

Programme

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Church Heating Seminar

Net Zero Carbon 2030

Geoffrey Hunter



The Church of England
Diocese of Ely

ely2025

Background

In February 2020, General Synod resolved

That this Synod, recognising that the global climate emergency is a crisis for God's creation, and a fundamental injustice, and following the call of the Anglican Communion in ACC Resolutions A17.05 and A17.06;

(a) call upon all parts of the Church of England, including parishes, BMOs [Bishop Mission Orders], education institutions, dioceses, cathedrals, and the NCIs [National Church Institutions], to work to achieve year-on-year reductions in emissions and urgently examine what would be required to reach net zero emissions by 2030 in order that a plan of action can be drawn up to achieve that target;

Diocesan Environmental Task Group

Formed in September 2020

Three Workstreams

- Preaching a sustainable gospel
- Biodiversity
- Buildings

Consultation

- Scope of 2030 target (what rather than when) Summer of 2020
- Draught Routemap put out for consultation October 2021
- July 2022, Routemap approved by General Synod in York



The Church of England Routemap to Net Zero Carbon by 2030

June 2022



St Michael All Angels Withington
The Church of England's first net zero carbon church in the modern era

Scope

- Church buildings, including cathedrals
- Schools
- Clergy housing
- Offices
- Land holdings and property
- Investments

A Practical Path to Net Zero

In this order:

- Maintenance
- Buy green
- Waste less
- Ditch fossil fuel
- Generate
- Offset

Our collective approach to net zero is underpinned by six principles:



Well maintained

Reduce heat loss by keeping on top of basic maintenance and ensuring the building is wind and watertight. Maintain the roof and gutters, to prevent water from entering the building and warm air escaping. Fix any broken window panes and make sure opening windows shut tightly.



Buy renewable

Switch to 100% renewable electricity, for example through Parish Buying's energy basket, and 'green' gas. Whilst this does not reduce the energy you use, it means it comes from a cleaner source. It is the simplest thing you can do to cut your net carbon footprint.



Waste less

Waste less electricity, waste less gas/oil, tackle any food waste, reduce leaks and wasting water, and avoid unnecessary purchases. Read the "Practical Path to Net Zero" and "Energy Efficiency Guidance" for a wide range of ideas.



Electric not gas/oil

Burning oil and gas to heat our churches is contributing greenhouse gasses to the atmosphere. We need to 'decarbonise' our heating. Where possible, move to electric heating, using electricity that comes from 100% renewable sources. There are many options such as heat pumps, pew heaters, and infrared panel heaters.



Generate more

For some churches, there are opportunities to generate electricity onsite from solar PV panels, or very occasionally wind turbines or small-scale hydro.



Offset the rest

Once you have made real reductions in your energy use, you can offset the small remaining amount through Climate Stewards or other reputable schemes to become 'net zero'. Churches with grounds can also consider if there is an area where they could let vegetation or a tree grow, as a natural way to capture carbon from the air.

Maintenance

- Damp walls absorb more heat – gutters, drains, drips
- Draughts, gaps in windows and round doors (noting bats)
- Plant needs to be maintained – radiators bled, boilers serviced, more efficient use

Buy green

- 26% of churches in this diocese are already signed up to a green tariff
- “Green” gas, lpg and oil will not help us meet the 2030 target
- Parish buying energy basket
 - 100% renewable electricity



ENERGY BASKET

Waste less

- Do you/can you zone your heating and lighting?
- Can you use smaller spaces in the winter?
- Can you swap existing bulbs for LEDs?
- Can you cut down on floodlighting?

Ditch fossil fuel

- Move towards electricity for heating
- Likely to be a bigger cost – therefore further down the pathway
- Heatpumps (can heat water or air)
- Infrared heating
- Pew heaters, heated cushions

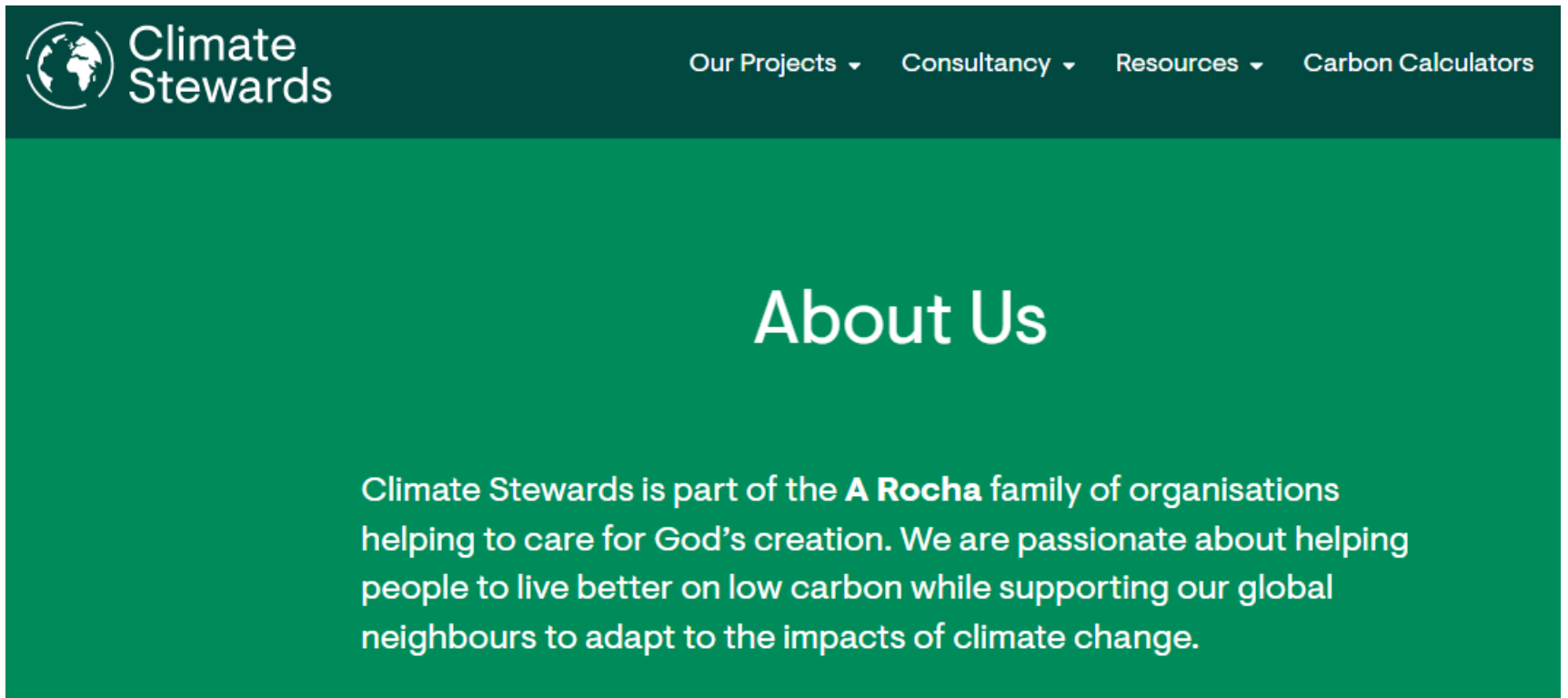
Generate

- Condition of roof – good for 30 years
- Visibility from ground or (possibly) adjacent building
- Feed-in tariffs or batteries
- Rural churches could become net-contributors to meeting the target



Offset

- Climate Stewards – offset by supporting their carbon sequestration projects
- Undertake your own planting scheme – where appropriate



Things we know – the baseline

- 46% of churches show visible damp patches
- 54% are heated by oil or gas
- 26% currently signed up to green tariffs
- 20% have had a wildlife survey
- Usage patterns data

Heating – the biggest challenge?

- To meet the Net Zero target, hundreds of churches will need to change their heating systems in the next seven years
- Assessing the best system for each church
- Remembering this is a NET target – solar panels could make some churches into net contributors to the target

Changes to the Faculty Rules

- July 2022 new Faculty Rules introduced
- “The works or proposals involve matters to which net zero guidance applies...explanation of how, in formulating the works or proposals, you have had due regard to net zero guidance.”
- Like for like boiler replacement no longer on List B
- Replacement of oil and gas tanks no longer on List B

Meeting the cost

- July 2022 General Synod, funding announced for the next nine years
- £190m
- Likely to target the biggest challenges – biggest users; small rural parishes are a lower priority, but also easier to fix?
- Includes funding for roles
- May even include assistance for fixing the damp

Heatpumps – scary new technology?

- The Rayburn number 1
- Old established technology – 1946
- Well-understood
- If it ain't broke don't fix it
- Probably won't float

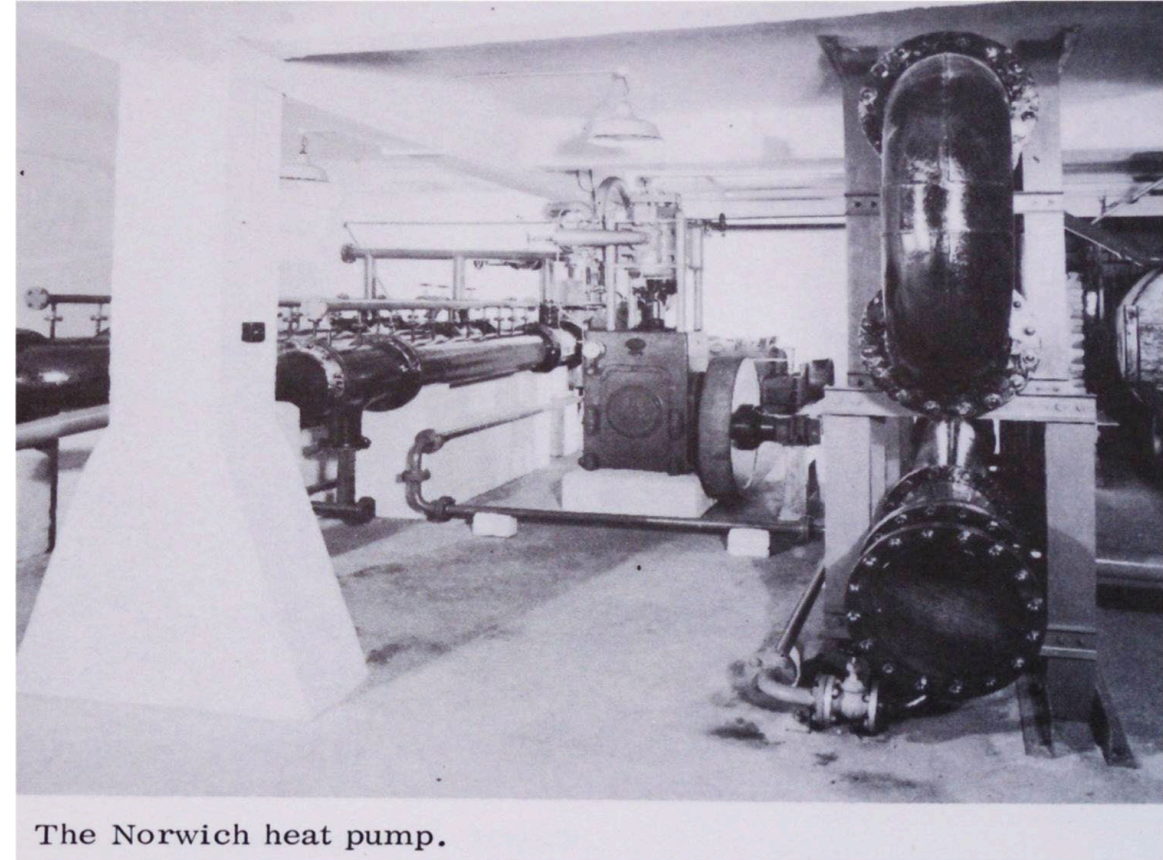


The UK's first electric heatpump

“In these days of material progress, when so much lip-service is being paid to science as our guarantee of prosperity, it seems incredible that a device such as the heat pump should have escaped the attention it deserves...Now we know that it will work, and the time has come when everything must be done to make the most of the knowledge we have gained.”

Heatpumps

- First electric heatpump in UK
- Norwich City Council 1945
- Reliably achieved COP of 3.42
- But natural gas was even cheaper...*(was)*



The Norwich heat pump.

Any questions?

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