

St Francis Church Energy Building Project

1. Background

St Francis Church was built in 1958 to serve the needs of the new estates being built at this time. In the last 65 years it has continued to serve the community as both a church and local community centre. Several improvements have been made to ensure the building continues to be a focal point of community activity:

- In 1987 the church was extended to include a church hall
- In 2014 the insulation in the church was upgraded with secondary glazing and ceiling insulation to reduce heat loss
- In 2016 an extension was added which included additional storage space, an upper room with kitchen and a kitchen for the church hall.

St Francis is more than a local Christian centre; it supports a range of groups in the community and also funds groups which support our local community.

2. St Francis Church Centre

The current building offer is as follows:

2.1. Church



This includes a large hall with performance stage, it has very high vaulted roof and is heated by radiators which originate from the 1958 building, this means that it is difficult to heat in the winter but continues to be well used.

It has ladies and gents toilets, a toilet for disabled people and a well-equipped kitchen.



2.2. Upper office

It has an upper office which is the base for the manager of Butterflies Haven which uses the church centre to deliver the activities.

A storage room is used for small meetings and also storage for the Foodbank which delivers weekly sessions from the centre. The church makes no charge to Foodbank for use of the centre.

2.3. Church hall



This is a large room and has a well-equipped kitchen and small room which can be used for meetings of groups or as storage.

The upper meeting room is used for meetings of up to 15 people and has a small kitchenette.



3. Church community centre

St Francis is used by a range of community groups, often both rooms are in use as they each have separate toilets, entrances and kitchens. Users include:

- Main centre for the Butterflies group which supports Families living with Autism. The charity has an office and uses the halls to deliver their activities.

- Three toddler groups – the toddler leader is funded by the church and the group is open to the whole community. In 2024 due to a huge demand and parents being turned away the church funded an additional session. A monthly session is held just for dads of young children – Who Let the Dads Out. Both sessions are supported by volunteers.
- Foodbank – supporting people who require emergency food packs.
- St John Ambulance – meet weekly with a group of 30- 40 young people.
- Youth Phoenix Theatre group – meet weekly to rehearse.
- Core rehabilitation – provided by occupational therapists to help people maintain their independence.
- Hartbeeps/ Diddance / Music Time Travellers are private groups which work with parents and young children.
- Pulmonary rehab a programme of exercise and education for people with respiratory conditions such as chronic obstructive pulmonary disease
- The centre is also used on an hoc basis for children's parties, meetings and elections.

The church is strongly committed to supporting the community and aims to keep the charges down so groups are able to offer a range of activities at low prices.

Phoenix Youth Theatre Keynsham started hiring St Francis Church Hall in January 2024. It is a great location for the group to meet with lots of space for rehearsing and performing shows to the public, it has great acoustics, free parking and is within easy reach for all our members. It can be very cold in the winter, but the Church are very good at turning the heating on several hours before our arrival. This helps to heat the hall space so it's warm enough for us to meet. We have a great partnership with the church and soon we are planning a concert to be performed at the Church for the local residents.

Felicity Procter (Chair of Phoenix)



4. Heating

The centre has two gas boilers - one of which heats the church, the other the hall.

4.1. Church heating

As noted above the church hall is heated with radiators from the original building in 1958. This means it is very inefficient to heat, the heating needs to be timed to come on very early in the morning to ensure it is warm enough for groups to use in the morning. On very cold days it is not comfortable and we do receive negative feedback from groups and their users. This also means that we lose some potential bookings during the winter. Due to the significant increase in energy costs this high cost needs to be passed on to hall users, which we are reluctant to do but have no option as the church has to be self-financing. We receive no subsidy from the Church of England for building costs, hence, we want to move to a more economic and climate friendly system.

In 2022 the church commissioned heating consultants Houghton Greenlees Ltd (HGA) to review the church heating and give us options. They included.

- Lowering the ceiling
- Underfloor heating
- Radiant panels

Of the three options radiant panels was considered to be the most effective method for heating the church. Lowering the ceiling would be costly and would not be guaranteed to deliver savings. It would also have been aesthetically unacceptable.

Underfloor heating would have been very costly as the floor would have to be completely replaced and the heating would need to fill the whole space.

Radiant panels are used in many buildings similar to St Francis. They work on the sunlight principle of heating the bodies not the space as all the heat is directed at the people. The modern systems are very efficient and will meet our needs.

The church then considered options for radiant panels including use of gas, and water systems. We visited reference sites to look at options in Bristol and Oxford and have selected a system which best meet our needs supplied by Jigsaw [Better Heating for a Better World Home - Jigsaw Infrared Heating Solutions](#)



The above shows the location of the panels – there will be 4 on either side of the main hall and two in the upper end of the church.

The cost will be £15,200 including the electrical work required and scaffolding.

4.2. Solar Power

As the usage of electricity will increase, we want to move to a more sustainable energy supply and therefore plan to install solar panels on the roof. We have




tendered for the work and have selected a local company, Infinity (based in Bath) to do the work. We are hoping to get funding from WECAs Green energy Fund and, as part of the funding requirements, had a full Carbon survey carried out.

The table below lists two options for solar panels from the two separate quotes we received. We have opted for the 19.2kWp system as this will deliver the most energy and make the best use of our roof. The assessment also lists the saving we will achieve in installing the radiant panels, LED lighting and solar power based on our current costs.

The church did discuss the project with Keynsham Energy group who can install solar panels but this project did not meet their specific criteria.

YOUR CARBON REDUCTION OPTIONS

Based on our survey and the information you have provided, we have identified the following potential ways in which you could save energy and carbon in your business, which are sorted in order of the greatest carbon impact:

Recommendation		Estimated Annual Consumption Saving	Estimated Annual CO ₂ e Saving	Estimated Annual Cost Saving
 Solar Photovoltaic Panels	19.2kWp	16,708 kWh (299%)	4.6 tCO ₂ e	£9,432
	5.6kWp	5,258 kWh (94%)	1.4 tCO ₂ e	£2,968
 Radiant Heating		11,378 kWh (28%)	2.1 tCO ₂ e	-£1,034
 LED Lighting		2,053 kWh (37%)	0.6 tCO ₂ e	£1,159

The image below shows the location of the panels.



The costs of the solar panels will be £21,354.

5. Funding

5.1. Total costs

Radiant panel heating	£13,200
Solar panels	£21,354
Supporting works (three phase electricity, making good spaces)	£2,000
TOTAL	£36,554

5.2. St Francis 2023 budget

Income	£48734
Expenditure	£51,466
Reserves	£11,583

5.3. Grants

We have very low reserves so will be dependent on grants for this project but the energy scheme will reduce our energy costs and enable the centre to be fully viable and continue to support the community.

Awards for All (application to be submitted)	£9554
WECA Green Energy (max funding 30% of solar power) Submitted	£7,000
Community Infrastructure Levy	£20,000
	£36,554

Awards for All

We have met with the National Lottery advisor and they have confirmed that the application will meet the criteria.

WECA

WECA Green Energy fund will fund schemes that reduce carbon emissions up to a maximum of 30%. The 30% will need to be placed against the solar panels.

Community Infrastructure Levy

This can be used to support community buildings especially those within catchment areas of new developments where the CIL is generated. The £20,000 requested is to cover both schemes (solar and radiant panels). St Francis is situated within 0.5 miles of The Meadows estate and 0.75 miles of the Bilbie Estate. Neither estate have community facilities similar to those of St Francis. St Francis has been supporting the community for 65 years and the investment outlined above will ensure it can continue to be the focal point for community activity in the future.