GUIDELINES FOR REDUCING GREENHOUSE GASES FROM CHURCH PROPERTIES

The following simple guidelines are designed to help identify and reduce the major sources of Greenhouse gases found on typical church properties. This can provide **a starting point for an Action Plan** which will help reduce Greenhouse gases and provide good value for money. They are not intended to consider every source.

INTRODUCTION

As a Uniting Church we are encouraged by the Assembly resolution**: "a call to action for climate justice: listening to first people's wisdom".** One of the key parts of this resolution is to reduce Greenhouse Gas emissions to **net zero by 2040 at the latest.** Church properties are a significant contributor to Greenhouse Gas emissions - they are often beautiful buildings, but they pose some unique reduction challenges.

A key strategy is to electrify

Why do we electrify? Gas is a fossil fuel that will always cause emissions. Cutting gas now might avoid the need for new gas projects to meet future needs – which the planet can't afford. Disconnecting gas from your church will avoid emissions from the gas burned by appliances – and it will also remove the risk of leaking methane, unburned gas, that has a very high climate impact.

In addition, the electrical grid is becoming decarbonised through the increasing use of renewable energy sources. You can help the faster investment in renewable energy by purchasing Green Power from a reputable supplier. Installing rooftop solar can also provide clean electricity for your electric appliances but you may need to check how long the pay-back time might be.

The challenges posed by churches to electrification

Churches often need heating in large, high-ceilinged rooms, that might be draughty. Some buildings have unusual design, and/or heritage listing.
In some churches the electrical wiring is old and may need upgrading.

We recommend seeking advice for some of the challenging changes. Qualified Tradespeople should always be used. Even if you're not able to take action straight away, **making a plan** is a good way to make sure that when an appliance fails, you're ready to replace it with a better alternative.

Start with a simple walk through your suite of buildings and identify the following: **Heating appliances, Hot Water appliances, Appliances in Kitchen Areas, Lighting, Sources of Draughts**

HEATING

Churches might have gas heaters in their worship room, the congregation hall, and sometimes in spaces like the entrance hall, offices, and adjacent spaces.

Start with the heater that's used most often. Often worship areas are only used a few hours a week but halls may be used during the week. The more use the more Greenhouse Gas emissions are produced. The most efficient electric heater is a reverse cycle air conditioner with the bonus that it provides cooling too. Air conditioners work especially well for a space that is enclosed and relatively well sealed and can be 3 or 4 times as efficient as other electric heaters. Consider placement carefully as air conditioners blow air which can feel like a draught and be uncomfortable.

For spaces that aren't well enclosed air conditioners are still possible, but they might have to be oversized. Consider whether radiant panel heaters – suspended from the ceilings or placed on the walls – might be a good solution to deliver radiant heat to the users.

HOT WATER

Gas Hot Water is best replaced by an efficient electric heat pump with an insulated tank. Seek a quote from a supplier that's registered with a program that has access to rebates and/or subsidies (eg: the Victorian Energy Upgrades program). Ensure that your supplier properly understands your peak hot water use – this is especially important for churches that sometimes host large crowds – as this might affect the size of tank you need.

KITCHEN AREAS

The best approach to electrifying your kitchen depends on how you use it. A boiling water urn which keeps water at boiling temperature consumes considerable energy. If appropriate, urns could be used on an as-needed basis.
Consider whether a **plug in electric induction cooktop** could serve your needs. This is by far the cheapest solution to run. Remember that induction cooktops require **specific utensils** to enable heat induction for cooking.

Otherwise, a ceramic electric or a non-induction electric stove could replace a gas unit. Both may incur substantial installation costs – it's important to work with a competent installer to install these.

LIGHTING

Many church buildings will have incandescent or halogen lighting. LED lighting is far more efficient, however the cost of changing fittings (if necessary) and of safely installing light globes in high places needs to be factored in. Generally LED lights use at least 5 times less energy than incandescent lights

OTHER ACTIONS

Draught Reduction

Draughts can increase energy consumption and therefore Greenhouse Gas emissions and make spaces uncomfortable to use. Automatic door closers can help reduce draughts, as too can air locks on entry/exit points. Door and window seals can help too. Some vents may be able to be reduced or closed (seek advice about this first, as reducing ventilation too much will make a place feel stuffy). Ensuring that people close doors is a practice that costs nothing but can save a lot.

Rooftop Solar

Rooftop solar may be worthwhile if your buildings are used during daylight hours. Ensuring that you have a suitable roof is an important step. Also check with the supplier that the solar panels are ethically produced.

If your church is **not** used regularly through the week – the payback period with rooftop solar may be long. Batteries can help with this – storing the power generated during the week and enabling its use when the church is open. They are becoming cheaper, and in combination with rooftop solar could offer an additional way to reduce emissions.

GreenPower

You could consider purchasing **Green Power** instead, as a lower cost way to reduce emissions. However, making improvements to reduce energy use (rather than just buy renewables) is a more responsible approach and makes the limited pool of renewables go further.

Residences belonging to churches (such as Manses)

The actions described previously can be used for residences which are regularly occupied. Because these buildings are occupied for a much higher percentage of the week, there will likely be a quicker return on investment for all the options suggested above. Making changes to your manse can be extremely effective.

MAKING A PLAN

A plan can help avoid being overwhelmed.

1. As a general rule, consider replacing appliances that are used **more often** - for example church halls and offices may be used during the week whereas worship areas may not. Church owned houses (for example manses) are often used every day.
   Looking at the church's power / gas bills over a period of time may help identify when energy is being used.
   Most electricity suppliers offer a daily breakdown, and you may even be able to get half hourly data which helps you discover if something is running all night when it shouldn't be. Monitor usage and aim to reduce it over time.
2. Prepare to replace gas appliances with electric when you are able.
3. Replace low efficiency electric appliances with higher efficiency ones if they are available and can be installed at reasonable cost (this includes lighting where LEDs use only 20% of the energy that is used by an incandescent light)
4. Reduce heat loss by reducing draughts if possible, considering insulation, and by changing habits (like closing doors).
5. For appliances and equipment which are only used occasionally, use sensors and/or timers (for example toilet areas). Check that everything is switched off when the property is not in use. Use time clocks (some can be remotely controlled if people are tech-literate)
6. Purchase Green Power from a reputable provider.
7. Where properties are used regularly during the daytime install solar collectors and/or a battery to provide completely renewable energy.

To find a supplier/installer of environmentally friendly appliances you can search using the internet. In Victoria ask the provider if they are accredited by the Victorian Energy Upgrades (VEU) program and/or NETCC. A reputable supplier/installer should be able to assess your needs, provide information on appliance selection and rebates, give an estimate of pay-back time and the amount of carbon saved (in tonnes of CO2 equiv). Ask about these aspects.

Sometimes one upgrade (e.g. lighting) can have an impact on another (e.g. the payback period of solar panels) so It's a good idea to ask a contractor to do the payback calculations as a whole rather than one at a time.

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Geelong Sustainability has a helpful “Electrify Your Home” webinar 2026
https://www.geelongsustainability.org.au/webinars/