Net Zero Carbon 2030

Carbon Emissions Report 2023

The Diocese of London

Executive Summary

The energy used in the Church of England's buildings and in its work-related travel is estimated to have emitted around 343,325 tonnes of carbon dioxide equivalents (CO2e) in 2023. Schools are estimated to be the most emissive building type in 2023 representing 36% of total emissions, with a further 29% of emissions coming from church buildings and halls. The breakdown of the Church of England's annual emissions and a graphical representation of percentage contribution by footprint area can be found in Table 1 and Figure 1 respectively. Emissions from each footprint area and building type are detailed further in the main 2023 Carbon Emission Report.

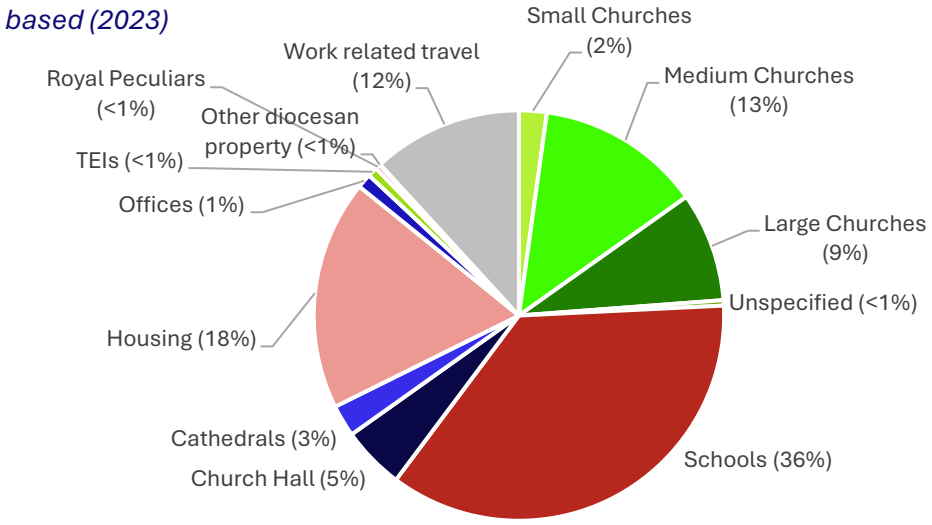
Where possible, estimates (proxies) have been calculated for buildings and travel sources for which data was not available. While the available dataset is imperfect and incomplete, the carbon footprint results are the most robust and reliable to-date. For instance, the completeness of data collection has generally improved from previous years. Changes in headline emissions values from 2021 are due to several factors, key among these are improvements in data availability and quality, updated calculation methods and refinements of in-scope buildings lists, particularly for schools.

There has been a significant increase in the emissions due to work-related travel from 2021 with an updated value of 40,572 tonnes of carbon. This is largely a result of improved data collection and gap-filling processes. This and other figures are likely to change further in future years as the data availability and quality continue to improve.

Table 1. count, data completeness and total emissions of Church of England buildings

Building type	Number of buildings	Completeness	Total Estimated Net CO_2
Small Churches	4,550	41%	7,521
Medium Churches	8,346	50%	44,608
Large Churches	2,314	43%	29,587
Unspecified churches	453	2%	1,458
Schools	2,805	65%	123,594
Church Hall	3,033	83%	16,967
Cathedrals	42	90%	8,602
Housing	9,431	78%	62,316
Offices	85	34%	3,935
TEIs	19	0%	2,642
Royal Peculiars	8	13%	1,248
Other diocesan property	39	62%	274
Work related travel	N/A	N/A	40,572
Total	**31,125**	**49%**	**343,325**

Figure 1. The percentage contribution of different footprint areas to the total estimated net footprint of Church of England, location-based (2023)



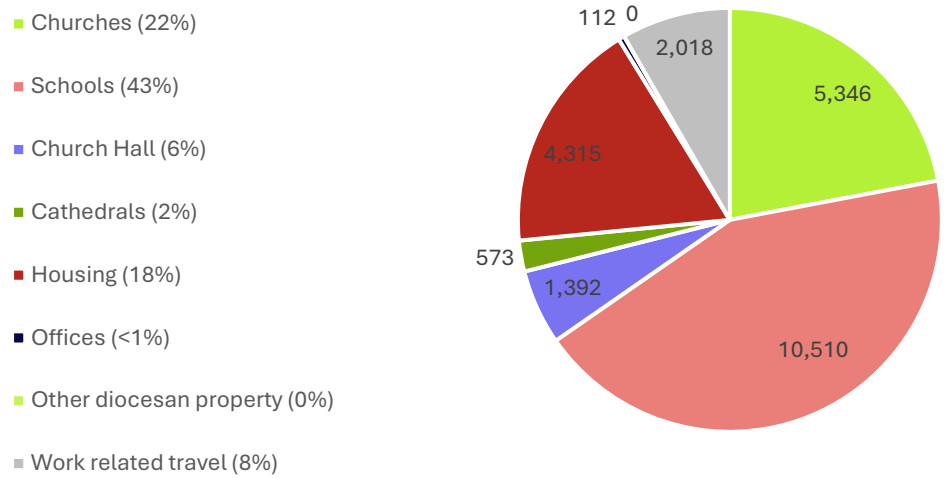
London Diocese Summary

The following report summarises the carbon emissions of the Diocese for the year 2023. This data has predominately been collected via the Energy Footprint Tool (EFT) and Energy Toolkit surveys, with some supplementary data sets. Included is a summary of the data completeness for the Diocese. Where data wasn't complete, estimations* have been made to fill data gaps. This process is outlined in the Carbon Emission Report 2023 methodology section.

Figure 1 shows the total estimated Diocese location-based emissions by building type in tonnes of carbon. The largest contributors to emissions within the Diocese are Schools and Churches.

Total location-based emissions (tCO2e)
24,266

Figure 2. The percentage contribution of different footprint areas to the total estimated net footprint of London Diocese, location-based (2023)



*The carbon values included in the Diocese charts within this report use estimated (proxy) values where actual data was not available. These have been estimated using various methods based on actual collected data for each footprint type.

Emissions Breakdown

The graphs below show a comparison of data for London Diocese for 2023 and preceding years for the number of buildings and total emissions by footprint type. The intention is to show reducing carbon emissions* year on year as decarbonisation schemes are implemented; however, it should be noted that the data collection and estimation process is still being refined and therefore any significant changes** in absolute carbon emissions may still be a result of improved data collection.

Figure 3. London emissions breakdown by building type and year

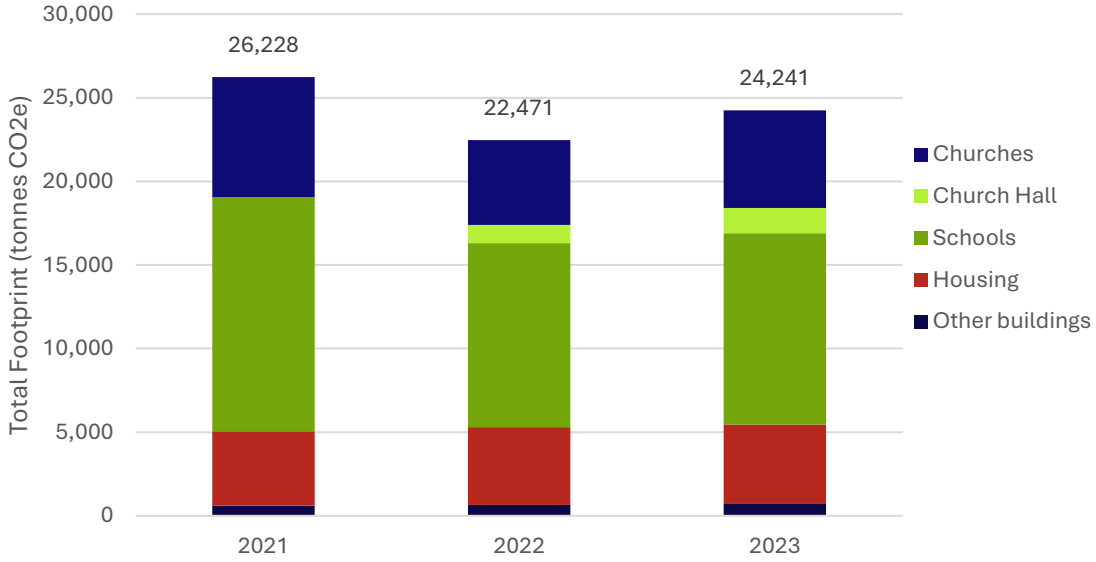


Table 2. Buildings count and emissions breakdown by type and year

Building type	Number of buildings in 2023	2021 Emissions (tCO2e)	2022 Emissions (tCO2e)	2023 Emissions (tCO2e)
Churches	504	7,167	5,075	5,825
Church Hall	189	0	1,101	1,517
Schools	153	14,007	10,986	11,451
Housing	625	4,438	4,659	4,702
Other buildings	2	617	651	746
Total	**1,473**	**26,228**	**22,471**	**24,241**

*Weather adjusted emissions values are being used for year-on-year comparison.

** Methodology used to calculate emissions for 2021 and prior years varies from that of the current year, this should be considered when comparing annual emissions values.

Emissions Breakdown

The fuel source breakdowns shown indicate progress towards lower carbon energy sources and heat generation methods. Where footprints have a higher proportion of fossil fuel heat generation such as oil and gas, total Diocesan emissions are likely to be higher.

As the national electrical grid decarbonises by transitioning to renewables the proportion of carbon emissions from electricity will gradually reduce. Therefore, buildings will need to transition to electrical generation of heat such as heat pumps to reduce carbon emissions. The graphs shown below indicate the number of buildings using certain fuel types within each footprint, a growing proportion of buildings using electricity for heat is positive.

The graphs shown only include those buildings for which fuel data has been recorded, although this may be considered the most representative split for the whole Diocese portfolio. Secondary heating fuels have also been discounted.

Figure 4. London Churches heating primary fuel source breakdown, (2023)

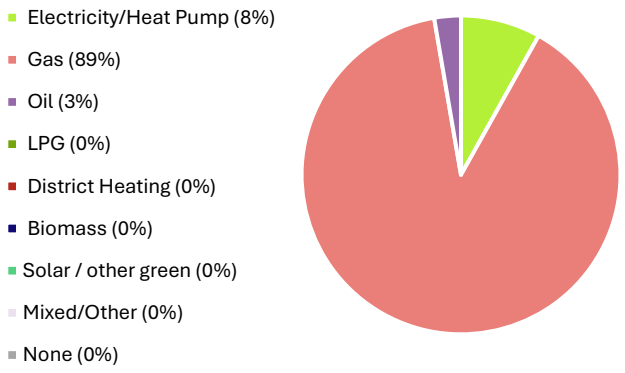


Figure 5. London Housing heating primary fuel source breakdown, (2023)

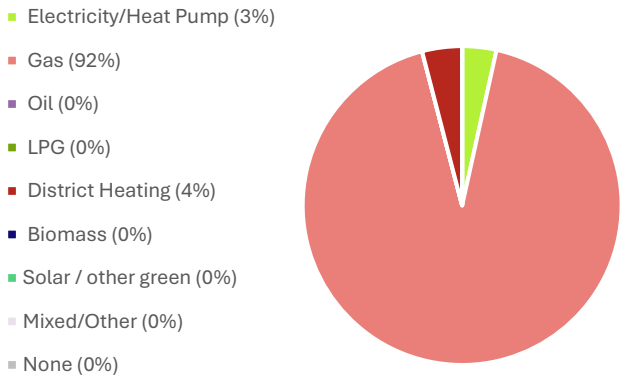
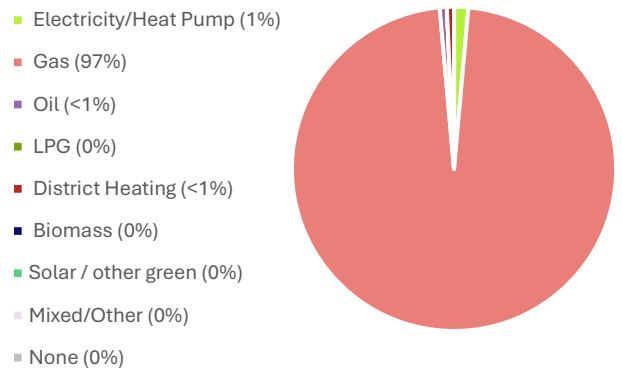


Figure 6. London Schools heating primary fuel source breakdown, (2023)



Emissions Breakdown

These graphs show the breakdown of emissions by size and type of building, whether urban or rural for church and school footprints. This is important as it will help the Diocese to identify which building types are their biggest contributors to total carbon emissions and target these for decarbonisation measures.

Figure 7. London churches emissions by building size and area (2023).

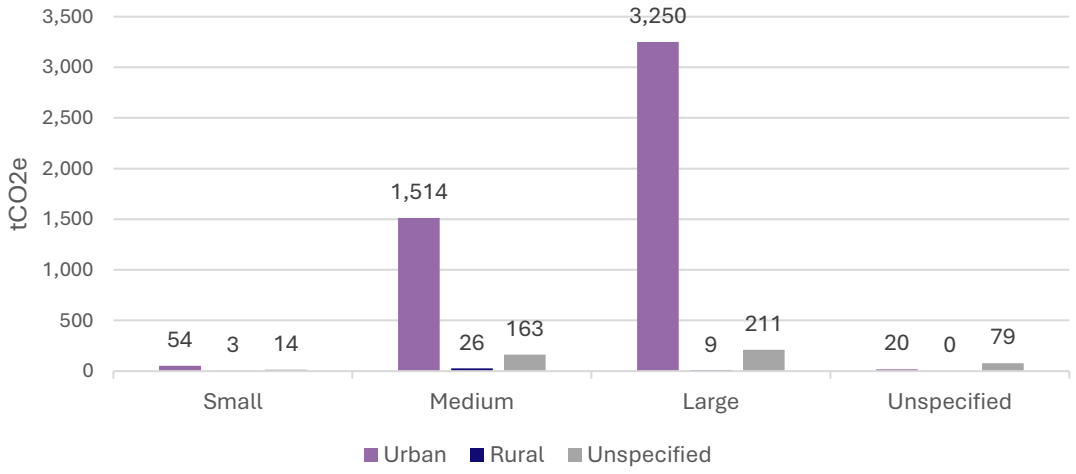
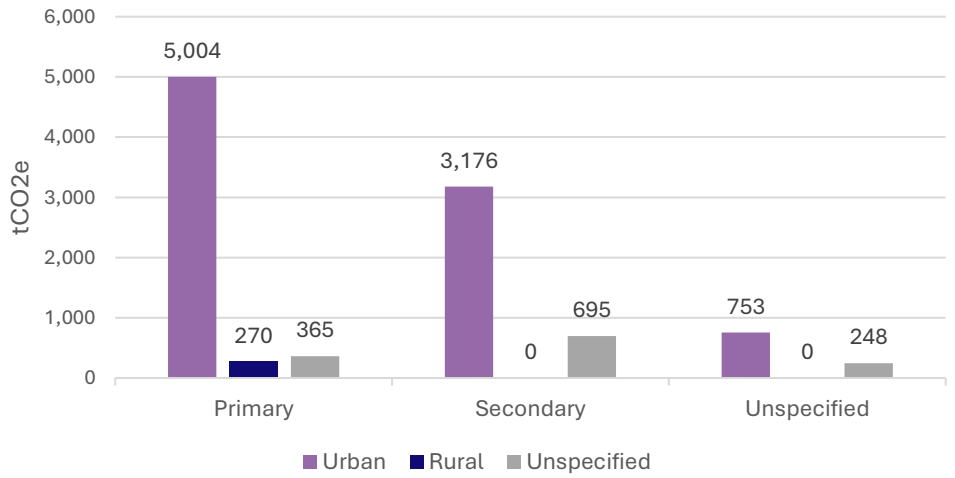


Figure 8. London schools emissions by type and area, (2023)



Diocese Quick Stats

This page provides a quick reference to key statistics for the Diocese.

The graph below shows when Energy Footprint Tool (EFT) and Energy Toolkit entries were completed throughout the year. This may assist with planning for the completion of EFTs for the coming year.

Figure 9. London EFT completion by month (2023).

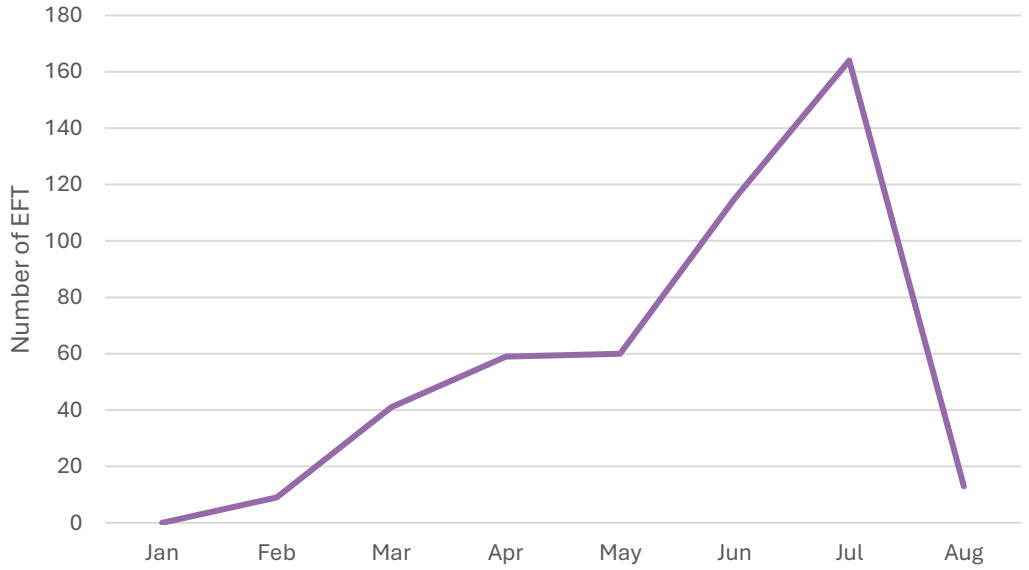


Table 3. Statistics on green energy sources by building type

Building type	Green electricity tariff	With PV systems	With oil boilers	Electricity as primary heat source
Churches	109	10	8	21
Church hall	80	7	2	22
Schools	0	0	1	2
Housing	0	0	0	6
Other Buildings	1	0	0	0

Data Completeness

The following table summarises the completeness of data available for the Diocese by showing the percentage of buildings that were filled through proxies*.

Table 4. Count of buildings and data completeness by building type

Building type	2023 Building count	2023 % of buildings filled through proxies
Churches	504	66%
Church Hall	189	28%
Schools	153	22%
Housing	625	13%
Cathedrals	1	0%
Diocesan Offices	1	0%
Other diocesan property	No buildings identified	N/A

*Any emissions derived from provided energy consumption, energy cost, and building-specific emissions data or Display Energy Certificate (DEC) / Energy Performance Certificate (EPC) data sourced online is not considered to be proxied.

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THE CHURCH OF ENGLAND