Llywodraeth Cymru
Welsh Government

salix

Digarbon - Round 2

Decarbonisation Fund for Tertiary Education in Wales

Guidance Notes

April 2025

Table of Contents

Digarbon Round 2 – Decarbonisation Fund for Tertiary Education in Wales

1. Introduction

Digarbon provides loan funding for further and higher education institutions in Wales to support the implementation of heat decarbonisation, energy efficiency, renewable, and electric vehicle and electric vehicle charging infrastructure measures. £10m has been made available for applications in the 25/26 financial year.

Funding for the scheme has been provided by Welsh Government to help the public sector meet its ambition to be net zero by 2030, and the national target set by the UK government to achieve net zero greenhouse gas emissions across the UK by 2050.

The scheme aligns closely with the Heat strategy for Wales by implementing low carbon heat solutions, enhancing energy efficiency and reducing heat demand, whilst increasing renewable energy capacity. The scheme is intended to be utilised holistically with other funding from the Welsh Government available to Higher and Further Education institutions, for example, the Wales Funding Programme, also delivered by Salix.

The strategic objective of Digarbon is to reduce direct carbon emissions[1] from public sector buildings in further and higher education. A typical Digarbon project focuses primarily on implementing a new low carbon heating system, such as connecting to a heat network or installing a heat pump to replace an end-of-life fossil fuel heating system. Projects usually include building fabric improvements, such as insulation, which enhance heating efficiency and support the new low carbon heating system by retaining warmth within the building.

In addition, projects may be supported by electrical energy efficiency measures, such as LED lighting, to reduce electricity consumption. Renewable electricity generation, such as solar PV, may also be incorporated to lower energy bills by providing on-site electricity. Where feasible, projects may include electric vehicles and charging infrastructure.

The primary goal of the scheme is to implement low carbon heating solutions and reduce heat demand. Projects that do not propose a new low carbon heating system must include fabric first measures, such as insulation or glazing improvements.

A fixed interest rate at the current government borrowing rate of 2.15% will be applied on the loan. The rate will not change during the loan term. The full loan including all interest must be fully repaid to Salix by 31 October 2049.

2. Application value, number, and scope

There is a 'soft cap' on the **maximum application value** up to £2.5m. Applications for funding greater than £2.5m are eligible but applicants must be aware this is not guaranteed to be funded, and Salix reserves the right to reduce the funding awarded depending on the funds available. This has been introduced for this round to maximise the impact of the scheme by ensuring as many applicants as possible benefit from Digarbon funding.

While there is **no minimum application** size, as the scheme focuses on heat decarbonisation, there is a 'soft cap' where applicants should avoid marginal applications under £50,000 unless clear evidence is provided that other measures contributing to a higher project cost have been discounted.

There is a limit of **one application per institution**. An application can include multiple measures and buildings, provided it remains compliant.

Completion timescales
Applicants will have until 31 March 2029 to deliver the project from the date the agreement is signed.

[1] Direct carbon - refers to the carbon emissions that are emitted either directly within an organisation's site boundary from combustion of fossil fuel or combustion of fossil fuel from district heating plant room. Please refer to Appendix 4 glossary for more information.

Loan timescales
Applicants must submit their proposed repayment model using the loan amortisation schedule included in the application form. All outstanding loans, including capital and accrued interest, must be repaid to Salix by 31 October 2049. Details of the loan agreement can be found in Section 7.5.

3. Eligibility criteria

3.1 Eligible organisations

Digarbon is available to institutions of further and higher education in Wales only. To be eligible, organisations must also be receiving greater than 80% of income from educational activities of which commercial and spin-out enterprises are not included.

Sector caps
A 'soft' sector cap will be applied when allocating funding of which 25% of the available funding will be allocated to the Further Education Sector, with 75% allocated to the Higher Education Sector. These sector caps are 'soft' and should there be insufficient successful applications to fully allocate funding to a sector, funding will be allocated to the other sector.

3.2 Eligible buildings

Only existing non-domestic buildings owned by eligible Welsh further and higher education institutions can be included in the application. Buildings on long-term leases with at least 10 years remaining can be included. Applicants that have a long-term lease arrangement for a building from another public sector body (e.g. local government) in which the lease contract allows the cost savings through improved energy efficiency to be passed to the eligible public body are eligible to apply.

Buildings under PPI/PFI contracts are only eligible if the energy efficiency savings are passed to the eligible public body applying for the loan. Applicants must be able to evidence that this has been clearly negotiated with the partners to the agreement and has been agreed with Salix prior to submission of the application.

Salix acknowledges that many buildings owned by universities and colleges include listed buildings and buildings of merit. Applications must ensure that listed building requirements are met and consider potential adverse effects on the external appearance and performance of the original structures, for instance by causing condensation and damp.

3.3 Eligible costs

Applicants can apply for funding to cover project detailed design through to completion, including activities such as commissioning. Capital costs incurred before the agreement date between Salix and the applicant are not eligible for funding.

Eligible costs include:
- Project identification and design development (specific to the project and dated within 12 months of the loan agreement being signed)
- Procurement
- Equipment and material purchases
- Build, installation, construction, and commissioning
- External project management
- Enabling and ancillary works
- Distribution Network Operator (DNO) fees

3.4 Subsidy control rules

In some instances, public sector organisations can operate as enterprises as defined in Section 7(1) of the Subsidy

Control Act 2022. All public sector organisations classed as 'economic actors' under the UK-EU Trade and Cooperation Agreement must ensure compliance with the subsidy control rules. A public sector organisation will be an enterprise if it is engaged in economic activity by offering goods or services on a market.

Applicants will be required to declare any economic activity within their application, including its value within the total project award. Any subsidies will need to comply with the Trade and Cooperation Agreement (TCA) Article 366 principles and transparency requirements as necessary. If, in respect of any economic activity, the applicant has received less than £315,000 Minimal Financial Assistance (MFA) over a period of three fiscal years, the loan would not be covered by the subsidy control rules. Applicants below this limit will need to complete a Minimal Financial Assistance (MFA) declaration, which will be set out in the loan agreement.

Indirect subsidy control

An indirect subsidy may occur in buildings owned by a public sector applicant but leased to an enterprise (as defined in Section 7(1) of the Subsidy Control Act 2022). This indirect subsidy may occur if the enterprise is paying any portion of the building's energy bills and therefore benefits from any savings to the energy bill because of Digarbon funded measures. An enterprise is any organisation engaged in an economic activity that entails offering goods or services on a market, to the extent that they are engaged in such an activity.

Indirect subsidy – buildings owned by an enterprise leased to the public sector

Buildings that are rented by the public sector but owned by a private landlord may benefit from Digarbon funding, providing they have an eligible public sector tenant as the applicant. If the landlord is classed as an enterprise under the Subsidy Control Act, then this enterprise may be in receipt of an indirect subsidy due to benefitting from the value of the new measures installed in their building using the funds. This indirect subsidy may be granted providing it is being used for the subsidy's intended purpose of decarbonising the public sector over the full lifetime of the carbon savings being funded.

Indirect subsidy – private finance initiative (PFI) buildings

PFI buildings are eligible for Digarbon. As with all buildings, PFI buildings need to follow the indirect subsidy control rules. The majority of PFI buildings will be owned by an enterprise but occupied by the public sector. They are therefore subject to the misuse of subsidy rules. Where the ownership of the PFI building freehold transfers to the applicant, at no additional cost, at the expiry of the PFI contract, these buildings will not have any cap on the persistence factor given to measures in that building. For these PFI buildings, the applicant should complete the table in section 10 of step 5a and add commentary for the buildings it relates to. For PFI buildings that do not transfer to the public sector, the persistence factor that is given to measures in the building will be capped at the remaining PFI contract length, as per the rules outlined above regarding buildings owned by an enterprise.

More guidance on subsidy control and the required evidence to be submitted to Salix (if applicable) can be found on the Salix website. Additionally, more information on the subsidy control regime is available, including information on enterprises in the context of public powers referenced Statutory Guidance for the UK Subsidy Control Scheme.

3.5 Additionality criteria

Digarbon funding can only be awarded to projects that would not proceed without the loan. To qualify as 'additional,' projects must meet the following criteria:

- The measures concerned are not required to be installed by law (including building or health and safety legislation). For measures that go beyond what is required by law, loan funding can be sought for the increased cost.
- The measures are not being installed for commercial gain, except for cost reductions through improved energy efficiency.
- Installation of the measures has not yet begun.
- Other funding options have been exhausted or are unsuitable.
- In Salix's reasonable opinion, the project would not proceed without the loan.

4. Technical eligibility

Section 4 introduces the eligible project types. It is recommended that this section is read in conjunction with **Appendix 2- Application requirements and technical evidence.** The Appendix 2 provides further details on the compulsory evidence required to support your application for each project type and for each technology. It explains how applicants can demonstrate that their application meets the Digarbon technical requirements.

The strategic objective of Digarbon is to reduce direct carbon emissions from public sector buildings in further and higher education institutions. Therefore, all applications must include at least one of the following:

- **Installation of a low carbon heating system**, or
- **Installation of fabric first measures**, such as building fabric improvements (e.g., glazing or insulation) that enhance thermal efficiency. These measures must be evidenced as improving the building's suitability for a specified low carbon heating system in the future. A list of eligible fabric first measures can be found in Appendix 3.

In addition to the low carbon heating and fabric first measures, the scheme supports the following indirect carbon-saving measures to aid the transition to a low carbon heating system, enhance energy efficiency, and increase renewable energy capacity:

- The installation and upgrade of **heat distribution systems and emitters**, in preparation for a specified low carbon heating system.
- **Energy efficiency measures**, e.g., LED lighting.
- **Renewable energy**, e.g., solar PV.
- **Electric vehicles** and **electric vehicles charging infrastructure**.
- Eligible **enabling works** for the above measures.

Applicants must demonstrate in their application how these measures support either the heat decarbonisation of their estate or their net zero strategy. Energy efficiency measures that achieve only indirect carbon savings (such as those listed above) must be paired with low carbon heating or fabric first measures in the same building.

For projects involving multiple buildings, the low carbon heating system project type should be selected if at least one building includes the installation of a low carbon heating system, even if the others only include fabric first measures.

A full list of eligible technologies can be found in *Appendix 1*.

4.1 Project types

The eligible technologies can be grouped into different project types as shown in the table below.

Project Type	Eligible measures	Eligible criteria
Low carbon heating system project	Installation of low carbon heating (only)	Applications must include at least low carbon heating or fabric first measures to be eligible
	Or in combination with fabric first measures	
	Or in combination with energy efficiency, renewables and electric vehicles measures	
Fabric first project	Installation of fabric first (only)	
	Or in combination with energy efficiency, renewables and electric vehicles	

4.1.1 Low carbon heating system projects

Applicants should refer to Appendix 2 for a detailed breakdown of the evidence required for different low carbon heating technologies. This includes requirements for heat network connections, air-to-water heat pumps, air-to-air heat pumps, cascading heat pumps, water source heat pumps, ground source heat pumps, biomass, hybrid low carbon heating systems, and other eligible technologies.

Applicants are encouraged to install a low carbon heating system alongside fabric improvements to the building, improving thermal comfort, energy efficiency and fuel cost savings. Applicants with a combination of low carbon heating technologies with either fabric first, energy efficiency, renewables or electric vehicles should refer to Appendix 2 for breakdown on the technical requirements for each technology.

Applicants are expected to provide a technically sound justification for the proposed low carbon heating system and demonstrate adherence to best practice design principles. Where applicable, specific information related to the low carbon heating technology and system configuration must also be included.

Applicants should describe how the chosen heating system type (standalone or cascading) is feasible for the building. A cascading low carbon system involves low carbon heating units working in sequence to meet the building's heating requirements. For a cascading system, evidence must be provided to demonstrate that the proposed arrangement is the most appropriate solution for achieving the desired flow temperatures and operating characteristics.

Specific technical supporting evidence is required for the low carbon heating system project type. These include the following:

- End-of-life evidence for the fossil fuel heating plant, demonstrating it has reached a reasonable service age.
- Site surveys of current emitters and pipework, with evidence confirming they are correctly sized for the proposed system.
- Peak heat loss calculations that evidence how the proposed heating system has been sized.
- Schematics of both the existing and proposed heating systems, illustrating how the system will operate within the building.
- If the proposed heating system configuration is hybrid or bivalent with an existing (non-end-of-life) fossil fuel plant, commentary should be provided that details how the operation of the low carbon heating system will be prioritised.
- Details of the proposed manufacturers for all measures, including data sheets evidencing the technical specifications (e.g., ASHP data sheet).

4.1.2 Fabric first projects

Decarbonisation projects without low carbon heating system must incorporate fabric first measures, such as building fabric improvements. These can be supplemented by renewable energy solutions, additional energy efficiency measures (e.g., LED lighting), and enabling works.

Supporting information should demonstrate the feasibility of these measures and their role in facilitating the future installation of a specified low carbon heating system. Applicants should refer to Appendix 2 for more information on the technical evidence to be submitted as part of an application for a project including fabric first only measures.

5. Technical criteria

5.1 Carbon cost metric

A carbon cost metric will be used to review the benefits over the project lifetime which is automatically calculated by the Salix support tool in the application form. The carbon cost metric will appraise the value for money of the proposed project. While there is no threshold requirement for a project to be considered eligible, projects that are considered to have effective value for money will achieve a carbon cost below £550 tCO_2e.

Salix understands that in certain circumstances a carbon cost of £550 tCO_2e or below may not be viable. Typical circumstances could be (but are not limited to):

- Reduced operational hours of buildings.
- Rural location of buildings increasing the cost of contractors and/or material.
- Certain buildings requiring enhanced or bespoke measures to support the transition to a heat pump solution.
- Innovative measures that may be more efficient than typical solutions.

Please note that if an application exceeds £550 tCO_2e, applicants must provide clear and detailed reasoning for this. This should include technical justification for the inclusion of measures contributing to the higher carbon cost, along with an appraisal of the value for money. The appraisal should clearly outline which specific cost impacts have been elevated and provide project-specific reasoning for this. Salix reserves the right to determine what constitutes reasonable flexibility in the carbon cost metric to ensure effective use of available funds.

Projected carbon savings from applications for new electric vehicles and EVCI that do not involve the replacement of a fossil fuel powered vehicle are not factored into the carbon cost metric.

5.2 Project payback

There is no technical payback requirement for projects, but applicants must be able to demonstrate a robust repayment plan of the loan and be able to evidence at application how they intend to payback the requested loan value, plus interest, no later than 31 October 2049. For more information, see Repaying the loan.

6. Responsibilities and competence

Salix assumes that the applicant and their partner(s) are competent and fully responsible for the projects to be funded. The public sector applicant must ensure that accountability for the application, project delivery, and governance is held by the Authorising Official and main contact and that this is not transferred to contractors. It is the public sector applicant's responsibility to ensure they, and their partners, are delivering in line with the loan agreement, including but not limited to:

- Completion of the application form adheres to the requirements set out in the guidance tab and data is not pasted into cells.
- The application is prepared in a site-specific manner, with data inputs and site details reflecting the unique nature of each application; and the application is supported by bespoke option appraisals reflecting the specific characteristics of each site.
- An accurate establishment of costs and how calculated estimated savings were sought.
- Reasonable project sequencing and due care in the selection of capital projects has been taken to ensure no double counting of carbon savings when considering multiple projects on the same site.
- Selection of suitable supplier(s) follows the applicant's procurement procedure and that they assess and mitigate the risk of fraud in the procurement, supply chain, and implementation of projects.
- Available resources and capacity to manage the project delivery and reporting on project progress.
- Provision of all invoices and completion certificates (where appropriate) in relation to the services carried out on the project(s) as they may be required for audit of the project(s).
- Completion of post project completion activities including verification of savings and satisfaction surveys.

7. The application process

7.1 Announcement and key dates

Digarbon round 2 was announced on 18 March 2025. The application form is available on the Digarbon round 2 webpage.

There are four webinars hosted by Salix and will be held on **11 & 28 April** and **13 & 20 May 2025**.

There will be one application window opening on **22 May 2025** and closing on **7 August 2025**.

Application assessments will occur from August to October 2025. Applicants will be informed of their outcome in October and successful applicants will be issued loan agreements in November 2025.

7.2 Submitting your application

Only eligible applicants are permitted to submit applications through the online portal, though external parties can provide support in preparation of the application form and supporting documents. Should the application be submitted by an external party, Salix reserves the right to reject the application.

Applicants must ensure applications are complete to the best of their knowledge at the time of submission and are encouraged to review the terms and conditions of the scheme prior to submission of their application.

The application portal
Visit the Digarbon round 2 webpage to create an account or log in to your existing account.

Application form and supporting documents
The application form along with supporting documents should be uploaded and submitted through the portal. The information and documents submitted must be specific to the project being applied for. Multiple buildings, measures and/or projects can be included in one application provided that the application is compliant with the scheme criteria.

Applicants should consider the most appropriate evidence to provide based on the measures being applied for and specific circumstance of their buildings.

Applicants should provide indicative cost evidence for all the measures included in the scope of the project, quotations, cost breakdown and applicant financial contingency (funded through applicant contribution) allocated to the project. This should also include a consideration of operational costs.

The following documents and supporting documents are essential for a complete application:

- The Digarbon application form
- Cost evidence (breakdown and quotations, CAPEX)
- Energy saving calculations (unlocked Excel spreadsheet or energy modelling with commentary)
- Building energy figures (meter data, historic bills or DEC)
- Options appraisal report
- Feasibility study
- Risk register
- Project programme
- Authorising Official Declaration
- Counter Fraud Authorisation

Depending on the technical scope of the application, certain technologies and heating system designs may require additional documentation, where applicable:

- Schematics of the existing and proposed heating system
- Survey of the current heat distribution system
- Peak heat loss calculations to show that the proposed heating system has been sized correctly
- Electric vehicle transition plan
- Evidence of existing electrical capacity
- Evidence of the heated area (m^2)
- Heat decarbonisation plan
- Performance management plan (only applicable for energy generating assets)

A list of additional supporting technical information can be found in *Appendix 2*.

Providing authorisation
Applicants must assign a Main Contact, Finance Contact, and Authorising Official at point of application that maintain accountability for the application, project delivery, and sponsorship of the project. The Authorising Official will be required to provide written confirmation of their approval at application submission.

7.3 Assessment process

Salix ensures a fair approach to allocating funding. All applications will be assessed and scored based on quality. As applications undergo the assessment process, applicants may be contacted for clarification on their application. Applicants should ensure the main contact, or someone within the organisation is available to deal with any queries during this period.

Applications will progress through two stages of assessment:

- Stage 1 Initial quality check *Ensure eligibility and completeness.*
- Stage 2 Full technical assessment *Applications and supporting documents are reviewed and scored against the criteria.*

Applications will undergo initial delivery-based quality checks for eligibility and completeness before being progressed to technical assessment. Salix aims to confirm whether applications have failed or progressed to stage two within two weeks of submission.

The technical review will be conducted by Salix Energy and Carbon Technical team and an external technical assessor who will provide added independent assurance that the project is deliverable, and the expected savings are reasonably achievable. Salix's Energy and Carbon technical team and contractors aim to complete assessments between 6-8 weeks. The complexity of the project may increase timescales. Applicants should endeavour to respond to any clarification during the assessment process within three working days. Delays to responses may result in the failure of the assessment.

Failure to provide all essential documentation, listed above, will result in the failure of the application. Applicants will not be able to provide additional supporting information after submission to ensure fairness and determine the quality of submissions from the outset.

To ensure funding is allocated to applications with the strongest evidence-based support, each application will be measured, scored, and ranked against the following five criteria:

Criteria	Weighting	What we're looking for
1. Strategic Assessment	15%	*Information related to the design stage of the project, such as project details, how the project will meet strategic objectives and future plans to decarbonise the building(s).*
2. Technical Feasibility	30%	*Demonstrate that the proposed technologies have been appropriately identified, sized and designed. This process should follow whole building approach and fabric first principles.*
3. Financial Costs	20%	*Indicative cost evidence for all the measures included in the scope of the project, including a consideration of operational costs.*
4. Project Delivery	20%	*Details of the project programme and plans in place to manage aspects in the delivery of the project.*
5. Social Contribution	15%	*Contribution to the Well-being of Future Generations (Wales) Act and additional economic, social, and environmental benefits (e.g. job creation, competitiveness, welfare, biodiversity).*

Salix encourages high-quality, comprehensive, unambiguous responses that demonstrate a thorough understanding of the requirement and how it will be met in full. Applicants should answer all questions and all prompts in the application to ensure good quality response for each section of the application form.

7.4 Outcome

Applications will be ranked, and funding allocated according to the score achieved during the assessment process. To be eligible for funding, applications must achieve a minimum score of 65% across the application. Applications which do not meet the minimum requirements will not be considered for funding.

Applications that progress through the assessment will be asked to attend a 'delivery call.' The call will be held between a member of the Salix team, the main contact, Authorising Official, and contractor(s) (if applicable) to discuss the project and ensure the requirements of the funding are understood.

Loan conditions
All loans will be issued with conditions to ensure projects meet the funding purpose and criteria. These will be listed in the loan agreement, each with a resolution date that loan recipients are required to meet.

Feedback
Feedback will be provided to all applicants on an application's areas for improvement.

7.5 Awarding funding

Issuing a loan agreement
Confirmation of funding will be provided to successful applicants via issuance of a loan agreement through DocuSign. A copy of this agreement must be signed by the applicant's Authorising Official within ten working days. Salix reserves the right to withdraw applications if the loan agreement is not returned within this timeframe.

The loan agreement outlines the terms and conditions of the scheme and schedules related to the ongoing monitoring of the project, calculation of interest and repayment of the interest and loan. The terms and conditions can be found on the Salix website here, it is recommended that you read these terms and conditions prior to receiving your loan agreement to expedite the approval and sign off process.

Agreeing the repayment model
Applicants are required to submit their proposed repayment model using the loan amortisation schedule embedded in the application form. Salix will review this repayment model in the interest of effective use of public funding.

When developing your proposed repayment model, Salix asks that applicants consider the following:

- All outstanding loans (capital and accrued interest) must be repaid to Salix by 31 October 2049.
- Annual capital repayments are deemed 'reasonable' based on the expected financial savings and/or, the institution's ability to repay.

Application details may be shared with the relevant arm's length body responsible for tertiary education funding to facilitate successful project approval and delivery. Higher Education Institutions should note that this funding falls within the scope of the borrowing approval requirements of the Commission for Tertiary Education and Research (CTER). Salix encourages relevant applicants to engage with these bodies during the application process given the short time frame for approval following notification of a successful bid.

8. Successful applicants

Salix aims to facilitate the successful delivery of all approved projects through practical support and guidance based on the knowledge acquired from previous projects and from working with a wide range of agencies.

All loan recipients will have a dedicated Salix relationship manager to assist with queries and support the project. Larger and/or riskier projects may also have a Salix senior manager as a sponsor.

8.1 Reporting requirements

Loan recipients are required to maintain regular contact with Salix throughout project delivery. This will include scheduled meetings and a quarterly monitoring report with updates to risk registers, project programmes, and project governance shared with the assigned Salix relationship manager.

The report should cover key work that took place within that period, focus for the next period, dates by which key milestones will be achieved, expected changes to the project programme, cost and/or scope, risks, and mitigation measures. The reporting template and timeline will be shared by Salix once the loan agreement has been signed.

Monitoring reports should be submitted by applicants to their assigned Salix relationship manager in the first month of each fiscal quarter covering activities for the previous fiscal quarter. Reporting dates will be shared by Salix once the loan agreement has been signed.

By mutual agreement, the applicant and associated sites may be visited by a government body such as Salix Finance or the Welsh Government Energy Service at any point during project delivery.

8.2 Changes to the project

During project design and delivery, should a successful loan recipient want or need to make changes to the project, loan recipients must inform Salix at the earliest opportunity to ensure continued compliance to the scheme criteria. A change request procedure shall be followed requiring the submission of an updated application form and supporting documents to ensure the Digarbon criteria continues to be met.

Due to the scheme's funding mechanism, Salix is unable to guarantee requests to increase or decrease loan value. We will endeavour to review these on a case-by-case basis.

9. Payment and repayment of the loan

9.1 Drawing down the loan

Once the loan agreement has been signed by Salix and the loan recipient, the loan funds will be issued as one upfront payment. The funds are only available in financial year 2025/26 and so the drawdown date will be agreed between Salix and the loan recipient in this period and will be stated on the loan agreement.

9.2 Loan interest rates and details

A fixed interest rate at the current government borrowing rate of 2.15% will be applied on the loan. The rate will not change during the loan term.

The loan is unsecured and must be fully repaid by 31 October 2049.

The total loan requested should be equal to or lower than the total project cost to ensure that the loan is aligned with the actual funding required for the project.

9.3 Repaying the loan

The repayment of the interest accrued and capital funds on the loan will be made separately. The repayment schedule will be set out in the loan amortisation schedule of the loan agreement, this will be based on the amortisation schedule submitted by applicants and accepted by Salix at application stage.

Interest and capital repayments
Interest will begin accruing from the loan drawdown date. Repayments on the interest will commence in the 2025-2026 financial year. Interest will be collected annually thereafter.

Repayments on the capital will begin after the project has completed and will be collected annually. The completion date and subsequent repayments on the capital will be set out in the loan amortisation schedule.

Early repayments
To make an early repayment, loan recipients must inform Salix no later than three months prior to the next collection date. There are no fees to make an early repayment.

9.4 Post-completion monitoring and reporting

For monitoring purposes, and scheme evaluation, all successful applicants will be required, as per the loan terms

and conditions, to submit an annual net zero report to Welsh Government as part of the Welsh Public Sector Net Zero reporting. The first submission of the annual net zero report is required for financial year emissions 2025/26, this must be submitted to Welsh Government by autumn 2026.

10. Support and advice

Refer to the Salix website for the most up to date information regarding key dates and how to apply.

Salix has teams that have specialised knowledge of different areas of the public sector, as well as an in-house Energy and Carbon Technical team. For any enquiries, contact us.

The Welsh Government Energy Service offers technical, commercial and procurement advice and support for public sector organisations in Wales in progressing their energy and carbon reduction projects.

Appendix 1 – Eligible technologies list

The following list includes examples of eligible technologies for Digarbon. This list can also be found in the application form.

Project Type	Work Type	Lifetime of Measure
Low carbon heating, building fabric and heat distribution systems and emitters		
Low carbon heating	Air source heat pump (air to water)	20
	Air source heat pump (air to air)	20
	Water source heat pump	25
	Ground source heat pump	25
	Connect to existing district heating	30
	Connect to onsite heat network	30
	Hot water - electric point of use heaters	12
	Solar thermal	25
	Biomass	20
	Electric boiler	20
	Electric heater	10
	Electric radiant panel heater	20
Building fabric improvements	Cavity wall insulation	60
	External wall insulation	60
	Double glazing with metal or plastic frames	28
	Dry wall lining	35
	Loft insulation	27
	Floor insulation - suspended timber floor	30
	Floor insulation - solid floor or other type	30
	Roof insulation	30
	Secondary glazing	7.92
	Insulation - draught proofing	29.25
	Automatic speed doors	15
	Automatic/revolving doors	10
	Draught lobby (external)	29.25
	Draught lobby (internal)	29.25
	Radiator reflective foil (external walls)	8
	Heating pipework insulation (external)	9
	Heating pipework insulation (internal)	22.5
Heat distribution and emitter upgrades	Heat recovery	10.83
	Heating - discrete controls	6.84
	Heating - distribution pipework improvements	25
	Heating - zone control valves	15
	Plate heat exchanger	28.5
	Steam trap replacements	7.3
	Thermal stores	20
Hot water	Flow restrictors	14
	Hot water - distribution improvements	25
	Hot water – efficient showers	8
	Hot water - efficient taps	12
Other measures		
Renewables	Small hydropower	22.8
	Solar PV	22.5
	Wind turbine	17.6
Energy from Waste	Anaerobic digestion	15.2
	Incineration	15.2

Biomass	Biomass	20
Electric vehicles	Electric vehicles	N/A
	Electric vehicle charging infrastructure	N/A
Energy efficiency	BEMS - not remotely managed	8.42
	BEMS - remotely managed	8.42
	Fixed speed motor controls	11.4
	Motors - flat belt drives	11.4
	Variable speed drives	10.26
	Motors - high efficiency	15
	Time switches	6.84
	LED - new fitting	25
	LED - same fitting	13
	Lighting - discrete controls	10
	Lighting control system centralised	10.26
	Cooling - control system	6.84
	Cooling - plant replacement/upgrade	8.21
	Energy efficient chillers	14.44
	Free cooling	13.68
	Replacement of air conditioning with evaporative cooling	13.68
	Fans - air handling unit	23.75
	Fans - high efficiency	14.25
	Phase change material	23.75
	Ultrasonic humidifiers	7.22
	Ventilation - distribution	30
	Ventilation - presence controls	6.84
	Low loss	30
	Transformer tapping change	30
Enabling measures	Battery - in combination with renewable	N/A
	Battery - standalone	N/A
	Capacity improvements	N/A
	Electrical distribution	N/A
	Incoming electricity upgrade	N/A
	Meters - flow	N/A
	Meters - heat	N/A
	Meters - other	N/A
	Smart meters	N/A
	Upgrade electrically powered uninterruptible power supply	N/A

Appendix 2 – Application requirements and technical evidence

This guide provides further details on the compulsory evidence required to support your application for each project type and for each technology. It explains how applicants can demonstrate that their application meets the Digarbon technical requirements.

There are four main sections to the guide:

- Technical requirements and evidence required for low carbon heating system projects
- Evidence required for fabric first projects
- Technical requirements and evidence required for all project types
- Evidence required for projects that include energy efficiency, renewable energy and electric vehicle measures

Project type: Low carbon heating system

Specific technical requirements and supporting evidence are required for the low carbon heating Project Type.

Low carbon heating requirement	Evidence required for assessment
Fossil fuel heating plant at the end of its useful life	If installing a low carbon heating system, the fossil fuel heating plant must be removed once it reaches a reasonable service age, typically 10–15 years. The size, age, and type of the existing fossil fuel system must be specified. Applicants must evidence that the existing fossil fuel heating plant will be at the end of its useful life at the point of removal. This includes: • Clear, high-resolution photographs of each boiler nameplate, which must clearly display the year of installation. • Clear, high-resolution photographs of each boiler serial number. This should be accompanied by an explanation of how the installation year can be deduced. • A dated commissioning certificate which includes the boiler make, model and serial number. • A third-party plant service report, which must clearly display the year of installation or a servicing date. This should also include the boiler make, model and serial number. • An email from the manufacturer confirming the age based on the serial number. • A comprehensive asset register could be used; however, it must be supported by further evidence as listed above. In addition, clear, high-resolution photographs should be provided of the heating plant in situ and the fossil fuel heating plant must be decommissioned before the project completion date. In the case where the plant has reached the end of its useful life sooner than is typically expected (for example, through high operation or poor design), the applicant must set out the rationale and provide a third-party service report to show that this is the case.
Temporary heating systems	Where an existing fossil fuel heating plant has already been replaced by a temporary fossil fuel heating plant, applicants still need to evidence that the existing fossil fuel heating plant meets the end-of-life criteria and confirm that all units (including temporary) will be removed once the low carbon heating system is installed and operational. Eligibility will be assessed on a case-by-case basis.
Replacement of heat interfaces	Where a building is disconnecting from a campus heat network to install low carbon heating, the local interfaces that connect to the heat network (such as

	plate heat exchangers and calorifiers) can be counted as the building's heating plant for the purpose of meeting the scheme criteria. These must be evidenced in the same way as the end-of-life heating plant or sufficiently evidenced that the interface has reached the end of its useful life sooner than is typically expected. In this scenario, the options appraisal must evidence that this is the optimal long-term solution to decarbonising the overall site.

System sizing and peak heat loss	All applicants installing a low carbon heating system must evidence how the proposed heating system has been sized. This should be included within the options appraisal and feasibility study. This evaluation must account for the building's peak heat load and demand profile to ensure the system is appropriately sized to meet heating requirements, including space heating and domestic hot water (DHW).
	
	The proposed system's output should not exceed the capacity of the fossil fuel heating plant being replaced or the building's post-peak heat loss. Applications proposing a system size larger than the existing fossil fuel heating system will be rejected unless a sufficient technical justification is provided.
	
	Calculations and details should be provided on how an applicant proposes to meet the peak DHW demand and what strategies are in place in the design of the DHW system to combat legionella, including how storing heated water will impact on this. Any additional heating loads, such as air handling units, must be factored into the system sizing.
	
	Evidence required
	The proposed system sizing should be building-specific, with clear calculations provided to evidence the sizing.
	
	Methodologies for calculating sizing and evidencing peak heat demand may include the following:
	• For buildings with sub-metering systems and half-hourly data, applicants should use multiple years' worth of data to calculate peak heat demand, including detailed commentary on the calculations used. All applicants must submit metered data, such as utility bills, to support their application.
	• If sub-metering is unavailable, peak heat loss should be calculated by:
	  ○ Recording the area and U-values (thermal transmittance) of the walls, floors, roof, windows, and doors.
	  ○ Measuring fabric and ventilation/infiltration heat losses for the coldest day of the year based on geographic location.
	  ○ Using realistic air change rates to estimate ventilation losses.
	• Industry approved heat loss dynamic simulation software models will also be considered, as long as the software used is credible and data inputs are clearly evidenced. Commentary on the full calculation methodology and outputs should also be provided.

Emitters and pipework	Low carbon heating solutions run at lower flow temperatures compared to fossil fuel heating systems. Retaining existing emitters and pipework without modification can lead to increased energy consumption and reduced system efficiency. Therefore, a detailed evaluation of these components must be included in the options appraisal and feasibility study to determine whether modifications or upgrades are necessary. **High flow temperatures** Some high-temperature heat pumps can operate at flow temperatures similar

	to fossil fuel systems, potentially reducing the need for modifications to existing pipework and emitters. However, these systems typically have higher operational costs and lower efficiency compared to low-temperature alternatives. As a result, their feasibility and impact on overall system performance should be carefully assessed. Evidence required • Options appraisal: justification demonstrating why building fabric improvements or energy efficiency measures cannot be implemented to enable the use of lower flow temperatures. • Life-cycle cost analysis: a comparative analysis showing that fabric improvements or energy efficiency measures would not be cost-effective in enabling lower flow temperatures. **Low flow temperatures** When the proposed system operates at lower flow temperatures than the existing heating system, a thorough analysis of the current emitters and pipework is required. This ensures that the system can deliver adequate heating without excessive energy use or performance issues. Evidence required • Options appraisal: an assessment of the suitability of existing emitters and pipework for lower flow temperatures. • Cost analysis: if upgrades to emitters or pipework are necessary, the associated costs must be considered in the feasibility study.

Technology specific requirements for low carbon heating measures

The following list outlines technology-specific requirements for the installation of different types of low carbon heating system.

Low carbon heating technology	Evidence required for assessment
Heat network connection (district and/or campus)	For individual buildings connecting to an existing heat network, no changes are required to the energy centre supplying the network. However, energy efficiency measures should be installed in the newly connected building to align with the whole building approach. Creation of a new district heat network that is localised to the applicant's buildings and/or campus is also eligible. If desired, the application can be used in conjunction with other funding sources for heat network development. Applicants must provide the following documents to support their application: • Bespoke carbon factor models showing the predicted decarbonisation pathway over the connection's lifetime. • Calculations evidencing heat loss for the primary pipework connecting the building to the energy centre. • Network design drawings clearly showing the pipelines funded by Digarbon and those funded by other schemes, such as the Green Heat Network Fund. • Design considerations for minimising thermal losses across the network. • Evidence that the new connection will be operational by the loan end date. • Water flow and return temperatures for the existing and proposed system, including any required upgrades to the heating distribution system. Improvements to an existing network's distribution system are eligible if a low carbon heating system is installed in the energy centre to replace an end-of-life fossil fuel heating source. Where an application includes both connection to a heat network and the decarbonisation of the network, Salix will consider sleeving arrangements used to determine the network connection's carbon factor.
Fossil fuel technologies	The installation of new fossil fuel heating systems, such as oil/gas boilers and gas combined heat and power systems, is not eligible under this scheme. New fossil fuel boilers or technologies funded by the applicant's contribution, or works outside the application scope, will also render a project ineligible.

Air-to-water heat pumps	Applications should assess the air source heat pump's operation, ensuring the concept design reflects real-life conditions rather than relying solely on manufacturer data. This improves technical viability. Refrigerants vary in global warming potential and associated risks. Applicants must justify their choice, explain risk mitigation measures, and detail their leak detection plans.
Air-to-air heat pumps	Applicants must justify any proposed change from a wet to an air-based distribution system, as this is unlikely to be the most cost-effective or viable solution for the building. For projects replacing both heating and cooling systems, only the portion covering the existing cooling load is eligible. Any additional capacity beyond the current system must be funded by the applicant. *Air-to-air heat pumps* are eligible, provided that they satisfy the following criteria: • A detailed feasibility study and/or options appraisal demonstrate that alternative technologies are not viable. • The building is currently air-conditioned, and both the heating and cooling systems are being replaced by the air-to-air heat pump. • The primary use of the technology is for heating.
Water source heat pumps	Applications proposing an open loop water source heat pump must provide evidence of relevant planning permissions, such as abstraction or discharge consent from the Environment Agency. For both open and closed loop systems, a map of the proposed water source must be provided, showing the location of boreholes and pipework.
Cascading heat pumps	Applications proposing a cascading heat pump system must provide a bespoke calculation for the seasonal coefficient of performance. If the second stage is used to boost flow temperature, the options appraisal and feasibility study must demonstrate that the cascading system is the most cost-effective solution compared to a standalone heat pump.
Ground source heat pumps	Applications proposing a ground source heat pump must include: • A geological conditions or ground survey report in the feasibility study to assess suitability. • Detail of whether boreholes or horizontal collectors are proposed, justify their selection, and provide evidence of the array's location and quantity/area. If boreholes are planned beneath operational areas, the application must outline how site disruption will be managed.
Biomass	Applications proposing a biomass system must demonstrate: • Why biomass is the most suitable option over other low carbon alternatives, such as cases where heat pump infrastructure is not viable. • Measures to mitigate air quality impacts, particularly for people in the local area. Biomass boilers are discouraged in heavily built-up areas. • That biomass fuel will be sourced sustainably. • Plans for boiler maintenance to ensure performance over its lifetime. • How fuel will be stored and whether sufficient on-site space is available.

Hybrid Low Carbon Heating Systems	In some cases, a hybrid low carbon heating system may operate more efficiently than a standalone system. The primary low carbon plant is sized to meet most of the heat demand, while peaks are covered by an additional low carbon technology (e.g., an electric boiler). This approach optimises plant sizing for the heat loads they serve, improving life-cycle cost efficiency. Applications proposing a hybrid low carbon heating system must provide evidence of: • The plant operation strategy, detailing how the system will function. • How the different plants' operating flow temperatures will work together. • A comparison of operating costs between the hybrid and standalone systems, presented in an options appraisal. • The impact on electrical infrastructure from integrating multiple technologies.
Bivalent systems	Applicants can retain existing end-of-life and non-end-of-life fossil fuel heating plants that are intended to operate in a bivalent configuration with a new low carbon heating solution. Applicants should provide a technical justification on how the retained units are exempt from the end-of-life eligibility criteria, especially when the removed and retained boilers are of the same make, model, and age. Applicants are expected to demonstrate: • How the operation of the low carbon heating solution will be prioritised by providing plant operation strategy details. • How the flow temperatures of the different plants will operate together. • How the carbon savings are calculated and are proportionate to the capacity of the new low carbon heating solution and the retained fossil fuel plant, based on the operation strategy for the entire heating system. • How long the retained fossil fuel plant will operate in this configuration. • How the retained end-of-life boilers will be monitored, and the contingency plan should the end-of-life boiler fail. Applicants should ensure that the total output load of the low carbon heating plant remains lower than that of the removed fossil fuel heating plant, and that the full bivalent system is sized to match the calculated heat demand of the building. Salix technical assessors will evaluate the proposed bivalent heating systems, including end-of-life criteria and total sizing, on a case-by-case basis.
Heating system backup and resilience	Salix appreciates the requirement for some sites to have a level of alternative fuel backup in line with their operating safety procedures and/or technical standards. For example, if fossil fuel backup is required for a new electrical heating system, such systems can be retained for backup purposes only. However, it is important to note that this backup provision is an exception and only applies to sites legally and contractually required to have both backup and primary and secondary fuel resilience. The scheme criteria still apply, and applicants must decommission their primary end-of-life fossil fuel heating plant. If a dual fuel boiler (e.g., gas and oil) is retained for alternative fuel backup, applicants must demonstrate that one of the fuel supplies has been decommissioned, leaving a single fuel supply for backup. Retention of end-of-life fossil fuel heating plant for alternative fuel backup, where there is not currently mandatory alternative fuel backup, will not be approved.

	Digarbon funding cannot be used to install new backup heat capacity, even if it is low carbon, as any backup measures are considered an energy security measure. Any backup heating plant must be funded by the applicant and will be considered outside the scope of the Digarbon project. If an applicant is replacing their fossil fuel backup plant, the alternative fuel backup plant should not contribute any fossil fuel use to the yearly consumption data provided, as the low carbon heating system should be sufficient for all planned heating usage. This is because the backup plant should be designed only to be used if there was a failure in the low carbon heating system. Loan funding cannot be used to fund heating system resilience or new N+1 requirements that are not already part of the primary heating system being removed. Any heating capacity exceeding the output of the removed fossil fuel system or the building's peak heat loss will be considered outside the scope of the Digarbon application. Definitions for each term used above can be found in the *Glossary* at the end of this document.
Other eligible low carbon heating technologies	In some cases, depending on the demand profile or building use, certain low carbon measures may be more efficient than a standalone heat pump. An options appraisal should include a life-cycle cost assessment. • **Electric point-of-use heaters:** Applicants must provide a unit sizing breakdown and justify why domestic hot water cannot be connected to the low carbon space heating system. • **Electric boilers:** Applications must demonstrate why an electric boiler is the most viable and cost-effective option, considering efficiency, operating costs, and grid impact compared to other low carbon solutions. • **Electric heaters:** Applicants should explain why electric heaters are the most viable and cost-effective choice, addressing efficiency, operating costs, and grid impact. • **Electric radiant panel heaters:** A room-by-room breakdown must be provided, detailing the suitability of panel sizing. Cost-effectiveness and grid impact should also be considered. • **Solar thermal:** Applications must include evidence of the solar array's orientation and show that utilisation has been factored into energy savings calculations.

Project type: Fabric first

Fabric first measures can be installed as part of a low carbon heating system project or as a standalone fabric first project type.

As the primary aim of the scheme is the installation of a low carbon heating system, if applicants propose a project that solely includes fabric first measures (without any changes to the heating plant), separate evidencing requirements will apply. These requirements focus on demonstrating that the measures are preparing the building for a specified low carbon heating system installation in the future.

Therefore, the evidence required in your application will vary depending on whether you are installing fabric first measures as part of a low carbon heating system project, or as just a fabric first only project. This section explains the differences in evidence required for the two project types.

Differences in evidence for the existing heating system:

Section	Low carbon heating system project – evidence required for assessment	Fabric first project – evidence required for assessment
Existing heating system	Evidence that the fossil fuel heating system has reached a reasonable service age, including rationale/benefits for its replacement	Explanation of why a low carbon heating system is not included, along with evidence of necessary future upgrades that would be needed to accommodate a low carbon system, supported by a site survey or feasibility study.

Differences in evidence for the system feasibility and options appraisal:

Section	Low carbon heating system project – evidence required for assessment	Fabric first project – evidence required for assessment
System feasibility	Evidence that the chosen heating system is technically feasible for each building and meets all heating requirements.	Demonstration of how the measures support a low carbon heating system in the future, including a heat decarbonisation plan, feasibility of included upgrades, and identification of any design elements that may need further upgrading to support a low carbon heating system.
Options appraisal	Evidence that all options for low carbon heating, building fabric, and energy efficiency measures have been considered, and a building-specific justification for the selected system.	Commentary on the suitability of fabric first, energy efficiency, and heat distribution measures for supporting a low carbon heating system, and rationale for excluding other measures, based on a site-specific feasibility assessment.

Technology specific requirements for fabric first measures

Technology requirements	Evidence required for assessment
Fabric first measures	Applicants must provide a technically sound justification for the proposed fabric first measures and demonstrate adherence to best practice design principles. This should include a feasibility study with an options appraisal outlining the methodology used to select the most appropriate technologies for improving energy efficiency, reducing heat loss, or ensuring compatibility with future low carbon heating configurations. Applicants should also explain the feasibility of the proposed measure for the building and how it supports the integration of a specified low carbon heating system in the future. See *Appendix 3 – List of eligible direct carbon saving energy efficiency measures* for a list of measures from the Eligible Technologies table in Appendix 1 that provide direct carbon savings from energy efficiency measures. These fabric first measures are eligible as the main component of a project without the installation of a low carbon heating system. Note: Some work types may only result in indirect carbon savings, and direct savings must be evidenced where applicable.

Evidence required for both project types: Low carbon heating system project and fabric first project

The following section outlines the technical requirements and evidence applicable to both project types.

Technical requirements for both project types	Evidence required for assessment
Whole building and fabric first approach	Digarbon focuses on the installation of low carbon heating. Applicants are expected to apply the following principles when designing projects to implement an efficient and cost-effective low carbon heating system: • Apply a whole building approach comprising energy conservation measures and others which reduce the heat or electrical demand, considering all factors that contribute to a building's energy consumption. • Apply a fabric first approach to improving thermal performance by prioritising improvements to the building fabric to the level appropriate for all buildings listed in the application form. Expected measures to be considered include cavity wall insulation, loft insulation, and glazing. Applicants are encouraged to reduce a building's heat demand by installing energy efficiency technologies, as this alleviates some of the electricity demand produced by heat pumps and can contribute to reducing operating costs. Similarly, by installing building fabric measures, heat loss is reduced, and less energy is needed to sustain a certain temperature. Supporting commentary and evidence will be required to demonstrate that applicants have taken a whole building approach in planning how to decarbonise their buildings, demonstrating that they have minimised the energy use on site to ensure that the heating plant installed is no larger than it needs to be. If installing a low carbon heating system, where the above improvements to

	follow a whole building approach are omitted from the application, applicants must sufficiently demonstrate (e.g., feasibility study or cost evidence) that they have been considered and are not reasonably viable, including but not limited to where applicants have already implemented an optimal level of insulation in the building(s) included in the application. **If the project includes only fabric first measures**, the methodology must be evidenced to show that the selected technologies are the most viable and cost-effective. The measures should be feasible for the system and compatible with a future low carbon heating system. For example, this can be demonstrated through the benefits of reducing a building's thermal demand with building fabric insulation. **Evidence required** A feasibility study should be included for each building proposed, evaluating all viable technologies that can help reduce the building's heat demand to identify which can be implemented by detailing current building fabric for each building including the condition and age of building fabric elements. If building fabric measures are intended to be installed, pre- and post- improvement peak heat loss calculations should be included, along with U-values provided with methodology.
Feasibility study	Applicants must provide a feasibility study for each site, which may include the options appraisal. The feasibility study must demonstrate in detail what solutions have been identified as viable and how they can be implemented. **Evidence required from a feasibility study** A feasibility study should provide a comprehensive overview of the building, allowing applicants to decide whether to proceed, modify the project, or abandon it altogether. In doing a feasibility study, the organisation can gain a firmer understanding of any challenges to the capital works that would be required. A feasibility study should consider the following factors that may affect the deliverability of a proposed project: • Financial feasibility. • Technical feasibility. • Legal feasibility. • Project delivery/scheduling feasibility. If designs have progressed since the feasibility study was conducted, applicants must provide further detail on why they are applying for the chosen design if it differs from the feasibility study. Indicative schematics of the existing and proposed systems must be provided, detailing how the system will operate within the building. Piping and instrumentation diagrams are preferred, though high-level illustrations are acceptable. Clear site layout drawings showing the proposed measures are advantageous. This applies to projects with direct carbon saving energy efficiency measures, where it is important to demonstrate that the proposed measures are compatible with the system.
Options appraisal	Applicants should have conducted a site survey to feed into an options appraisal, which shows that all viable options have been explored for building fabric improvements, energy efficiency measures and low carbon heating measures. **Evidence required from an options appraisal** Commentary should be provided on what measures are most suitable and why other measures were discounted.

	The options appraisal must be quantified and is recommended to be carried out using a scoring matrix. The options appraisal for low carbon heating is expected to consider: • Heating system configuration (for example, justification for why a cascading heat pump system is preferable to a standalone heat pump system) or evaluation of the methodology to select the most appropriate Fabric First measures. • If applicable, impact on local grid and need for electrical infrastructure upgrades. • Capital and life-cycle costs so a reasonable comparison can be made for the organisation's net financial impact. This life-cycle cost analysis should include costs for design, equipment, installation and any ongoing operation and maintenance so that the most cost-effective option in the long term can be determined.
Energy saving calculations	Applicants must provide unlocked energy saving calculations showing methodology of the savings estimated for each measure proposed. Commentary on the calculations and assumptions made must be included in a summary sheet, with key input or output value cells used in the application form highlighted. If modelling is used, this must also be explained. This must also be aligned with the assumptions and figures referenced in feasibility study provided. For projects installing low carbon heating, the current fuel displaced and proposed fuel consumption figures entered in the Digarbon Application Form, Step 4 Measure Details, should be clearly evidenced in the calculations document. Once the calculations are complete, energy savings must be sequenced in step 4 of the application form, to ensure no double counting of savings. For more information, please refer to the sequencing video on the Salix website in the Tools and Resources area. For building fabric, renewable, enabling, and energy efficiency measures, the Annual kWh savings entered in the Digarbon Application Form, Step 4 Measure Details, must be clearly supported by a detailed methodology. **Evidence required** • Energy savings should be presented in an unlocked Excel spreadsheet. • Energy savings must be based on baseline fossil fuel consumption, acceptable formats of which are metered data (including a metering strategy which provides data on end-uses), the previous year's energy bills, or the latest Display Energy Certificate (DEC). Metered data is the preferred option. • Figures in the supporting information should exactly match those in the application form.
Evidence of project capital costs	All project costs must be evidenced through quotations and invoices to support project costs outlined through an itemised cost breakdown that must be provided in an Excel document to include details of equipment and installation costs for each measure and any associated enabling works. This should demonstrate that the costs are reasonable and include an acceptable level of contingency to cover unforeseen cost increases. A standardised and accepted cost breakdown can be found on the Salix website. The cost breakdown must cover the following elements: • Design and engineering • Main equipment • Installation and commissioning • Project delivery (including consultancy and external management) • Contingency (this should be reasonable based on the size and scope of

	the project, but typically ranges between 10 – 20%) • Enabling measures • VAT (if non-reclaimable). Specific consideration may also need to be given to the electrical infrastructure and any new additional demands that may be required. **Evidence required** Applicants must provide evidence in the form of one or more of the following: quotations, previous project costs, quantity surveyor cost plan or contractor estimate to support from where the cost breakdown was derived. A description of how the costs were derived and any assumptions made must be included in the application form. All supporting information must align with the figures provided in the application form.
Operational and maintenance costs	Applicants are encouraged to conduct life-cycle cost analyses to demonstrate they have considered the operational and maintenance costs of the proposed measures in addition to capital costs. **Evidence required** The options appraisal is expected to include forecasted costs for design, equipment and installation and any ongoing maintenance for the viable options considered so that applicants can determine the most cost-effective option in the long term. A key consideration should be the impact of the price of fuel on the organisation, given that most applicants propose to move from gas to electricity, and evidence of fuel costs should be provided as part of the application. Applicants must provide justification for any proposed measure(s) with a negative annual financial impact, as per the Digarbon Application Form, Step 4 Measure Details, and why the installation of this measure is preferable for the overall site.
Electrical connection	Installing a low carbon heating solution will increase the building's electricity consumption and certain renewable energy and EV proposals impact the existing connection with the electricity grid. Therefore, for these types of projects, an evaluation of the building's current electrical capacity and the anticipated requirements of the proposed system(s) must be conducted. Applicants must assess whether the local power distribution infrastructure can support the increased electrical load and provide details on any engagement with the Distribution Network Operator (DNO), including the stage of engagement. If DNO engagement has not yet occurred, it must be incorporated into the project timeline to prevent delays. **Evidence required** Early DNO engagement: Applicants should contact their DNO promptly to avoid project delays and provide evidence of the engagement or its expected date. Capacity assessment: If additional electricity capacity is required, applicants obtain a quotation for the proposed electrical upgrade. If no electrical upgrades are required, applicants must demonstrate that the low carbon heating equipment and EV/EVCI arrangements can operate safely within existing electrical infrastructure, in line with standard practice. Additionally, the DNO must be informed of the new equipment connection to ensure there are no adverse impacts on the local power networks. Some project types do not require discussions with the DNO. If so, provide justification demonstrating this, such as a project solely implementing building fabric insulation, where no electrical capacity upgrade is needed.

Building energy figures	Applicants must provide evidence of existing annual fossil fuel and electricity usage, e.g., metered data, the previous year's energy bills and/or the latest DEC.
Fuel costs	Applicants must provide evidence of current fuel costs (e.g., energy bills) and commentary on proposed fuel cost and what this is based on.
Project governance - skills and experience of the project team	Applicants must provide a detailed overview of who will be involved in implementing and managing the project, including a project organogram, to demonstrate that the governance structure in place is suitable for the size and scope of the project. The application should also identify a main contact to manage engagement with Salix during the application process. The Authorising Official and main contact are accountable for the application, project delivery and governance of the Digarbon project. This responsibility cannot be transferred to contractors.
Project governance - procurement process	To ensure the project can deliver within the required timescales, applicants should have considered the procurement of their works and services. Applicants must provide a detailed procurement process that explains plans for procuring the services needed for their project. Applicants will also need to state how they will mitigate against fraud in relation to their procurement policy within the application form.
Project programme	Applicants must provide a detailed project programme, showing key actions and milestone completion dates which ultimately demonstrate project completion by the project end date specified. For example, this could include dates for: project approvals, designs complete, tenders complete, orders placed, completed on site and final commissioning. These dates should align with the milestone dates in the application form. **Evidence required** A project programme is typically presented in a Gantt chart, either in an Excel spreadsheet or dedicated project management software. Milestones should be realistic and incorporate lead times for suppliers of equipment and times of unavailability due to site constraints (for example, disruptive works might only take place at an educational facility during term breaks). The project programme should include sufficient contingency and be updated if there are any variances to the programme of works. The optional Salix project programme template can be downloaded here to support applicants.
Risk register	A detailed risk register must be provided which identifies the risks associated with the feasibility and deliverability of the project. Applicants can use the Salix template found here. Common risks can include: • Supply chain delays • Approval or permission delays • Cost increases • Delays for necessary electrical infrastructure upgrades • Working in a live environment.
Energy and carbon monitoring plan	To measure the effectiveness of the project, applicants must provide an energy and carbon monitoring plan to show how each technology will be monitored and how the energy savings will be measured. This could include monthly

	metered readings, who will be responsible for this, where it will be recorded and whether the data will be analysed. Applicants are encouraged to consider the installation of smart meters as an eligible enabling measure to facilitate accurate energy monitoring and system performance. Updating how buildings measure and use energy can help to reduce running costs and in some cases can lead to revenue generation.
Performance management plan	Applicants seeking funding for new electricity-generating stations, including renewable technologies such as solar PV, must submit a **Performance Management Plan** to ensure efficient system operation. This plan must outline how the generating station will be managed throughout its operational lifetime to maintain expected performance. **Key Points for the performance management plan:** • Performance manager: Each applicant must designate a performance manager responsible for the system's performance, distinct from operation, maintenance, and monitoring contractors. • Monitoring and performance: The performance manager will ensure the system performs as expected and provide data for carbon reporting. They will monitor, record, and validate key data daily, optimise performance, and ensure compliance with contracts and safety standards. **The performance management plan should include:** 1. Performance monitoring: Monitor, record, and validate key performance data, including half-hourly generation data recorded at a generation meter compliant with Schedule 4 of the Office for Product Safety and Standards (OPSS). 2. Maintenance & compliance: Ensure operation and maintenance meet warranty and insurance requirements. 3. Contractor management: Ensure that operation, maintenance, and monitoring contractors meet or exceed their contractual obligations. 4. Regulatory compliance: Ensure compliance with all relevant contracts, permits, and safety standards. 5. Electricity supply management: Manage electricity supply and purchase contracts. 6. Insurance documentation: Maintain records to support insurance claims. 7. Operational records: Keep an operational diary and owner's manual. **Performance monitoring frequency**: Best practice is daily monitoring. The minimum frequency for a pass is weekly. The plan must also specify how annual availability percentage will be calculated for public sector net zero reporting. **Guidance on annual availability**: Annual availability refers to the percentage of time an electricity generating station is available to generate electricity. While renewable sources like solar may be intermittent, systems should be kept in optimum working condition to generate when called upon. Availability is calculated by deducting the hours the station was unavailable from the total hours in the year and expressing this as a percentage. For further guidance on monitoring and maximising the performance of rooftop solar arrays, refer to: Monitoring and maximising the performance of roof-top solar arrays: guidance and tools | GOV.WALES

	For standalone generating stations, refer to: Managing standalone renewable generation: guidance | GOV.WALES For additional support, contact the Welsh Government Energy Service at enquiries@energyservice.wales with the subject line: **"Performance Management Plan"**.

Technology specific requirements for other technologies

Other eligible technologies	Evidence required for assessment
Electric vehicles and Electric Vehicle Charging Infrastructure (EVCI)	Eligible technologies include battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles (FCEVs). Hybrid electric vehicles (HEVs), eFuels, hydrotreated vegetable oil (HVO), hydrogen internal combustion engine (ICE) vehicles, and other ICE fuels are not eligible. Applications for electric vehicles or charging infrastructure on their own will not be considered eligible. These must be part of a broader decarbonisation strategy, which could include low carbon heating systems or other fabric first measures. For electric vehicles, applicants must demonstrate that the vehicle's function is linked to a building or site within the same project undergoing low carbon heating or fabric first installations. For EVCI arrangements at buildings where no other low carbon heating or fabric first installations are taking place, please provide evidence that their function is linked to the wider site. In the Digarbon Application Form, *Step 2b EV Proposal* specifies the information required for an electric vehicle and/or EVCI proposal, highlighting variations in the evidence required based on project type, EVCI arrangements, and the presence of an existing fossil fuel-powered fleet. The electric vehicle/EVCI evidence required is summarised below: • Applicants proposing to replace a fossil fuel-powered fleet with electric vehicles must provide a detailed summary of the existing fleet. This should include the fleet profile (number of cars, vans, HGVs, buses, etc.), vehicle purpose, justification for fleet sizing, and the overnight location of vehicles (e.g., depot, employee's home, car park). • For new electric vehicles that do not replace an existing fossil fuel-powered vehicle, applications must include a fleet transition plan. This should demonstrate the organisation's demand for the new electric vehicle fleet and justify how the proposal reduces reliance on fossil fuels. • All electric vehicle/EVCI applications must provide evidence of the strategic need for the transition, including how the proposal contributes to sustainability improvements, GHG reduction, air quality, and energy use. The application should also outline links to the organisation's net zero strategy and future electric vehicle plans to further reduce fossil fuel reliance. • Applicants must demonstrate a comprehensive approach to reducing fleet emissions. This includes optimising fleet composition, detailing the purpose and function of proposed electric vehicles, and specifying charging procedures. Information on the procurement strategy and electric vehicle programme plan is also required. • For EVCI installations or upgrades, applicants must provide a detailed summary of existing EVCI arrangements and proposed improvements. This should cover feasibility, viability, and available charging infrastructure options.

	Electric vehicle/EVCI cost evidence required • A clear breakdown of all costs associated with the purchase and installation of electric vehicles and EVCI, including the cost of each electric vehicle. For EVCI proposals, this should include each EVCI unit, related installation costs, and any additional equipment needed for vehicle charging. The full electric vehicle project cost should be evidenced in the Digarbon Application Form, Step 4 Measure Details. • The methodology and evidence used to produce the cost breakdown, such as quotes, invoices, or the methodology for calculating any estimates.

Appendix 3 – List of eligible direct carbon saving energy efficiency measures

Below is a list of energy efficiency measures from the eligible technologies table in Appendix 1 that deliver direct carbon savings. Note: Some work types may only result in indirect carbon savings, and direct savings must be evidenced where applicable.

Project Type	Work Type	Direct Carbon Savings
Building Energy Management Systems (BEMS)	BEMS - not remotely managed	X
	BEMS - remotely managed	X
Energy from waste	Biogas for heat	X
Heating	Heat recovery	X
	Heating - discrete controls	X
	Heating - distribution pipework improvements	X
	Heating - zone control valves	X
	Replace steam calorifier with plate heat exchanger	X
	Steam trap replacements	X
	Thermal stores	X
Hot water	Flow restrictors	X
	Hot water - distribution improvements	X
	Hot water - efficient showers	X
	Hot water - efficient taps	X
Insulation - building fabric	Cavity wall insulation	X
	Double glazing with metal or plastic frames	X
	Dry wall lining	X
	External wall insulation	X
	Loft insulation	X
	Floor insulation - suspended timber floor	X
	Floor insulation - solid floor or other type	X
	Roof insulation	X
	Secondary glazing	X
Insulation - draught proofing	Insulation - draught proofing	X
Insulation - other	Automatic speed doors	X
	Automatic/revolving doors	X
	Draught lobby (external)	X
	Draught lobby (internal)	X
	Radiator reflective foil (external walls)	X
Insulation - pipework	Heating pipework insulation (external)	X
	Heating pipework insulation (internal)	X
Motor controls	Fixed speed motor controls	X
	Motors - flat belt drives	X
	Variable speed drives	X
Motor replacement	Motors - high efficiency	X

Swimming pool covers	Swimming pool covers (manual)	X
	Swimming pool covers (motorised)	X
Time switches	Time switches	X

Appendix 4 – Glossary

Additionality
Digarbon additionality criteria prohibit spending loan funding on any measures that are required to be installed by law. This ensures that all loans create additional value, thereby maximising the impact of Digarbon.

Air-to-air heat pump
An air-to-air source heat pump extracts the heat energy contained within the air and transfers it to the air inside a room through a series of fan coil units. It cannot provide domestic hot water (DHW) so an alternative system would be required to cover DHW demand.

Air-to-water heat pump
An air-to-water source heat pump extracts the heat energy contained within the air, it draws in air through a heat exchanger containing a refrigerant, which absorbs the heat and turns into a gas. The refrigerant gas is then compressed, heating it up, which then passes through another heat exchanger and heats up water to a desired flow temperature. The refrigerant turns back into a liquid and is expanded, and the process will recommence.

Alternative or dual fuel resilience
A form of backup where two different fuel types are required to ensure continuation of supply, in case of a failure in the primary fuel system, at sites with critical needs.

Authorising Official
An individual from an eligible organisation in a position of authority to approve and sign official and legal documentation associated with the project. This may be a chief executive or financial officer, or another senior official. This individual should be identified and agreed upon before application and should be part of the project governance structure.

Backup heating plant
Any form of heating plant that only operates when the primary heating system is not working, either due to a failure, maintenance, or downtime. The backup does not operate in conjunction with the primary system and ensures that the site still has a heating supply, when the primary system is not running. It can be the same or different fuel type as the primary system, and is generally sized to match the primary system, unlike N+1 resilience. It is considered an energy security measure, so is not eligible for funding under Digarbon.

Bivalent systems
Typically use a primary and a secondary heating/cooling generator. The primary system provides part of the peak load, with the secondary system supplying either the remainder of the peak load (a parallel bivalent system- this strategy minimises contribution by the secondary plant) or the entire load under peak conditions (an alternative bivalent system).

Campus heat network
A series of buildings connected to a district heat network where the building owner and heating plant owner are either the same or are related parties, for example a university site.

Carbon cost metric
Refers to the instrument used to review the benefits over the project lifetime to appraise the value for money of the proposed project. This is automatically calculated by the Salix support tool in the application form. While there is no threshold requirement for a project to be considered eligible, projects that are considered to have effective value for money will achieve a carbon cost below £550 tCO_2e. Applicants are encouraged to submit an application with a carbon cost below this figure, though Salix understands that this figure may be exceeded in some specific circumstances, which should be outlined in the application form.

Cascading heat pump system
More than one heat pump works together to meet the heating and hot water requirements. The most common is a water source heat pump being fed from an air or ground source heat pump to provide higher flow temperatures.

Commercial gain
A private sector organisation benefits financially from the scheme, which could provide an unfair advantage to them and/or result in scheme benefits being transferred outside the public sector.

Counter Fraud Declaration
A document signed by the Authorising Official confirming, on behalf of the public sector body, their commitment to statements detailed in the document.

Delta T
The difference between the flow temperature leaving the heating plant, and the return temperature of the heating system. For example, a heating system with a flow temperature of 45°C and a return temperature of 35°C would have a delta T of 10°C.

A high delta T or one significantly different from the existing system requires evidence that the design accounts for the heating system's specific requirements. Supporting evidence includes proposed heating system schematics and/or piping and instrumentation diagrams, along with a description of operation. This must demonstrate that the infrastructure can maintain efficient long-term performance, particularly if existing emitters are retained and the delta T has increased.

Direct carbon
Refers to the carbon emissions that are emitted either directly within an organisation's site boundary from combustion of fossil fuel, or where district heat networks are used the carbon emissions that are emitted from the combustion of fossil fuel in a district heating plant room. For most public sector organisations this will primarily be fossil fuels (gas, oil and coal) which are combusted on site.

District heating
Heating for several buildings in a local area is provided from an external energy centre. The heating is typically transmitted to each building via a network of highly insulated underground hot water or steam pipes. It is also known as heat networks or teleheating. The heat is often obtained from a cogeneration plant burning fossil fuels or biomass, but heat-only boiler stations, geothermal heating, heat pumps and central solar heating are also used, as well as heat waste from nuclear power electricity generation.

Electric vehicle charging infrastructure (EVCI)
Refers to the network of charging stations and supporting infrastructure/equipment used to enable the use of electric powered vehicles and to facilitate the charging of Electric Vehicles (EVs). Typical components to the charging infrastructure (e.g. charging stations) include the power source, transformer, charging supply equipment and distribution switchboard.

Feasibility study
A site-specific comprehensive overview that considers the financial, technical, legal and delivery feasibility of the project.

Ground source heat pump
A ground source heat pump extracts the heat energy contained within the ground. It circulates a water-antifreeze mixture known as a 'thermal transfer fluid' through pipework underground. This is then pumped through a heat exchanger containing a refrigerant, which absorbs the heat and turns it into a gas. The refrigerant gas is then compressed, heating it up, which then passes through another heat exchanger and heats up water to a desired flow temperature. The refrigerant turns back into a liquid and is expanded, and the process recommences.

Heat networks
Heat networks supply heat from a central source via a network of pipes carrying hot water. In high density urban areas, they are often the lowest cost, low carbon heating option. They can use any source of heat such as renewables, large rivers, geothermal or waste heat from industry.

Organisations that cannot connect to a heat network yet but are likely to be near heat networks in future are encouraged to make their projects heat network compatible.

Heating plant
The unit that generates thermal energy for use in space heating and/or hot water requirements for buildings, examples include boilers and Combined Heat and Power (CHP) units.

Hybrid low carbon systems
A low carbon heating system that uses one low carbon heating technology, such as an air source heat pump, to meet the average/standardised heating needs of the building. This is then paired with another heating technology as a 'top-up', such as an electric boiler, to meet the peak loads of the building, when the main low carbon heating technology cannot alone. The advantage of a hybrid system is that it optimises the heat pump performance as it can run all or most of the time.

Indirect carbon
Carbon emissions resulting from power generation off-site by another organisation. For the vast majority of public sector organisations, this will primarily be carbon emissions arising from grid electricity use.

Leasehold
The leasing agreement or contract that a public sector organisation holds over the responsibility of operation and maintenance of a specific building.

Life-cycle costs
An approach that considers all costs that an organisation will face throughout the lifetime of an asset/project up until its disposal. This includes, but is not limited to, the initial investment, operating costs, maintenance costs and service costs etc.

Lifetime of low carbon heating measures
The anticipated lifetime of a low carbon heating technology. The lifetime is used alongside the lifetime of energy efficiency measures to calculate a measure's carbon cost.

Loan agreement
The legal contract between the public sector body (loan recipient) and the lender (Salix Finance) detailing the terms and conditions, and obligations of parties under the loan.

Loan amortisation schedule
A record of scheduled payments split between the capital and interest repayments, detailing how the loan will be paid off over its lifetime.

Low carbon heating
A heating system that emits little or no direct carbon. Electric heat pumps are the most common low carbon heating solution. They are often multiple times more efficient than a fossil fuel boiler and the indirect emissions associated with electricity use will reduce over time to zero as the power grid decarbonises.

Main contact
An individual responsible from the public sector applicant for overseeing the project and fulfilling duties such as completing monthly monitoring reports, sharing payment evidence, and ensuring Salix is kept up to date during project delivery.

N+1
'N' is the number of components needed to achieve the design conditions. For example, this could be 4 boiler heating modules designed to achieve 100% of the heating load at design conditions. '+1' redundance provides a minimal level of resilience by adding a single backup component. In the above example N=4 boilers and +1= 1 similar sized back up boiler to the N boilers. N+1 may be achieved on a single fuel system, so can provide a different form of resilience to alternative or dual fuel.

Options appraisal
A site-specific report identifying viable design options for the building's fabric improvements, energy efficiency measures and low carbon heating measures.

Persistence factor
The persistence factor is the lifetime of the energy efficiency technology averaged to factor in degradation. The persistence factors for individual technologies employed by Salix are based on those derived by the Carbon Trust.

The persistence factor is used in the calculation of cost to save a tonne of CO2e over the lifetime of an energy efficiency measure (£/tCO2eLT).

Private finance initiative (PFI)
A private finance initiative (PFI) is a specific example of a project where capital for public sector projects is financed from the private sector. PFIs involve a long-term contract between a private party and a public sector entity where the private sector designs, builds, finances and operates a public asset and related services. The costs are repaid by the public sector over a long-term finance agreement.

Repayments (capital)
A repayment on the loan that contributes to the repayment of the original amount.

Repayments (interest)
A repayment on the loan to pay off the interest charges on the loan.

Subsidy 'enterprise'
As defined in section 7 of the Subsidy Control Act 2022.

Water source heat pump
A water source heat pump extracts the heat energy contained within water. It pumps water from an available water source to a heat exchanger containing a refrigerant, which absorbs the heat and turns into a gas. The refrigerant gas is then compressed, heating it up, which then passes through another heat exchanger and heats up water to a desired flow temperature. The refrigerant turns back into a liquid and is expanded, and the process recommences.

Whole building approach
An approach to retrofit for decarbonisation that considers all the factors that contribute to a building's energy consumption together to identify the most cost-effective solution. For example, investment in improving the insulation levels of the building fabric will reduce the size of low carbon heating plant required, improve thermal comfort and save on fuel bills. Investment in reducing the peak electricity consumption can reduce the need to upgrade a building's electrical infrastructure to accommodate the installation of a heat pump.