It can be sensible to build contingency into project timelines if there is the potential for surveys to uncover issues, particularly with older buildings.

Summary of key design considerations

- Outdoor air design temp impacts kW heat pumps, and electrical capacity – consider what's realistic
- ASHP enclosures are often a security requirement – consider air flow so operation not impacted
- Solution for DHW: consider system losses to appraise centralised vs. decentralised
- Design temps: reduce as much as possible in the design, consider a trial in the winter before to reduce flow temps

- Thorough consideration needs to be given to fabric improvements and draft proofing
- Electrical upgrades: ensure requirements understood
- Thermal store sizing: ability to fit through door, but also sized for COP
- Environmental impact: consider planning issues like flood risk, and bats!

Summary of key project learnings

- Planning permission for the scheme - confirm if permitted or not!
- Procurement approach, time, and risk to design/finances - quote at application stage, consider a turnkey solution
- DNO final quotes and approvals – time impact and costs change - proactively engage and push forward.
- Retention of costs for 1 yr - we manage this with a retention confirmation letter, up to 10%

Summary of key installation learnings

- Dust: impact in occupied space and fire alarms!
- Security of site and access for contractors: working around busy times
- Unexpected issues: asbestos
- Use of existing system: requirement to clean existing pipework and radiator sludge