Department for
Energy Security
& Net Zero

Evaluation of Phase 3 of the Public Sector Decarbonisation Scheme

Process evaluation report (Phase 3a)

October 2023

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Contents

Executive summary

The Public Sector Decarbonisation Scheme (PSDS)[1] provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures[2]. There are two evaluations for PSDS, commissioned by the Department for Net Zero and Energy Security, providing comprehensive evaluations of Phases 1 and 3. Evaluation activity for Phase 2, in line with its size and budget, is captured across the two evaluations.

This evaluation, delivered in multiple stages, will cover Phases 3a, 3b and 3c of the PSDS, as well as Phases 2-4 of the Low Carbon Skills Fund (LCSF). This interim report provides a synthesis of data collection activity from the first stage of the evaluation. This stage has focused on process evaluation findings from Phase 2 and Phase 3a of the PSDS. These findings have been drawn from 100 qualitative and semi-structured interviews, and five workshops, with respondents across a range of stakeholder groups[3], supplemented by analysis of programme application and monitoring data.

The findings in this report summarise respondent views on the scheme – and funded project - design and delivery. In line with the evaluation elements conducted in this first stage, these are indicative / qualitative, not statistically robust, and are reported as such. Subsequent stages of the evaluation will comprise more elements contributing to the impact and economic evaluations. These will necessarily introduce more quantitative elements (e.g. applicant surveys), and findings in the reports following these stages will be described accordingly.

Scheme design and the application stage

- Applicants to PSDS Phase 3a, especially those familiar with Phase 1, were largely comfortable with the application process. Several applicants particularly welcomed the increased scrutiny of certain elements, which they felt would filter out more speculative applications. That said, many applicants found the new application form requirements – particularly around existing building schematics and sourcing of procurement quotes – challenging and time consuming. It was noted that less well-resourced organisations might be disadvantaged by the increased requirements. Some also questioned the value of application cost estimates in light of the substantial changes in these between application and award.
- Through funding the production of Heat Decarbonisation Plans (HDPs), Phase 2 of the LCSF was felt by recipients to have been very important in enabling (particularly smaller, less experienced) organisations to establish an overall direction of travel on decarbonisation, as well as identifying priorities in terms of both building portfolio and

[1] https://www.gov.uk/government/collections/public-sector-decarbonisation-scheme
[2] 'The term 'measures' is used throughout this report to refer to the technologies being installed as part of the PSDS-funded project.
[3] PSDS and LCSF recipients, non-funded applicants, eligible non-applicants, PSDS and LCSF contractors helping grant recipients to deliver works, and Department representatives.

effective measures. However, it was noted that HDP quality has been variable (particularly in providing the type of information required for PSDS applications); one grant recipient suggested a benchmark or template for HDP content could be established.

- There are mixed views amongst stakeholders regarding the changes to rules since Phase 1 of the PSDS. The rationale for the rules was generally understood, and several changes, particularly the introduction of a multi-year funding allocation, were welcomed. However, the changes were felt to have made building fabric improvements even more financially challenging, and the stricter Carbon Cost Threshold (CCT)[4] was felt to be unhelpful in the context of high inflation and rising project costs.
- As found in the evaluation of Phase 1 of the PSDS, the 'first come first served' approach to awarding funding, and the twelve-month deadline for delivery of the PSDS-funded elements of projects, continue to be perceived negatively amongst stakeholders. Both aspects were felt, by a number of interviewees across respondent groups, to be encouraging applicants to opt for more straightforward projects. This in turn was felt to be potentially undermining the achievement of PSDS objectives by limiting project impacts i.e. larger / more complex measures may have delivered greater carbon reduction benefits. 'First come, first served' awards were also felt to be disadvantaging smaller organisations; Phase 3a applicant and award statistics do seem to suggest that PSDS is disproportionately taken up by larger, better-resourced organisations.
- Eligible non-applicant respondents seemed to be discouraged from applying mainly by the perceived overall level of resource (both person time and information) required to apply for PSDS funding. For some, this was exacerbated by uncertainty as to whether they would be successful in gaining funding, especially in the context of the 'first come, first served' approach to allocating funding.

Experiences of project delivery and management

- The majority of single-year Phase 3a projects have encountered some delays and cost inflation. However, from programme monitoring reports, most funded measures had been installed by 31 March 2023 (the deadline for single-year Phase 3a projects to draw down grant funding). All projects with measures still to be installed are expected, in programme monitoring, to be 'completed' within the 2023 calendar year. 17% of Phase 3a projects have been abandoned subsequent to receiving a PSDS grant offer letter.
- When asked about factors that would best ensure the successful delivery of PSDS projects, grant recipients emphasised the importance of contractor selection. Some reported the benefits of contracting firms with whom they have a long-established relationship; this is felt to bring benefits in terms of knowledge of sites and buildings (so improved identification and avoidance of risks). Several grant recipients felt that larger / well connected contractors were better able to secure resources that might be in short supply. Grant recipients and PSDS contractors also emphasised the value of engaging

[4] Introduced in Phase 2 of PSDS.

key stakeholders (such as Distribution Network Operators and planning departments) in the process as early as possible, as well as conducting robust site surveys and detailed design work before the project commences.

Challenges on Phase 3a projects are similar to those encountered in Phases 1 and 2 – in particular difficulties in obtaining key skills and equipment (especially air source heat pumps), planning permission, and timescales for Distribution Network Operator (DNO) work. Whilst cost inflation was a critical issue in Phase 1, challenges in the wider economic climate – perhaps coupled with the application rules around CCT and applicant contributions – have meant this was the most commonly cited issue across Phase 3a grant recipient respondents, and the main reason (reported in programme monitoring records) for projects abandoning. Grant recipients appreciated the flexibility of the scheme in the form of change requests, though some found this process quite onerous e.g. decisions taking what respondents felt was a long time, in some cases delaying project activity.

Overall, almost all grant recipients interviewed in this stage of the evaluation felt that, to date, contractors had been of good quality. This view was often caveated where projects are not yet complete (proof of quality will be in how the measures operate and beneficial impacts delivered); however, in terms of installation work completed, most grant recipient interviewees reported no notable issues.

The project monitoring and reporting processes were generally felt by participants to have worked well. Grant recipients valued having a dedicated Salix account manager[5], and many commented that these managers had been helpful and responsive throughout. However, issues have arisen where there have been (sometimes several) changes in account manager. In terms of monthly reporting, most respondents felt this was manageable (albeit could be less frequent); the main challenge cited by project teams is the need for accurate forecasting of monthly spend, which is felt to be particularly challenging in a climate of supply chain delays and cost inflation.

PSDS importance

Overall, grant recipient responses indicate that PSDS continues to be seen as vital in enabling many public sector organisations to invest in heat decarbonisation, in particular costly low carbon heating measures such as heat pumps.

Interviews with non-participant public sector organisations highlighted that there is some level of heat decarbonisation and energy efficiency measure installation happening concurrent to PSDS-funded activity. Unsurprisingly, this is typically amongst larger organisations (such as NHS Trusts and larger local authorities) with the capacity (in terms of both employee numbers and skills / experience) available to progress projects, though some have also drawn upon

[5] Each PSDS grant recipient is allocated a representative of Salix to provide coordination of project reporting and monitoring, as well as act as a point of contact for any queries and clarifications throughout project delivery.

alternative external sources of finance, including a Higher Education institution leveraging private investment[6].

Scheme – and wider policy - development

There are a number of aspects of PSDS design and delivery that are felt by participants – both grant recipients and contractors – to have worked well. In addition, findings illustrate the ongoing importance of PSDS to the public sector in delivering decarbonisation. Public sector organisation and contractor suggestions on how the PSDS and wider policy could be enhanced should be viewed in this context. Key suggestions were as follows:

- **Adjusting scheme timescales for installation of funded measures and grant payment;** many stakeholder (applicant, non-applicant and contractor) issues with the 12-month timescales for delivery are addressed by a multi-year allocation[7]; **respondents also suggested staggering application windows across the year**.
- **Clearly communicating the rationale for the 'first come, first served[8]' approach** to grant allocation, whilst considering the relative value of alternative approaches. Again, some concerns are addressed by the introduction of sector caps[9]. However, several respondents argued that there could still be unfair competition between organisations of different sizes / capacity within sectors. Sector caps would also not address the respondent concern as to whether 'first come, first served' encourages less complex projects, and so does not maximise the carbon reduction impact of PSDS. It should also be noted that respondent concerns on fairness and impact could be contradictory i.e. more proactively supporting smaller, less impactful projects could have a detrimental effect on overall scheme cost effectiveness. It was acknowledged by both grant recipients and Department representatives that due to the diversity of the public sector (in terms of both building stock and organisational capability), having a completely level playing field (both between and within sectors), whilst also maximising carbon cost effectiveness is very challenging.
- **Suggestions for alternative funding award approaches and criteria** included more frequent rounds of funding, a two-stage application process, and a greater emphasis on quality (by which respondents seemed to mean deliverability and reliability of projected impacts) when ranking applications.

[6] For those public sector organisations allowed to access private finance (many cannot), this might highlight complementary routes to decarbonisation and net zero outside of, or beyond, the PSDS.
[7] Though competition for multi-year funding may mean that applicants apply to the single-year allocation even if multi-year may better suit the project.
[8] This approach in Phases 1 to 3a of the PSDS was as follows: applications were reviewed, through a rigorous technical eligibility check, in the order they were received. Assuming they were eligible / compliant, the applicant was offered funding (though not necessarily the amount requested in the application). If there were queries / concerns on the project arising from the review, these were raised with the applicant organisation and either resolved, or the application was withdrawn / rejected. This process continued, with reviews commencing in the order of applications received, until the funding for that Phase was allocated.
[9] Preventing a situation where the typically larger, better resourced organisations in certain sectors, better placed in terms of project formulation and ability to respond at speed, dominate the number and value of grant awards.

- **Greater medium-term certainty on further rounds of PSDS**, providing greater confidence for both public sector and contractor investment.
- **Consideration of an increase in the CCT** to take account of sharp cost increases across almost all aspects of project delivery.
- **Greater flexibility on which aspects of project delivery PSDS funding can be used for and provision for coverage of unexpected costs e.g. electrical capacity upgrades**.
- Whether as part of PSDS or more widely, Salix / the Department could facilitate:
    - **A centralised framework of approved contractors to deliver decarbonisation works**, better ensuring quality and reducing per project administration (and potentially costs).
    - **Networking opportunities for public sector organisations** delivering – or planning to deliver – decarbonisation projects to build understanding of how to deliver projects / pitfalls etc.
    - **Provision of loan funding**, particularly for the building fabric / energy efficiency measures decreasingly supported by PSDS[10].
    - **Amalgamation of the various funding streams** available to different types of public sector organisation, which may bring efficiencies and enable more ambitious / larger scale projects.

[10] Across a number (>10) of interviews in the evaluations of PSDS Phases 1,2 and 3, grant recipients and contractors have directly requested a revival of PSEELS.

1: Introduction

1.1: The Public Sector Decarbonisation Scheme (PSDS)

1.1.1: Overview

The Public Sector Decarbonisation Scheme (PSDS)[11] provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures. The PSDS supports delivery of the UK's ambitious goal to become net zero by 2050 and the Net Zero Strategy[12] goal to reduce direct emissions from public sector buildings by at least 50 percent by 2032, and by 75 percent by 2037, compared to a 2017 baseline. The scheme will reduce carbon emissions from the public sector, contributing to meeting Carbon Budgets 4, 5 and 6. The scheme is managed by the Department for Energy Security and Net Zero ('the Department') and is delivered by Salix Finance Ltd ('Salix') a non-departmental public body of the Department.

Phases 1 and 2 of the scheme provided £1.075 billion in grants over the financial years 2020/21 and 2021/22. Phase 3 of the PSDS is providing £1.425 billion of grant funding over the financial years 2022/23 to 2024/25, with a budget of £475 million for each financial year[13].

Phase 3 funding is being allocated through multiple application windows, of which Phase 3a is the first and the focus of this evaluation report. Phase 3a launched in October 2021 and will provide funding over the financial years 2022/23 to 2024/25; funding was awarded to 170 public sector organisations, covering 231 projects. The second Phase 3 application window, Phase 3b, opened and closed to applications in October 2022. The third Phase 3 application window, Phase 3c was announced in July 2023[14] and is expected to open in autumn 2023.

1.1.2: Eligibility

Phase 3a was open to public sector bodies that are contracting authorities in England, as defined in the Public Contracts Regulations 2015. This covers central government departments and their non-departmental public bodies, the NHS, schools (including maintained schools and academies), emergency services, further and higher education and local authorities. Central government departments operating in areas of reserved policy (i.e., not devolved to Scottish or Welsh Governments or the Northern Ireland Executive) were also eligible to apply for funding for estates located anywhere within the UK.

To support the focus on heat decarbonisation, applicants were required to focus on replacing end-of-life fossil fuel heating systems with low carbon heating systems such as heat pumps and connections to low carbon heat networks. All applicants were required to include at least

[11] https://www.gov.uk/government/collections/public-sector-decarbonisation-scheme
[12] https://www.gov.uk/government/publications/net-zero-strategy
[13] Funding was available for both single-year and multi-year projects. Therefore although £613m was awarded in Phase 3a, some of that is expected to be spent / paid across later financial years as part of 'multi-year' projects. Within the maximum budget of £475 million for each subsequent financial year, there was no prescribed limit on the amount of funding which could be allocated to multi-year projects for the financial years 2023/24 and 2024/25.
[14] https://www.salixfinance.co.uk/schemes/phase-3c-public-sector-decarbonisation-scheme

one measure to decarbonise part of or all the heating within a building with a low carbon heating system. Applicants were also required to take a whole building approach to decarbonising their buildings, looking at the overall energy usage and combining energy efficiency measures with the most appropriate low carbon heating measures. This serves to reduce the size and cost of the heating system required by lowering the heat and energy requirements of the building, and helps to counteract increases in running costs from the new system.

Eligible measures could fall into four categories:

- It was compulsory to include a low carbon heating measure that reduces direct carbon emissions, such as heat pumps, electric heating or district heating.
- Other measures that reduce direct carbon emissions could be included, such as solar thermal, building fabric upgrades, piping insulation, mechanical ventilation, and heat recovery.
- Measures that reduce indirect carbon emissions (typically through electricity savings) such as solar PV, LED lighting and energy efficient ventilation were also eligible.
- Finally, measures that do not save carbon directly, but enable the installation of measures that do, such as electrical infrastructure upgrades, metering (which also may encourage changes in energy use behaviour), and energy storage could also be included.

It should be noted that whilst inclusion of measures from the second, third and fourth groups was optional, applicants were encouraged to consider them as part of taking a 'whole building' approach to decarbonisation.

Funding was provided for the marginal costs of installing a low carbon heating system (i.e., the additional costs on top of the business-as-usual costs of replacing the existing fossil fuel heating system on a like-for-like basis).

Funding was available for both single-year and multi-year projects. Regardless of the project timeframe, Phase 3a grant recipients were required to commence project delivery in the financial year 2022/23.

The key changes in PSDS design, rules and delivery subsequent to Phase 1 were as follows:

- From Phase 2 onwards:
    - A greater emphasis upon funding and installation of heat decarbonisation rather than energy efficiency measures, albeit with an expectation of applicants evidencing 'fabric first'[15] approaches to buildings. This included energy efficiency measures being ineligible for funding if the building they were to be installed in was not served by a low carbon heating system.

[15] In this context, a 'fabric first' approach involves maximising the energy performance of a building through measures that reduce its energy consumption (e.g. insulation), before considering the use of technology / installations that decarbonise the energy used (but don't necessarily reduce it).

  - Emphasis upon replacing 'end of life' heating systems[16]; linked to this, a requirement for applicants to contribute financially to projects the amount it would have cost to replace their 'end of life' heating system with 'like for like'[17] technology.
  - Reduction of the Carbon Cost Threshold (CCT)[18] from £500/tCO2 in Phase 1 to £325/tCO2 in Phases 2 and 3.
- From Phase 3 onwards:
  - A separate allocation of funding for 'multi-year' projects; funding was set aside for larger and more complex projects where the heating system is expected to come to the end of its working life in 2023/24 or 2024/25 and / or where building fabric measures need to be completed in advance.
  - Removal of the maximum funding caps, i.e. the amount that could be awarded per project. However, these were only in place for Phase 2 of the PSDS as this was a much smaller allocation of funding; they were not in place in Phase 1.

1.1.3: The Low Carbon Skills Fund (LCSF)

The Public Sector Low Carbon Skills Fund (LCSF) provides grants for public sector bodies to access skills and expertise to unlock heat decarbonisation on their estate. This is then expected to put them in a stronger position to take the next steps in decarbonising, including enabling them to develop detailed project proposals with which to apply to future grant funding for capital decarbonisation measures, such as the PSDS.

The Phase 2 LCSF was launched in July 2021 for all eligible public sector bodies and in September 2021 for schools and academies. The scheme made available £15m of grant funding and ringfenced £3.5m for schools and academies, funding 218 projects in total.

Phase 1 LCSF funded a broad range of support including project development, project delivery and heat decarbonisation plan support, whereas as Phase 2 funding was specifically to develop heat decarbonisation plans (HDPs). This ensured organisations had a robust heat decarbonisation plan to take the next steps in decarbonising. Phase 2 of the scheme ran until 31 March 2022 and grant funding was distributed to 218 projects.

[16] Systems reaching the end of their anticipated operational period. This can vary by both measure and model, and equipment may well continue working beyond this point, but this is not guaranteed. The rationale for this rule in PSDS is to minimise waste / inefficiency arising from any organisations seeking to replace relatively new equipment (with years of effective operation still expected).
[17] Organisations would have had to replace old systems at some point and therefore a certain cost would have arisen anyway. To maximise the efficient use of the PSDS funds, applicant organisations were therefore expected to contribute to the project the equipment replacement costs that would have arisen in a 'business as usual' scenario.
[18] A calculation of the cost per tonne of direct carbon saved for the measures being installed through the funded project.

Phase 3 of the LCSF had a similar focus to Phase 2; it closed for applications in June 2022, allocating £14.5m worth of grants across 123 public sector organisations.

1.2: The evaluation of the PSDS and LCSF

1.2.1: Overview

The Department is conducting monitoring and evaluation concurrent with delivery of Phase 3 of the PSDS, covering both this and Phase 2[19]. A consortium - comprising Winning Moves Ltd., CAG Consultants and UCL – is conducting an evaluation of the scheme. The evaluation will comprise multiple further stages of data collection and analysis with an increasing focus on impact.

The full set of evaluation objectives / questions are provided in the appendices to this report. The key questions explored for this interim report, which focuses principally upon process evaluation questions, were as follows:

- The effectiveness of the delivery of Phase 3a of the PSDS[20], including the launch and application process, award process, monitoring, and Salix management overall.
- Why organisations applied to Phase 3a of the PSDS, i.e. the importance of PSDS to the project and what would have happened in its absence.
- How applicants formulated Phase 3a projects, including measure and building selection, consideration of – and preparation for – risks to delivery, and approaches to procurement.
- How Phase 2 of the LCSF supported the development of organisations' HDPs, and informed applications to Phase 3a of the PSDS.
- Phase 3a grant recipient experiences of the delivery of funded projects, including challenges encountered (both expected and unforeseen), mitigations of those challenges, and success factors.
- Stakeholder views on – and evidence of the effects of – changes to PSDS rules between Phase 1 and Phase 3.
- Wider lessons for the PSDS and LCSF programmes, and around energy policy and public sector decarbonisation more generally.

[19] Specifically Phase 2 impacts. There is a separate ongoing evaluation of Phase 1 of the PSDS, being delivered by the same consortium.
[20] And, where relevant, for Phase 2 of the LCSF.

1.2.2: Stage 1 process evaluation activity

This report is the first interim output from the evaluation, reflecting evaluation activity conducted in Stage 1 (February – May 2023). The individual elements that have contributed to the findings are summarised below.

Table 1: Summary descriptions of evaluation elements that have fed into the interim report

Description of evaluation element
Primary research / interviews (conducted March - May 2023) All applicant and contractor contact details were provided, with their consent, by the Department; the evaluation team sourced eligible non-applicants following analysis of applicant databases across all PSDS Phases. Across all public sector organisation interviews, the evaluation team sought a range of respondent profiles – in terms of sector, region and project value. • **Single year grant recipients** - 41 interviews with named 'project leads' in organisations that were awarded funding for single year projects in Phase 3a of the PSDS. These explored their experiences of project design, applications and delivery. Interviews covered leads of 26 single-year projects that received *only* PSDS funding, and 15 single-year projects that were recorded as also having received funding in Phase 2 of the LCSF. In addition, two focus groups / workshops (attended by 14 organisations in total) were conducted with grant recipients to explore more overarching questions around PSDS rules and policy to support decarbonisation. • **Multi-year grant recipients** – throughout the evaluation, case studies of multi-year funded projects will be produced through a series of interviews with key stakeholders on each project. In this first stage of the Phase 3 evaluation, initial interviews were conducted with 14 stakeholders (including the lead of the grant recipient organisation) across 5 projects. • **Non-funded applicants** - 28 interviews with organisations that applied to Phase 3a but were not awarded funding, exploring their experiences of the application process and award decision, as well as their views on the main changes to PSDS in Phase 3. To inform assessment of attribution to PSDS, interviews also explored what decarbonisation activity this (unfunded) group have undertaken in the same time period as Phase 3a delivery. • **Eligible non-applicants** - 10 interviews with public sector organisations that are eligible to apply for PSDS funding but have not done so to date. Interviews explored their awareness and perceptions of PSDS, and specifically the reasons they have not applied for funding. Again, to inform assessment of attribution to PSDS, interviews also explored what decarbonisation activity this (unfunded) group have undertaken in the same time period as Phase 3a delivery.

- **PSDS contractors** - 10 interviews with contractors working on Phase 3a PSDS-funded projects, ensuring a range of roles, projects and organisation sizes. Interviews covered their experiences of project delivery, in particular risk management, challenges encountered and mitigation strategies. In addition, a focus group / workshop with 4 PSDS contractors exploring overarching sector challenges – supply, capacity, skills – and changes to PSDS rules.
- **LCSF consultants** - 11 interviews with consultants delivering LCSF funded work, exploring the value of the work and the effect on public sector skills, knowledge and capacity to pursue future decarbonisation projects.
- **DESNZ representatives** - a workshop with 10 representatives of the Department for Energy Security and Net Zero (including programme management and wider policy teams), exploring views on the applicant profile, the effect of PSDS rule changes, delivery of the scheme, and how PSDS and LCSF could further support decarbonisation.
- **Third party technical assessors** - a workshop with 4 of the third party technical assessors (TPTAs) that reviewed Phase 3a applications, exploring views on application quality, reflections on skills gaps, the effect of PSDS rule changes and eligibility criteria.

Desktop / database analysis

All application, grant award and project monitoring data were provided by the Department.

- Review and analysis of the database of applications submitted for Phase 3a funding.
- Review and analysis of the database of awards of Phase 3a funding.
- Review and analysis of the Salix reporting of project progress to the Department (as of May 2023).
- Review of PSDS and LCSF guidance documents, application forms and funding summaries.

1.2.3: Limitations / things to note

There are several limitations that readers should note when interpreting the findings in this report:

- **Scope** – this is in terms of both:
  - **PSDS element** - these **interim findings are focused upon Phase 3a delivery, and in particular the process evaluation questions** of interest to the Department. As described in section 1.2.1, later stages of the evaluation will generate findings pertaining to (a) Phase 3b[21] and 3c; (b) the impact and economic evaluation questions.

[21] As evaluation activity underpinning this report coincided with Phase 3b applications and early delivery, a number of respondents were able to refer to more recent Phase 3b experiences in their responses.

  - **Respondent groups** – due to the changes to the composition and timing of elements of the first stage of evaluation[22], **the report does not include views from wider supply chain representatives** (providing overarching perspectives of PSDS impact on particular sectors).

- **Timing** – at the time of interview, many Phase 3a funded projects had yet to be completed. This meant **certain questions (e.g. on post-installation quality) could only be answered by proportions of the respondent sample**. Such questions will be re-visited in later stages of the evaluation.
- **Statistical significance** – databases of Phase 3a applicants and awards have been shared with the evaluation consortium and analysed by the team to generate high-level insights on participant profiles, experiences and delivery. **The majority of data underpinning this report has been obtained from a sample of qualitative interviews and discursive workshops** (as outlined in section 1.2.2). Whilst interviews sometimes comprised good proportions of their populations[23], **they are not intended to provide statistically robust results** or percentages on key questions. Again, it is anticipated that these will be generated by quantitative surveys conducted in later stages of the evaluation. It is therefore not possible to draw representative conclusions from the interviews (particularly applicant and non-applicant groups) conducted in this first stage of the evaluation.
- **Recall** – there are three aspects to this:
  - The **time between respondents' experience of some parts of the PSDS process** (around 18 months between Phase 3a applications) **and this round of evaluation interviews** meant it was difficult for some respondents to recall details of these elements.
  - **Where organisations were also involved in Phase 3b of the PSDS, some respondents struggled to disaggregate their Phase 3a experiences**. Interviewers sought to mitigate this through clear description of Phase 3a projects and asking respondents to report their experiences in relation to those projects. Whilst conflation on some issues is possible, it is unlikely to have had a substantive impact on findings reported.
  - **Respondent role; some respondents, whilst still being the recognised 'project lead' for their organisations, were either not closely involved, or not involved at all, in particular elements of the process**. There were therefore some areas these respondents could not provide informed opinions on, although they were encouraged to share any feedback from colleagues.

[22] It was decided that prior to a workshop with wider supply chain representatives, a substantial review of existing literature should be conducted to enable more precise questions to be identified and avoid duplication of questions for wider supply chain representatives (a frequently researched group).
[23] Interviews were conducted with 46 (27%) of the 170 organisations awarded PSDS Phase 3a funding; a further 14 (8%) of Phase 3a funded organisations were consulted in workshops.

2: Scheme design and application stage

Based on analysis of PSDS application data and stakeholder interviews, this Chapter provides an assessment of the PSDS Phase 3a application processes. Accounting for the intended encouragement of larger multi-year projects in Phase 3a, application, applicant and recipient profiles are broadly similar to Phase 1.

Scheme promotion

Most applicants agreed that the promotional activity for Phase 3a had been adequate; even non-applicants were aware of it. However, there were calls for a larger gap between the launch of the Phase and the opening of the application window to allow more time for project preparation.

Applicants – whether awarded funding or not - were overwhelmingly positive about both the published guidance and webinars that were provided for applicants following the launch of Phase 3a.

Application form requirements

Applicants to PSDS Phase 3a, especially those familiar with Phase 1, were largely comfortable with the application process. Several grant recipients particularly welcomed the increased scrutiny of certain elements (e.g. evidence of DNO engagement). They felt that this would filter out more speculative applications and ensure project teams considered certain risks; though as reported in Chapter 3, project issues tended to relate to the severity of certain risks being greater than anticipated, rather than projects failing to anticipate them at all.

Some applicants found the new application form requirements – particularly around existing building schematics and sourcing of quotes – challenging and time consuming. Some also questioned the value of the cost estimates in light of the substantial changes in these between application and award.

LCSF influence on projects

Through funding the production of Heat Decarbonisation Plans, Phase 2 of the LCSF was felt by recipients to have been very important in enabling (particularly smaller, less experienced) organisations to establish an overall direction of travel on decarbonisation, as well as identifying priorities in terms of both building portfolio and effective measures. However, concerns were raised regarding the variable quality of HDPs and the value of some in preparing organisations for a PSDS application.

Scheme rules and influence on project profile

There are mixed views amongst stakeholders regarding the changes to rules in Phase 3a of the PSDS. The rationale for the rules was generally understood, and several changes

– particularly the introduction of a multi-year funding allocation – were welcomed. The focus on heat decarbonisation has continued the prioritisation of low carbon heating measures seen in Phase 2, in particular ASHPs. However, the changes were felt to have made improvements to building fabric even more financially challenging, and the CCT level was felt by some to be unhelpful in the context of high inflation and rising project costs.

As found in the evaluation of Phase 1 of the PSDS, two elements of the scheme - the 'first come first served' approach to awarding funding[24], and the twelve-month deadline for delivery of PSDS-funded elements of (single year) projects - continue to be perceived negatively by a number of interviewees across respondent groups. As well as potentially disadvantaging less experienced and / or well-resourced organisations, both aspects were felt to be encouraging applicants to opt for more straightforward projects. This in turn was felt to be potentially undermining the achievement of PSDS objectives in terms of limiting project impacts i.e. larger / more complex measures may have delivered greater carbon reduction benefits.

Compared to Phase 1 of the PSDS, applications tended to be for larger values on average, yet there was an increased proportion from schools and academies. There is evidence (discussed throughout this chapter) that organisations with more limited resources feel discouraged from applying to PSDS due to the resources required to formulate eligible projects and complete applications, and risk of not receiving funding. Whilst the eligible non-applicants interviewed in this stage of the evaluation had reservations about the costs of applying (vs the prospect of being awarded funding), many had applied to Phase 3b of the PSDS.

2.1: Context: application and applicant profiles

This section provides an overview of the Phase 3a applicant and application profile, including comparison to equivalent Phase 1 statistics.

Phase 1 comprised 1,642 applications with a value of over £2.38bn, at an average of around £1.42m. In Phase 3a, 381 applications were submitted with a combined value of over £861m (an average per application of approximately £2.26m). As in previous Phases, the scheme was significantly oversubscribed.

The following charts compare the profile of applications and applicants across Phases 1 and 3a[25]. There are some limitations to direct comparison of applicant and application profile. Phase 1 comprised a larger amount of available funding, and was unprecedented as a national grant for public sector decarbonisation. Many public sector organisations believed that it was a one-off stimulus linked to COVID recovery, potentially increasing the motivation to apply. In

[24] Explored further in Chapter 5, both public sector organisations and contractors suggested a number of alternative approaches and criteria for assessing applications.
[25] Phase 2 is not included in the comparison, as this was an atypically small round of funding, allocated in a short time frame to a limited number of projects.

contrast, Phase 3a comprises a smaller allocation (albeit part one of three Phase 3 windows) and was generally known not to be a one-off or final round of funding; this means organisations may generally be more relaxed about waiting for Phase 3b or 3c. One eligible non-applicant explained that their organisation didn't apply for Phase 3a because they were still focusing on delivering a Phase 1 funded project; several others were still finalising heat decarbonisation plans at the time the Phase 3a window opened but applied to Phase 3b instead[26].

Figure 1: Breakdown of applications to Phase 3a by value of funding applied for

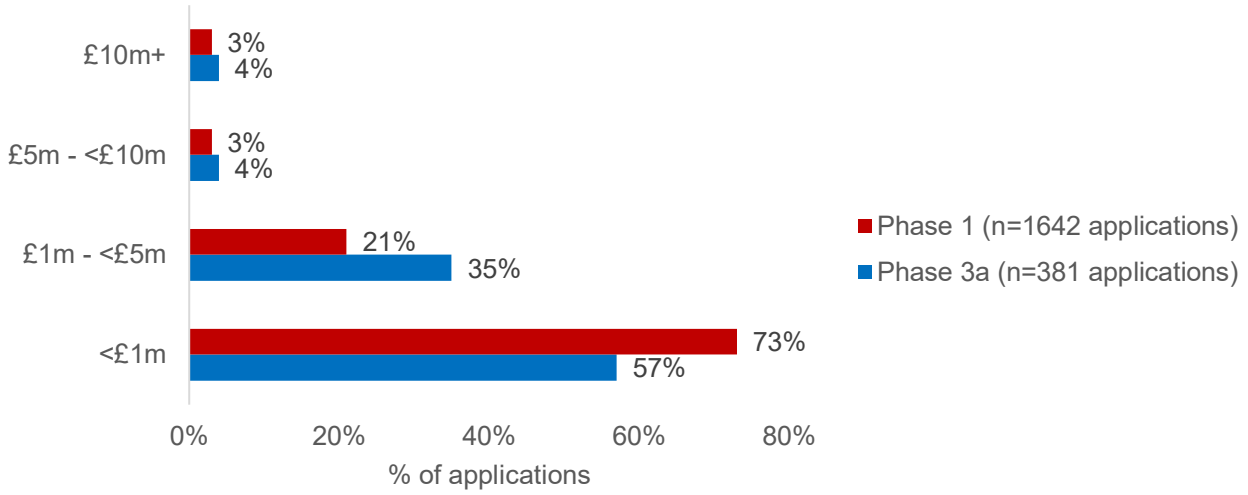
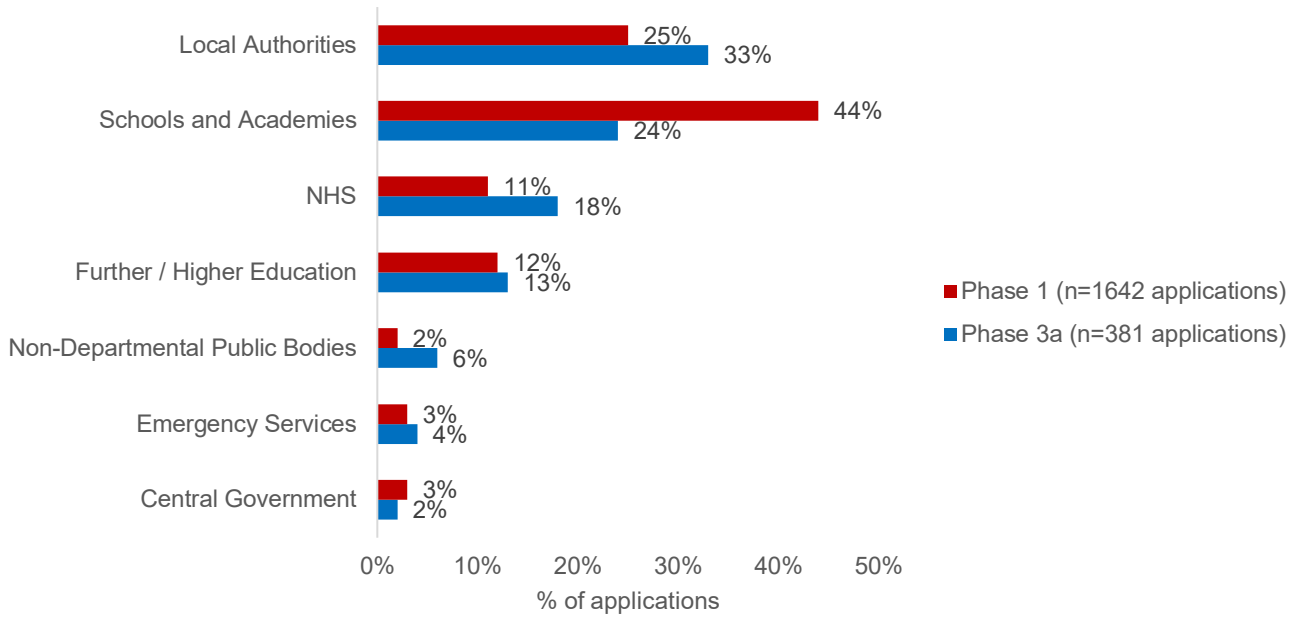


Figure 1 shows that a substantially lower proportion of Phase 3a applications were in the lowest (<£1m) band.

Figure 2: Breakdown of applications by sector



[26] 56 Phase 3a grant recipients were also funded in Phase 1, covering 93 Phase 3a funded projects (85 single-year and 8 multi-year). An additional 26 grant recipients in Phase 3a were also funded in Phases 1 and 2, i.e., they were funded in three Phases (1, 2 and 3a). This covers 15 Phase 3a funded projects (13 single-year and 2 multiyear projects) and 16 Phase 2 funded projects.

Figure 2 shows that in Phase 3a, schools and academy trusts comprised a much smaller proportion of applicants compared to Phase 1; these tend to be smaller organisations applying with smaller projects (in terms of scale and value of funding). Conversely, there was an increase from Phase 1 in the proportion of the total number of applications that were from NHS bodies and local authorities; these tend to be for larger, higher value projects.

The introduction of funding for multi-year projects has clearly had an effect. 15% of Phase 3a applications were for multi-year projects; these accounted for 37% of funding applied for[27] and the average value of multi-year applications was £5.51m. Applications to the single year allocation (more directly comparable to the Phase 1 applicant group) averaged £1.68m, a similar order of magnitude as the £1.42m in Phase 1[28]. Equally, multi-year applicants were much more likely to be larger NHS bodies[29], which affected the overall Phase 3a applicant breakdown shown in Figure 2.

All caveats aside, there is evidence (discussed throughout this chapter) that organisations with more limited resources[30] feel discouraged from applying to PSDS due to the resources required to formulate eligible projects and complete applications, and risk of not receiving funding. Section 2.8.1 provides a summary of actual grant award distribution in Phase 3a.

Sector caps have been introduced in Phase 3b to ensure more equitable distribution of funding between sectors. However, it should be noted that (a) equitable distribution is not a core aim of the PSDS; (b) projects for smaller organisations were sometimes combined in a single application submitted by a larger organisation (such as a council including projects for a number of schools in its application).

2.2: Scheme launch and promotion

Phase 3a of the PSDS was promoted directly by Salix Finance; formally (via webinars, social media and on the website), and informally (for example, Salix representatives notifying organisations they were already in contact with). The scheme was also promoted by Central Government departments and bodies, and through more regional and sector-specific organisations / membership bodies (such as Net Zero Hubs) that Salix liaised with. Communications were also put out by teams within the Department, including in sector publications and through social media.

Based on responses to this initial round of qualitative interviews, most scheme participants would seem to have first heard about the scheme from one of these sources. Some respondents were unable to recall precisely how they had first found out about Phase 3a and / or suggested that they were made aware via multiple routes.

[27] Albeit some of this funding will be drawn from 2023/24 and 2024/25 budgets.
[28] Though the comparable Phase 3a average is still slightly higher, despite the increasing emphasis on applicant contributions, which might be expected to reduce the average contributed by the scheme per project.
[29] In Phase 3a, 15% of single year applicants were NHS bodies compared to 30% of multi-year applicants.
[30] Generally smaller organisations – such as schools - that would tend to be proposing smaller projects.

> *"Everyone knows about [PSDS]; I heard and knew about it from many sources. The public sector is very aware of it." [LA grant recipient]*

Where they could recall, examples given by respondents included direct communications from Salix[31], sector publications, colleagues and newsletters or similar from sector bodies (such as NHS facilities groups, sustainability boards). Some respondents (particularly from smaller organisations) said that they had been first made aware of the availability of Phase 3a funding by a contractor looking to provide project development / delivery services to them. Several felt they would not have become aware of the funding window without this approach.

Most applicants agreed that the promotional activity for Phase 3a had been adequate. However, several were critical of the timing, arguing that there should have been a larger gap between the launch of the Phase[32] and the opening of the application window, in order to allow organisations more time to fully prepare project designs and start to organise delivery partners.

> *"It's not practical to get [internal] approvals and due diligence done in the time we're given to make the applications." [Further education / higher education (FE/HE) unsuccessful applicant]*

When those raising this issue were asked to suggest sufficient timeframes, 4-6 months was the most common response, with most saying at least 3 months.

All but one of the eligible non-applicant respondents had heard of PSDS, though this group were not asked about the effectiveness of Phase 3a promotion specifically[33].

Ultimately, Phase 3a was over-subscribed; it can therefore be concluded that promotion was sufficient to achieve the intended level of interest and applications.

2.3: Decisions to apply

Applicants were unanimous that their main motivation for applying to PSDS was that it provided the only substantial[34] funding stream to help their organisation meet its decarbonisation aspirations. As will be explored in Chapter 5, they could not afford to fund equivalent activity from internal budgets. PSDS was felt to be particularly attractive as it is grant funding, albeit requiring a contribution from applicant organisations.

> *"There is a pressure to look out for decarbonisation opportunities for the group and the only affordable way was to apply for grants." [FE/HE grant recipient]*

[31] This was the most commonly mentioned channel. A large proportion of PSDS participant respondents had already been involved in previous phases of the scheme and were signed up to receive regular communications and updates from Salix.
[32] Phase 3a was announced on 8th September 2021, with the application form becoming available on 15th September and the application portal opening on 6th October. This closed on 3rd November.
[33] Questions focused more broadly on why they had never engaged with the scheme across Phases.
[34] Some respondents acknowledged sector-specific funding that could be accessed for certain building improvement works but felt there was no equivalent to PSDS in terms of the scale of funding and focus on decarbonisation measures.

Especially as Phase 3a required applicant contributions, project leads had to make a business case to colleagues (finance and other directors) for bidding to PSDS. In most organisations, there was a strong consensus to apply, with several project leads reporting an expectation / pressure from senior colleagues that the organisation should be accessing funding opportunities like PSDS[35].

> *"Because of our borrowing limits, grants are quite attractive…There is also political pressure from the Council's leaders who are aware that these funding streams are there, and there is a bit of competition, I think, between Councils…we've very much got this culture of we want to be leading at the front." [LA grant recipient]*

2.3.1: Why didn't eligible non-applicants apply?

Lack of awareness of PSDS was not a widespread barrier. All but one of the eligible non-applicant respondents had heard of PSDS[36], knew they were theoretically eligible, and generally viewed it positively as a route to "kickstarting" sustainability in public sector organisations.

Most eligible non-applicant interviewees stated their intention of applying for future rounds of PSDS; several had applied to Phase 3b[37]. One had applied to previous PSDS Phases when working for a different public sector organisation. In addition, many had funded previous energy efficiency / decarbonisation works through sources such as the European Regional Development Fund and the Condition Improvement Fund. Preparatory activity mentioned by respondents included planning resource (hiring consultants to support bids), recruiting in-house carbon reduction leads, and developing portfolios of projects that could be delivered.

> *"We're currently preparing for at least one bid, potentially three. We've been working on the background information, site surveys etc. We've already spent in the region of £80,000 on surveys and data. We've now got a plan in place, we've got some designs, we've got some costings. I'm now going to engage with a company to help me complete an application form." [NHS eligible non-applicant]*

Some respondents that were eligible for PSDS but did not apply said that they had not wanted to rush in an application to PSDS, instead taking the time to fully formulate a deliverable project.

> *"We don't want to commit to something we can't deliver or doesn't deliver credible savings." [FE/HE eligible non-applicant]*

[35] This links to an anecdotal finding from the evaluation of Phase 1 of the PSDS: organisations feeling they ought to go for PSDS funding even if there were significant reservations around project deliverability, on the basis that they cannot miss out on such an opportunity.
[36] Although those unaware of PSDS may have been less likely to respond to interview recruitment approaches.
[37] Phase 3b projects were mainly for air source heat pumps, with some insulation works, solar measures, and battery storage.

However, others cited issues with the tight timescales for applying, challenging requirements (in particular the requirement for detailed historic buildings data), the commensurately substantial internal resource required, and uncertainty of awards:

> *"There was lots of conflicting information about the application - what you had to do. It wasn't really clear…Some of the examples that were given at the time didn't relate to anything we were doing as such." [NHS eligible non-applicant]*
>
> *"One limiting factor is the timescales as we are not the most agile and windows are open for a couple of days. Unless we have projects prepared and ready [we can't respond]." [FE/HE eligible non-applicant]*
>
> *"Too onerous and arduous. If I had six people who could spend time on it then yes, but I don't. It's a toss of a coin whether you're going to get it and I won't be doing my proper job if I spend all my time on PSDS." [Emergency services eligible non-applicant]*

Some respondent organisations that were eligible for PSDS but did not apply hadn't completed their decarbonisation plans, and therefore did not feel in a position to nominate priority projects. There was also a lack of confidence amongst some of these respondents as they hadn't applied to previous Phases[38].

For some, perceptions of PSDS had – more recent to the time of interview - also been influenced / endorsed by their experiences of applying for Phase 3b:

> *"[Project preparation] has taken three months of quite intense work. I think we've shared with the consultancies somewhere in the region of 35 to 40 schematics. We've had to provide a wealth of heating load information, energy information. It's been quite complex to get us to a point where we can agree a route forward." [NHS eligible non-applicant]*

Eligible non-applicant respondents seemed to be discouraged by the perceived overall level of resource (both person time and information) required to apply for PSDS funding, as opposed to being put off by a specific rule; though the rules / eligibility criteria underpin many of the data requirements in the application[39]. The CCT was felt to be reasonable (though three respondents felt unable to offer an opinion as they didn't understand it), and most felt the removal of a maximum cap[40], and contribution of like-for-like system replacement costs, were fair. Respondents were more mixed on the heat decarbonisation emphasis; some thought this was an appropriate priority, others that it was too limiting in terms of the buildings and measures they felt they needed to focus on.

[38] One respondent suggested that there could be some form of bespoke briefing / support from Salix to organisations that have never previously applied.
[39] Albeit the latter will influence the extent of the former.
[40] Which was in place for Phase 2 of PSDS only, due to the limited amount of funding available in that Phase.

For some, the uncertainty about whether it would be worth the effort – i.e. whether they would actually obtain any funding – was exacerbated by the 'first come, first served' approach to allocating funding; this is explored further in Section 2.8.

One eligible non-applicant respondent (a local authority) commented that those that have been slowest to become aware of, and respond to, PSDS funding rounds, might be those most in need of the support, as opposed to larger, fast-responding organisations that they perceived to have substantial internal and consultant resources. A challenge cited by several respondents that were eligible for PSDS but did not apply was knowing the 'right' third parties to go to for support in formulating a project and application. One representative – of a Central Government Department – was also discouraged by their perception that organisations in their sector tended not to be successful in obtaining funding.

2.4: Views on scheme rules

Understanding stakeholder views on – and responses to – changes in PSDS rules was one of the priorities of the first stage of evaluation. In both interviews and workshops, the various respondent groups were prompted on various changes (between both Phases 1 and 3a, and Phases 2 and 3a); these are explored in turn in the sub-sections below.

2.4.1: Emphasis on heat decarbonisation

From Phase 2, PSDS rules have encouraged applicants to focus on heat decarbonisation, with a requirement to include a low carbon heating measure in each building included in the project.

All respondents understood the rationale for this rule from the point of view of achieving net zero. Equally, from a financial perspective, respondents acknowledged that large heating system changes are amongst the most challenging to build a business case for, and so amongst the measures most in need of external funding. Especially in the context of 2022/23 energy prices, fabric, lighting and solar PV measures were felt to be much more affordable / investable in terms of short-term benefits and length of payback.

> *"The focus on low carbon heating, that's fundamentally where the money needs to go. Where there's a real struggle to make the business case." [LA grant recipient]*

> *"I think there was a lot of stuff that went through on PSDS 1 that really shouldn't have and wasn't within the spirit of what the funding was for." [LA grant recipient]*

However, across both applicant and contractor respondents, there were a number of reservations about the emphasis on low carbon heating:

- Several pointed out that it is challenging for smaller buildings (with lower gas consumption) to be included in projects as the required CCT is more difficult to achieve.
- In terms of financial benefits to public sector organisations, several respondents emphasised that measures to reduce electricity consumption are a priority in saving costs. One respondent acknowledged that whilst the cost effectiveness of such

measures such as LEDs and solar PV might mean organisations should invest in such measures from their own budgets, some organisations have such restricted budgets that this is not possible, they said they only had budget to repair or replace equipment when it failed.

- A small number of respondents felt that measures such as air source heat pumps are adding significant (potentially unaffordable) electricity costs to organisations.
- Linked to this is the risk of over-sizing heating systems. In Phase 1 this was often cited as a risk where buildings did not have adequate fabric measures. However, even with the Phase 3 emphasis on 'fabric first', one contractor felt that assumptions were being made for sizing calculations (as a result of tight application timescales) that were likely leading to inaccurate sizing.
- Several applicants and contractors also felt there were wider risks from installation of heat pumps to existing electricity capacity, with the focus of PSDS necessitating substantial, costly and time-consuming capacity upgrades.

Linked to scheme stipulations on eligible measures, stakeholders were asked for their views on the inclusion of measures such as onshore wind and biomass in PSDS. Regarding the former, most respondents said they would be unlikely to have a viable site for it, but said that in principle its inclusion made sense. Respondents had more mixed views on biomass boilers. Some saw no issues with this, but others argued that this was effectively fossil fuel heating, and several with actual biomass installations said that this technology had proven to be costly and inefficient, and that it was used less than the conventional heating systems.

> *"I welcome the onshore wind. Biomass I'm not an expert, but we did install one ourselves. It was used twice and was decommissioned, as the smoke went into the buildings and the alarms went off. There was a problem with the quality of the wood chips." [School / academy Unsuccessful Applicant]*
>
> *"We've installed biomass boilers under the [Renewable Heat Incentive] and none of them are being utilised because of the price of the fuel being so high." [LA grant recipient]*
>
> *"I have worked on a number of schemes…where we were actually taking out the existing biomass system, that had never been used. The facilities management teams never trained on the system, so it lay dormant and they just used the gas instead." [PSDS contractor]*

2.4.2: Carbon Cost Threshold (CCT)

This rule stipulates that projects cannot go above a fixed threshold of grant £s requested per tonne of carbon saved over the lifetime of the measures installed. After this threshold was tightened from £500/t in Phase 1 to £325/t in Phase 2, there was significant pressure to increase the CCT again for Phase 3 due to cost inflation. Ultimately the decision was taken to retain the £325/t threshold due to the detrimental effect that any increase would have on policy cost effectiveness. Although the effect of this on application numbers could not be precisely modelled, there did not seem to be a significant dampening of demand in Phases 3a or 3b. It

was noted by several respondents that regardless of increased contributions and stricter CCT, PSDS is one of the only feasible routes for funding organisations' net zero ambitions.

> *"We had to chip in more of our own capital. But PSDS still represents very good value for the Council in terms of getting these projects done." [LA grant recipient]*

Most respondents stated that they understood the rationale for the CCT. However, as described in Section 2.5, the lower threshold has had significant effects on project design. As intended, applicants selected measures and buildings to ensure the calculation fell within the threshold. This included reducing the scale of projects or finding additional internal funding to offset the £/tonne calculation. The CCT also made the business case for internal investment more challenging. Other examples include selecting buildings to maximise the CO_2 impact and selecting air source rather than ground source heat pumps.

One contractor reported having seen cases of 'value engineering' being used to meet the CCT – mainly around the use of cheaper, less sophisticated controls which in their view meant that the systems would not operate quite as well.

The reduction in the CCT was cited by some TPTA workshop attendees as steering applicants away from certain types of technology (such as GSHPs and insulation) due to the higher costs and lengthy lead times, although other attendees did not disagree. It was felt that the need to achieve the £325 threshold was not always consistent with delivering the optimal technical solution. TPTAs also felt that ASHPs were often oversized due to applicant failure to properly understand the impact of, or introduce, fabric measures.A number of respondents expressed concerns about the threshold[41]. Several Phase 3a grant recipients reported having decided not to apply to Phase 3b because they could not formulate a viable project. Whilst these respondents are therefore viewing the CCT somewhat negatively, it should be noted that this finding could equally be seen as evidence that the CCT is working as intended.

> *"[The £325/t CCT] meant that some of the buildings that we would have liked to do work on were just not going be eligible for PSDS 3. We just couldn't make the numbers stack up at all." [LA grant recipient]*
>
> *"£500/tonne really gives you a lot more tools to tackle [decarbonisation]." [School / academy grant recipient]*
>
> *"It means that we have to find more match funding, which just makes it more difficult to argue the case to go with these projects." [LA grant recipient]*
>
> *"[Reducing to £325] makes it very difficult. Really, only schools that have all oil fired boilers, single glazing, poor roof insulation, might qualify. Now, obviously there aren't many schools in such dire straits like that. It is getting difficult, particularly with increased costs, and inflation, to make it stack up financially." [School / academy grant recipient]*
>
> *"It's meaning air source is going in where sites could actually be better off with ground source." [PSDS contractor]*

[41] One noted that maintaining this for Phase 3b did not take account of inflationary pressures on project costs.

The following chart provides a breakdown of how close Phase 3a applications were to the £325 threshold:

Figure 3: Proximity of Phase 3a applications to the £325/t CCT [n=381]

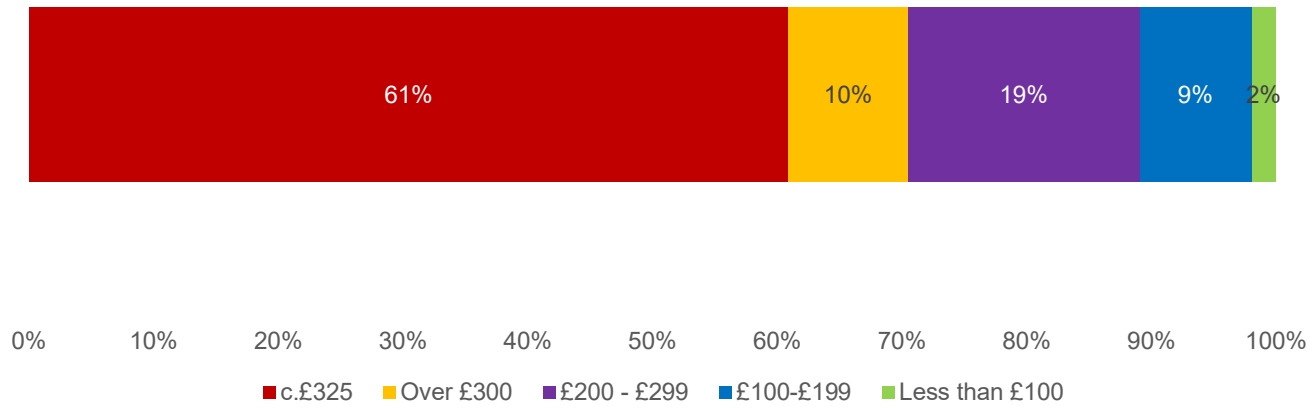


Figure 3 shows that the majority of applications went right up to the £325/tCO2 threshold, though around a quarter managed to come in at less than half of the threshold.

2.4.3: Contributing 'like-for-like' costs

From Phase 3a, to maximise the additionality and cost effectiveness of PSDS, participants have been required to contribute to the project at least the cost that would have been incurred by replacing their heating system with a 'like-for-like' system (for example, replacing old gas boilers with new gas boilers).

All respondents saw the rationale for this and most agreed with it. It was noted in the grant recipient workshops that the 'like-for-like' cost tended to comprise a small proportion of the overall project cost anyway, so was not of concern for the financial viability of the project.

A reservation voiced by several applicants was less around the required contribution than the stipulation that applications could only propose to replace 'end-of-life' heating. Several noted that especially following the Phase 3a funded project, they are running out of heating systems / buildings that meet the criteria. One respondent argued that in sites with multiple boilers of different ages, the rules would prevent the system from being replaced[42]. Another argued that there should be provision to replace 'mid-life' boilers that are nonetheless highly inefficient.

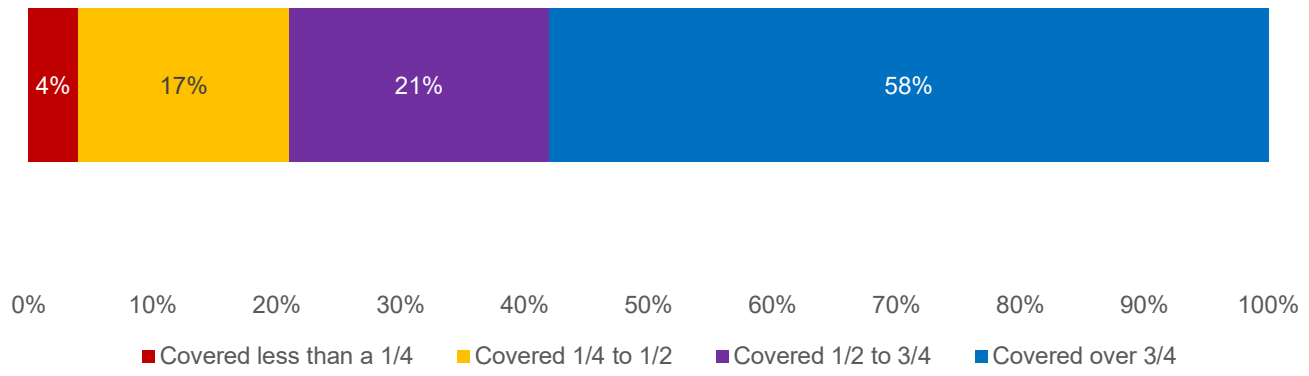
One PSDS contractor felt that the requirement for applicant contributions was leading to some organisations (especially schools with fewer resources) deciding against PSDS applications[43].

[42] Salix confirmed that such situations will be considered on a case-by-case basis. Where one unit is causing the whole system to fail, or causing significant issues and high maintenance costs, Salix may agree to cover the full costs of a whole system replacement.
[43] This respondent did not explain what these organisations would otherwise have done had their end-of-life heating system failed.

However, another contractor felt that the requirement for a contribution meant that their clients were more committed to the success of the project.

Most respondents to the first stage of evaluation had contributed more to the project than the minimum required by the Phase 3a rule. However, this was usually necessary for it to adhere to the CCT, or due to additional unexpected costs incurred during project delivery. The following chart shows, for all applications, the extent to which requested PSDS funding covered the stated project costs:

Figure 4: Breakdown of *requested* PSDS coverage of project costs across Phase 3a applications [n=381]



This shows that for the majority of applications, PSDS was still covering most of the expected project costs. The caveat is that, as described in Chapter 3, for many projects the actual costs increased substantially post-award.

2.4.4: Removal of the per organisation funding cap

The £5m per project cap was only introduced in Phase 2, specifically because that Phase comprised a much more limited budget[44] to prevent this funding being allocated to a small number of very large applications.

All respondents, across stakeholder groups, were fairly relaxed about its removal. Commensurate with its size, participation in Phase 2 was fairly limited; many respondents were therefore either completely unaware that there had ever been a maximum cap in place for PSDS or had never been affected by it (having not applied for Phase 2). Equally, most applications for Phase 3a have been for projects well under £5m, meaning most respondents felt this cap would not have affected them anyway. Either way, most respondents felt very relaxed about its removal.

In one of the grant recipient workshops, a local authority representative voiced concern that in the absence of a cap, a small number of larger organisations could “sweep in” for a large

[44] Specifically to allocate a small underspend of Phase 1 budget.

proportion of the funding. Another attendee acknowledged that this risk could be somewhat mitigated by the introduction of sector caps in Phase 3b anyway; though as noted elsewhere in this report, imbalances based upon organisation size and resources could still occur *within* sectors.

2.4.5: Provision of funding for multi-year projects

Phase 3 was designed to allow organisations to apply to PSDS funding for multi-year projects, with Phase 3a offering three years of funding for the first time[45]. This longer timetable for delivery is intended to enable larger, more complex projects, as well as providing organisations with more time to prepare before commencing implementation on site. There was clearly appetite for multi-year funding; in Phase 3a, 15% of applications (accounting for 37% of the funding applied for) were for multi-year projects. Multi-year applicants were most commonly larger organisations - NHS bodies or local authorities - though more than a tenth were schools and academies. A total of 19 projects were awarded multi-year funding in Phase 3a; relative to all Phase 3a applicants, these were disproportionately NHS bodies and universities, and, as might be expected, larger projects[46]. However, the 19 do include a project being delivered by a college and another by a school, and includes two projects receiving less than £1m in grant funding.

All grant recipients thought that provision for multi-year projects was theoretically a great idea. Several described their challenging experiences in trying to design, procure and deliver substantial works in a twelve-month period, as well as securing planning permission and commitments from the DNO to carry out connections / capacity upgrade works. They welcomed the opportunity for a more considered approach, which they felt may have benefits in reducing project costs[47] and as well as reducing pressure. One PSDS contractor also commented that multi-year projects will enable improved understanding of the risks and costs before projects commence. Several Phase 3a single-year respondents had also received funding in Phase 3b for multi-year projects, and said that this had enabled them to include more buildings and measures in their project[48]. Schools particularly welcomed the introduction of multi-year timescales – only being able to do substantial works in school holiday periods means that a single year provides a very restricted timescale for delivery.

TPTAs (third party technical assessors) were also very supportive of the introduction of multi-year project funding, on the basis that it would lead to better planned and higher quality projects, whilst also reducing the risk of non-delivery / abandonment due to delays (as

[45] Multi-year funding has been available previously, although not at the point of application. Phase 1 grants were originally allocated on the basis that all grant funding be spent by 30 September 2021. Extensions were granted by Salix to Phase 1 project grant end dates on a case-by-case basis up to 31 March 2022 at the latest. Later, it was agreed with HM Treasury that further extensions to grant end dates could be granted to projects funded through Section 31 of the Local Government Act 2003 on a case-by-case basis up to 30 June 2022 at the latest.
[46] The average MY project grant was just over £11m compared to just under £2m for SY projects, although the difference is exaggerated by one very large MY award of over £60m.
[47] This links to the argument made by various respondents (i.e. varied respondent groups and sectors) across Phases 1-3 that the time-limited spike in work also leads to substantial cost inflation and limited supply.
[48] In Phase 3b, 33 organisations were awarded funding for planning year projects; 10 of this group had successfully applied for funding in Phase 3a. Also in Phase 3b, 60 organisations were awarded funding for multi-year projects; 14 of this group had successfully applied for funding in Phase 3a.

described in Chapter 3). It was suggested in the TPTA workshop that more funding should be provided via this pathway, with multi-year funding perhaps even becoming the norm.

> *"For me it seems a sensible concept…to get the last penny claimed on the 31st March did introduce extra cost and pressure. So the concept of a multi-year stream sounds good." [FE/HE grant recipient]*
>
> *"The concept is absolutely right and to be honest, it would make sense for nearly all of the projects to be 18 months to deliver, which is a more reasonable timescale to go through design and delivery with a constrained supply chain." [LA grant recipient]*
>
> *"It's so stressful trying to get the other projects done in school holidays in one year. If we hadn't had the opportunity to span over two years, we probably would have put 3, not 6, sites through, because it would not have been manageable." [LA grant recipient]*
>
> *"It means the best solution can happen. If the right solution is a ground source heat pump, squeezing one of those into a one-year project is hard work, and you can compromise quality." [PSDS contractor]*

However, several grant recipient workshop attendees criticised the way in which multi-year funding was implemented in Phase 3a, arguing that the limited multi-year allocation (15% of the Year 1 funding[49]) meant that many organisations were dissuaded from applying for it anyway, instead assuming they had more chance of being awarded at least some funding if they applied to the single-year allocation.

> *"We actually applied for a one-year project and we were kind of led towards that because there was a bigger pot available for that." [LA grant recipient]*

2.5: Project design

Applicant and contractor respondents were asked to explain how they had formulated their Phase 3a projects, in terms of both measures and buildings included in them[50].

Some formulated projects from scratch or, as explored in Section 2.5.3, utilised project ideas in their Heat Decarbonisation Plans (HDPs). Where respondents had applied unsuccessfully in Phases 1 or 2, many said that they largely re-submitted applications for these projects[51], albeit reviewing (and slightly refining) them where they did not meet the updated eligibility criteria.

[49] Based upon a response in the workshop, there is potential that despite the published guidance, some applicants may have misunderstood the multi-year allocation i.e. mistakenly thinking the 15% had to cover the whole project cost, as opposed to simply the 2022/23 allocation. This should be explored in further rounds of the evaluation. It should be noted that the allocation increased for Phase 3b.

[50] It should be noted that grant recipients could be delivering measures concurrent to their PSDS-funded works that were not included in their PSDS application. PSDS freeing up funding for additional measures could be explored in later stages of the evaluation.

[51] They were fairly confident that these projects had been unsuccessful due to the timing of submission as opposed to failing to meet the scheme criteria.

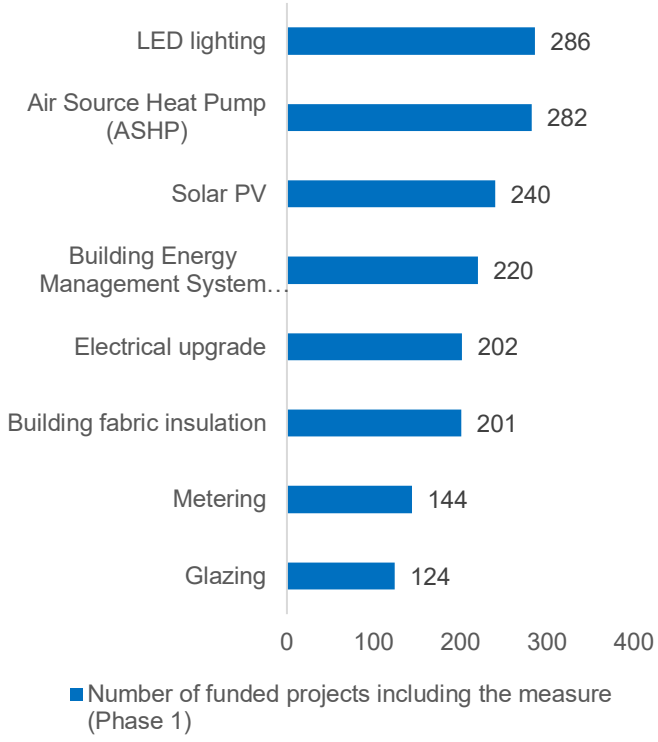
Regardless of how well the project was formulated at the time Phase 3a was launched, almost all applicant interviewees reported utilising consultants to conduct site and building surveys, collate and analyse required application data, and in some cases complete application forms.

2.5.1: Measure selection

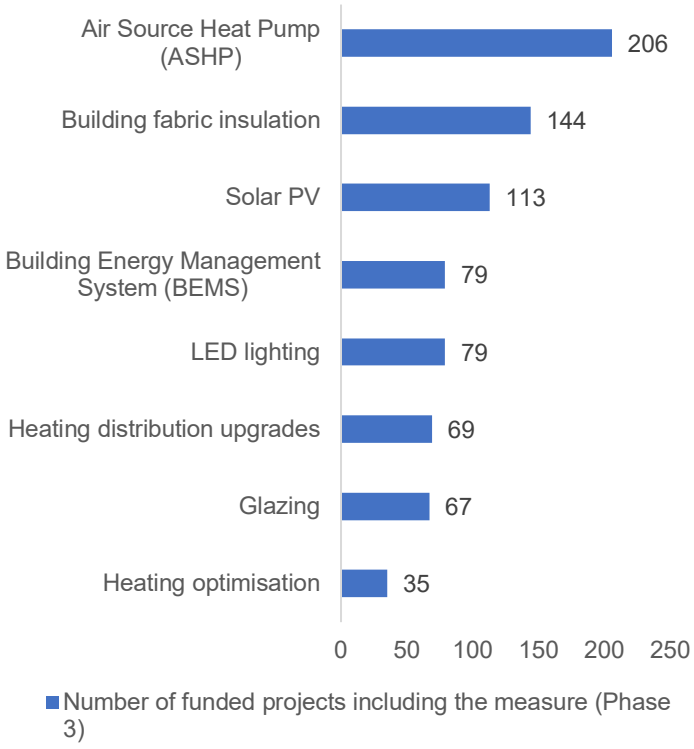
For context, the following chart shows the number of Phase 3a funded projects that included different types of measure; comparison to Phase 1 is also provided:

Figure 5: Most commonly funded measures in Phase 1 and Phase 3a

Phase 1 [n=461 awards]



Phase 3a [n=231 awards]



Comparison of the two charts shows that whilst many of the same measures are amongst the most common in both phases, the focus on heat decarbonisation has led to the prioritisation of low carbon heating measures, in particular ASHPs. However, despite the Phase 3a emphasis on heat decarbonisation measures, a number of building fabric and energy efficiency measures were common across Phase 3a funded projects. The main reduction compared to the earlier PSDS Phases (in terms of proportion of funded measures) has been in LED lighting.

As described in Section 2.4, scheme rules played a large part in dictating what measures applications would focus upon.

The focus on heat decarbonisation and the requirement for low carbon heating meant that heat pumps were by far the most commonly included measure in applications. A number of respondents said that in the absence of the scheme emphasis on heating systems, they would likely have prioritised solar PV, building fabric and battery storage for inclusion in funding bids.

When choosing heating systems, a combination of the CCT, a desire to keep overall costs down, and (for most) the need to deliver a project in twelve months meant that almost all applicants chose ASHPs rather than GSHPs as a heating solution[52]. This was also due to the fact that for some buildings and sites, it would have been logistically challenging / impossible to install a GSHP system.

That said, a small number of applicants chose GSHP as this was found, following surveys / audits, to be the more impactful solution. Another respondent opted for GSHP as they understood this had a better prospect of getting planning permission (vs. ASHP, which they understood to have more of a detrimental visual impact on the building).

The practicality of installing measures, and in some cases a measure's suitability for a particular site or building, was also a consideration for some applicants.

Finally, a large number of applicants included solar PV in their applications alongside heat pumps to offset the additional electricity costs that the latter would bring; this was an especially important consideration for schools with very squeezed budgets.

Examples of applicant considerations on measure selection

"Even if we could have put together a de-steam project there was no way we could do it within a year so we ruled it out straight away." [NHS Grant Recipient]

"[We selected solar PV] because we need to keep [the schools] budget the same as it was before, or better, because they're strapped for cash as it is." [LA Grant Recipient]

"We normally try to include some PV to offset the electrical costs for the heat pumps. ASHP are the most viable, in terms of the space requirements. GSHP requires a larger playing field to install either the ground loops or the bore holes. The preference would be to replace all the heating pipe work and radiators; the CCT wouldn't permit that." [School / Academy Grant Recipient]

"My idea was to have a ground source rather than an air source… but it seemed difficult because of PSDS time restrictions and lack of flexibility." [School / Academy Grant Recipient]

2.5.2: Building selection

As for measures, scheme rules were the main influence on which buildings applicants selected for inclusion in the project. Respondents made sure to select buildings with eligible 'end-of-life' heating systems, based upon organisational maintenance records. Beyond this, applicants discussed a number of other considerations:

[52] Especially due to the need for borehole drilling, GSHP is perceived by many as expensive, disruptive and time consuming; essentially much higher risk, especially in the context of a time (and funding) limited PSDS project.

- Maximising carbon impact (leading to a more favourable t/CO_2 calculation); considerations included the building's existing quality and type of heating system, heat loss and energy demand.
- Linked to this, addressing buildings with the biggest energy demands in the organisation's portfolio to better deliver net zero and / or cost reductions (for example, a number of LAs included leisure centres).
- Disruption; several respondents (especially NHS bodies) chose buildings that would have the least impact on occupants. Linked to this, a number of respondents mentioned including buildings that were planned to have, or required, extensive refurbishment anyway; this then minimised the disruption caused by the PSDS-funded works. This consideration was especially important where the building was deemed crucial to the organisation's operations.
- Information; in line with the requirements on the PSDS application forms, multiple respondents said they had opted – for time / convenience – to include buildings for which they already had the requisite information (such as boiler age, and up to date quotes on the cost of replacement).
- Enabling the inclusion of – and maximising the impacts of – certain measures (for example, buildings with roofs that would maximise solar PV energy generation).

Examples of applicant considerations on building selection

"One was due for refurbishment, another was quite a large building so we thought we would get the best carbon savings from this. The first had a great roof where we would be able to install PV." [Emergency services grant recipient]

"Together with our consultants, we identified which of the schools would be more likely to qualify for the £325 per tonne, based on the heat loss and energy usage identified in the heat decarb plan. So we basically chose the worst performing schools." [School / academy grant recipient]

"The building applied for was the least efficient in our portfolio. It also was the only building which had a feasibility study for replacing gas boilers - which helped us know the like for like cost for the application." [NHS grant recipient]

"The PSDS requirement was for an end-of-life system. We only have so many that would meet that requirement" [LA unsuccessful applicant]

2.5.3: Use of LCSF and Heat Decarbonisation Plans (HDPs)

Views on LCSF

Phase 2 of the LCSF was scheduled such that public sector beneficiaries of the funding had time to generate insights and develop project ideas in advance of the Phase 3a window opening.

Whilst Phase 2 of the LCSF was particularly intended to support applicants with their HDPs, many recipients of this funding already had strategic plans in place for decarbonisation, and LCSF was used more tactically in support of these plans (e.g. for feasibility studies on particular sites / project ideas):

> *"We were just hoping to give ourselves a wider picture of our estate, in terms of then applying for PSDS, giving us those high level "this building is better for this type of technology, it can be achieved at this price" etc, this type of high-level figures." [FE/HE grant recipient]*

Several LCSF recipients commented on the flexibility of the scheme, enabling them to specify broadly what they needed to use the funding for, to meet their specific needs. LCSF consultant interviewees reported carrying out fabric condition surveys, heat loss modelling, expert planning and heritage input, costings and project execution plans to create HDPs. Contractors identified engineering skills as a key gap in public sector teams. One noted that even where organisations have engineering skills in their team, they are normally operational engineers without design experience.

LCSF applicant and LCSF consultant views on the application process for Phase 2 of the LCSF were similar to those for PSDS and LCSF Phase 1. Whilst the application form itself was felt to be appropriate in terms of length and level of information required, respondents were almost unanimous in critiquing the 'first come, first served' approach to funding awards. Demand was perceived to be extremely high, with several recipients commenting that the application window closed after less than 20 minutes.

Some recipients stated that funding in Phase 2 of the LCSF had been essential in helping them to design, size and also, to some extent, cost new heating systems. Costings were more problematic as prices of equipment and installation rose considerably over this period.

All NHS, HE and larger LA recipient respondents said they would still have applied for PSDS Phase 3a in the absence of funding from Phase 2 of the LCSF[53]. Most had accessed Phase 1 of the LCSF, which they said had been helpful in getting them to this point[54], yet several provided examples of how they had used Phase 2 of the LCSF to explore scenarios to increase scale, improve efficacy or maximise benefits of PSDS projects (such as exploring the feasibility of implementing solar arrays alongside heat pumps). In addition, work funded by Phase 2 of the LCSF had helped several organisations investigate and eliminate particular project ideas, saving time and cost in the long run.

[53] 93 successful applicants for PSDS Phase 3a single-year projects had successfully applied for LCSF funding (35 in Phase 1, 37 in Phase 2 and 21 in Phase 3). 13 successful applicants for PSDS Phase 3a multi-year projects had successfully applied for LCSF funding (6 in Phase 1, 1 in Phase 2 and 6 in Phase 3). Further analysis would be needed to understand whether the subject of the LCSF application relates to the project funded in PSDS Phase 3a. Of the 10 eligible PSDS non-applicants interviewed in the first stage of the evaluation, half said they were only vaguely aware of LCSF, and only one had successfully applied for it.

[54] Though two participants who used LCSF Phase 1 outputs to inform PSDS3a applications noted that the changes in 3a assessment meant their LCSF outputs no longer fully met requirements (for example, they lacked heating system schematics).

One recipient of funding from Phase 2 of the LCSF said they didn't think their PSDS application would have been any different. Several organisations had not been successful in their LCSF application, but had subsequently applied for PSDS anyway. When asked about how they funded preparatory work, it was either stated that contractors did the work at risk, or they had been able to make the case to senior management to fund the work.

Smaller public sector bodies, or those with less PSDS experience, appeared to be more fundamentally dependent upon LCSF funding to support applications to PSDS. LCSF funded work often revealed a range of previously unbeknownst skills gaps and challenges associated with delivering net zero. Whilst this helped crystalise the problem, in one or two cases this had a negative impact on their engagement with PSDS, i.e. the disconnect between the priorities LCSF work highlighted and the measures PSDS would support.

Equally, the work funded by LCSF across phases was not felt by some to be sufficiently detailed to fully support project delivery:

> *"It gives you enough to apply for PSDS. However, when you get into delivery, you quickly find out all the problems with actually doing the project and need an investment grade proposal to do it." [LA grant recipient]*

Production and value of HDPs

Whether through work funded by Phase 2 of the LCSF or completed previously[55], most applicants reported drawing upon their HDPs in deciding which measures, buildings, and so projects, to prioritise. One LCSF consultant gave an example of an HDP funded in Phase 2 of the LCSF which completely changed the decarbonisation strategy of a client from heat pumps to an ambient loop heat network.

> *"I look back three years ago when I wrote the first brief and I didn't really know what I was doing. But I've been on a journey and we have definitely used those heat plans." [LA grant recipient]*

> *"I don't think we would have been in a position, in the timescales, to identify a decent scheme if we didn't have a decarbonisation plan in place." [School / academy grant recipient]*

Even some unsuccessful PSDS applicants found their HDP became a point of reference for other service areas such as maintenance, schools, and upgrade teams, and was used more widely than for PSDS applications.

And as well as being a catalyst for identifying and progressing decarbonisation projects, several public sector organisations highlighted that their HDP had helped to inject some realism into organisational plans and aspirations. For example, emphasising the need for initial energy efficiency measures before embarking on heating measures, or providing greater clarity on the scale of costs and resources that would be required for certain decarbonisation activity.

[55] Many organisations had already produced HDPs. Either due to internal strategies or as part of their PSDS and LCSF Phase 1 applications / projects.

LCSF consultants also reported that HDPs were helping clients to identify buildings which it would not (currently) be cost effective to attempt to decarbonise.

Several LCSF consultants reported that many of their clients had committed to net zero without a clear understanding of how it could be achieved or what resources would be needed. The development and delivery of HDPs were generally felt to have created a step change in their clients' understanding of how to decarbonise their estates and their ability to plan strategically.

There were mixed views about the effect of HDPs in reducing risk in PSDS projects. Some LCSF consultants believed that HDPs reduced risk because they provided clients with sufficient information to make better informed decisions, such as in relation to technology options. Others thought that the main project risks of implementing a PSDS project remained largely unaddressed by HDPs and required more detailed design work, for example, identifying the need to involve the DNO or securing planning permissions.

Some public sector respondents did raise concerns about the quality of HDPs[56]. Several felt that consultants were aware of the short-term requirement for HDPs in the public sector, and that particularly for less experienced / knowledgeable clients, this was leading to a very variable market in terms of quality and HDP usability. Several interviewees stated that costings within HDPs were done on a very different basis by different organisations, depending on their project experience, skills and the depth of design work done within the HDP and there was a risk of significant cost estimate discrepancies between different HDPs.

> *"It comes down to the quality of the expert that you're using. On a recent contract, I ended up holding two-thirds of the contract value back until the consultant delivered... some of our HDPs are absolutely worthless to put it bluntly. Some of them are good quality. It's a mixed bag." [LA grant recipient]*
>
> *"They have recommended certain measures which I know are completely unviable (the place is riddled with asbestos and they're recommending loft insulation)… some of the detail that they've used in the thermal models is wrong and subsequently they're oversizing the heat pump." [LA grant recipient]*
>
> *"Our initial [HDP] was really rubbish. It's basically not providing any insight, any useful information. Organisations that really need the HDP the most do not have that technical capacity to know the HDP that they receive is rubbish. It also affects the quality of your application in PSDS." [LA grant recipient]*

TPTA workshop attendees also raised concerns about the poor quality of some HDPs, and regardless of quality felt that HDPs generally needed to be more tailored to the information required for PSDS applications.

[56] Separate to this evaluation, the Department has commissioned a research project to review a large sample of recent LCSF decarbonisation plans, to better understand the variability in quality of HDPs cited by some applicants / contractors.

One LCSF consultant suggested that the Department or Salix benchmark HDPs so that the expected level of detail and cost for typical types of HDP (i.e. for different organisations and buildings) could be established. This could then reduce the divergence in cost and achieve a good balance of engineering detail and actionable value.

2.5.4: Considerations of risk: identification and mitigation

All PSDS applicants were required to produce a risk register as part of their Phase 3a application, and quotes for certain costs included in the application had to be up to date. In Phase 3b, Salix have introduced additional 'deliverability' checks on applications[57], but this was not formally in place in Phase 3a.

PSDS Phase 3a applicants were asked what risks they considered in their project designs, how they arrived at these, and how they sought to mitigate them in the project design and application.

Most respondents had considered risks alongside more experienced consultants, who were able to bring experience of previous decarbonisation projects to add to the applicant organisation's general set of risks for construction / refurbishment works. A number of respondents were also able to draw upon their experience of delivering Phase 1 projects.

The types of risks envisaged by applicants, and how they sought to mitigate them, were various. Some risks – or at least consideration of their consequences - related to the operations of the organisations themselves (for example, sites being out of action, buildings not able to be occupied, or heating not working, when needed). Based on interview responses, the table below focuses on recognition of risks to delivery in relation to PSDS timeframes and project costs.

Table 2: Key project delivery risks envisaged by projects, and planned mitigations

Risk to project delivery	Mitigation
Failure to deliver by the required PSDS deadline, potentially leading to loss of grant funding.	This was the ultimate risk arising from a number of more specific ones listed below, and mitigations varied accordingly. As a general approach, several applicants highlighted the use of "experienced" consultants in project design and management. One respondent said that they had "front-loaded" all aspects of the project that were funded by the PSDS grant.

[57] Comprising rigorous assessment of whether, in the context of the likely risks, the projects can be completed to the claimed timescales and budget.

Risk to project delivery	Mitigation
Cost inflation (due to wider economic factors and / or availability of products / services)	Seeking fixed prices / quotes and building in some contingency for cost increases / additional, unexpected costs.
Lack of supply chain capacity and lack of availability (or at least long lead times) for products	Starting procurement, particularly securing heat pumps, as early as possible (sometimes at risk before award) and including PSDS project deadlines as stipulations within contracts.
Obtaining planning permission, especially for listed buildings and projects with measures creating a level of noise pollution.	LA respondents tended to be slightly more relaxed about this than those in other sectors, perhaps because it should be easier for them to discuss the project with their planning colleagues from the outset and take the relevant planning policies into account.
Unexpected costs arising due to the need for additional connections / capacity upgrades on sites. Linked to this, delays to project completion due to DNO timescales for site visits, assessments and upgrade / connection works.	Phase 3a specifically asked applicants to provide evidence that they had considered the need for capacity upgrades / connections and, if deemed necessary, started engaging their DNO on this[58]. However, limited time in advance of applications and award, and cases where respondents reported DNOs changing their view on the need for upgrades, meant this was hard to fully mitigate.
Site specific risks such as general disruption, maintaining BAU operations, required ancillary works, asbestos, and site access (especially for hospitals and schools).	Most PSDS contractors felt that a key aspect of de-risking a project is to carry out as many surveys as possible up-front – in some cases these had been paid for through LCSF. This could include asbestos, electrical capacity, acoustics and roof-PV surveys. Beyond thorough site surveys in advance of works (these were sometimes pre-existing anyway), PSDS applicants simply had to build in some contingencies – in terms of time / budget – in case these issues arose.

[58] Failure to do so was part of the reason for applications being sent back to applicants for review and amendment, and / or being rejected.

Risk to project delivery	Mitigation
COVID; especially for NHS sites.	By the time of Phase 3a, organisations had established procedures for managing this, such as requiring contractors to be vaccinated (unless exempt).

Challenges encountered by projects are described in Chapter 3. To date, 17% of Phase 3a applicants awarded funding subsequently abandoned the project and many more projects have been subject to delays and cost inflation. This could be taken as an indication that some PSDS applicants did not properly assess the type and / or severity of risks to project deliverability.

This may link to the anecdotal evidence, arising from applicant interviews, that many organisations are in desperate need of funding for substantial decarbonisation works, and will submit applications even if there is a high degree of (sometimes unspoken) uncertainty that projects are deliverable in the specified time and budget. There may also be a degree of optimism bias from applicants. Whilst a number of applicants and contractors discussed contingencies – equating to up to 10% of quoted costs[59] – not many applicants mentioned having planned the project out assuming a 'worst case' scenario[60].

PSDS contractors were keen to emphasise the benefits of early (pre-award) procurement and detailed surveys in identifying, and enabling mitigation of, risks. However, they noted that applicant organisations would have to be willing to pay for this at risk (they may not get PSDS funding), and many are unwilling or cannot afford to do so.

In the TPTA workshop, it was suggested that applicants' approach to risk management could be improved were Salix to develop a risk management template, a checklist of potential risks for applicants to review and reflect on. Though it was also felt by TPTAs that the grant application stage is generally too early for applicants to have a full understanding of some of the risks around design, procurement and construction. Linked to this, TPTAs felt that generally applicant pronouncements on expected completion dates were optimistic[61].

All that said, as was found in Phase 1, a number of the already recognised challenges turned out to be much more severe than might reasonably have been anticipated. This was especially the case for inflation (affecting products and services across the supply chain), rising in the period between application submission (October 2021) and award (early 2022).

[59] The way in which some contractors discussed contingencies, these did not seem very carefully considered i.e. they were seen as an automatic addition (a 'typical industry standard' of 5 or 10%) as opposed to an amount carefully calculated based on the likely risks involved in this particular project.
[60] Linked to this, one contractor complained that public sector clients were not allowing them to make assumptions on scenarios when quoting: *"We'd like to be able to say 'no asbestos is believed to be present, but if we find that it is, it's going to be a cost / time variation'. A lot of the tenders preclude you from putting in clauses like that."*
[61] Whilst this was generally attributed to a lack of applicant experience and / or expertise, some TPTAs felt this may, in some cases, be deliberate, in order to present a positive case for grant award. In particular, TPTAs felt that application costings were often unrealistic, and that this may often be to make applications look better or fit the CCT.

2.6: Application form and requirements

All PSDS applicants (including contractors that worked with their clients on project design and application) were asked for their views on the Phase 3a application form – the requirements and the submission process.

Overall, these respondents had mixed views. On the one hand the form was felt to be comprehensive and covered the right areas; multiple respondents pointedly welcomed the increased detail and areas covered by the form in filtering out unsuitable projects. Those with experience of Phase 1 recognised a number of question areas and had answers / approaches already prepared for some. In addition, as described further in Section 2.7, the guidance and workshops supporting production of applications were almost unanimously praised.

> *"A lot of the information that's been asked for, we could understand why. Considerations with planning and DNO electrical power supplies." [School / academy grant recipient]*
>
> *"From what colleagues were saying it was a little bit more onerous under 3a… This was in some way welcomed, because I think some projects got through round one and two, which maybe there hadn't been as much scrutiny on." [LA grant recipient]*
>
> *"The application process is manageable. It changed a lot from Phase 1 to Phase 3a… an awful lot more detail around the existing boilers and what the upgraded system would need to be like. I think they were logical changes in line with the criteria change to require boilers to be end of life," [LA grant recipient]*
>
> *"As a whole the application process was perfectly adequate. It's a lot of money people are bidding for, and it should be complex and regimented. I wouldn't make it easier." [LA grant recipient]*

However, there was also a common view amongst applicants that the application form – or at least the information it required – was "onerous"[62]. These views (valuing the increased scrutiny but criticising the burden of applying) may appear slightly contradictory; however:

- Applicants often felt applying was onerous in the context of the time period they had to gather the data, i.e. between the launch of Phase 3a (and therefore publication of guidance on the requirements) and the application window opening[63]. There was consensus amongst respondents that as much time as possible should be given between the announcement of funding and the opening of the application window, at least whilst the 'first come, first served' approach remains.
- Some applicants felt that the broad areas explored in the application were appropriate, but the level of detail and evidence sought was sometimes challenging. Especially for larger projects comprising multiple sites, collating the required data for each site /

[62] Three of the 10 eligible non-applicants said that perceptions of an onerous application (coupled with the uncertainty of being successful) was a key reason they had never applied.
[63] Phase 3a was announced on 8th September 2021, with the application form becoming available on 15th September and the application portal opening on 6th October. This closed on 3rd November.

building was burdensome. Some respondents said that for whatever reason, their organisation simply did not have some of the documentation (e.g. schematics) requested in the form; others stated that these documents could be obtained but, especially in the context of a small organisation with limited or no specialist resources for this administrative work, finding them in the time allowed was challenging. As stated previously, almost all applicants were being supported to some extent by consultants, and many commented that it would have been very challenging / impossible to participate without their support. Linked to this, several respondents pointed out that the complexity of the application requirements almost necessitated organisations investing in some external support. The budget for this can be hard for some organisations to find, especially if there is a risk of not then receiving funding. Albeit they understood the basis for the changing requirements, several applicants found the changing criteria frustrating and unhelpful, as they could not apply lessons learned in previous Phases. One respondent did feel that due to the rate at which prices changed between the autumn 2021 Phase 3a application window and early 2022[64], asking applicants to provide quotes – and requesting funding on that basis – is flawed, as they were almost certain to rise.

"The consultant…found it a lot harder than previous submissions. I think because of the scale of our estate, having to visit the stations and multiple towns with different contractors, it took a lot of time and resource. It took you away from your day job quite a bit." [Emergency services grant recipient]

"As I said, we're not a big organisation. We don't have any specialists. For people for whom this is their bread and butter and their daily work, it may be different. But for us it was quite a difficult process because we just didn't have the expertise and knowledge in house… It was complex and there was a lot of it." [LA grant recipient]

"Our 3a project was in a listed building with some boiler tech that goes back decades. The radiators in there go back probably centuries. So trying to find the initial information that's required can be tricky. [FE/HE grant recipient]

"3a was a big surprise to us in terms of the resource required and the preparatory work that we had to carry out in advance of submitting a bid…. I appreciate [heat loss calculations] play a very important role, but it is difficult for us - semi-technical or non-technical [people] - to submit this information. It took a lot of resources and cost us a lot of money." [LA grant recipient]

TPTA workshop attendees tended to feel that the greater detail required in Phase 3a applications had raised the overall quality of applications, but equally that many mistakes were being made, requiring lots of follow up work to address errors and omissions. Some associated these issues with the approach to awarding funding (discussed later in this chapter), which was felt to encourage applicants to prioritise promptness of submission over quality. In addition,

[64] Driven by UK inflation rates.

several TPTAs felt that the more onerous requirements were particularly affecting smaller, less experienced applicants, and potentially putting some off from applying at all.

Most applicant respondents found the application form fine to navigate, with several comparing it favourably with other forms they have had to complete to access grant funding. Several respondents cited issues with certain cells being locked (one of which meant the respondent kept getting a message that their application was incomplete), and how certain aspects were calculated / auto-filled was not clear to them. Another felt that for larger, multi-site projects, the form could be quite repetitive and time-consuming to complete. However, overall, completion of the form itself was seen as relatively straightforward.

> *"There are a lot of questions on there but they are fairly standard in terms of project delivery and governance, past experience of the team…in terms of applications that I have dealt with, the Salix one isn't too bad." [LA grant recipient]*

> *"The app form itself was a bit clunky….one of the difficulties I think we had was around dealing with multiple sites. It's difficult when you're trying to do an application for 20 sites, going through and changing all the individual rows." [LA grant recipient]*

Regarding submission of the application through the portal, most respondents either could not recall specifics, or said this was fine and had no further comment. Several respondents claimed that the Salix website crashed whilst they were trying to complete and submit their application.

2.7: Salix communications and support with applications

Applicants – whether awarded funding or not - were overwhelmingly positive about both the published guidance and webinars that were provided for applicants following the launch of Phase 3a. The latter were felt to be particularly useful for addressing any lack of clarity or misunderstandings, and the regular circulation of Q&As and clarifications was welcomed. In addition, several applicants complimented the provision of the application forms / templates in advance of the application window officially opening.

> *"It was certainly helpful to have the proformas and questions ahead of the window of opening; the webinars in advance were helpful." [School / academy grant recipient]*

> *"I thought communications about the scheme, and eligibility, were straightforward and helpful." [NHS grant recipient]*

> *"The guidance was very clear and very useful; any questions I had were readily answered by the technical team FAQs or the webinars hosted by Salix." [LA grant recipient]*

2.8: Phase 3a awards

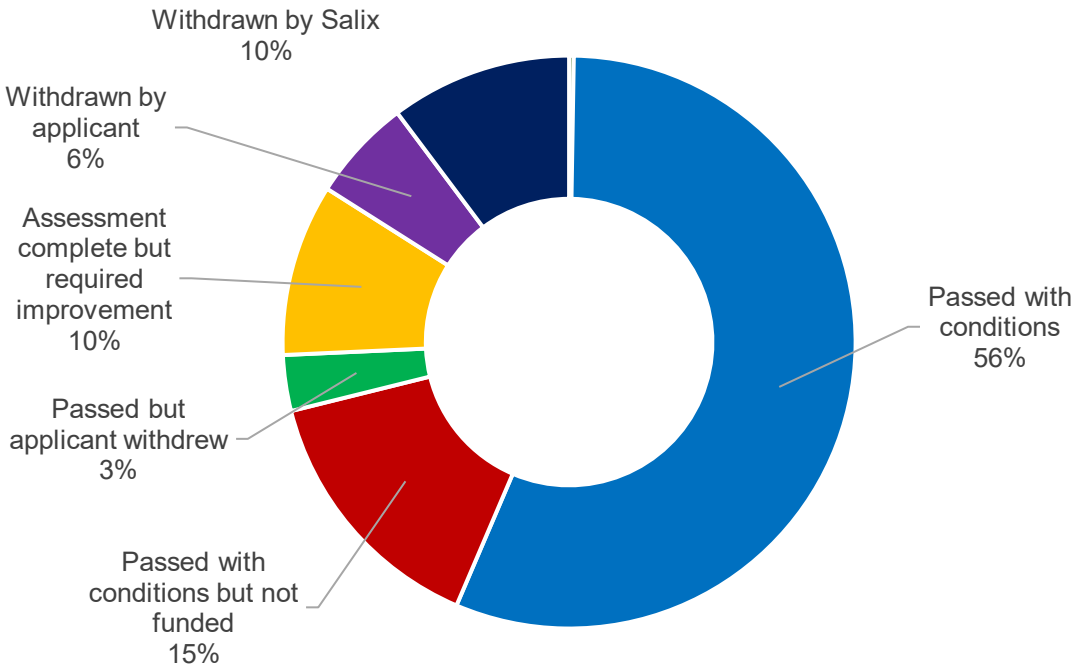
The following section sets out both the profile of funded projects and stakeholder views on the way in which applications are assessed and awarded funding.

2.8.1: Context: funding award profiles

In Phase 3a, 231 applications were awarded funding, with a combined value of £614m[65]. In terms of distribution of funding across sectors and grant values requested, the breakdown of awards aligned very closely with the breakdown of applications. There was a slightly better conversion rate from application to award for larger NHS projects.

Applications were subject to review and potentially further QA from third party assessors; the outcomes of the application review process were as follows:

Figure 6: Breakdown of Phase 3a application reviews [n=381]



Applications could be rejected / withdrawn by Salix for a number of reasons, including ineligibility with respect to PSDS rules, failure to pass quality checks, and lack of response from the applicant organisation to requests for further information.

Salix databases provide further depth on assessor concerns / comments, reasons for rejection and examples of ineligible applications:

- Lack of information - the most common reviewer comment was that the applications had not provided sufficiently robust evidence on costs, in particular the 'like-for-like' costs of boiler replacement. Other instances of lack of / insufficient technical information

[65] As stated in Section 2.1, some of this funding was allocated to 2023-25 budget years for multi-year projects.

included site heat loss or energy rating, projections of post-project heat demand, and lack of schematics for the current heating system. A handful of applications were also missing project plans, risk registers, and / or evidence that DNOs had been engaged.

- Ineligible projects – one of the most common issues was that the boilers included in the project proposals were not 'end-of-life'. There were also instances of low carbon heating comprising too small a proportion of the project, £s per kW / CCT falling outside parameters, and in two cases the requested grant seemingly exceeding project costs.

Examples of Salix reviewer comments

'The project would be high risk due to the heritage site needing significant planning and renovation before heat pumps would be suitable. It is not clear if these works will take place and how long these works would take.'

'No evidence for like for like costs, and the low carbon heating measures are only 5% of the like for like cost, which is significantly below our benchmarks.'

'The costs are based on quotes that are between 1.5 and 3 years old.'

'A quote is offered for an ASHP but the proposal states that they want to install a WSHP.'

These issues raise several possibilities: 1) that some applicants had not fully read or understood the rules when preparing their application; 2) that applicants had understood the rules but were hoping a partially compliant project might still pass assessment; and 3) that applicants are rushing in substandard applications in the expectation that they can secure a place 'in the queue' and win a bit more time to address any outstanding gaps / issues. This issue is discussed further in Section 2.8.2.

There was no clear pattern as to the profile of those rejected through application quality checks. There is a spread of sectors, and most appear relative to their incidence in the applicant population; the two exceptions are schools and academies (24% of applications but only 11% of quality rejections) and non-departmental public bodies (NDPBs) (6% of applications but 16% of rejections).

2.8.2: Award criteria

Phase 3a opened for applications on 6 October 2021 and closed on 3 November 2021. Yet over half (52%) of applications were submitted on 6 October[66]. This is due to the 'first come, first served' basis on which applications are assessed, utilised on all Phases of PSDS to date. The applications are reviewed in the order received, and if the application is deemed to be compliant with the scheme eligibility criteria, it is awarded funding. When the funding for the Phase is all allocated, the remaining applications are rejected, even if they were submitted inside the official window (i.e. before 3rd November 2021 for Phase 3a).

[66] These were not all straightforward projects. Around a tenth were requesting over £5m in grant funding.

The vast majority of unsuccessful applications did not miss out on funding because they were non-compliant in some way, but because they were submitted later than others.

As in Phases 1 and 2, many applicants and contractors – even those awarded Phase 3a funding – expressed strong reservations about this approach. It was felt to be detrimental to the stated objectives of the PSDS in a number of ways:

- Creating a rush to submit applications for projects that have not been properly scoped, leading to an increased administration burden for Salix (as applications require greater scrutiny and potentially multiple iterations). This may have led to delays in award decisions, which in turn potentially leads to various project delivery challenges. Delivery issues in turn then create an additional burden for both grant recipient organisations (as issues are explored, change requests negotiated) and tends to lead to reductions in project scale / impact, or delays in benefits being realised.
- Linked to this, the approach may mean applicants select the least complex projects (which may be less impactful) in order to ensure quick submission when the portal opens.
- Linked to both of the above, 'first come, first served' means that access to funding is almost entirely dependent on how quickly and efficiently an individual can enter information into a template form. One respondent also cited a situation in Phase 3b whereby their loss of internet connection for nine minutes meant they missed out on funding.
- The quickest submissions might be expected to be from organisations with experience of these types of projects, forms and applications, and / or those able to source external support. In other words, larger and better resourced organisations. This view does not seem to be entirely supported by the statistics on awards (summarised in Section 2.8.1) - a wide range of organisations were awarded funding. In addition, the sector caps in Phase 3b go some way to addressing sector imbalances. However, interviews in this first stage of evaluation have found that the need for quick submission, experience with the systems / forms, and the risk of not receiving funding despite substantial effort, is dissuading some (particularly smaller) organisations from applying at all.
- Linked to the level of resource required (particularly for Phase 3, with the additional scrutiny around heating systems and DNO engagement), some applicants voiced concerns about stress and pressure on the key individuals driving the application to win funding. They may not be successful, yet this might be entirely unrelated to the quality of their work.

> *"It puts a lot of pressure on organisations. If you are putting a lot of time and resource and effort and potentially cost into developing the bids, and you're not successful, that isn't great for the person that has been leading the efforts to do it, and it might not particularly be because of a low-quality application." [LA Grant Recipient]*
>
> *"You probably prioritise speed over quality; sub-optimal from my perspective." [NDPB grant recipient]*
>
> *"The situation that we're in at the moment, where I think 3b went in half an hour for local authorities and 20 minutes for hospitals, is ridiculous." [LA grant recipient]*

"I feel bad that they put in an awful lot of time [for a 3b application] and it came down to how quickly I can type into the computer." [NHS grant recipient]

"Our scheme got through to technical appraisal, it ticked every box, and then was knocked back as they had allocated all their money. A lot of time effort and money is spent in preparing these applications and if you have to treat it as a race to a finish line then it stops being worth doing. All the other schools I'm involved with opted not to apply because of low chance of success." [School / academy unsuccessful applicant]

To some extent, the rationale for 'first come, first served' was at least understood by stakeholders in Phase 1. At that time PSDS was a new scheme, level of interest and uptake was uncertain, and funding needed to be distributed as soon as possible for the scheme to maximise its effectiveness as a stimulus to the supply chain. For the subsequent Phases, and especially beyond Phase 2, these considerations no longer apply, and it is not clear to stakeholders why the approach is still in place.

Although not an issue much commented on by respondents, there is also a question over whether 'first come, first served' itself is being implemented in the fairest way. If quickly-submitted applications required further work / information, the applicant organisation was given the chance to provide that and their place in the 'queue' was held. This could lead to a situation in which some applicants (potentially knowingly) submit an application that lacks key information (thus saving time and ensuring an early submission), reassured that they will have a chance to address any deficiencies at minimal risk to their likelihood of receiving funding[67]. Meanwhile, another organisation that has taken more time and care to ensure they have provided all the necessary information before submitting could find their application rejected on the basis of speed. This scenario was noted by one respondent:

> *"I wonder if I would still have been successful if I had I submitted half the documents, and then I'd at least be in the queue, and then later forwarded all the rest." [LA grant recipient]*

TPTA workshop attendees felt that there were numerous instances of applicants prioritising speed over quality. One proposal from the workshop was the introduction of a system whereby the initial ranking of a bid was still based on how quickly they submitted their response, but applicants could subsequently fall down the rankings following the quality assessment.

In the grant recipient workshops, attendees were prompted as to what system they would replace 'first come, first served' with. In both workshops, the initial response was for some form of ranking on the basis of impact, i.e. selecting the projects that maximise carbon reduction per £ of funding. However, as this idea was explored, several respondents acknowledged that this may introduce other imbalances; for example, large NHS projects might tend to be the most impactful (overall and per £ invested) meaning smaller organisations in need of funding would miss out. Even with sector caps, there may be wide disparities between organisations (for

[67] One Phase 3a applicant – albeit unsuccessful - admitted to doing precisely this: leaving parts of the form incomplete just to get it submitted as early as possible – and risk rejection – rather than being guaranteed to miss out on funding.

example, a small school and large academy trust). Equally, there would be challenges in comparing the cost effectiveness of a decarbonisation project in a modern well insulated building with one in a much older poorly insulated building.

> *"On a cost per ton of carbon, older buildings are not going to stack up, but eventually we need to address these buildings; knocking them down and rebuilding them is poor in terms of embodied carbon." [LA grant recipient]*

> *"In principle I'd be comfortable with competitive assessment but I don't see how you can put a competitive assessment together which would overcome some of those imbalances." [LA grant recipient]*

Several attendees discussed hybrid approaches; for example, a 'first come, first served' approach but with a more robust assessment of project quality and deliverability. This is effectively the approach in Phase 3b with the additional deliverability checks.

Ultimately, grant recipient workshop attendees – and indeed other applicant and contractor interviewees – found it challenging to think of award criteria that would entirely eliminate unfairness or advantages for certain organisations. However, most respondents were of the opinion that 'first come, first served' is particularly inappropriate for distribution of funding and carries more disadvantages and pressure than other approaches.

> *"It just feels wrong that so much money on such an important topic is given away on a first come, first served basis. Not morally right. I think some people should bend their brains to working out the best way to do a competitive assessment and get it done… It can't be worse than saying 'on your marks, get set, go'." [FE/HE grant recipient]*

2.8.3: Application scrutiny

Successful applicants that received requests for further information or clarification felt this was fair and had no issues with the questions raised or further data requested. Indeed, several applicants specifically praised the process of review and quality assurance on the applications, on the basis that it should, in theory, filter out applications that were submitted with little preparation / effort in the hope of winning funding.

> *"I think it's quite a thorough process. The people that do try and blag it do get caught out." [LA grant recipient]*

Equally grant recipients were generally supportive of the conditions attached to grant awards, albeit the number of these on some projects made the respondents nervous.

An issue raised with the process of application review was from one respondent who felt the technical queries they received from Salix had already been answered in the appendices they submitted with the original application; on this basis they queried what elements of application submissions go to which Salix staff. Linked to this, one applicant felt, based upon the queries they had received, that there may be skills gaps or variances in some of the third parties being utilised by Salix for application review and assessment.

2.8.4: Communication of awards

Application assessment started within the October 2021 application submission window. However, projects did not receive grant offer letters until early 2022, with several only receiving theirs in March 2022. In some cases, this was due to the process of raising and addressing application quality issues / clarifications, sometimes requiring multiple iterations. Regardless of the date the grant offer letter was received, the deadline for drawing down Phase 3a funding remained the end of March 2023 for single year projects.

A number of respondents felt the delay between application and grant award was excessive, especially in the context of the tight timescales they were being asked to adhere to. The delay was felt to have had knock-on effects on their ability to progress with crucial activities, such as scoping and procurement, which they were unwilling to undertake at risk without confirmation of the funding award. This in turn had detrimental effects on their ability to deliver the projects; Department representatives understood that in several cases the delays contributed to projects being abandoned; due to (a) applicants no longer feeling works would be deliverable before the deadline for drawing down funding; (b) costs having risen substantially in the intervening period, and the originally planned work no longer being deliverable within the available budget; or (c) a combination of the two.

A further, albeit relatively minor side effect of the 'first come, first served' approach to grant allocation is that many unsuccessful applicants do not receive feedback[68] that they can usefully apply to future project design and applications. Whilst they were aware of the rules when applying, and aware of the opportunity to apply to future rounds, some unsuccessful applicants felt this was a demoralising response to an application that may have required substantial time and expenditure.

The only other comment about the award process was from one respondent who felt the requirement for 'fabric first' was not very transparent (i.e. whether Salix examines this and how it is assessed).

[68] Beyond confirmation that their application fell outside the available funding.

3: Project delivery

This Chapter describes the progress and implementation of Phase 3a funded projects.

Overall, whilst the majority of projects have encountered some delays and cost inflation, the expectation, from programme monitoring reports, was for most funded measures to be delivered by the original Phase 3a deadline. Amongst the remainder, most have negotiated change requests. However, 17% of Phase 3a projects awarded PSDS funding have subsequently been abandoned.

When asked about factors that would best ensure the successful delivery of PSDS projects, grant recipients emphasised the importance of contractor selection. Some reported the benefits of contracting firms with whom they have a long-established relationship; in particular their knowledge of sites and buildings (so improved identification and avoidance of risks). Several felt that larger / well connected contractors were better able to secure resources that might be in short supply. Grant recipients and PSDS contractors also emphasised the value of engaging key stakeholders (such as DNOs and planning departments) in the process as early as possible, as well as conducting robust site surveys and detailed design work before the project commences.

Challenges on Phase 3a projects are similar to those encountered in Phase 1 and 2 – in particular difficulties in obtaining key skills and equipment (especially ASHPs), planning permission, and timescales for DNO work. Whilst cost inflation was a critical issue in Phase 1, challenges in the wider economic climate – perhaps coupled with the Phase 3a application rules around CCT and applicant contributions – have meant this was the most commonly cited issue across Phase 3a grant recipient respondents, and the main reason (reported in programme monitoring records) for projects abandoning. Grant recipients appreciated the flexibility of the scheme in the form of change requests, though some found this process quite onerous.

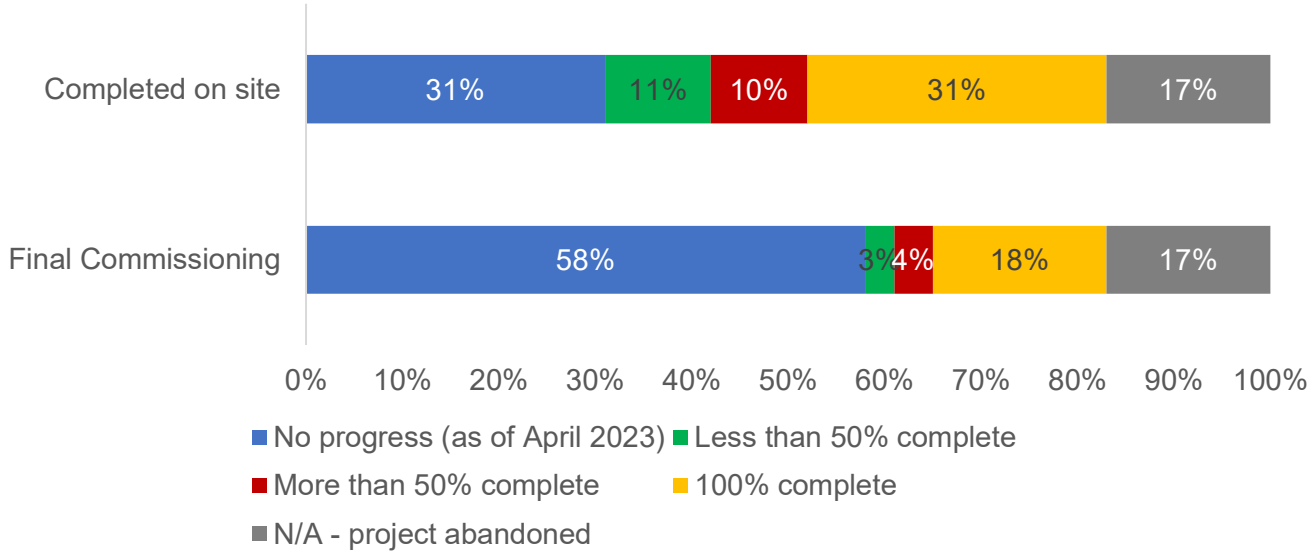
Overall, almost all grant recipients interviewed in this stage of the evaluation felt that, to date, contractors had been of good quality. This view was often caveated where projects are not yet complete (proof of quality will be in how the measures operate and beneficial impacts delivered); however, in terms of installation work completed, most grant recipient interviewees reported no notable issues.

The project monitoring and reporting processes were generally felt by participants to have worked well. Grant recipients valued having a dedicated Salix account manager, and many commented that these managers had been helpful and responsive throughout. However, issues have arisen where there have been (sometimes several) changes in account manager. In terms of monthly reporting, most respondents felt this was manageable (albeit could be less frequent); the main challenge cited by project teams is the need for accurate forecasting of monthly spend, which is felt to be particularly challenging in a climate of supply chain delays and cost inflation.

3.1: Overview of progress

Salix reporting on project progress enables assessment of the progress of funded projects subsequent to award. The following chart shows the proportions of Phase 3a-funded projects that had completed installation of measures, and completed commissioning of those measures, as of reporting on progress made by the end of April 2023.

Figure 7: Categorisation of the progress of Phase 3a Single Year funded projects[69]



Conversations with single-year project grant recipients in the first stage of evaluation indicated that most were not expecting to have all works commissioned and operational by the end of March 2023. However, as shown in Figure 7, these expectations had often not been realised. In May 2023 progress reporting, 2% of single-year Phase 3a projects were categorised as 'closed'[70], though a further 13% were categorised as 'completed on site' i.e. measures installed but commissioning and / or Salix verifications yet to occur.

For single-year projects funded under Phase 3a, grants could not be claimed after 31st March 2023; for multi-year projects this was either 31st March 2024 (for two-year projects) or 31st March 2025 (for three-year projects). However, where project teams produced vesting certificates (evidencing that kit had been purchased), the grant was usually paid in full prior to the end of March, regardless of project status or completion. Project teams have tended to meet the post-March costs of onsite installation and any further works through alternative (usually internal) funding.

In terms of funding allocation, changes to projects (explored further in Section 3.2) indicate that whilst the majority of funded projects are expected to use their allocation, there has been / will

[69] It should be noted that the breakdown includes the 19 multi-year projects, that would not necessarily even expected to have started works on site as of May 2023 (though several had).
[70] Internal Departmental reporting defines a 'closed' project as one where works are completed on site and grant paid; and linked to this, that Salix has ensured that all the necessary documents have been received, reviewed and signed; this includes invoices, photographic evidence and evidence of carbon savings.

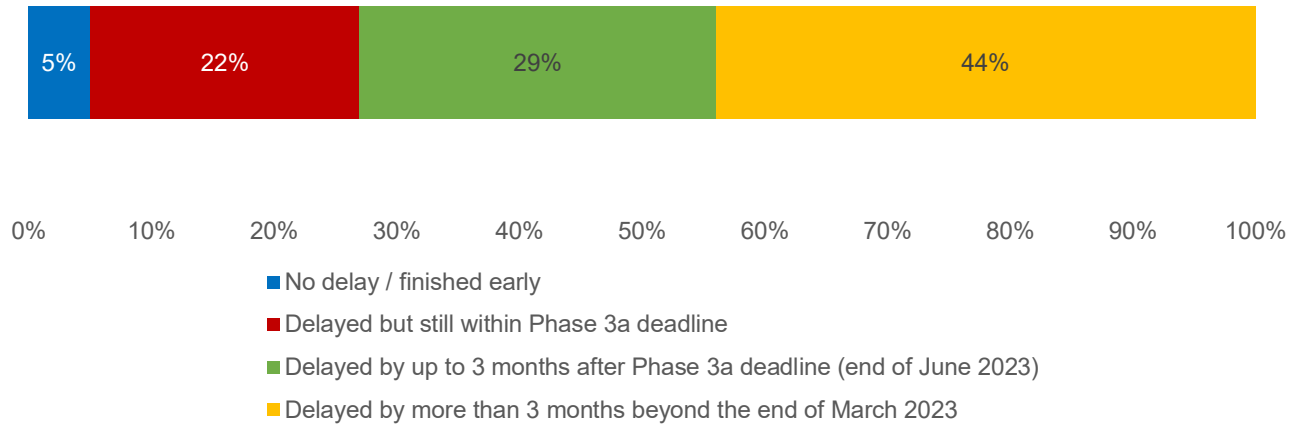
be underspend[71] on over a quarter, and 39 projects (17%) had been abandoned as of May 2023; often due to unmanageable cost inflation and / or delays. As noted in section 2.8.4, Department representatives understood that in several cases the delays to grants being awarded had contributed to these issues.

Based on the limited sample of abandoned projects, it is not possible to draw any firm conclusions about the profile of organisations choosing to abandon[72]. As might be expected, all but one of the abandoned projects were single-year. As noted in section 3.3. below, abandoned projects comprised, on average, smaller award values when compared to the average Phase 3a award. Most had received less than £1m and all less than £5m.

3.2: Success factors

Just over a quarter of Phase 3a single year projects have – according to April 2023 Salix reporting on project progress – been completed, if not to the originally expected timescales and budget, then at least to the intended Phase 3a completion deadlines.

Figure 8: Extent of delays to live (not abandoned) Phase 3a single year projects from April 2023 Salix progress reporting [n=174]



Both grant recipients and PSDS contractors were asked for their views on the key 'success factors' that enabled projects to stay on track, and for commonly encountered challenges to be avoided or mitigated.

[71] In a small number of cases (9) this was categorised as 'good underspend', i.e. the project costs had simply been less than projected. However, most cases of underspend were due to project teams needing to renegotiate what would be delivered, with a commensurate effect on expected outcomes; the majority of underspend categorisations (36) were for 'reduced benefits underspend'.
[72] NDPBs and emergency services organisations seemed slightly overrepresented vs the grant recipient population as a whole.

3.2.1: Contractor selection

Most responses focused on the importance of having the right contractors in place. Grant recipients particularly valued contractors with whom they had an established relationship and track record; the key advantages were reported to be that:

- These contractors had a better understanding of the client's sites and buildings; this in turn meant they could anticipate – and if possible avoid – some of the issues that might take a less experienced contractor by surprise. They could therefore minimise costs and delays.

  "Consultants know the buildings. They know the issues, they understand how schools operate and so therefore were able to work out a way of getting the various building works and engineering works done in a way to mitigate and reduce the impact." [School / academy grant recipient]

  "We've had a great supplier who actually is local and knows the property and has been really on it in terms of working with us; we did set him a very difficult, tight timeline, and he's really delivered." [LA grant recipient]
- Albeit often unsubstantiated, some grant recipients felt that these contractors would be more willing – on the basis of the established relationship between the organisations – to devote greater resource and effort to completing the project to time and budget.
- On the other hand, regardless of a track record of working together, one respondent speculated that – rightly or wrongly – their status as a large council (and therefore significant client) had been an effective guarantee of good performance from the main contractor:

  "The contractor, they've never said to us, but they've got a fair amount of work on, yet I feel like because we're quite a large client that we do get a little bit of prioritisation from them." [LA grant recipient]

Other contractor / contract attributes cited by grant recipients included:

- A wide-ranging role; having a lead contractor that sits across multiple aspects of the decarbonisation projects – project design, implementation and management – better enabling them to coordinate resources and ensure effective and efficient delivery.
- Scale / contacts; several grant recipients talked about the ability of their contractors to secure certain equipment / kit that was, at the time, in short supply. They attributed this to the contractors' relationships / status in the supply chain.

  "The contractor was able to put some pressure on some of the manufacturers and suppliers to make sure that various bits of kit were installed or the delivery periods were as short as practically possible." [School / academy grant recipient]
- A long-term contract; as well as the aforementioned benefits of building an established relationship, one respondent reported that the benefits of appointing one contractor for

delivery over multiple years is that it minimises procurement activity that can cause significant delay and resources[73].

3.2.2: Early stakeholder engagement

A number of respondents noted the importance of having placed orders for products (such as heat pumps) and having initiated DNO engagement[74] or planning permission processes, as early as possible.

> *"The delivery of the heat pump was always the biggest risk as I said earlier so getting that ordered as soon as the procurement was confirmed, which meant that it did come in time." [LA Grant Recipient]*

> *"Lessons learned on organising ourselves. Not just the estates team to get the application in, but the procurement team, the wider office, different departments that may be involved, the people that deal with insurance, the legal side, things like that, so that they are all aware of what we are applying for so that if there are any blockers at the beginning, everyone is aware." [LA Grant Recipient]*

It was not clear to what extent respondents reporting early ordering of equipment, such as heat pumps, had done so before confirmation of the PSDS funding award, as many organisations would likely be unwilling to carry this sort of risk.

Finally, several grant recipients and contractors also emphasised the value of conducting robust site surveys and detailed design work before the project commences. Several respondents noted that such work should be done in advance of applying; the results can then inform applications, but these respondents also felt there was little time to conduct such works within the Phase 3a timescales.

3.3: Challenges encountered

As referenced in Section 3.1, expected completion dates in the latest project progress reporting from Salix indicate that delays[75] to Phase 3a projects have been common. The expectation in the database was that most would still be 'complete' by the end of March 2023, though figures from the latest project progress reports from Salix, and conversations with grant recipients in stage 1 of the evaluation, indicate that this has not been the case.

The latest expected Phase 3a single-year project completion is December 2023, though Phase 1 experiences have shown that delays can be much longer[76]. For a small number of Phase 1

[73] The same respondent acknowledged that the potential disadvantage of this was that value for money is harder for them to ascertain.
[74] The Phase 3a application required applicants to provide evidence of DNO engagement.
[75] The database records grant draw down vs expectations, but not changes to overall project costs. Though anecdotally a number of Phase 3a projects have seen substantial increases in project costs.
[76] On some Phase 1 funded projects, not all measures are yet fully commissioned and operational; the original deadline for completion was September 2021 and for many this was extended to March and then June 2022.

projects, delays have been over nine months; several (usually schools, or LAs applying on behalf of schools) were originally hoping to complete in the summer of 2022, but when this was not possible the completion date therefore moved to after Easter 2023.

As might be expected, from Salix reporting on project progress, larger projects (often more complex and with more potential to go awry) were disproportionately likely to have encountered some degree of delay, though this was by no means universal. Of the projects expected in Salix reporting to miss the Phase 3a deadline, more than half (62%) were in the <£1m funding value category, even though this category accounted for only 42% of applications awarded Phase 3a funding.

39 projects that were awarded Phase 3a funding have subsequently been abandoned. The principal reason for this was cost inflation. Where specified in Salix project progress reporting, these costs were either unanticipated requirements for DNO works, or sharp increases on quotes provided to grant recipients at the time of applications. Abandoned projects are disproportionately smaller projects, with 79% having a <£1m grant award (compared to 58% of all awards); it may be that smaller projects (managed by smaller organisations with smaller budgets) can less easily afford to absorb cost increases.

Another common cause of abandonment has been severe delays to projects. Causes specified in the programme monitoring forms include delays to planning permission, procurement, and the need for additional funds. This again links back to cost inflation; delays to projects cause a problem because they may lead to a loss of grant funding and / or a need for the grant recipient organisation to self-fund more elements of the project.

Cost inflation has been closely linked by both grant recipients and PSDS contractors to both inflation generally, and sharply rising energy costs in particular. In the period between quotes for their application and ‘re-quotes’ following PSDS award, grant recipients have reported costs increasing by as much as 30%.

Cost inflation and project delays are somewhat interdependent; increases in costs may lead to delays as further procurement exercises[77], internal sign-offs and / or formal change requests are concluded. And vice versa, delays to works have sometimes led to spiralling costs.

The other key issues encountered by Phase 3a projects – that underpinned one or both of time delays and increased costs – are summarised below:

[77] As an example, one grant recipient thought – at the time of application – that they would be able to keep a tender below OJEU levels in order to reduce tendering burden. However, subsequently prices that came in were all over OJEU thresholds, which meant the organisation had to use this procurement route after all, setting them back about two months.

Table 4: Descriptions and examples of challenges encountered during the implementation of Phase 3a funded projects

Project delivery challenge	*Examples*
DNOs making unexpected demands, being unresponsive and / or lacking clarity on when works can be delivered. There was a perception amongst several grant recipients that their DNO had been somewhat inconsistent, initially advising (i.e. around the time of application) that upgrades would not be necessary, but subsequent to site visits, deciding that they would. This incurred substantial costs and severely delayed project completion.	*"Although we applied right at the start, for one reason or another, the DNO is just very slow. They've got terrific demand apparently." [LA grant recipient]* *"Three sites have big hold ups, mainly down to DNO problems as sub-stations need to be upgraded. The DNOs themselves have been very unhelpful - they are very slow at responding and not proactive. In initial meetings with them, we had verbal assurances that it would all be fine, but then they came back with major issues and said we would need to upgrade sub-stations." [School / academy grant recipient]* *"The DNO - lack of engagement, lack of them getting to site, lack of responses. And they're just too busy. They're a law unto themselves." [PSDS contractor]*
Delays to provision of supplies / equipment, particularly ASHPs. A wide range of reasons were suggested for this, including ongoing COVID restrictions in the country of manufacture, restrictions on import resulting from EU Exit, the war in Ukraine, and spikes in demand (attributed mainly to PSDS itself).	*"There seem to be a lot of parts that are being bought from abroad and imported, and with the new EU regulations, they are getting caught out." [School / academy grant recipient]* *"The air source heat pump delivery - I believe they'll come from Mitsubishi, so there are problems getting them into the country and then problems getting them fitted." [School / academy grant recipient]*
Securing planning permission; this often arose for projects that included listed buildings, but several grant recipients also mentioned issues with measures (especially heat pumps) being deemed to cause noise pollution, and other planning policies have created delays and hurdles to implementation.	*"The local planner said that we would need a bat survey [which] can only be done in the spring, and we'd missed that window of opportunity… The Conservation Officer said that he wouldn't be minded to approve ASHP on the site for the visual impact it would have." [School / academy grant recipient]* *"Two of the sites needed the air source heat pumps moved because of rejection from the planning department, which is mad because these things are*

Project delivery challenge	*Examples*
	quiet and they're claiming noise is the reason for rejecting them." [Central Government grant recipient]
Site / building specific issues; these were often linked to discovery of issues that had not been apparent at the application stage as detailed site / building surveys had not been possible in the times / budgets at that point.	*"We've had to employ a structural engineer to do a piece of work assessing whether the roof can take the weight of the pumps." [School / academy grant recipient]* *"We found an unmarked sewer whilst drilling bore holes and also found ground contamination." [LA grant recipient]* *"You just don't know until you actually start pulling apart the building what's in the floors, and things…there was more work required than what we thought." [PSDS contractor]*
Project team / partner issues; including key contractors going into administration.	*"In February the heat pump company went into administration. The heat pump was ordered, constructed and in the country and we found we couldn't have it." [NHS grant recipient]* *"We've noticed that the contractors are getting a bit more stretched because they've obviously got other contracts. They could probably do with upgrading their team faster than they have done… they've retrospectively increased the amount of people in their team whereas really it should be more of a proactive thing." [LA grant recipient]*

Linking back to project risk planning discussed in Chapter 2, the challenges arising on projects tend to have been due to an anticipated issue being more severe than expected, as opposed to applicants being oblivious to the possibility of certain issues.

Based on the nature of some of the challenges described in the table above, it seems reasonable to conclude that with more robust scoping and earlier stakeholder liaison, a number of the subsequently encountered issues[78] could have been identified whilst applications were

[78] Particularly unexpected DNO and planning department demands, and the site specific / technical issues uncovered once contractors got on site.

being prepared. However, when the outcome of funding applications is uncertain, many organisations may be unwilling to make this additional up-front investment.

Whilst acknowledging cost inflation as an issue, TPTA workshop attendees felt that project costs in applications were often optimistic. A key challenge noted by TPTAs was that contractor quotes in applications often didn't provide a sufficiently detailed breakdown of costs, or underlying assumptions. This makes benchmarking, essential to ensure that applicants are not subject to unreasonably high charges, very difficult. It was suggested that Salix provides a template cost plan to ensure that the required level of breakdown of costs is provided by all applicants. TPTAs also suggested cost benchmarks to provide applicants with insight into the levels of cost they should be expecting to pay to contractors.

3.3.1: Energy price rises

Grant recipient workshop attendees were asked about the effect that rising energy costs have had upon project delivery, outcomes, and future appetite for decarbonisation. Respondents provided mixed views, though predominantly this was seen as a serious issue with detrimental impacts for PSDS projects.

As energy costs are also affecting the supply chain, several workshop attendees – as well as other grant recipient interviewees – reported having to seek further internal funding to cover increased quotes and supplier costs. Following project completion, several grant recipients described how running costs had increased and in at least one case this was felt to have affected stakeholder appetite for further works:

> *"It's actually affecting the appetite of the council and also the building owner to commit to those kind of projects because they were expecting their bills to be cut after those projects, but in reality they might not be." [LA grant recipient]*

Conversely, several grant recipients argued for a longer-term view; that energy price fluctuations needed to be 'priced in' to long-term projects of this nature, and that these considerations shouldn't affect whether or not organisations look to decarbonise.

> *"If you're just trying to reduce your costs for the next couple of years, you're in the wrong game. Really this is about a longer view. I think it's got to be, so it's going to be unpredictable. Sometimes it'll go up, sometimes it'll go down. You've got to do this for a different reason." [FE/HE grant recipient]*

> *"No one has a crystal ball, but the expectation is that gas prices will increase relative to electricity. And therefore longer term the heat pumps will become cheaper, or our facilities will become cheaper to run, compared with a do-nothing approach, even though for next year we are having an increase in running costs." [LA grant recipient]*

3.4: Salix management of project delivery

Grant recipients were asked for their views on Salix management of the project delivery stage, in particular the ongoing project monitoring procedures.

Overall, views varied considerably depending upon the precise aspect of project management being explored.

The principle of Salix key account management, with each project assigned a lead contact, was welcomed by grant recipients; the contact was felt to provide a very useful communications channel, clarifying the information required by Salix, but also providing / coordinating Salix responses to questions raised by project teams. Representatives of the Department reported that this structure was useful in keeping projects on track and minimising abandonments.

> *"I thought it was a very good idea that Salix had an account manager assigned to us. We've had monthly meetings and that's been a reassurance along the way that we've supplied what we need to." [School / academy grant recipient]*
>
> *"To be fair, everything with Salix has gone very smoothly…They did numerous webinars saying this is how you perform, how you complete the monitoring, this is what we expect to see. Very, very clear. I can't fault that." [NHS grant recipient]*
>
> *"The best thing about the whole process, apart from us getting the money, was the relationship managers. We've had two; they've both been absolutely fantastic, they've really helped us keep on track, they've arranged meetings with the technical team when we've needed it, they kept reminders coming on monitoring and reporting, so we haven't missed anything on that, and they've been really accessible when I've had queries about delivery." [NDPB grant recipient]*
>
> *"We have been very lucky as we have a responsive and helpful relationship manager. Because it is a relationship that we have built over years now. It is nice to have this continuity; the relationship manager knows our project; understands the challenges around the site." [LA grant recipient]*

However, several (4) grant recipient interviewees did raise one or both of the following issues regarding this role:

- Lack of a consistent contact; respondents reported that their 'lead' contact / account manager at Salix had changed several times. This was not felt to be too disruptive, but did mean that they needed to spend some time familiarising new contacts with the project history and certain pieces of context. In addition, personnel changes were sometimes felt to have led to changing requirements from Salix.
- Slow responses to certain queries; respondents recalled these being more technical queries and suspected that contacts had needed to consult with colleagues. However, the reasons for delay were sometimes not communicated to grant recipients. Several

respondents – both contractors and grant recipients – also found this lack of / slow communication frustrating in the context of Salix demanding swift responses to their own requests.

"I think we had three relationship managers from Salix over [the period of project delivery]. There was one stage when I submitted a monthly report for the money to be drawn down, sent it in as I normally would and it didn't get paid and the explanation was that we didn't sign it in a certain way and had missed something, whereas the previous Salix relationship manager didn't require that." [School / academy grant recipient]

"As you go through the process, you're not too sure where the coordination is on the Salix side because you get ten people asking the same questions, which is irritating. I do think they could do with a little bit of coordination… I get the impression that there are different people sitting looking at different components." [LA grant recipient]

"Their turnover of staff is quite high, and each new member of staff that would take over would ask for exactly the same documents again. Their record keeping can't be very good at their end because it was literally the same thing over and over again that they were asking for." [School / academy grant recipient]

Conversely, some participants had a much more positive experience of Salix communications during project delivery:

"From our experiences I'm quite positive about Salix. They've been supporting us on a monthly basis. They give us feedback on the report. Where we have queries, they've answered them." [FE/HE grant recipient]

"The experience I've had with Salix is that they're brilliant if you have a question or if you don't understand something or you need more information. They're really happy to help and very knowledgeable." [LA grant recipient]

Most grant recipients felt that the monthly reporting was more burdensome than it needed to be, especially for early months where there was little activity on site. In particular, several respondents commented that the requirement to provide spend projections for upcoming months was challenging, especially in the context of fast-changing project situations and costs. Linked to this, one respondent felt their Salix contact was not very understanding of some of the challenges that can be encountered on complex decarbonisation projects.

Several grant recipients queried the extent to which Salix scrutinised their monthly submissions; one because they are not receiving queries on monthly reports that they would expect; one on the basis that post-completion a number of queries have been raised, which the respondent felt had been highlighted in – and should have been raised at the time of – earlier monthly reports.

"I do find monthly reporting quite onerous. If it could be dropped to bi-monthly or quarterly, that would help my admin burden, but that might just be because we're quite a small team here." [LA grant recipient]

> *"When you start out with the financial forecast, you have to kind of almost guess for the upcoming year when you're going to spend the money. Salix, because of the way they work, ideally they want to be seeing your invoice matching your forecast. If you want to change your forecast, you've got to be sort of almost six weeks ahead of yourself and that isn't very realistic." [LA grant recipient]*

Some respondents reported that they did not find the monthly monitoring process burdensome:

> *"I think the monitoring requirements have been fine. I think the monthly reports are fine. I don't think they're too over onerous or anything like that." [LA grant recipient]*

Although satisfaction was not unanimous (i.e. where change requests had been rejected), a number of respondents were appreciative of the flexibility shown by the Department / Salix in the *principle* of accommodating change requests on project timescales / composition[79].

However, several respondents commented that the actual process of securing change requests could be quite drawn out, exacerbating project delays and sometimes putting projects in a sort of stasis.

> *"We had a change request; we had a verbal agreement – but the paperwork took a long time and I had to be persistent in asking [Salix] for it." [NHS grant recipient]*

> *"These projects are quite complex and where Salix struggled a bit was in approving our change request in a timely fashion. We put a change request in the summer [2022] and we actually have yet [as of early 2023] to find out if it's been successful. It's enormously stressful because what it might mean is that we're not going to receive as much funding as planned." [LA grant recipient]*

In terms of prompt payment, from the Salix reports on project progress, all grant payments requested by Phase 3a grant recipients in March 2023 were paid within the 15-day payment window as required under the KPI.

3.5: Quality

All grant recipients were asked for their perceptions of the quality of works on the PSDS-funded project(s). As most projects were not complete (certainly measures not operational) at the time of interview, many respondents found it difficult to provide an authoritative view on the quality of the works; they felt that this assessment could only really be made once they could see how effectively the measures were working and delivering the projected benefits.

Despite this, most respondents reported satisfaction with the contractors and quality of works to date. For some, this was because they were unaware of any particular issues with the

[79] Salix noted that change requests might be rejected for a number of reasons, including: insufficient detail / communication from the project team; if the adjusted project proposal is not deemed eligible / feasible to deliver within the remaining grant timeframe; or if change requests are submitted after the deadline for these.

quality of installation. Some simply made this assessment based upon their perceptions of the contractors, particularly where they have an established / longstanding relationship.

> *"Reassuringly those schools that have had the system switched on have been quite delighted by the heat output. We've had very few issues from a technical viewpoint." [School / academy grant recipient]*
>
> *"We were really pleased… It wasn't without a few issues, as no project ever is, but the project team that we had on that site was fantastic." [FE/HE grant recipient]*
>
> *"I think the drilling team was superb. Really good. That wasn't easy." [School / academy grant recipient]*
>
> *"Fantastic… The actual installation itself has been very tidy, very clean, we've had little to no mess. All of the end finishes are as expected, if not better." [LA grant recipient]*

A small number of grant recipients and contractors represented projects that had been completed some time before the evaluation interview. These respondents were able to report that measures were operating as expected[80] and that 'snagging' issues had been non-existent or small / manageable[81]. Across respondents, reported quality issues were as follows:

- A "minor" leak in a GSHP, found after some digging.
- An ASHP not heating water to a sufficient temperature.
- Two contractors failing to put in accurate and timely requests for planning permission.

Where contractor respondents had completed works, and especially for heat pumps, they reported having provided support to clients after installation. This was particularly in relation to the effective operation of heat pumps, including providing a user-guide plus training for staff or other contractors.

[80] None were able to quote impact figures, but several said they were seeing the benefits / outputs expected.
[81] As in Phase 1, grant recipient definitions and interpretations of 'snagging' and 'minor issues' seemed to vary.

4: Scheme importance

This Chapter provides an indicative (qualitative) picture of PSDS influence, i.e. how important is the funding to the recipients, and to what extent would the projects (in terms of scale, measures and timing) have happened otherwise without PSDS funding.

Overall, grant recipient responses indicate that PSDS continues to be seen as vital in enabling many public sector organisations to invest in heat decarbonisation, in particular costly low carbon heating measures such as heat pumps.

Interviews with non-participant public sector organisations highlighted that there is some level of heat decarbonisation happening concurrent to PSDS-funded activity. Unsurprisingly, this is typically amongst larger organisations (such as NHS Trusts and larger local authorities) with the resources available to progress projects, though some have also drawn upon alternative external sources of finance, including leveraging private investment.

4.1: Participant views on scheme importance / influence

Part of the initial checks by Salix on PSDS applications is assessment of additionality; two applications were rejected as this was not demonstrated. As part of assessing scheme influence on projects[82] – and therefore potential for attributable impacts – for the evaluation, grant recipients were asked what they would have done in the absence of PSDS funding.

As in Phase 1, responses illustrate that PSDS financial support is critical to many public sector organisations' efforts to decarbonise and meet organisational net zero goals. Almost all grant recipient respondents stated that without PSDS funding they would not have had the finance to implement the measures / projects supported by the Phase 3a funding. Several grant recipients acknowledged the existence of other funding programmes (e.g. the Condition Improvement Fund, or the Heat Network Efficiency Scheme) that could in principle be used for decarbonisation / energy efficiency measures, but emphasised that the scale of these – and therefore the works they could enable - were far smaller than PSDS (which in itself is currently far too small to achieve the public sector's decarbonisation goals).

Some respondents pointed out that, as the existing heating system was (by definition) 'end-of-life', they would have had to replace it with something. However, despite fast approaching organisational net zero targets, due to budgetary constraints this would almost certainly have been 'like-for-like' i.e. in most cases, a newer conventional gas boiler, likely more efficient than the old one. One respondent speculated that their organisation may have considered a biomass boiler in the absence of PSDS funding.

[82] Quantitative surveys planned for later in the evaluation will provide more statistically robust exploration of attribution. Responses in this first stage provide an indication.

Several respondents felt that in the absence of substantial PSDS funding for heat pumps, their organisations may have focused what budget they had on smaller fabric / energy efficiency measures.

> *"I think in some instances we would have been replacing poor condition roofs and in some instances we would have been replacing oil fired boilers, probably with other oil fired boilers. The technology improvements we probably wouldn't have been going with because the cost just would have been prohibitive." [School / academy grant recipient]*
>
> *"We may have managed pipework insulation as it pays for itself within the year…But there's no way we could have installed the heat pumps and insulation, the payback is just too long. I had looked at solar in the past and got no support in taking it forward… Clinical requirements take priority." [NHS grant recipient]*
>
> *"The cheapest thing would have been to put in another oil boiler. But obviously from a decarbonisation point of view… I think that would have been a budgetary decision in terms of whether we could have afforded the biomass." [LA grant recipient]*
>
> *"It may well have been a new gas boiler, we'd have beefed up the insulation… But we certainly wouldn't have been able to get as far with the ASHP because we just wouldn't have had the money." [LA grant recipient]*
>
> *"We'd have had to replace the heating because it was end of life. However, I think it would be highly unlikely we'd have been able to go for [ASHP]. We'd have had to go for an alternative gas boiler which would have been more efficient, but it wouldn't have had the overall net zero gain that the air source heat pump would have had." [School / academy grant recipient]*

Only two respondents anticipated a significant level of decarbonisation activity in the absence of the PSDS. One representing a Central Government department felt that, due to the organisational commitment to replacing end-of-life heating systems with low carbon alternatives, they may still have installed ASHPs. However, they acknowledged that this would have been across fewer sites and likely over a longer timescale. The other, representing a HE institution, said that they may still have procured the ASHP using internal budgets.

Several respondents also acknowledged benefits to PSDS participation outside of the funding. These included maintaining organisational focus on delivery / preventing project 'drift' and providing a relatively de-risked way of trialling measure installation and assessing contractors.

4.2: Possible alternative scenarios: activity not funded by PSDS

To build on the 'self-reported' statements from grant recipients on scheme influence[83], interviews with unsuccessful applicants and eligible non-applicants explored the extent to which they were progressing decarbonisation activities without PSDS funding.

Overall, this produced a varied picture. Most, and particularly smaller, non-funded organisations had not been able to take any significant action. Many organisations – both unsuccessful applicants and eligible non-applicants – have spent the time since the Phase 3a application window focusing on HDPs and project scoping, identifying priorities and building a pipeline of projects. Several applied to Phase 3b and a number of others stated their intention to apply to Phase 3c.

A number of unsuccessful applicants and eligible non-applicants reported having taken more limited action (often focusing just on energy efficiency) on their sites. These included:

- Several LAs funding the installation of solar PVs using internal budgets. An unsuccessful NHS applicant reported having self-funded the installation of solar PV across multiple buildings, with the work ongoing (having started in early 2022).
- A HE institution piloting a (privately funded) small ASHP to build the case for further / larger scale investment in this technology.
- A college progressing replacement of fluorescent lighting with LEDs, part funded by the Department for Education.

Several unsuccessful applicants and eligible non-applicants reported undertaking activity following a successful application to Phase 3b, indicating that the scheme is integral to them taking action. However, there were a number of examples of organisations progressing substantial decarbonisation works without PSDS funding, albeit not necessarily the full scope of the projects they applied to Phase 3a with. This activity has sometimes drawn upon other external funding sources (and in some cases leveraging private finance), but a number were apparently funded from internal budgets. Examples include the following:

- An unsuccessful NDPB applicant reported having self-funded all the decarbonisation measures they applied to Phase 3a with, including multiple ASHPs, albeit they have encountered some delays due to issues with their landlord.
- An unsuccessful HE applicant has progressed with the heat pump they applied to PSDS with using another external funding source, though this is now part of a much bigger refurbishment project and is expected to be significantly delayed.

[83] A limitation is that respondents may be inclined to emphasise the importance of PSDS to encourage its continuation.

- An unsuccessful Central Government applicant has used private finance to fund the installation of an ASHP, albeit acknowledging that this would have been quicker if delivered through PSDS[84].

It should be noted that PSDS aims not to support projects (like the above) that would be delivered anyway. Furthermore, it is widely acknowledged that whilst valuable to progressing decarbonisation, PSDS (at least in its current grant funding form) cannot fund the level of public sector activity necessary to achieve net zero by 2050. For those public sector organisations allowed to access private finance (many cannot), this might highlight a supplementary route to decarbonisation and net zero without PSDS funding.

[84] It should be noted that several unsuccessful applicants felt that a key secondary benefit of PSDS participation would have been the added impetus for project progression (amongst project stakeholders / decision makers) due to the PSDS deadlines.

5: Scheme development

Across Chapters 2 and 3, there are a number of aspects of PSDS design and delivery that are felt by participants – both grant recipients and contractors – to have worked well. The scheme continues to attract a large volume of applications; the rationale for more rigorous application assessment was understood and in many cases welcomed. There was a largely neutral or positive response to most scheme rule changes, particularly the introduction of multi-year funding allocations. Salix's communication and account management throughout project delivery was also praised. Chapter 4 evidences the ongoing importance of the PSDS to the public sector in delivering decarbonisation.

Within this context, Chapter 5 summarises public sector organisation and contractor suggestions on how the PSDS in particular – and policy more widely – could be enhanced to support decarbonisation and encourage projects. Key suggestions were as follows:

- Adjusting scheme timescales; many grant recipient issues with the 12-month timescales for delivery are addressed by the introduction of multi-year funding; respondents also suggested staggering application windows across the year.
- Replacing the 'first come, first served' approach to application review and grant allocation. If it is retained, clearly communicating the rationale for the 'first come, first served' approach to grant allocation, whilst considering the relative value of alternative approaches e.g. ranking based on quality. Some concerns are addressed by the introduction of sector caps. However, a number of concerns remain, including unfair competition within sectors, and whether 'first come, first served' maximises the value of the PSDS in terms of carbon emissions reduction per £ of funding.
- Greater medium-term certainty on further rounds of PSDS, providing greater confidence for both public sector and contractor investment.
- Consideration of an increase in the CCT to take account of sharp cost increases across almost all aspects of project delivery.
- Greater flexibility on which aspects of project delivery PSDS funding can be used for and provision for coverage of unexpected costs e.g. electrical capacity upgrades.
- Whether as part of PSDS or more widely, Salix / the Department could facilitate: (a) a centralised framework of approved contractors to deliver decarbonisation works, better ensuring quality and reducing per project administration (and potentially costs); (b) networking opportunities for public sector organisations delivering – or planning to deliver – decarbonisation projects to build understanding of how to deliver projects / pitfalls etc.; (c) provision of loan funding, particularly for the building fabric / energy efficiency measures decreasingly supported by PSDS.

5.1: Enhancing PSDS

5.1.1: Timescales

Whilst there was a general understanding amongst grant recipients and contractors of the underlying pressure for the scheme to adhere to budget years, scheme timescales were frequently cited as an area for the programme team / policy makers to examine. As highlighted across Sections 2 and 3, the timescales for single-year PSDS projects are felt to have been the underlying factor in a number of issues across the project lifecycle, many of which have a direct detrimental effect on the delivery of PSDS objectives. These issues were also described extensively in the evaluation of Phase 1 of the PSDS; they can be summarised as follows:

- Applicants selecting projects on the basis of deliverability within the limited timeframes, as opposed to their suitability, or maximising decarbonisation benefits.
- Limited time for applicants to properly scope selected projects, meaning a greater risk of unexpected issues (leading to increased costs and delays) when contractors get on site / commence works. Such issues often necessitate negotiation of project change requests, which themselves bring significant delays and require substantial resource from both the project and programme teams.
- Inflation of project costs; caused by a spike in demand for products and services. This, and applicant responses to it through inclusion of contingencies, could mean that PSDS is not achieving the value for money it could with more relaxed timescales.

The provision of multi-year funding somewhat addresses respondents' issues. Multi-year funding means that grant recipients do not need to rush into delivering a project that has not been properly scoped (i.e. 'investment-grade' surveys can be undertaken, reducing the risk of unexpected issues, costs and delays arising). Organisations can take a more considered, thorough approach to the procurement of expertise and equipment, securing planning permission, and securing DNO engagement and commitment to any necessary works.

Linked to timescales, several respondents suggested that the application rounds of the PSDS should be more staggered to reduce competitive rushing for funding across the whole public sector, as well as alleviating spikes in demand for particular products and services / expertise. Regarding schools and FE / HE institutions in particular, a number of respondents pointed out that there are only certain limited windows in which significant works can be conducted on site, and current PSDS timeframes do not always adequately account for this.

5.1.2: Award criteria

The various issues with the current 'first come, first served' funding allocation approach are discussed in Section 2.8. Yet this section also highlighted that many respondents struggled to think of an alternative approach that would eliminate, as opposed to simply shifting,

imbalances. It was acknowledged by both grant recipients and Department representatives that due to the diversity of the public sector (in terms of both building stock and organisational capability), having a completely level playing field (both between and within sectors), whilst

also maximising carbon cost effectiveness, is very challenging. That said, the following suggestions were provided by respondents as potential alternatives:

- More frequent funding rounds, which could help to address a number of issues including applicant perceptions of pressure (which could lead to prioritisation of speed, and over-optimism) and reducing spikes in demand for contractors (which can lead to delays and price inflation).
- A shorter window for application submission (to reduce the time between application and award[85]), but then assessment of all applications received in that time on the basis of other 'quality' criteria. Ideas for alternative criteria from respondents included:
    - The age of the systems being replaced
    - The beneficial outcomes being delivered (taking into account both wider benefits and numbers of beneficiaries)
    - Assessment of likelihood of completion
- A greater emphasis on quality in application ranking
- A two-stage application process – an initial light touch technical appraisal, followed by a full and more detailed application stage for applications that pass the appraisal.
- Different requirements (on CCT for example) for different profiles of project and / or applicant to avoid penalising smaller organisations with less scope to reduce their emissions.

Linked to funding awards, many respondents called for much quicker turnaround of application decisions from Salix.

One solution to the issue of organisations holding places in the 'queue', despite their applications needing sometimes significant amendment, would be for incomplete applications to be rejected. It is interesting that no public sector organisations suggested this, tending instead to opt for ranking based on quality.

5.1.3: Other enhancements / improvements

Interviews in the first stage of the evaluation generated a number of other ideas and suggestions as to how PSDS, as it is currently structured, could be further enhanced:

- Greater medium-term certainty on further rounds of PSDS[86]. It was argued that this would be critical for both public sector organisations (factoring PSDS availability into their HDPs and strategies) and contractors (creating greater confidence around investing in skills, capacity and equipment). Linked to this, many respondents asked for

[85] Though it was felt by Department representatives that this approach of allocating (i.e. following review of all applications) would introduce significant delays regardless.
[86] To an extent, greater certainty, at least for recipients, is provided by the multi-year funding, that could fund works up to three years beyond the application, albeit the composition of the project is somewhat fixed at the point of application.

either greater consistency of rules between Phases (e.g. on eligible measures, or CCT), or more advanced notice of likely changes to these.

- Greater flexibility in response to unforeseeable project delivery issues. The participant experience is clearly quite varied on this, as many organisations have had change requests / extensions to project deadlines approved by Salix. However, several grant recipients cited cases where despite seemingly fundamental and uncontrollable issues (such as a lead contractor going into administration), they were still required to deliver their Phase 3a project by the end of March 2023.
- Re-consideration of the degree of PSDS emphasis on heat decarbonisation. Multiple contractors highlighted issues with oversized heating systems resulting from a failure to optimise the heating system. Issues included the inefficiency in terms of resource use, occupant discomfort if fabric measures are subsequently installed, and the unnecessary additional pressure being placed on the grid. The latter was also cited as an issue because it then creates a need for DNO involvement in the delivery of projects.
- As highlighted in Chapter 2, a number of respondents argued for an increase in the CCT to take account of sharp increases across almost all aspects of projects.
- A number of organisations called for (often unspecified) steps to address perceived imbalances between different sectors, in terms of the expertise and resources available to design, apply for, and deliver decarbonisation projects. These respondents tended not to be aware of the sector caps introduced in Phase 3b, which would seem to go some way in addressing their concerns.
- Greater flexibility on costs; in particular, respondents suggested that (a) especially in the current economic climate, there should be greater allowance in application costs for inflation[87]; and (b) allowance for the costs of electrical capacity upgrades to be added to project costs and grant values, as these costs can be substantial, but often unknown at the time of applications.
- Whether as attached to PSDS, or positioned as more general, a number of respondents felt it would be beneficial for public sector organisations to have access to a centralised framework of approved contractors to deliver decarbonisation works (from development of plans and projects, to implementation and installation). It was noted that each organisation conducting their own procurement exercises, with sometimes limited knowledge and expertise of the market, is inefficient and can lead (has led) to some sub-optimal outcomes on project delivery (e.g. poor quality works, and / or cost inflation). This has created issues in terms of both delays to projects and, in some cases, poor installation and reduced impacts. Linked to this, several contractors emphasised the benefits around discounts and economies of scale if, for example, supply of a large number of ASHPs was negotiated by a ‘PSDS framework’, rather than hundreds of individual projects / public sector organisations conducting their own negotiations with suppliers.

[87] Although this can be accounted for in contractor quotes and contingency budgets.

- Several respondents suggested that as part of PSDS, Salix could facilitate networking for organisations to better understand how to deliver projects (what needs to be considered, potential pitfalls etc.).

5.2: Wider policy: funding public sector decarbonisation

It was acknowledged by public sector applicants and contractors that the current funding model and size of PSDS will not be sufficient to deliver net zero and public sector decarbonisation at the scale or pace required to meet UK targets (and indeed the individual targets set by the individual public sector organisations).

The sources utilised by non-funded organisations to progress decarbonisation, described in Section 4.2, provide some indications, *for a subset of public sector organisations*, of viable supplementary routes to funding projects, in particular leveraging private investment. These avenues could be further explored with respondent groups in later stages of the evaluation.

The grant recipient workshops explored the potential appetite for utilising loan funding[88]. Attendees, along with a number of interview respondents (unprompted) referenced the Public Sector Energy Efficiency Loan Scheme (PSEELS; delivered by Salix prior to PSDS). Whilst recognising that this scheme had been focused primarily on energy efficiency measures with limited payback periods, respondents were overwhelmingly positive about it; some directly said that they would welcome the re-introduction of the scheme for similar measures. A number of respondents said that they could envisage PSDS grants and a loan scheme being combined to fund projects comprising a mixture of high cost heat decarbonisation / fabric measures, offset by more financially viable investments such as solar PV and straightforward energy efficiency measures. Several attendees said they would be better disposed to loan funding if it comprised a rolling application approach and came with greater flexibility around timescales for delivery.

Several workshop attendees questioned the point of loan funding covering measures with very competitive payback, as the business case could therefore easily be made for investment from the organisation's own budgets, though this point was countered by another attendee who highlighted that some organisations simply don't have the internal budget to invest, regardless of return on investment.

Finally, a suggestion from respondents was for Government to consider how some of the currently disparate funding sources across Departments could be amalgamated with PSDS to deliver larger funds, greater efficiency, and enable more impactful decarbonisation projects.

[88] Whilst not integrated into the scheme, guidance for Phase 3c of the PSDS does signpost UK Infrastructure Bank funding as a supplementary source for applicants to consider.

This publication is available from: www.gov.uk/government/publications/public-sector-decarbonisation-scheme-psds-evaluation-of-phase-3

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