

Public Sector Decarbonisation Scheme (PSDS) Phase 4 April 18, 2024



Content

- **Mechanics of the PSDS 4**
Funding criteria, the concept of whole building approach
- **A PSDS Application**
Timelines, Information to be produced
- **Top-10 Immediate Actions**
- **Some PSDS success stories**
- **Mechanics of the LCSF 5**
The precursor to PSDS
- **Q&A session**

Public Sector Decarbonisation Scheme

PSDS 4 - Extent of scheme (expected)



Scope

- Sponsored by DESNZ & DBEIS
- Fund managed by Salix
- Total fund of **£2.32Bn** across all 5 x phases of PSDS
- For **PSDS 4** (6th phase) – just announced in Dec 23.
 - **Up to circa £750m over 3 years**
 - Expected to open in July
- Project types
 - **1-year** complete by Mar-25
 - **2-year** complete by Mar-26
- **Focused on heat decarbonisation**
- **Change in award mechanism** (shift away from first- come- first –serve basis to **“value for money”**)

Client Funding contribution

- Client contribution of **min. 12%, see example below**
- Contribution is based on the 12% **or** the replacement of the life expired fossil fuel plant, **whichever is higher**
- Client to confirm at application that they fund this
- Clients can obtain financing for the 12% contribution from UKIB
- [UK Infrastructure Bank \(ukib.org.uk\)](http://ukib.org.uk)

item	£
Total Project Value (TPV)	10,000,000
Grant value	8,800,000
Contribution (based on 12%)	1,200,000

Soft sector funding caps

- Sectors are
 - **Education**
 - **Health**
 - **Local Authority & other**
- Based on CO2 impact of each sector
- Each sector eligible of between 30 to 35%
- So based on £750m fund **PSDS 4 equates to c. £250m per sector**

What's included

- Capital works, external consultancy and management fees may be included.
- **Must include VAT** if it is paid by client
- Existing client employee costs or any costs previously incurred cannot be included.



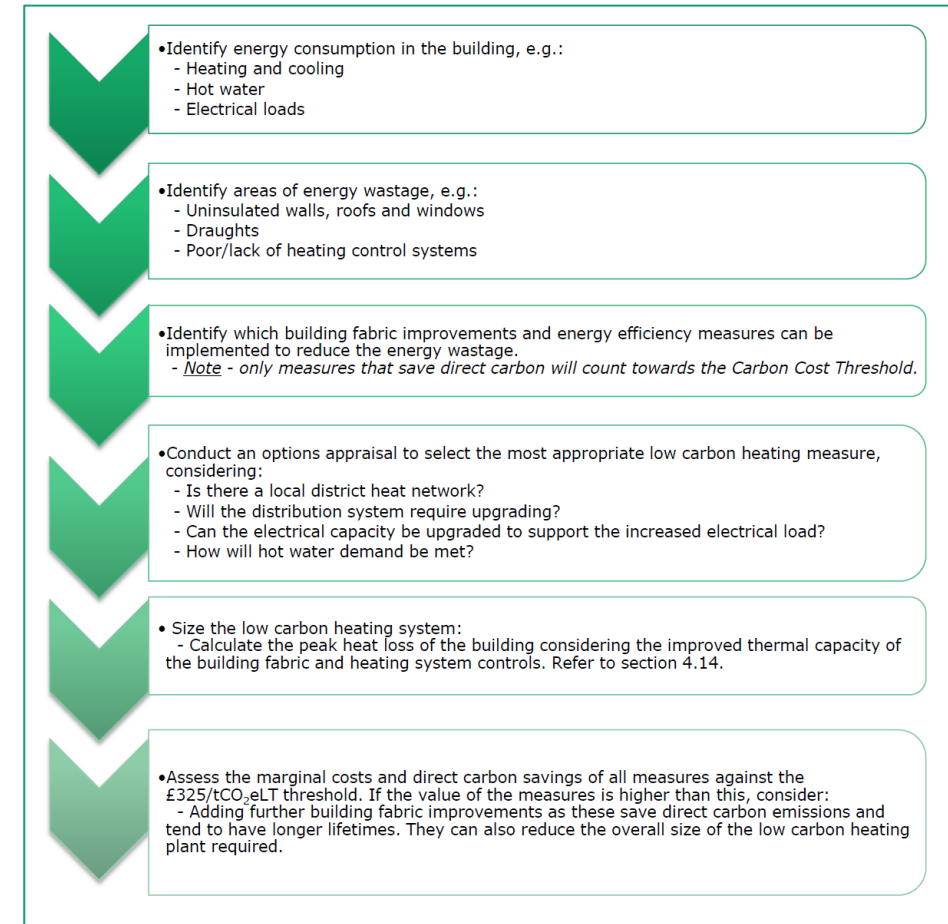
Scheme criteria (expected)

Scheme criteria

- Strict criteria, gas fired end-of-life heat plant (boilers/chp) > 10-years old, need to be able to prove it
- This plant will need to be removed / decommissioned
- An eligible low carbon heat technology (e.g. heat pump) MUST be used to replace end of life fossil fuel plant
- Energy efficiency measures can be included maximum of 58% of the total grant value – on buildings served by new low carbon heat plant
- Enabling works such as electrical infrastructure upgrade can be funded by the grant also
- Carbon Cost Threshold (CCT), <£325/LTtCO₂e
- PSDS4 – looking for value for money wrt £/LTCO₂

Whole building

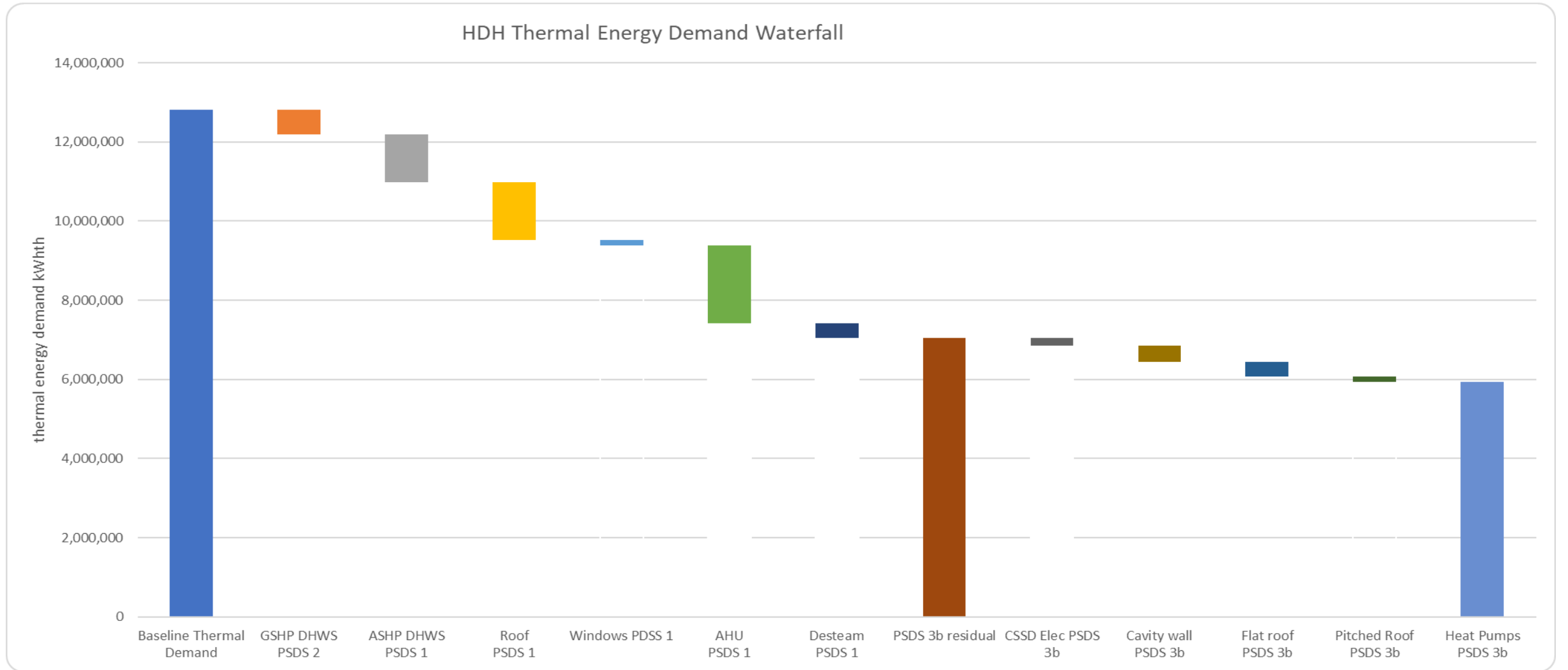
- The ‘whole building’ approach criteria is expected to be applied to all the buildings within the application.
- This includes an investigation to deduce whether all reasonable steps have been taken to reduce heating demand to enable low flow temperature heating systems
- More fabric can be added to maximise scope as long CCT is not exceeded



How the Carbon Cost Threshold is calculated:

$$£325 \text{ tCO}_2\text{eLT} \geq \frac{[(£)\text{Full capital cost of measures}] - [(£)\text{Applicant contribution}]}{\text{Total direct carbon emissions saved over the lifetime of the project (tCO}_2\text{eLT)}}$$

Whole building waterfall



Plan for application

Timelines

- Register with Salix if not done so already [here](#)
- Submit application Oct (mid-Oct assumed)
- Compliance checks by Salix Nov/Dec
- Detailed check by Salix Dec/Jan
- Agreement on Grant offer Jan/Feb
- Grant offer letter signed (GOL) by end Mar-25
- **Claim cannot be made for any work /costs prior to signing of GOL**

<https://www.salixfinance.co.uk/public-sector-funding-schemes>

Top-10 Immediate Actions

1. **Research** the scheme and the types of projects [here](#)
2. **Confirm eligibility**, fossil fuel fired boilers/chp > 10-yr old
3. Confirm **how the client contribution is going to be funded**, consider complimentary funding if needed
4. **Understand application process &** requirements
5. Focus on obtaining **existing energy and asset information**
6. **Repurpose previous work**; “failed” PSDS applications, utilise existing Heat Decarbonisation Plans & other previous work
7. **Agree procurement route** for delivery; provides **more credibility** to the application, in terms of timings ability to deliver against funding deadlines
8. **Ensure client senior team are engaged** across all functions – **senior sign off required at application**
9. ~~Plan the upload with IT carefully~~, this will make or break the application. Consider firewalls, connectivity, browsers, Plan B etc
10. **Dalkia can support you** with experience; successful in >£200m applications & can stand behind information produced

Collateral Required for PSDS Application

Ref	Submission	Dalkia	Client	Comments
1	<p>Applicants must have and be using a fossil-fuelled heating system:</p> <p>Energy consumption data for the last three years such as energy bills, Display Energy Certificate (DEC), Energy Performance Certificate (EPC) and energy benchmark estimated appropriate to the building type</p>		•	
2	<p>Heating system must be coming to the end of its useful life:</p> <ul style="list-style-type: none"> • Condition survey and/or forward works plan • Asset Register or Life Cycle Register • Commissioning test certificate • Service records recording boiler efficiency • Photographic evidence 	•	• • • •	
3	<p>Incremental upfront cost of installing a low carbon heat source:</p> <ul style="list-style-type: none"> • Evidence of costs for the full conventional fossil fuel plant replacement including all associated works. • Evidence of costs for the new low carbon heating solution 	•	•	
4	<p>Applications must include a measure to contribute to decarbonise the heating with a low carbon heating system:</p> <ul style="list-style-type: none"> • Supporting calculations which explain the kilowatt hour savings figures provided (e.g., energy saving models, heat loss calculation and heat pump size calculation) • Technology specifications (e.g., product brochure) • Design specification (e.g., of flow/return temperatures for the existing fossil fuel heating plant) • O&M manuals and heating system schematic for the existing fossil fuel heating plant 	• • •	•	
5	<p>Applicants can include energy efficiency measures and other enabling works where they support a whole building approach to decarbonisation:</p> <ul style="list-style-type: none"> • Energy audit report or feasibility study • Summary of the process you went through to pick the measures in your application, demonstrating why a chosen approach to decarbonisation is preferable to other options available 	•	•	
6	<p>Evidence that all costs are necessary:</p> <ul style="list-style-type: none"> • Details of supply and installation costs for each measure and any associated enabling works. Specific consideration may need to be given to the electrical infrastructure and any new additional demands that may be required. 	•		
8	<p>Project management:</p> <ul style="list-style-type: none"> • Project delivery plan (Gantt chart or similar) • Risk register 	•		
9	<p>Salix Application Spreadsheet</p>	•		

Commentary Required for PSDS Application

Ref	Submission	B	T	Comments
1	Project Intro Project Title Organisation details Procurement Status Consultant organisation and details 250 word project summary Yes/no declarations – long-term lease arrangements/project not-yet-started/completion by end date/planning consent/internal sign off/PFI/Other funding		•	Trust to review declarations.
2	Grant Funding Criteria Description of current heating system & breakdown of building & systems Detail of system condition and end of life status Specify how you have taken a whole building approach. Boiler make & model, load, efficiency, GIA Cost of like for like replacement Cost of low carbon heating measure & marginal cost Description of approach to estimating the costs Building UPRN and MPRN (Gas) and MPAN (Elec) numbers			Trust and Breathe to compile existing data.
3	Support Tool Individual measures with cost/carbon/tech/energy before & after/£'s/Cost per tonne	•		
4	Business Case Cost breakdown VAT Commentary on project costs – how they have been estimated & how it is cost effective inc evidence and supporting data Overview of measures – how they were identified, site types and names. (Check multiple sites and measures) Demonstrate how the measure is compatible with the site, how it was chosen, include schematics for before & after, evidence of how all heating requirements will be met, how existing emitters will be upgraded, supporting documents. Project Carbon Saving calculations – description and supporting savings calculations Energy and Carbon Monitoring Plan Project Governance – attach project execution plan (if available) and internal project plan Previous experience – (Internal) applicant and project team Previous experience – (External) Consultants and contractors – include qualifications Procurement process Delivery Plan and Payment Requirements Commentary on delivery timescales Project risks and mitigations – attach risk register if available Mitigating Fraud		<ul style="list-style-type: none"> • Trust to consider their own costs • Trust to clarify VAT <ul style="list-style-type: none"> • Trust to review project governance • Trust to draft previous experience <ul style="list-style-type: none"> • Procurement process <ul style="list-style-type: none"> • Trust to review mitigating fraud section. 	

Key ingredients for a successful project...North Tyneside General Hospital

£22m scheme

Project Overview

- Trust secured £22m, 88% PSDS funded
- Innovative low carbon supply of heating, hot water and cooling via new energy centre
- Deliver sustainable carbon reduction c.3,371 tCO₂e savings p.a. Scope 1 & 2
- Opex cost savings c. £700k p.a.
- Address critical backlog risk through the replacement of aging steam & HV electrical infrastructure equates to c. £8m
- Design template for future upgrade & new build to align with the scheme
- Whole building approach

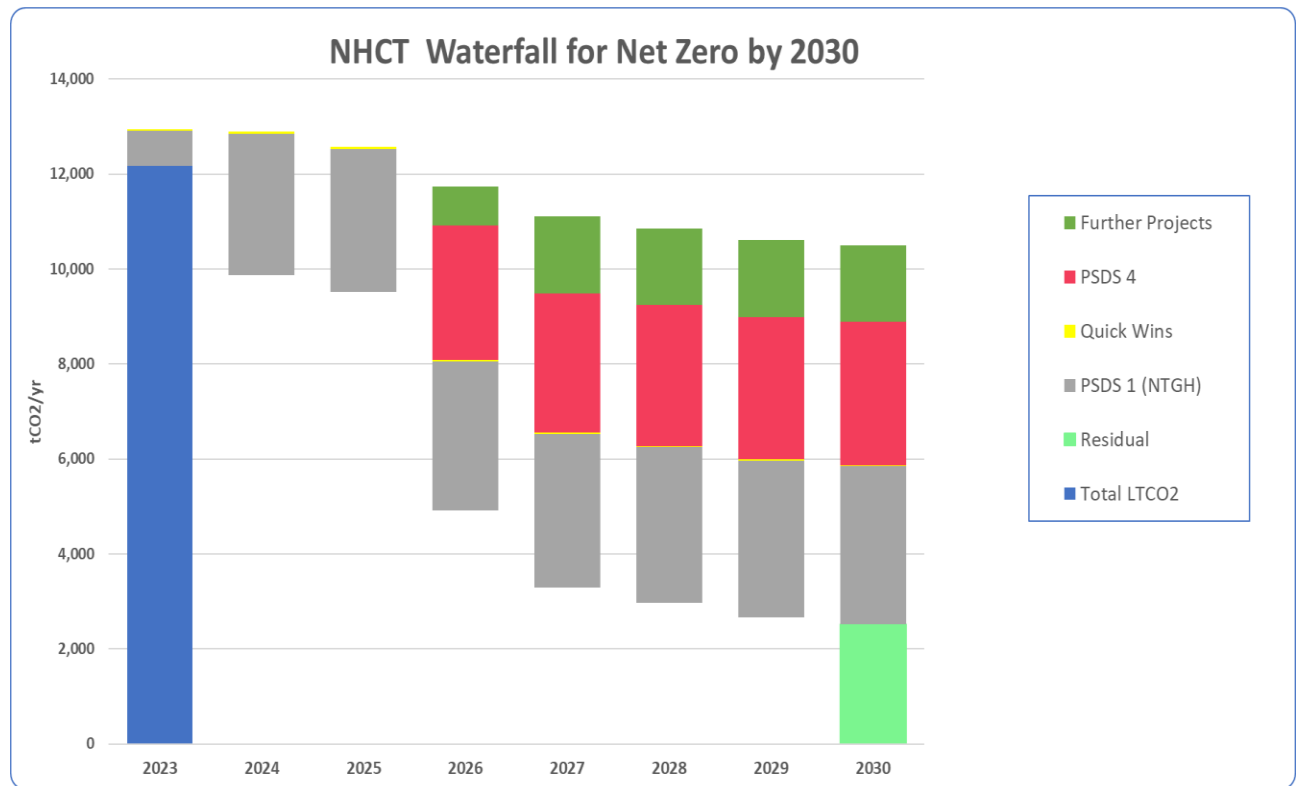
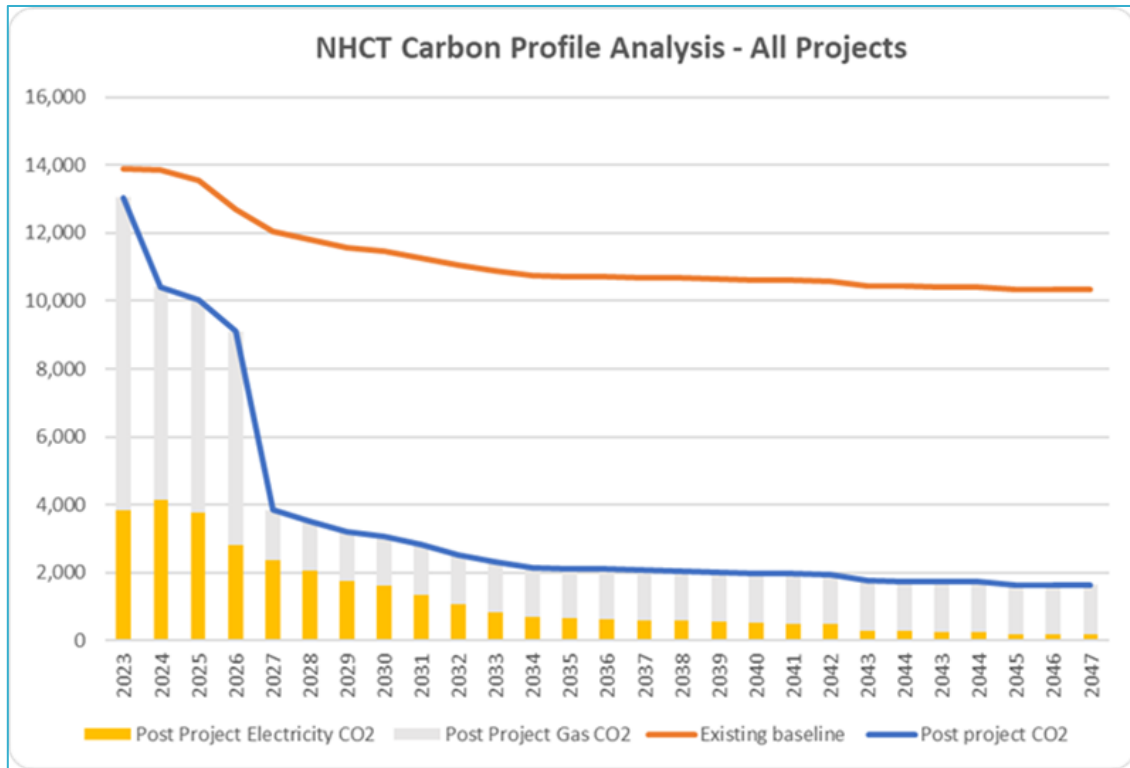


PSDS funded

- Retrofit of cavity wall insulation, & single-glazed windows with new double-glazed units
- 3.2 MW air and water source heat pumps c.85% of annual heat demand & 250% for cooling
- Simultaneous provision of chilled water for AHU systems with spare capacity for future cooling provision
- Replacement of ageing steam infrastructure and calorifiers with a new LTHW network and plate heat exchangers.
- A new roof-mounted solar PV array of around 1.0 MWp.
- Retrofit of high-efficiency motors for air-handling plant.
- Much needed HV infrastructure upgrades. Increase from 1MVA to 3MVA

Contract duration c.15 years

Northumbria NHS Trust



The proposed roadmap would bring an 84% carbon reduction (direct & indirect) by 2030, and an 92% reduction by 2040 could be achieved.

Imperial NHS Healthcare Trust

- Largest Health Trust in UK across 2 x sites; Charing Cross and Hammersmith Hospitals
- Innovative heat pump solution supplying low & high-grade heat plus chilled water delivering high efficiency energy all year round
- Doubled the cooling capacity at Charing Cross
- Future flexible allowing for phased Net Zero Delivery
- Offset long-standing backlog, replacing old boilers and steam systems
- Decarbonisation – c.15% carbon reduction.
- Finance – Public Sector Decarbonisation Scheme



c.£45m scheme

PSDS 1 & 3a funded

- ✓ LED lighting retrofit
- ✓ Retrofit of high-efficiency fans, motors, heating coils and filter – c.21 units
- ✓ BMS control upgrade and optimisation
- ✓ Overall heat pump capacity for heating and cooling c. 5MWth at Charing Cross & 3.2MWth at Hammersmith
- ✓ Simultaneous provision of chilled water interface with existing systems spare capacity for future cooling
- ✓ Replacement of ageing steam infrastructure and calorifiers with a new LTHW network and plate heat exchangers.
- ✓ Much needed HV infrastructure upgrades including new NV substations and multiple LV panels/distribution
- ✓ Replaced failing MTHW boiler at Hammersmith

Contract duration c. 15 years

Imperial NHS Healthcare Trust



Changes expected for PSDS 4

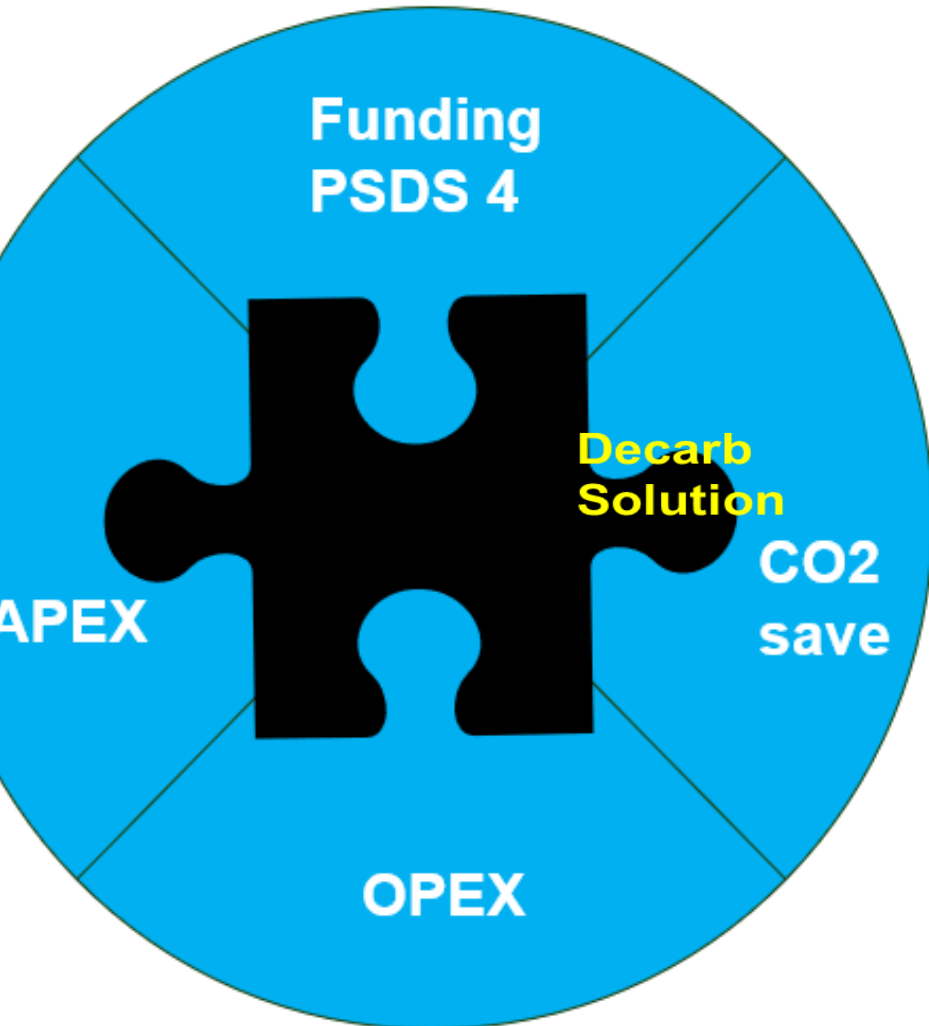
Update: PSDS 4
Details Announced
29.02.24

“There will be a change in awarding mechanism, with a shift away from a first-come-first-served basis, to a ‘value for money with most direct carbon emissions’ reduction”

In/Out	Measure Description	Electricity Savings (kWh/annum)	Gas Savings (kWh/annum)	Financial Savings (£/annum)	Carbon savings p.a. (tCO2e)	Lifetime Carbon (tCO2eLT)	Indirect Carbon Savings p.a.	Project Value inc. VAT (£)	Payback	£/tCO2eLT (Salix)
IN	AS Heat Pumps	-3,297,991	10,755,378	£ 179,175	1,963	45,815	- 696	£ 9,710,926	-54.2	£ 187
IN	Desteam (pipework)	0	676,240	£ 40,574	123	1,876	-	£ 5,334,108	131.5	£ 2,501
IN	Desteam (convert steam calorifiers)	0	1,352,481	£ 81,149	247	7,037	-	£ 3,351,198	41.3	£ 419
IN	Cavity Wall Insulation	0	267,857	£ 16,071	49	1,467	-	£ 503,127	31.3	£ 302
IN	Loft Insulation	0	96,045	£ 5,763	18	473	-	£ 275,459	47.8	£ 512
IN	Solar PV	514,543	0	£ 128,636	-	-	109	£ 1,536,564	11.9	
IN	AHU Fan Retrofits	117,423	0	£ 29,356	-	-	25	£ 209,077	7.1	
IN	BMS Optimisation	191,083	376,806	£ 70,379	69	579	40	£ 116,053	1.6	£ 176
		-2,374,942	13,524,808	£ 217,753	2,469	57,248	- 501	£ 21,151,250	97.1	£ 325

In/Out	Measure Description	Electricity Savings (kWh/annum)	Gas Savings (kWh/annum)	Financial Savings (£/annum)	Carbon savings p.a. (tCO2e)	Lifetime Carbon (tCO2eLT)	Indirect Carbon Savings p.a.	Project Value inc. VAT (£)	Payback	£/tCO2eLT (Salix)
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		-3,006,908	13,524,808	£ 59,762	2,469	57,248	- 635	£ 19,405,609	324.7	£ 298

The Quadruple Quandary



How do you balance these 4 competing priorities?

How do you provide assurance and satisfy :

- Internal governance?
- External funding sources?

What other funding sources are available?

Summary of the Low Carbon Skills Fund (LCSF) Phase 5

1. **Sponsored by the recently formed Dept of Energy Security & Net Zero (DESNZ)**
2. Fund value **£16m** for development and production of Heat Decarbonisation Plans, Feasibility Studies and Detailed Designs
3. Split across 3 x tranches each capped as follows (NB: NO SECTOR CAPS):
 1. Below £100k; 34% = £5.44; *our assessment - 90 x successful applications based on £60k average*
 2. £101 k to £500k; 38%; = £6.08m; *our assessment - 20 x successful applications based on £300k average*
 3. Over £500k; 28%; = £4.48m; *our assessment - 7 x successful applications based on £650k average*
4. Maximum Grant Value of £1m total
5. 100% funding of work i.e. does not need client contribution
6. Where there isn't an existing HDP, we will need to include this in the scope as a minimum, (except if there is an urgent need to replace a system)
7. VAT to be excluded unless client cannot claim it back from HMRC
8. Application window: 17/04/24- 01/05/24, 2pm; **RANDOM ORDER SELECTION**
9. Results notified by 30/7/24; work needs to be complete by 31/3/25.
10. CLIENTS NEED TO REGISTER



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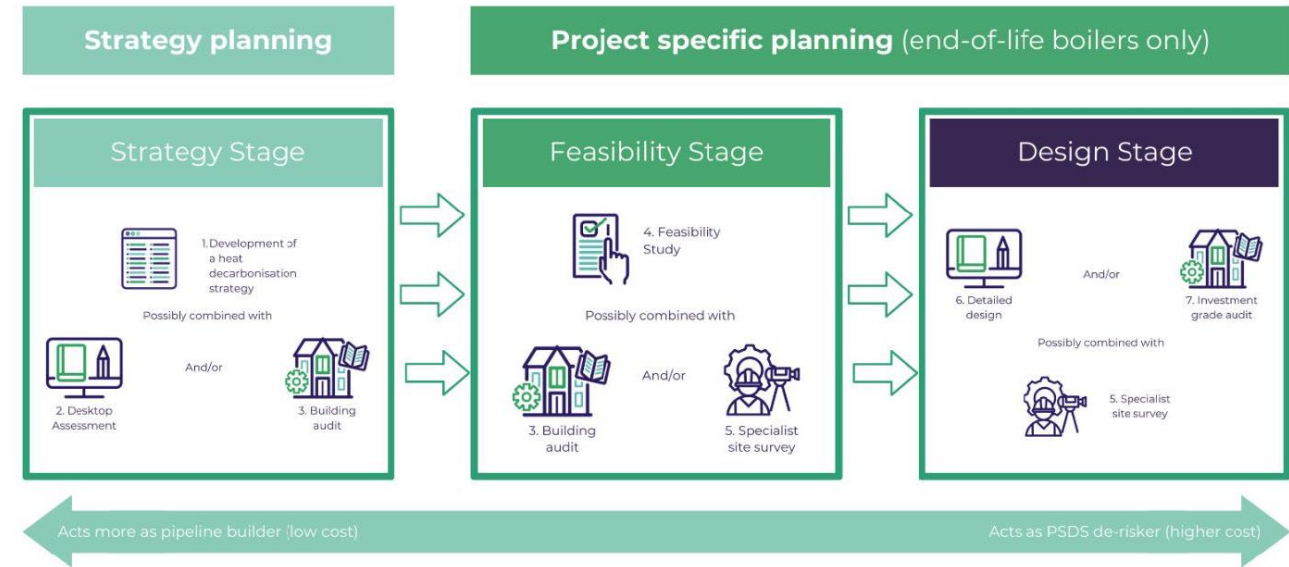
Contents page of LSCF Guidance Notes attached



Application for the Low Carbon Skills Fund (LCSF) Phase 5

What's new for Phase 5

- New application form
- Scoring framework introduced
- End of Life requirement (for stages 2 and 3) at least one end of life (10 yr) boiler must exist. Evidence must be provided
- Only one application per organisation allowed
- Leased buildings must have at least 20 years remaining in lease
- The 3 discreet options in Phase 4 have been replaced with standalone activities in 3 stages
- Any application beyond stage 1 – Strategy Stage must provide evidence of a HDP or relevant documentation (such as a completed building audit or feasibility studies)



Activities
1. Development of a heat decarbonisation strategy
2. Desktop assessment
3. Building audit
4. Specialist technical site surveys
5. Feasibility studies
6. Investment grade audits
7. Detailed design

Low Carbon Skills Fund (LCSF) Phase 5 – Activities

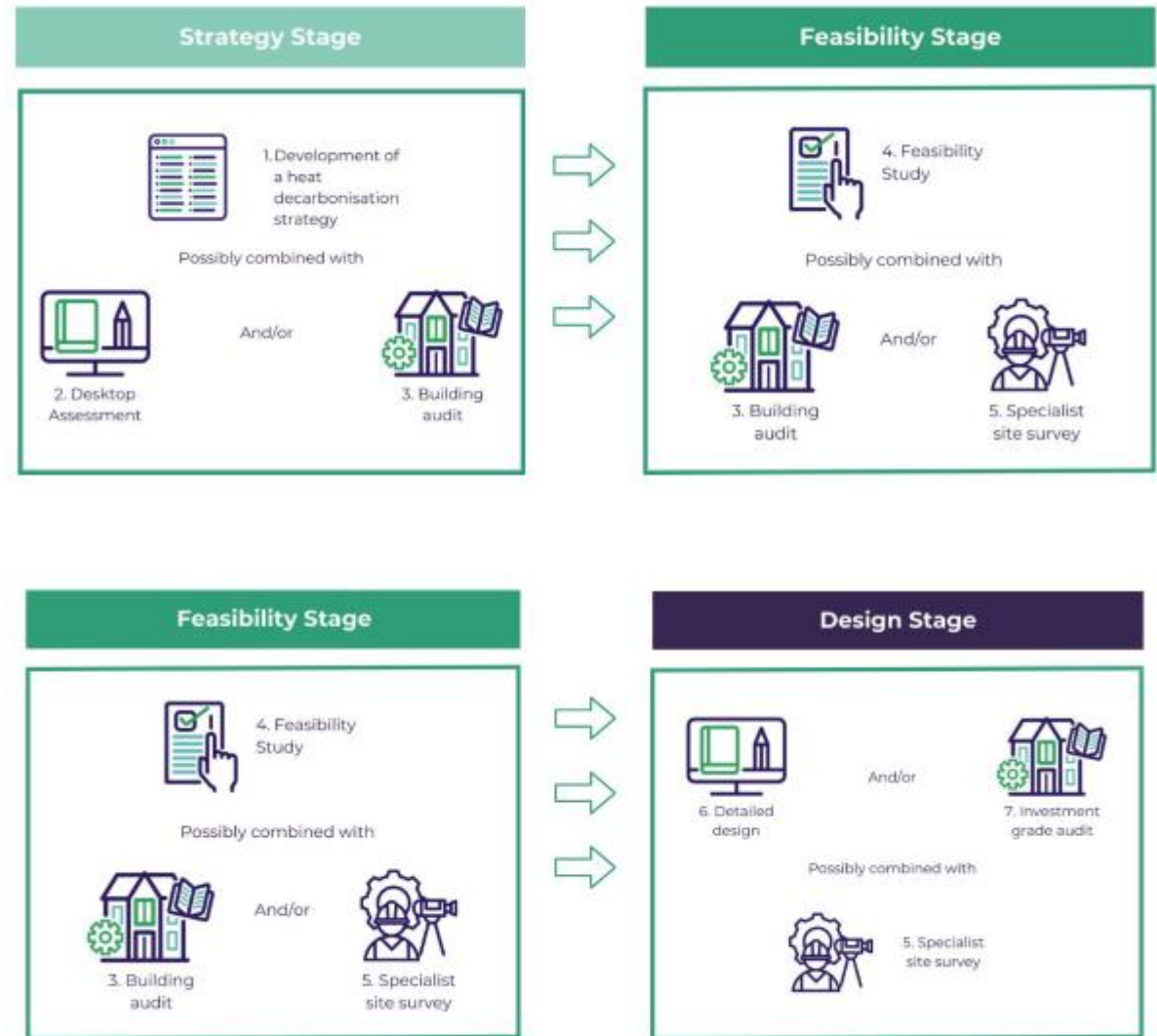
The scheme introduces activities as standalone options for funding :

1. Development of a heat decarbonisation strategy
 2. Desktop assessment
 3. Building audit
 4. Feasibility study
 5. Specialist site survey
 6. Detailed design
 7. Investment grade audits
- Buildings with heating systems of any age
- Serviced by at least one end-of-life heating system

Recommended Activity Combinations - (LCSF) Phase 5

Recommended Activity Combinations

1. Strategy Stage
2. Strategy + Feasibility Stage
3. Feasibility Stage only
4. Feasibility and Design Stage
5. Design stage only



Application for the Low Carbon Skills Fund (LCSF) Phase 5

Submission as follows:

1. **Portal Fields Entry** - see portal fields document from Dalkia to fill out
2. **Application Form**, excel workbook by Salix comprising 6 x tabs :
 1. **Project Breakdown**
 1. Costs including commentary
 2. Programme including commentary
 2. **Risk Register**
 1. Complete template – max of 9 risks

Next steps

Discussion between Client/Dalkia to plan as follows

1. Agree sites to be included
2. Agree work type i.e. HDP/Feasibility/ Design/Studies etc
 1. If no HDP exists it is possible that the work may have already been done, just not presented in a compliant HDP format; resource and costs need to reflect this
3. Capture the specific requirements that need to be included as part of this work – this specificity key in successful application in our previous experience
4. Develop scope, resource and costs
5. Develop programme and risk register
6. Produce information for submission
 1. Portal fields
 2. Application Form
7. Identify and engage with the “Authorising Official” who will need to be able to sign off the application prior to submission and will also be required to respond to an authorising email sent by Salix immediately after the application

An aerial photograph showing a large-scale renewable energy installation. The image features several rows of blue solar panels laid out in a grid pattern across a green field. In the background, the white, curved blades of wind turbines are visible, extending from the top left towards the center. The overall scene is brightly lit, suggesting a clear day.

QUESTIONS ?

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