Sustainable Church Buildings Project 2023-25
End of Project Evaluation

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About the Project

The Sustainable Church Buildings Project (SCBP) 2023-25 was a Cloudesley initiative run in partnership with the Islington Deanery and the Diocese of London. The project ran from July 2023 to March 2025. Cloudesley committed £500k to the project. It was open to Church of England churches within the Islington Deanery with an eligible church building. The project consisted of:

- Expert advice and support – Cloudesley commissioned Inspired Efficiency to provide bespoke advice and support to help Islington Church of England churches take part in this project. This included reviews and updates of their 2017-18 AECOM audits, seven hours of consultancy support per church, 3D scans and up to ten new audits where required.
- Small Grants – all eligible churches could apply for a non-competitive grant of up to £10,000 for sustainability and net zero carbon measures
- Large Grants – larger grants of up to £65,000 were available on a competitive basis. The application window ran alongside the Spring 2024 round of funding, so that a total of £130,000 was potentially available to a single applicant.

Background

The Sustainable Church Buildings Project built on the previous SCBP, which ran from July 2017 to December 2018 to mark the 500th anniversary of Richard Cloudesley's legacy in Islington. It included:

- Environmental audits of 24 of Islington's Church of England churches
- Additional grant funding towards the recommended works identified through the audit process
- A learning programme for Islington churches to improve understanding of environmental issues and how they apply to their buildings.

The AECOM Audits produced as part of this Project formed the starting point of the 2023-25 SCBP.

Inspired Efficiency support

Cloudesley sought to include expert support in the SCBP offer in recognition that, in addition to cost, lack of expertise and capacity to undertake work were significant barriers to undertaking sustainability and net zero measures. Inspired Efficiency were selected due to their extensive experience of delivering carbon reduction advice to churches. The Inspired Efficiency support consisted of the following:

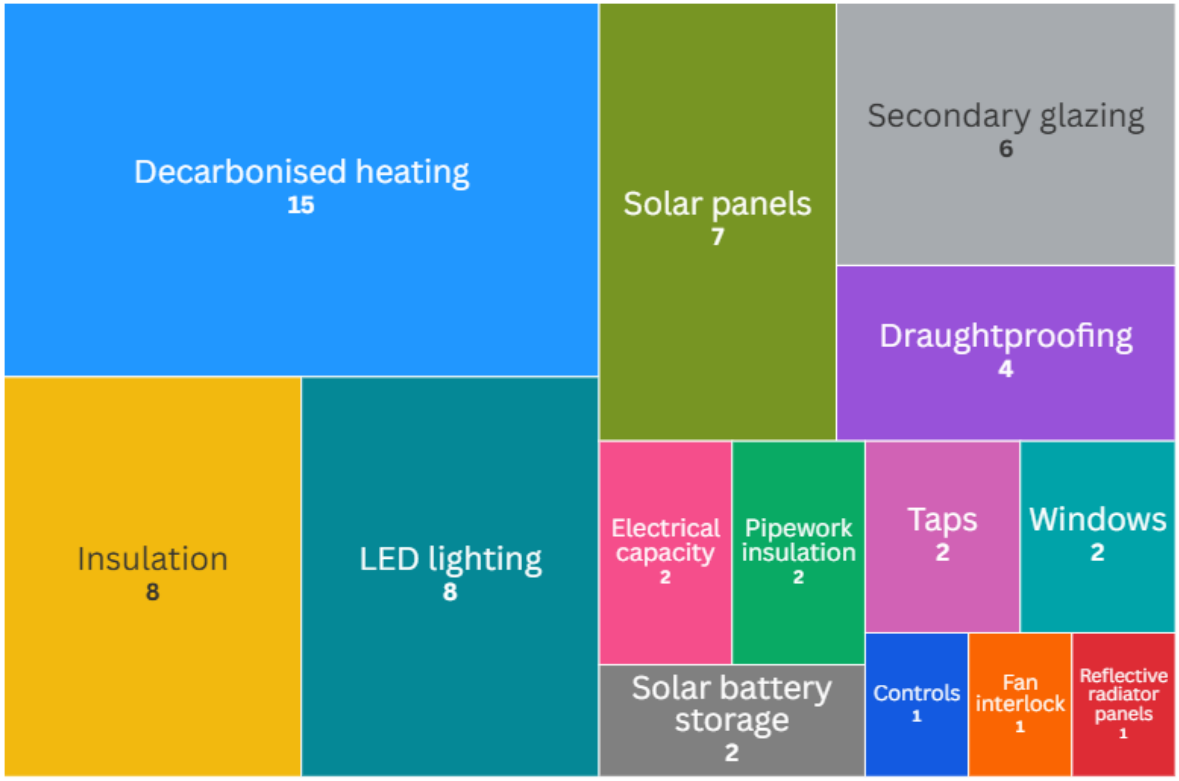
- A review of the 2017/18 AECOM audit, bringing the advice up to date in line with changes in the church and in the low carbon solutions available. This element involved a remote meeting with the church and production of a two-page audit update note, outlining the crucial short, medium and long term actions.
- Up to ten new decarbonisation audits for churches where the previous audit has become significantly outdated or did not take place.
- Seven hours of consultancy support per church. This support could be used however best suited the church, and might include support with Faculty applications, the tender process or general advice.
- 3D scans for each church

By the end of the Project, Inspired Efficiency had delivered the following:

- 24 Audit reviews
- Ten new Decarbonisation Audits
- 99 support hours provided. This averages four hours per church, although in reality some used their full allocation of seven hours, whilst others did not use any hours.
- 16 churches received a 3D scan

Recommendations

The chart below outlines the most common recommendations from Inspired Efficiency's review. All short, medium and long term recommendations are included in the chart, with the most frequent recommendation of decarbonised heating solutions often being classed as a long term recommendation.



Large Grants

The Project also included a budget of £215,000 for Large Grants of over £10,000 and up to £65,000. The funding process for the Large Grants ran alongside the Spring 2024 main church funding round, with churches able to apply to both funds. This meant that successful churches could benefit from both a Large SCBP Grant and a Spring 2024 grant towards a single sustainability project, accessing up to £130,000 at one time. The criteria for the Large Grants required applicants to demonstrate that:

- The project was likely to result in a significant reduction in carbon emissions
- The church currently had a high level of carbon emissions
- The church was in a reasonable state of repair. Churches classified as 'Very bad' on the Heritage at Risk Register were not eligible to apply.

The successful Large Grant recipients were:

Church	**Project**	**Grant Amount**	**Additional Cloudesley funding**
St Clement's Finsbury	Air to air heat pump	£65,000	Autumn 2024: £42,000 (Feasibility and Design work)
St Stephen's Canonbury	Air source heat pumps	£85,000	Spring 2024: £25,700 Spring 2023: £65,000
St George's Tufnell Park	Insulation element of roof	£65,000	No further funding for insulation but five other grants for roof project

St Clement's Finsbury
Air source heat pump

Following the failure of their gas boiler in January 2024, St Clement's applied for a Large Grant to install an air source heat pump. Their carbon footprint in 2022, when the boiler was working, was 14.47 tonnes CO2e, which placed them in the top half of churches in the Deanery for carbon emissions. Figures from 2022 showed gas usage of 76,745.80 kWh, indicating that they were one of the larger gas users in the Deanery prior to the boiler failure. Based on the calculations from Inspired Efficiency in their decarbonisation survey, they anticipate that the heat pump could result in an annual energy saving of 76,442kWh, which would mean savings of 12.92 tonnes of CO2e per year and a cost

saving of £1,268 per year. They hope that alongside switching to a Renewable Energy Tariff, this will make St Clement's a Net Zero energy user.

Wider commitment to net zero: St Clement's PCC has committed itself to implementing all of the recommendations of the Energy Efficiency and Net Zero Carbon Report. This will include, over the next eighteen months replacing remaining halogen and filament lighting with LEDs, and moving to a Renewable Energy Tariff.

St Stephen's Canonbury
Air source heat pumps

With their boiler failing, St Stephen's opted to replace their gas boiler and cylinder with three air-source heat pumps and a point-of-use electric hot water heater. They also plan to upgrade some of the radiators and the power supply to support this work. In the future, they hope to also install underfloor heating. During 2022, St Stephen's used 10,800 KwH of electricity and 6,864 KwH of gas, which they have calculated to equate to a carbon footprint of 4.76 tonnes of CO2 per year. They expect the new heating system to reduce this carbon footprint by 70%.

Wider commitment to net zero: The church has worked through many of its Net Zero Carbon goals, including changing to a green energy supplier, installing solar panels, optimising their use of lighting, and reducing their use of gas as far as possible.

St George's Tufnell Park
Insulation element of roof project

St George's are undertaking a major roof replacement project. The Large Grant covers the soffit insulation part of the project. Funding has also been given for the roof project at large through the Main Grants programme. At present, it is calculated that there is fabric heat loss of 16,784 kWh and fuel loss of 20,980 kWh. Following the works, it is predicted that this will reduce to fabric heat loss of 1,232 kWh and fuel loss of 1,540 kWh. This equates to an annual energy saving of 15,553 kWh.

Wider commitment to net zero:

St George's has achieved the Eco Church Silver Award. There is an Eco Group which meets regularly to consider ways in which the church can continue to improve its work on environmental issues, and the church is engaged in a range of community activities such as a weekly surplus food lunch, ReStart parties for people to repair their belongings and litter picks to improve the local area. They are considering ways in which they might develop local links such as with the Council's Sustainability Network and see this as a key part of their mission. They also plan to install solar panels on their new roof, which has been supported with a SCBP Small Grant.

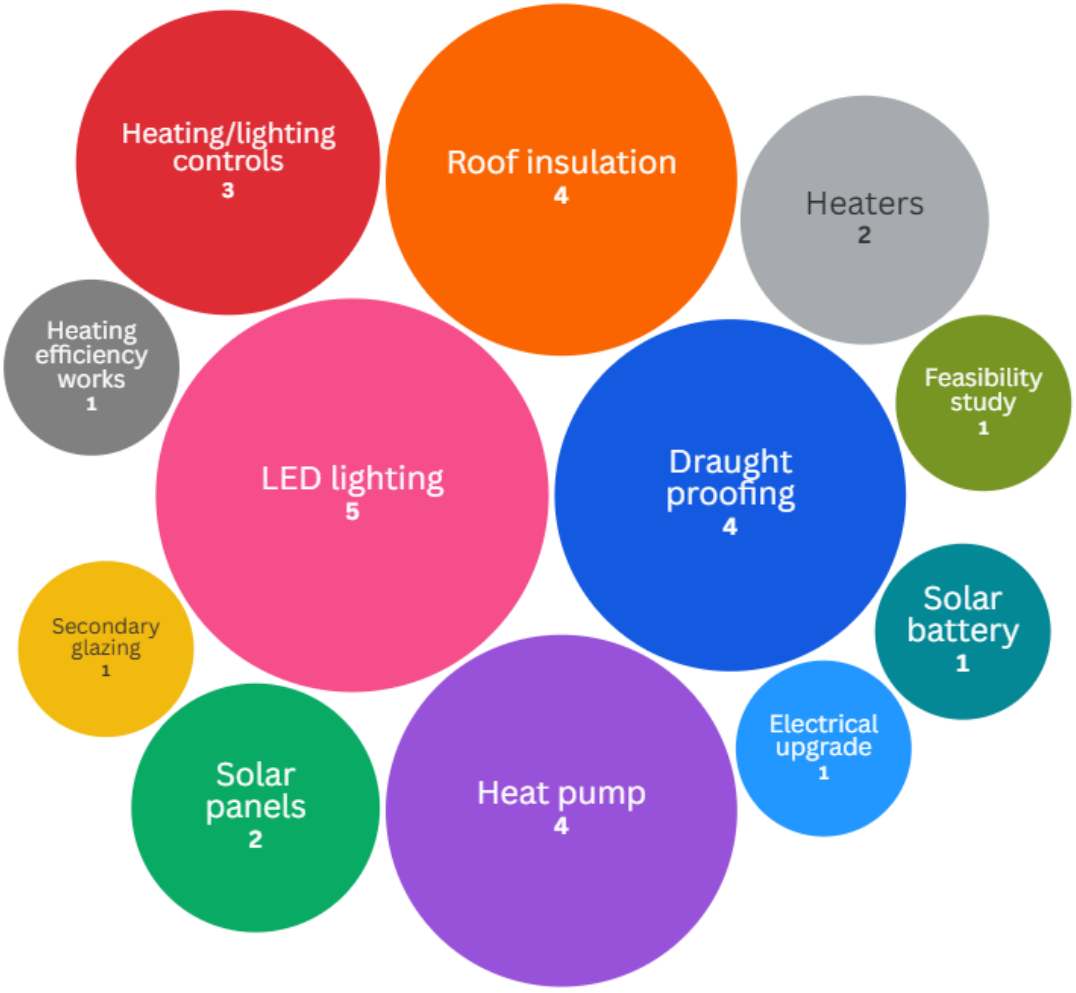
All three large grant projects are still underway at the time of this evaluation. We hope to report on how the projects went in a later evaluation report.

Small Grants

Church	Project	Decision Date	Grant Amount
Church on the Corner	Installation of solar panels	11/02/2024	£10,000
Christ Church Highbury	Seals to doors, reflective panels to radiators, insulation of pipework and boiler maintenance	24/04/2024	£10,000
St Mark's Tollington Park	Upgrade of the electrical metering connection to the solar panels	24/04/2024	£7,000
St Luke's West Holloway	LED replacement church lighting	21/05/2024	£10,000
St John the Evangelist Upper Holloway	Insulation of the church hall roof	13/06/2024	£10,000
St Saviour's Hanley Road	Air to air heat pump in the organ room	24/10/2024	£10,000
Our Most Holy Redeemer, Clerkenwell	Secondary glazing of windows and installation of a suspended ceiling with insulation and associated decoration	19/11/2024	£10,000
St Stephen's Canonbury	Church roof insulation	19/11/2024	£10,000
St Mary Islington	LED lighting in the Chancel and Nave	29/11/2024	£10,000
St Andrew's Whitehall Park	Decarbonised heating to smaller rooms	14/12/2024	£10,000
St Thomas the Apostle Finsbury Park	Air to air heat pump system	27/01/2025	£15,000
St Mary Hornsey Rise	Repairs to leaded windows	29/01/2025	£10,000
Emmanuel Hornsey Road	Improve heating and replace lighting with sustainable LED	27/02/2025	£10,000
St Silas, Pentonville	Solar battery and warm air curtain heater	02/03/2025	£7,400
St Clement's Finsbury	Upgrade of the roof-space insulation	08/04/2025	£10,000
St George and All Saints Church, Tufnell Park	Solar Panels	08/04/2025	£10,000
St James Clerkenwell	External lighting and draught proofing SCBP	08/04/2025	£10,000
St Jude and St Paul's Church	Thermostat, boiler removal, and air to air heater	15/04/2025	£10,000
St Augustine's Church, Highbury	At source water heaters and LED lighting	02/05/2025	£10,000
St Andrew's Thornhill Square	Feasibility study, draught proofing and electrical improvements	15/05/2025	£10,000

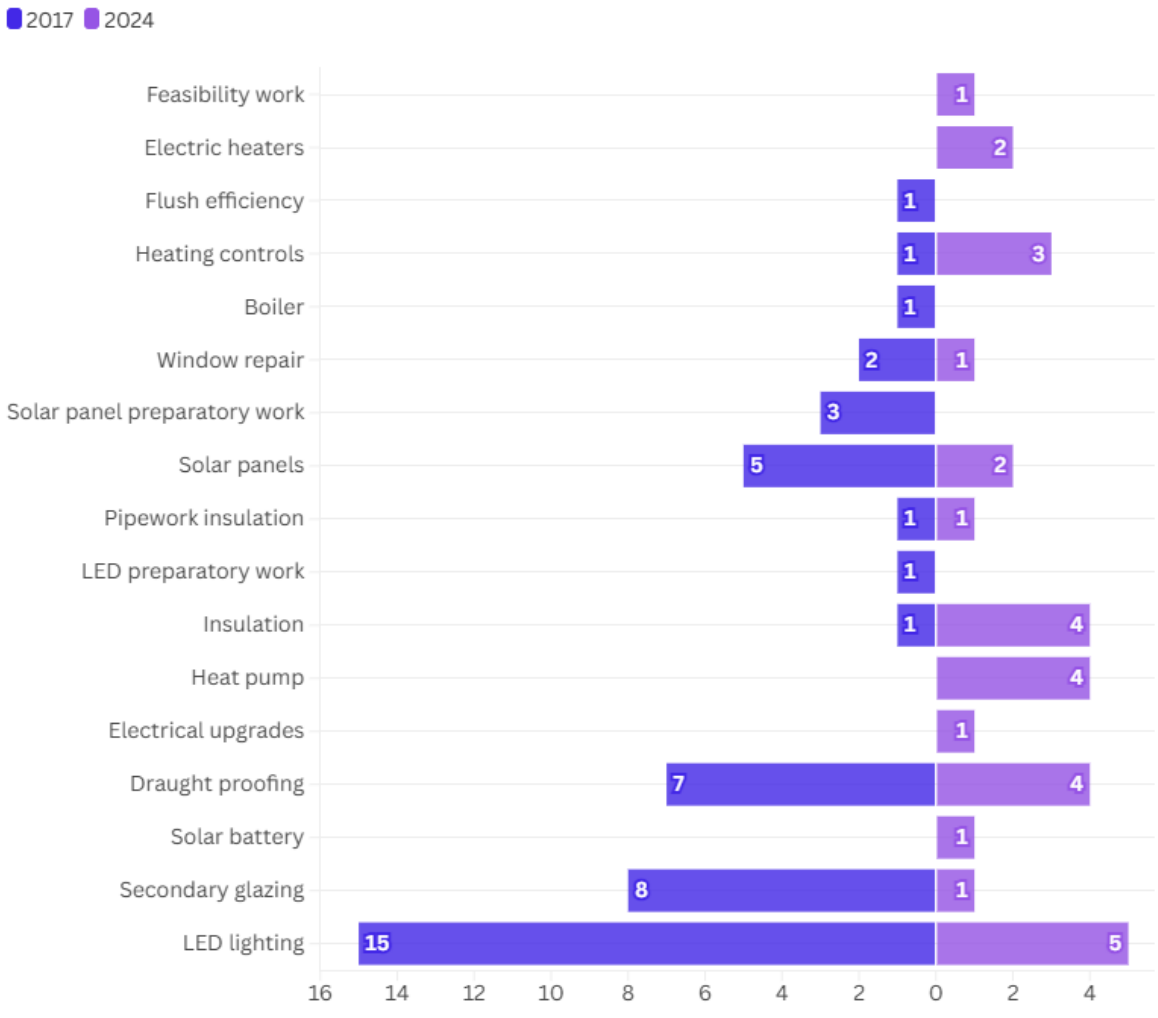
Type of Project

The chart below shows the type of project funded by SCBP Small Grants. Please note that grants can cover multiple projects, so there will be some duplication. LED Lighting was the most common project type, with five churches using some or all of their Small Grant to implement this. Heat pumps, insulation and draught proofing were joint second. The heat pumps funded through the Small Grants are small heat pumps intended for side rooms, as opposed to the larger systems heating the whole church, funded by the Large Grants.



Focus of Small Grants in 2017/18 vs 2023-25

The chart below shows how the types of project funded under the Sustainable Church Buildings Project 2023-25 differs from the type of project funded under the earlier SCBP scheme in 2017/18. A key difference of the projects is that under the 2017/18 programme, churches could receive multiple grants up to a total value of £10k, whereas under the 2023-25 programme, churches could only receive one grant of up to £10k. As such, the numbers for the 2017/18 are much higher. As can be seen, LED lighting was the most popular project type under both schemes. Secondary glazing was a popular project type in 2017/18, but was much less popular in 2023-25, with only one grant utilised for this. Heat pumps are the joint second most popular project in 2023-25, but no grants were given for heat pumps under the 2017/18 programme.



Small Grant Case Studies

Church on the Corner - Installation of Solar Panels - £10,000

Church on the Corner used their Small Grant to install solar panels at the same time as they replaced their roof, also supported by Cloudesley in the Spring 2023 round of the Main Church Grants programme. Installing the solar panels at the same time as the roof replacement allowed them to make cost savings on scaffolding and contractors. The environment audit completed by Inspired Efficiency and funded by Cloudesley identified solar panels as a key way to save on energy costs in the future.

Challenges and learning: The cost of the actual panels was less than expected because they were surface mounted. However, they required a new access hatch to allow them to carry out maintenance and regular cleaning to the panels. The cost of that hatch took them just above £10,000 in cost. It took longer to get connected back to the National Grid than they had anticipated with the requirement to register with UK Power Networks and the smart export agreement taking time. As the solar panel installation progressed, it became clear that the solar panels specified by Inspired Efficiency would not work and they were informed by the manufacturer that they would not get sufficient power from the reduced number of panels they were able to fit. They ended up using a mounted system rather than integrated panels from an alternative supplier. They found that the information around solar panels, likely output and technical information supplied can be baffling to the novice and it was hard to get data for different systems to make a good comparison.

Contractors: They used GWS Roofing for the project, who had already been engaged for the roof works. They found GWS to be responsive, professional and courteous on site and communication with them was good throughout. However, if they had been installing solar panels to an existing roof, they might have engaged a specialist company who might have been better positioned to advise and support on the project.

[The SCBP] made us realise that this installation was achievable and affordable where before it had been a dream we would look at in the future.

Impact of the SCBP/Inspired Efficiency: Church on the Corner report that they probably would not have started this project without the report from Inspired Efficiency and the funding from Cloudesley. The report made them realise that this installation was achievable and affordable where before it had been a dream for the future.

St John the Evangelist Upper Holloway - Insulation of the church hall roof - £10,000

The work supported the insulation of St John's church hall roof. They installed Ty-Mawr Thermafleece Cosy Wool insulation which has a breathable membrane and a low thermal conductivity of 0.039W/m.K. Whilst it is too early to tell if the insulation has reduced carbon emissions, it is already clear that it has made the space retain its heat much better, with the Junior Church reporting that they don't have to have the heaters on for so long.

Contractors: The work was undertaken by Bakers of Danbury, who St John's would recommend.

Impact of the SCBP/Inspired Efficiency: St John's felt that the Sustainable Church Buildings Project has been very helpful, explaining the benefits of insulating the roof. As works were already being conducted on the roof, it reduced the need to remove the roof again in the future.

St Luke's West Holloway - LED replacement church lighting - £10,000

The project involved the replacement of all the church lighting (pendants and spotlights) with new LED fittings, and the addition of two new window lights, external lighting and lobby lighting. The main church lighting is now programmable to create lighting 'scenes' and controlled by a combination of switches and mobile devices. The project cost over £20,000 and was also supported with a £7,100 grant from the Spring 2024 round of the Main Church Grants Programme. Existing power supplies and lighting tracks were re-used to minimise the cost of the project. This allowed for an extremely cost-effective refit of the main church lighting, with over 80% of the funds paying for new light fittings and controls, and less than

20% meeting installation and commissioning costs. As a result of the project, St Luke's report that the church is now more attractive and they have much more flexibility and control of their lighting to suit different events. Visibility is improved for those with visual impairments. They calculate that their new lighting has reduced their lighting carbon footprint by approximately 65%.

Contractors: St Luke's engaged CES Lighting to undertake the work. They found them to be very helpful and efficient, and attentive to the work. They overcame software problems and changed the work to suit the revised understanding of the control system and switching.

Impact of the SCBP/Inspired Efficiency: The lighting improvement was identified as part of the 2017-18 audit and supported by Inspired Efficiency.

Christ Church Highbury - Seals to doors, reflective panels to radiators, insulation of pipework and boiler maintenance - £10,000

Christ Church undertook the following work:

1. Quattroseal was applied to internal doors, draught strips were added or replaced to external and internal doors, and Quattroseal was installed to refurbish mid level window draft seals.
2. Reflective panels were installed behind 24 radiators throughout the church.
3. The boiler house exposed pipework and fittings were measured and bespoke insulation covers were manufactured and fitted.
4. A new dosing pot was installed and a chemical clean and flush of the heating system was carried out, and endotherm advanced heating fluid was added into the system.

Challenges/Learning: They were unable to install Quattroseal around the external door frames as they were advised that the stone around the door frame was too porous.

Contractors: Christ Church used the following contractors for their project:

- Argonaut Heating Ltd – they have been using this company for a long time and have found them to be responsive to their heating needs.
- Esos Energy- they measured the boiler house and returned and fitted the manufactured insulation within a good timeframe. They kept the church updated with the progress during manufacturing.

- The Energy Savers- they were very helpful and provided good updates throughout the process. There was a slight delay sorting out the external doors but the work carried out was effective.

Impact of the SCBP/Inspired Efficiency: The project enabled Christ Church to revisit their second energy report and see if any further improvements could be made in the efficiency of the building. They found that meeting with the Inspired Efficiency team enabled them to see what areas were realistic to focus on for the purpose of this grant. Without the SCBP, they feel that it is unlikely that they would have had these works carried out at this point as there are other building works that would have taken precedence.

[Without the SCBP], it is unlikely that we would have had these works carried out at this point.

Additional Cloudesley funding

In addition to the Sustainable Church Buildings Project, net zero and environmental work are often eligible through our Main Church Grants Programme, which runs twice per year and offers grants of up to £65,000. In the period that the SCBP was running from July 2023 to March 2025, we also made a number of grants for environmental projects through our Main Church Grants Programme, to the value of £153,433. A number of these grants are directly connected to the SCBP, either as they are related to recommendations through the 2017/18 Audit or by Inspired Efficiency, or as a top-up to grants received under the SCBP. The grants are as follows:

Request Name	Project Name	Decision Date	Grant Amount
St Mary Islington	Towards the installation of sliding panels of secondary glazing on the crypt level windows.	21/11/2023	£25,500
St Luke's West Holloway	LED replacement church lighting	21/05/2024	£7,100
St Stephen's Canonbury	Replacement of the broken boiler and inefficient heating system with an effective solution that supports carbon-neutral goals.	21/05/2024	£25,700
Our Most Holy Redeemer, Clerkenwell	Secondary glazing of windows and installation of a suspended ceiling with insulation and associated decoration, in line with recommendations from decarbonisation report.	19/11/2024	£12,300
St Clement's Finsbury	Sustainable Heating System Feasibility and Design	19/11/2024	£42,000
St Stephen's Canonbury	Church roof insulation and crack investigation works	19/11/2024	£40,833

Anticipated CO2 savings

At the time of this report, it is not possible to determine the actual CO2 savings of the projects as many are still underway, whilst others have not been completed for long enough to record a difference. However, the predicted CO2 savings are as follows:

55.36t of CO2 per year

The total amount of savings across the Sustainable Church Buildings Project 2023-25

30.43t of CO2 per year

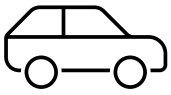
The total predicted savings of the 20 Small Grants

24.93t of CO2 per year

The total predicted savings of the three Large Grants

Some of the projects also involve feasibility work that could lead to further, larger savings in the future. For other projects, there was not a clear carbon saving, but the work set the groundwork for future sustainable solutions, or enhanced the efficacy of existing low carbon solutions.

The carbon savings of 55.36t of CO2 per year are equivalent to[1]:



12.9 petrol fuelled vehicles driven for one year

7.4 homes' energy use for one year

4,478,911 phones charged

[1] United States Environmental Protection Agency Greenhouse Gases Equivalencies Calculator: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

Learning

Engagement with the project

- All eligible churches engaged with the Project and the majority received a Small Grant
- The Church of England has committed to become net zero by 2030. As such, this project already aligned with a key objective for all the churches, which helped engagement
- The funding and advice offered by the SCBP removed some of the major barriers to undertaking sustainable and net zero works. However, other barriers remained. The most significant of these was capacity within the churches. Even with support, the funded projects still involved a lot of work for church teams. For some churches, capacity was extremely limited, which made engaging with the Project a challenge.
- Building projects ultimately work best when initiated by the church. The SCBP was initiated by Cloudesley and so not all churches were ready or able to make full use of the offer.

Usefulness of the offer

- The Project offered busy churches, with other building priorities, the opportunity and resources to focus on their environmental commitments.
- Churches had already undertaken most of the smaller pieces of sustainable/net zero work that their building required, in part due to the previous 2017-18 Sustainable Church Buildings Project. As such, in some cases, there were limited options that were suitable for the Small Grants programme.
- Churches could apply for a Small Grant at any time whilst the SCBP was active. It was hoped that this would give the churches flexibility to apply when they were ready. However, in reality many busy churches needed a deadline to focus them on the task. The SCBP was originally due to end in December 2024, which is an extremely busy time for churches. We decided to extend the Project period by a further three months so that churches didn't have to rush to apply during the Christmas period. Ten applications – half of the total number received – were submitted in the extension period of January to March 2025.
- The consultancy support was designed to be tailored to each church, in recognition that the needs and capacity of each one were different. Clear communication was required to make clear that the support could be used in a variety of ways, and not just for advice.

Carrying out the funded work

- Many churches have found their funded projects more challenging to undertake than anticipated, even with the advice from Inspired Efficiency. This has been particularly

the case for heat pump projects, where they have often received conflicting advice on the most appropriate solution, and the undertaking has been more complicated and time-consuming than hoped.

- Some of the work was opposed or altered by the Church Architect. It is possible that more training on net zero work would be helpful here.

Future plans

Following completion of the SCBP, there was an underspend of £50,422. This is being utilised in the following ways:

1. Heating options report

We have commissioned Inspired Efficiency to create a report outlining the heating options that are most suitable for each church, an estimated cost, and an estimate of when the work is likely to be required. Under the current Faculty system, churches will only receive Faculty for a boiler if they can demonstrate that a lower carbon solution is inappropriate for the church. This means that waiting until your boiler is broken to consider replacement could mean a long time without heating whilst you identify and fundraise for a more sustainable option, but replacing a working boiler before time is also inadvisable. This report aims to help the churches plan for their boiler replacement, and will also help us plan for when grants might be required.

2. Sustainability/net zero projects in the main church grants rounds

A portion of the underspend will also be distributed through the Main Church Grants rounds, but ringfenced for sustainability/net zero projects.

A further evaluation is also planned once the majority of projects have been undertaken.

Conclusion

Following the completion of the Sustainable Church Buildings Project, and thanks to the efforts of the individual churches, many now have a clear path to net zero, with some close to achieving it. However, most of the churches will need to replace their boiler with a fossil fuel-free heating solution in the coming years, and this is likely to be challenging. Cloudesley hopes to support the churches with this through the Heating options report, and, where possible, through future grant funding.