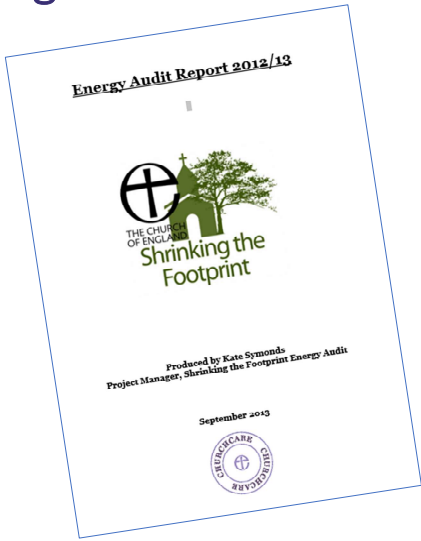


1

Back in 2012, a study showed us how significant our “carbon footprint” was ...



2012 baseline study: total annual carbon footprint **609k-1013k tonnes CO2e.**

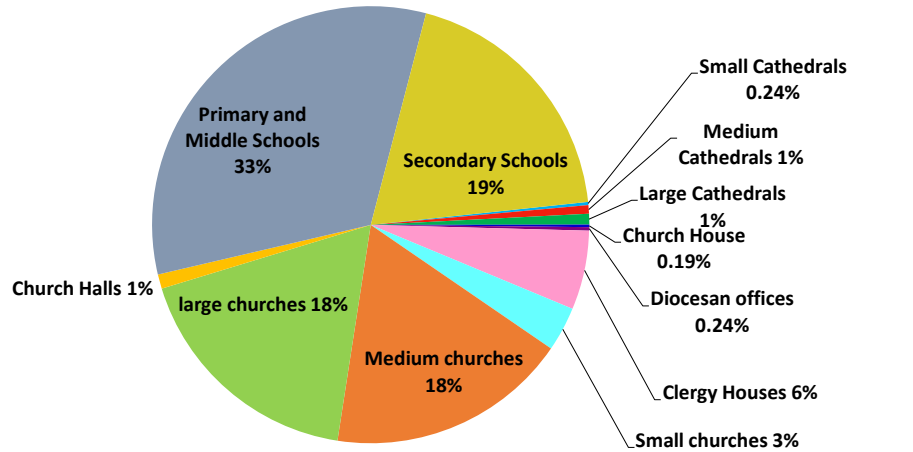
This **only** includes **energy** (not transport, materials, procurement, food, waste)

THE CHURCH OF ENGLAND

2

... that churches make up less than half of
our carbon footprint ...

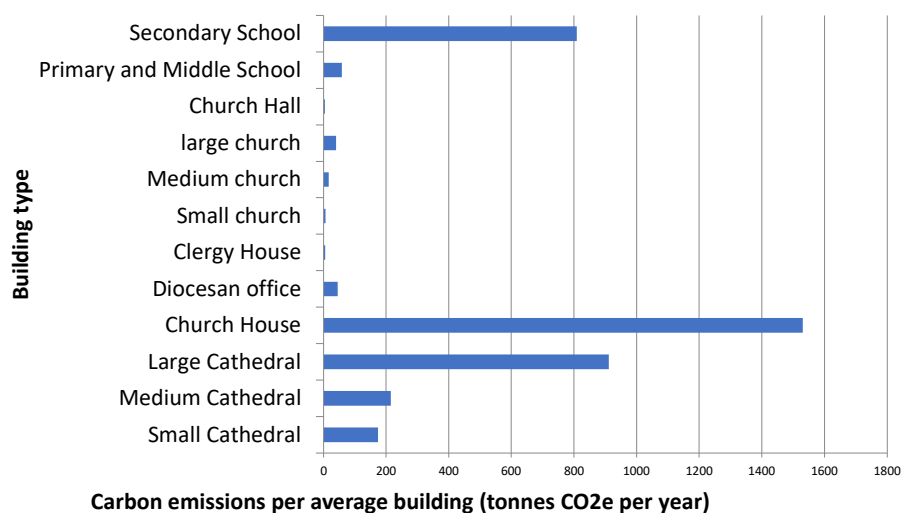
% of total carbon emissions by building type



THE CHURCH
OF ENGLAND

3

... and that certain key buildings are the
place to start.



THE CHURCH
OF ENGLAND

4

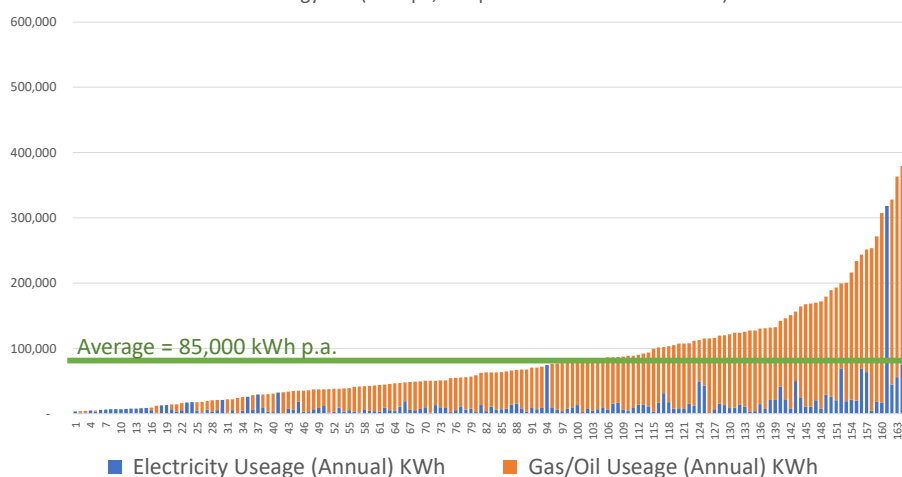
The energy audits show us what *action* to take to tackle our energy use.



5

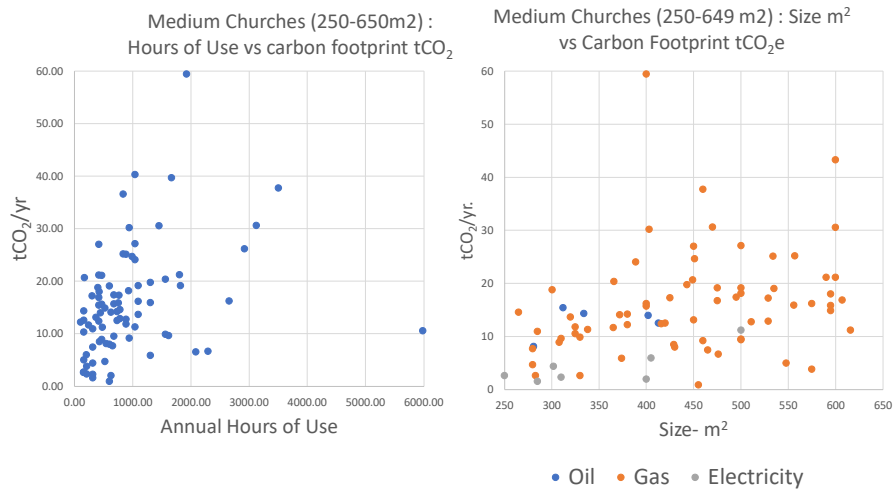
They show how widely energy use varies from church to church...

Annual energy use (kWh pa, sample = 165 churches and halls)



6

... and how the carbon footprint varies with usage, size and fuel type.

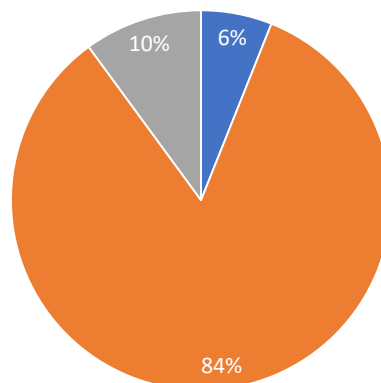


7

They confirm that heating makes up the majority of church energy use...

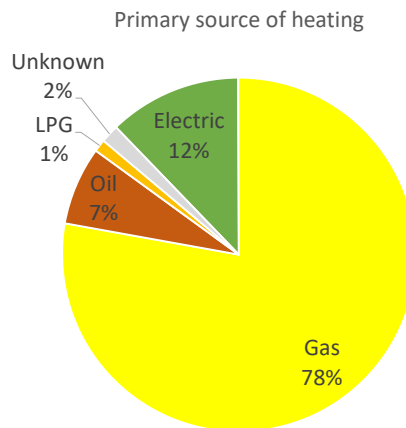
(sample = 126 churches and halls)

■ Lighting ■ Heating ■ Other



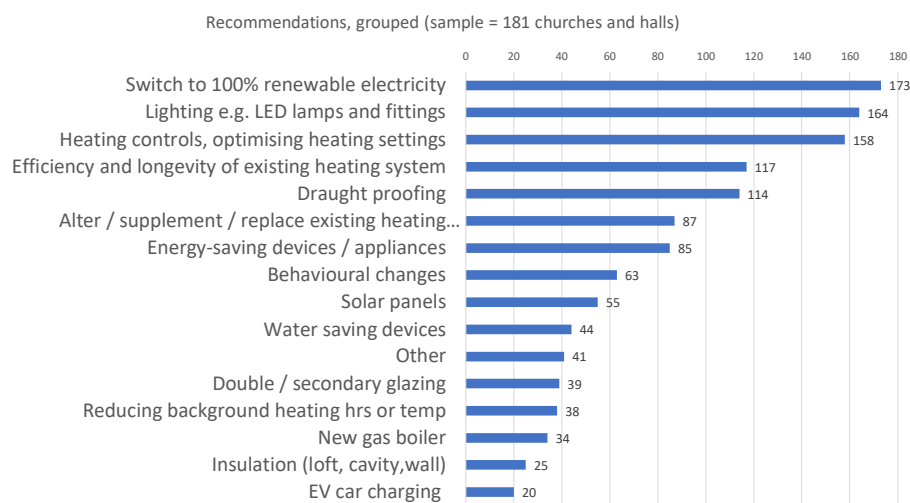
8

... and that decarbonising heat is a massive challenge, with nearly 90% using fossil fuels.



9

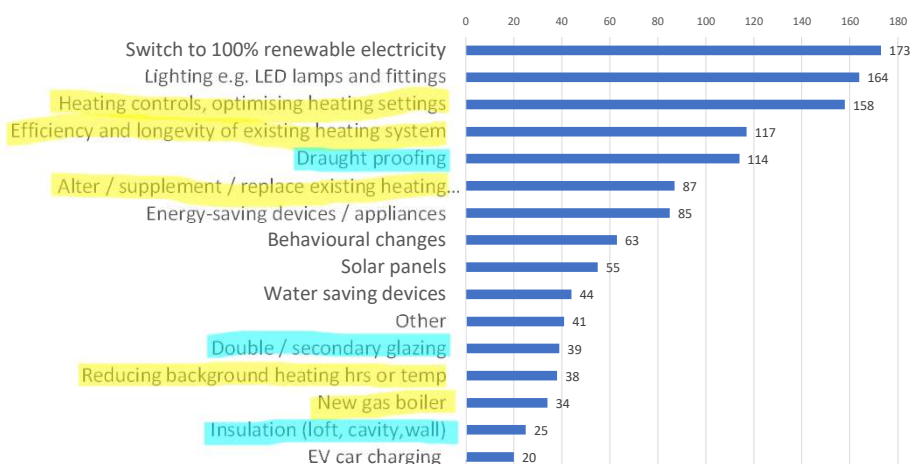
Most importantly, they tell us the commonly identified areas for action.



10

As we would expect, many actions concern heat loss and heating systems.

Recommendations, grouped (sample = 181 churches and halls)



11

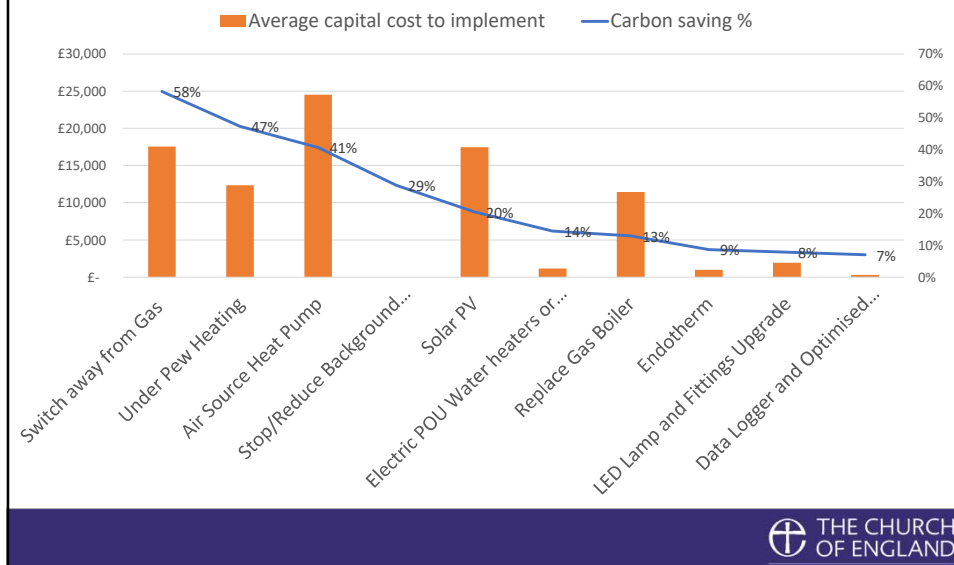
Of those which were quantified, these are the top ten “quick wins”: the highest impact on energy use per £ invested

Solution – ranked by kWh saved per £	Average Expected Installation Cost £ *	kWh saved per £ installation cost
Reduce background heating temp or hours	0	∞
Switch to 100% renewable supply	0	∞
Data loggers & optimised heating schedule	300	30
Flow regulators to taps	100	20
Endotherm	1000	9
Insulate pipes	400	8
Heater upgrade to infrared panels	1400	5
Electric POU water heaters or timer on existing	1200	5
Utilise Thermostatic Radiator Valves	850	3
Savawatt devices or similar	200	2

* Costs exclude professional fees, planning costs, and scaffolding

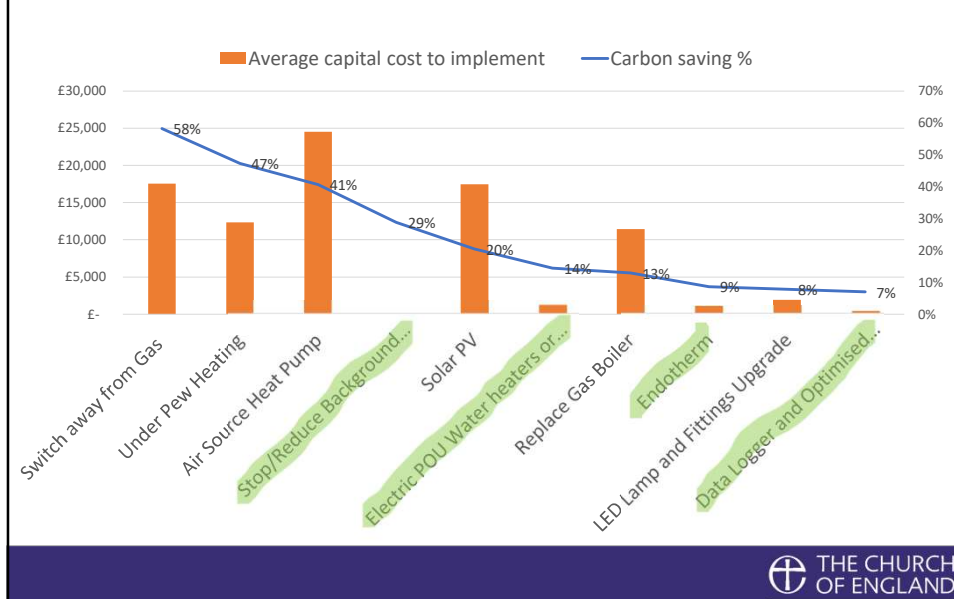
12

And these are the top ten “big wins” : the highest % impact on energy consumption

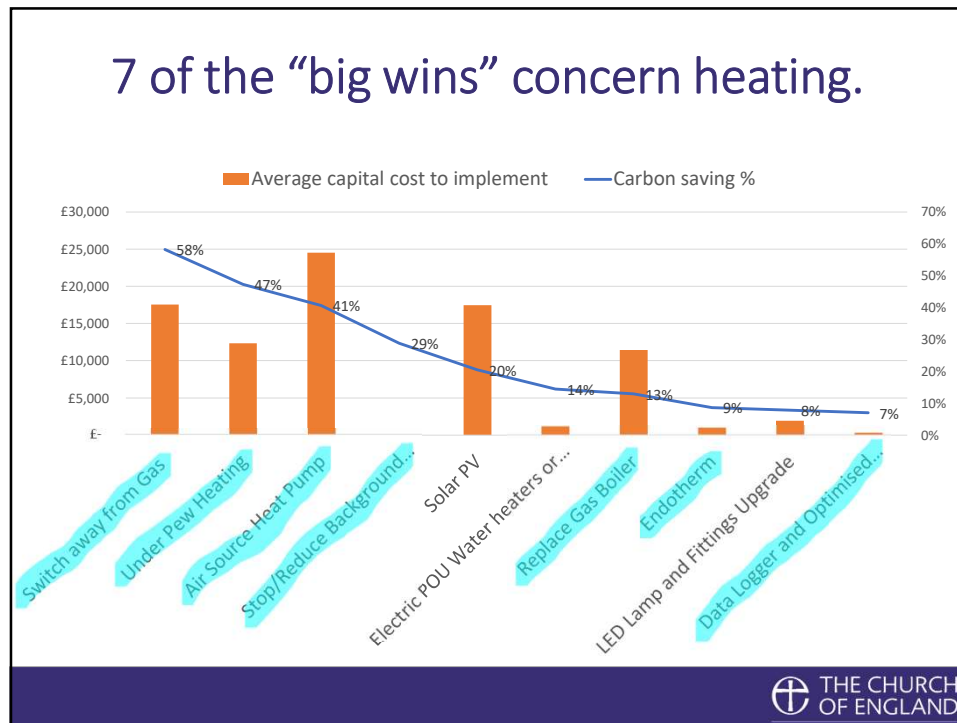


13

Four of them are on both lists.



14



15

This analysis has already helped us develop national guidance

Used to develop “Practical Path to Net Zero”

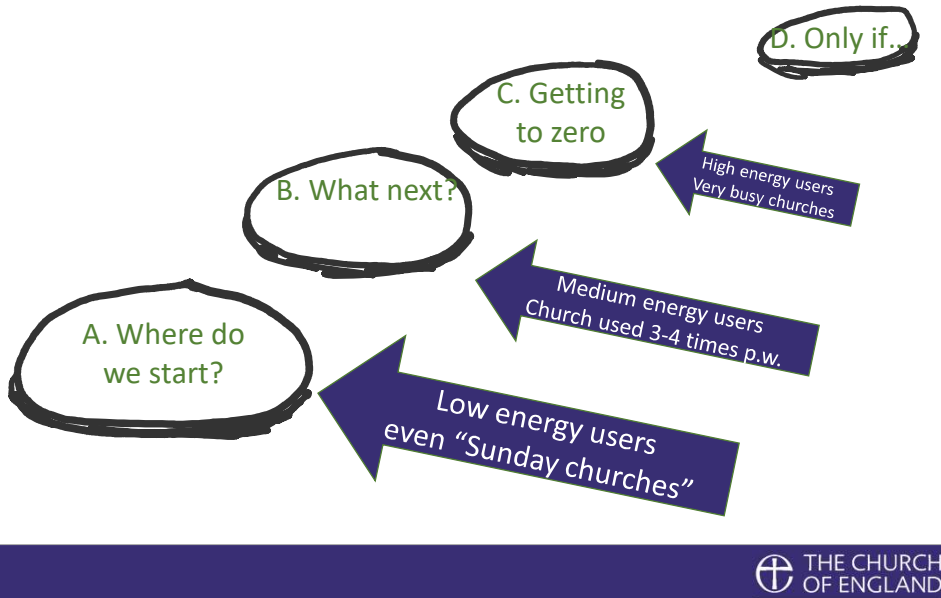
Helped with the brief for energy audit programme

Informing early discussions with Parish Buying on procurement for common items

Next, we need to develop guidance to help churches implement the “quick wins” and “big wins”

16

A practical path to net zero



17

If you don't have your own diocesan audit programme, please encourage churches to consider an audit through Parish Buying...

- Open for applications NOW (closes **end September**)
- 200 audits centrally subsidised, down from £445_{+VAT} to £245_{+VAT}
- To be eligible for subsidy, they must meet one of six criteria:
 1. **Qualifying by energy use:** >100,000kWh per year.
 2. **Qualifying by church size:** Floor area of >1000m².
 3. **Qualifying by fuel:** They are currently using an oil boiler.
 4. **Qualifying by urgency:** They have a report showing that a major component of their existing heat system has less than 2 years of operating life left in it.
 5. **Qualifying by commitment:** They have passed a PCC motion committing the church to work towards net zero by 2030.
 6. **Qualifying by intent:** They are already planning a substantive project which the energy audit could help inform.

<https://www.parishbuying.org.uk/register>

Key messages

For most, low-energy churches simple changes are all that is needed.

Much can be done at relatively little cost, focussing on the quick wins.

Then any available resource should be used to offer proactive support to high energy-use churches, especially with heating.

Energy audits help churches identify their way forward, especially when they are planning change.



19

Findings from the energy audit programme

Catherine Ross, Cathedral and Church Buildings Division
(But with all the credit to Sara Jeffery, masters student, Bournemouth University)



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