

Heating at Egloshayle



Current Situation

- Our existing heating system has failed due to a significant leak below the choir vestry floor.
- We have 3 options available to us :
 - Option 1 - Would require us to **excavate the entire vestry floor**. We would need to do this to replace the entire underfloor pipe work to prevent this happening at another location in the future.
 - Option 2 - We **abandon the existing pipe work** and install new pipework between the boiler and the first radiator of the system.
 - Option 3 - We replace the existing heating system with a **modern**, more **efficient** heating system, fit for purpose.
- The PCC has determined that the **Option 3 would be the right option** for us to investigate, and focus our attention on.

Why not options 1 & 2

- Both Options 1 & 2 would require significant modifications to the building with **no benefit** other than patching and already **inefficient and obsolete heating system**.
 - Both options would require the DAC to approve a faculty.
 - Both options would require significant fundraising, with limited grant options due to this being repair / maintenance.
 - Neither options would provide any improvements on the system or our ability to more effectively heat the building.
- Option 1 would require **significant excavation** of the entire choir vestry floor as the plumbers replace all of the underfloor pipework to fix the existing leak and ensure no future leaks could happen.
- Option 2 would **require building work** to the exterior walls of the church as the plumbers would be require to drill through to allow access for new pipes to be laid and the old pipes to be disconnected.
- We've determined the existing system is **obsolete** and no longer fit for purpose. Frequent repairs have already been made to the existing system and, due to its age it is likely it will continue to require frequent repair and maintenance.

Why Option 3?

- Option 3 allows us to install a heating system that would be more **cost and fuel efficient**.
 - Replacement of the existing radiators would allow us to provide more **effective heating of the church** and stop the significant temperature variations which damage of the fabric of the church building.
 - We'd be able to create a **warmer and more welcoming space**, which will provide **greater opportunity for alternate use**.
 - It would allow us to install **efficient, environmentally sustainable heating**.
 - We would potentially have **access to grants** tailored to making older buildings more environmentally friendly.

Our preferred solution

- Through conversations with a DAC representative, the PCC has determined its preferred approach to be:
 - Installation of multi zone **Underfloor heating** throughout the church.
 - A **biomass fuel boiler**, that would be more **environmentally friendly** than alternatives.
- Main Benefits of the Preferred solution.
 - Underfloor heating can be zoned to provide more heat where it's needed while still providing ambient heat in other areas.
 - Underfloor heating **warms the person** and not the air. So no wasted heat being lost in the roof space.
 - A biomass boiler would **provide rapid heat** when you need it.
 - Wood pellets are typically **20-25% cheaper** than oil or electricity.
 - Government **incentives to offset running costs**.

Other types of heating

- Using underfloor heating with a gas boiler – Depending on funding available and costs of the project, this may be an option we consider in the future.
- Replacement of the existing system with a similar modern system. – As with the above option, budget restraint may require us to look at a like for like replacement. This would offer us a more reliable system, but would provide little improvement in our ability to heat the church more efficiently.
- Ground heat pumps – This option isn't suitable for Egloshayle due to the **limited south facing ground** and the amount of heated water required for a building the size of Egloshayle Church..
- Air sourced heat pump – Similarly to Ground pumps, this options isn't suitable for Egloshayle as they **inefficiently heat large spaces**. It would also be more difficult for us to zone the space.
- Windpower – No constant energy supply and we would be **unlikely to get planning permission**.
- Solar Panels – Large volume of panels would be required for heating purposes and planning permission may be difficult to obtain. Could form part of our green strategy in offsetting our electricity costs.
- Electrical / Infrared heaters – **Not environmentally sustainable**, and does nothing to provide a consistent heat to the building. We would also require a **significant upgrade to our electrical wiring system**.

What they've done at St Wenn

- St Wenn Church have already installed the same design of system our PCC is considering for Egloshayle.
 - Removal of the pews has allowed for the damp proofing and insulation of the ground before work was carried out.
 - Installation of the underfloor heating, covered with a tiled floor to allow for efficient heat transfer.
 - Heating zoned to allow for greater heat in areas of the Church building with a higher use.
- The Church building is now **warm and dry**, with heating throughout the colder months.
- The Church building now **host more community events** and clubs that it was able to before the upgrade.
- The fabric of the **building is now dry** with no more cold or damp walls.
- The heating project was shared with the school, and the opening of the space allows the school to make more use of the Church Building.

Removal of the pews
exposing the void
underneath @St Wenn



Installation of Damp Proof
Course @St Wenn



Installation of Floor
insulation boards @St
Wenn



New Under Floor
Heating Circuit over the
insulation @St Wenn



New open and
configurable space on
tiled flooring @St
Wenn



Removing the Pews

Our immediate focus is on getting Egloshayle back to being a usable church. The lack of heating mean it's currently very cold and not going to be easy for us to heat. **Excess heating causes damp and condensation.**

- Removing the pews will give us an open space, where warm air heaters can be used for short periods to provide warmth to those using the building.
- The **pews restrict the air movement** low down where we need it to warm people. So, any heat will be lost into the roof space.
- The **pews are cold to sit on**, so as well as the air around you being cold, you're sitting on a cold surface. Sitting on the **fabric chairs will make you feel warmer** and you'll be more comfortable.
- **We can't put too much heat into the building.** Rapid heating will cause more damp/condensation and cause longer term damage to the Church. So when we use temporary heating it must be for short periods only.
- Opening the space and using chairs will **make the building accessible** to more people during Covid as we'll be able to make more effective use of the space.

What happens next

- The standing committee is preparing a faculty to seek permission from the DAC to remove the pews. The PCC must approve this application and an extraordinary PCC will take place for them to decide how they wish to proceed.
- The standing committee will create a project brief for the PCC to approve which will likely include:
 - We need to hear from you and **your ideas of growing the church** and our church family and the use of our buildings.
 - We need to share these ideas and thoughts with our community and **listen to their feedback**.
 - **Detailed research** into the heating options (and any other re-ordering options) and what work is required.
 - A draft plan of how the project would be delivered.
 - A **detailed budget** and a plan to raise those fund.
- Once the above is completed, the PCC will be asked to determine if they feel the scope covers the **objectives of the Parish**, if the budget and fundraising **goals are achievable** and permission to **initiate the project**.
- The PCC, Vicar and Church Wardens will keep the Parish fully up to date with developments.

Questions ?

Steve will respond to Questions:

- You can raise your hand and he will ask you.
- Press the Chat button. Choose Steve from the list and write your question to him.
- Email Steve or Jessica after tonight's call with your questions and they will reply.

A copy of this presentation and the Q&A's will be available on the parish website or by post. If requested.