

Saving Creation: Carbon Net Zero Annual Report for year ending 31 December 2021

From: Jemima Parker
Role: Diocesan Environment Officer
Date: 28th April 2022

Issue

1. To provide an overview of the work of the Carbon Net Zero Scrutiny Group in 2021 and the Annual Diocesan Carbon Emissions Report.

Recommendation

2. That Board and Diocesan Synod members note the matters contained in this report.

Update

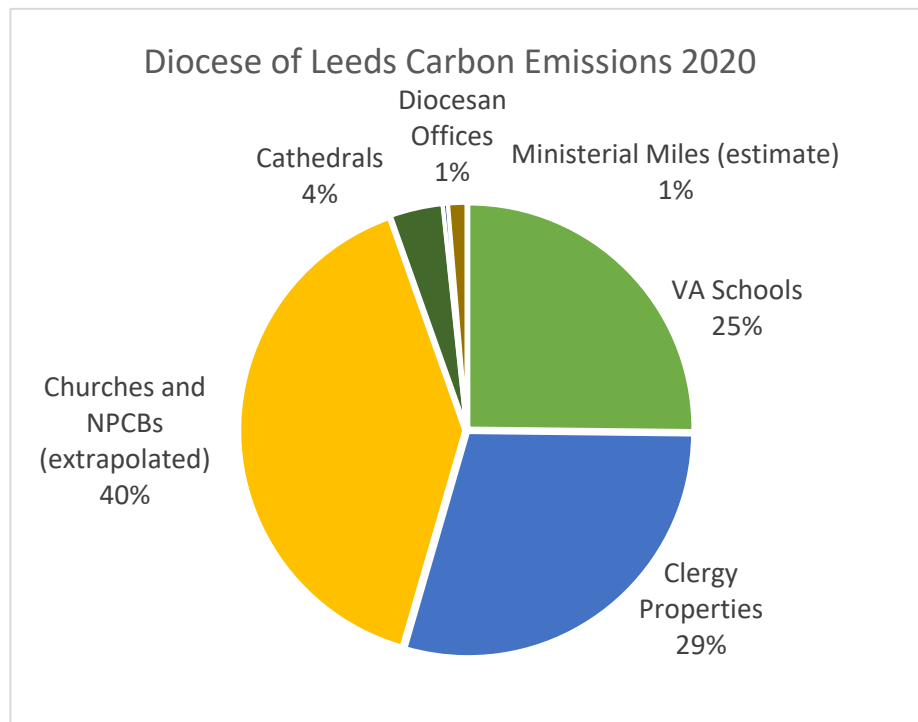
Carbon Net Zero Scrutiny Group

3. The *Saving Creation: Strategic Action to Combat Climate Change* Strategy was approved by the Board May 21 and presented at Synod October 21.
4. Members of the group worked to produce resources to support the Saving Creation Strategy including
 - a. The [Six Steps to Carbon Net Zero Church Toolkit](#) and supporting resources.
 - b. The [Saving Creation Toolkit for Schools](#) was developed and sent to schools.
 - c. The [DAC Sustainability Policy and Guidance](#).
 - d. [Grants and Loans for Church Buildings](#)
 - e. Securing Eon funding to retrofit and install solar panels on a number of clergy properties
5. Training has been delivered to build capacity in parishes including: a clergy series on environmental mission; Low carbon Building Maintenance training; Six Steps to Net Zero webinars; and 38 Parish Environment Officers have completed a new Creation Salvation course.

Diocese of Leeds Annual Carbon Emissions Report (2020)

6. The full Diocese of Leeds 2020 Carbon Emissions Report can be found in Appendix 1.
7. The majority of the diocese's emissions, under the C of E defined scope, are generated by energy use in clergy housing, church schools and churches including non-church parochial buildings (NCPB). See Figure 1. Of these, clergy properties offer the area of most direct control of emissions.

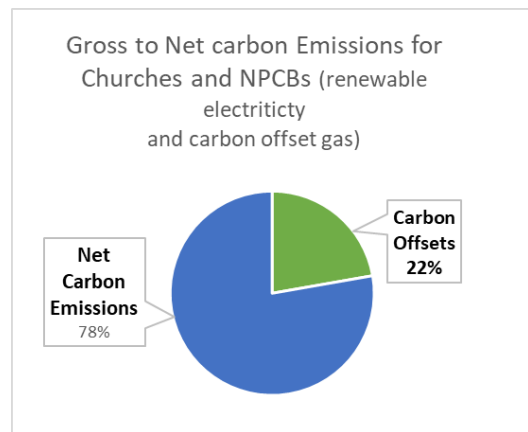
Figure 1: Diocese of Leeds Carbon Emissions 2020 (Tonnes CO2e). Full data set in the Annual Carbon Emissions Report (2020) – Appendix 1



Successes

8. “Net” Emissions. Through the procurement of renewably generated electricity and carbon offset gas church and NCPB net emissions are 22% lower. This is the highest offsetting rate nationally and largely due to over 250 churches in the diocese utilising the Green Journey Scheme operated by Green Energy Consulting.

Figure 2: Church Net carbon emissions achieved by carbon offsets 2020



9. High EFT return rates. Fifty percent of churches submitted energy use data via the online parish return Energy Footprinting Tool, the second highest nationally.

Areas of Concern

10. The energy use data for churches and NCPBs is not representative due to church closures and unusual building use during 2020.

11. Large high energy use churches and schools generate the majority of emissions.

12. Energy management. Despite long periods of church closure the total 2020 energy use is still relatively high. It appears that poor energy management in some churches is a factor. This also has financial impacts.

13. Lack of data. More and better quality data is needed to help prioritise actions towards carbon net zero.

Diocesan Strategy link

Goal 1: Thriving as a Distinctive Diocese

Pioneering work on carbon emissions data collection, church and school net zero toolkits, lay training pathways and DAC polices.

Goal 2: Re-imagining Ministry

Providing the resources for every church and school to make a positive impact on the environment and their community.

Goal 3. Nurturing Lay Discipleship

Creation Salvation course upskilling Parish Environment Officers

Key objectives

Key objectives for 2022 include:

- i. Support high emitting churches to develop a carbon net zero plan
- ii. Recruit and train more Parish Environment Officers to increase capacity
- iii. Pilot a Saving Creation/ Eco Missioner Lay Training Pathway
- iv. Promote the Six Steps to Carbon Net Zero through Deanery Synods
- v. Provide Carbon Literacy training for Diocesan and Senior Staff

Conclusions & Recommendations

The Leeds Board and Diocesan Synod are asked to note the overview provided in this report.

APPENDIX 1



Diocese of Leeds Annual Carbon Emissions Report (2020)

Summary

- 1.1 The estimated net carbon emission for the Diocese of Leeds for 2020 was 10,725 tCO₂e. This is equivalent to 2,024 individual people's carbon emissions.
- 1.2 This is a slight decrease from the 2019 estimate of 10,750 tonnes CO₂e. While an estimate for the three Cathedrals carbon emissions has been added, the decarbonisation of the electricity grid has reduced emissions.
- 1.3 The carbon emissions come mainly from three sources: clergy properties, VA schools and churches/ Non Church Parochial Buildings (NCPBs)
- 1.4 Nationally, the diocese achieved the second highest response rate (50%) for returns on the Energy Footprinting Tool, part of the Online Parish Returns.
- 1.5 Nationally, Leeds is the diocese with the most significant "net" zero emissions ie the difference between gross emission and net emissions. Offsets are calculated at 1093.5 tCO₂e. Higher rates of renewable electricity and carbon offset gas use have been achieved with over 250 churches utilising the Green Journey scheme provided by our partner Green Energy Consulting.
- 1.6 There remain significant data gaps in assessing the carbon emission of the Diocese. No data is available for glebe land and estimates and extrapolation are used for staff travel several metrics.
- 1.7 When compared to other dioceses, the emissions from church and NCPBs are significantly lower than London Diocese, comparable to Oxford Diocese, and smaller dioceses such as Sheffield and Durham have approximately half the emissions.
- 1.8 In February 2020 the General Synod called on the Cof E to be carbon net zero by 2030. The diocese responded by starting to develop the Saving Creation: Strategic Action to Combat Climate Change, which was not implemented until later in 2021.

Churches and Non Church Parochial Buildings

- 1.1 It should be noted that the energy use for Churches and Non Church Buildings Parochial (NCPBs) may have been severely affected by the pandemic, which has skewed the data.
- 1.2 Lower energy use might have been expected during 2020 as many churches were closed from the end of March onwards, however:
 - a. Churches were open for the winter months of January to March and some opened again October to December.
 - b. Higher levels of ventilation were required where churches opened in the latter part of the year.

- c. Some churches were in more intense community use during this stage of the pandemic.
- d. A number of churches have reported that during church closures energy management was poor and heating systems were left on in closed churches.

1.3 Large churches tend to be the highest emitting. The Saving Creation Strategy seeks to support high emitting churches to develop a carbon net zero plan.

1.4 Thirteen churches have an electric heating system and use a renewable electricity tariff, they are therefore, almost carbon net zero (travel emissions will need to be considered).

Clergy Housing

1.1 The estate of clergy properties remains a significant proportion of the diocesan carbon emissions and the area where the LDBF has the most direct control.

1.2 No new data is available for clergy housing for this report.

1.3 No active decarbonisation strategy was in place to improve the thermal efficacy of clergy housing.

Voluntary Aided Schools

1.1 No new data is available for VA Schools for this report. From 2022 the EFT can be used to collect data directly from schools and this should improve the quality of the information.

1.2 The Saving Creation Strategy was not in place until 2021 so there was no active decarbonisation strategy was in place to improve the thermal efficiency of schools in 2020.

1.3 Voluntary Controlled Schools are not in scope for the C of E carbon net zero target.

1.4 No carbon offsetting information is available for schools. Considerable carbon savings could be achieved if schools switched to renewable tariffs.

1.5 Large and high emitting school make up the largest proportion of carbon emissions.

Other

1.1 Carbon emissions associated with the six bishops activities fell with a reduction in office heating fuel use and reduced car and aviation travel during the pandemic period.

1.2 Carbon emissions reductions will have been achieved though the continuing national UK decarbonisation of the electricity grid.

2020 Carbon Emissions

	Carbon emissions tonnes CO2e						Carbon Offsets tonnes CO2e				
	Electricity	Gas	Oil	Other fuel	Travel (car)	Travel (air)	Total	Renewable Electricity Purchased	Renewable Electricity Generated (No Data)	Other offsets	Total Offsets
VA Schools	849.5	1894.8	222.8				2967.1				
Clergy Properties							3454.0				
Churches and NPCBs (extrapolated)	1149.0	3464.4	110.4				4723.7	221.0		830.0	1051.0
Cathedrals	122.9	319.8					442.7				
Diocesan Offices	31.2	11.3					42.5	31.2		11.3	42.5
Bishop's Offices	5.9	13.8					19.7	5.9			5.9
Staff Travel (No data)											
Ministerial Miles (estimate)					155.3		155.3				
Bishop's Travel					9.1	4.4	13.5				
Glebe Land (No data)											
Gross Carbon emissions (tonnes CO2e)							11818.6				
Total Offsets (tonnes CO2e)											1093.5
Net Carbon Emissions (tonnes CO2e)											10725.1

Figure 1: Breakdown of carbon emissions for the Diocese of Leeds 2020 (CO2e = Carbon dioxide equivalent).

2020 Energy Use

	Energy Use kwh				Total Energy Use kwh	Travel miles		
	Electricity	Gas	Oil	Other fuel		Travel (car)	Travel (air)	Total Travel Miles
VA Schools	3725835	9090240	657357		13473431			
Clergy Properties								
Churches and NPCBs (Extrapolated)	5214941	19915884	102443		25233268			
Cathedrals (Extrapolated)	426690	1537545			1964235			
Diocesan Offices	108237	54324			115735			
Bishop's Offices	20601	66202			86803			
Staff Travel (No data)								
Ministerial Miles (estimate)						808873		808873
Bishop's Travel						23411	16528	39939

Figure 2: Energy use and travel miles by sector for the Diocese of Leeds 2020

Data Collection

- 1.1 The scope of the emission included in this report are dictated by the national definition of “net zero carbon” for the Church of England (Scope 1 and 2 emissions).
- 1.2 Carbon emissions data has been gathered from the following sources. It is recognised that there are a number of limitations with this dataset.
 - a) **VA Schools:** Energy data was gathered for each VA school from the Display Energy Certificate available on the Department of Education website.
 - b) **Clergy Properties:** All 475 clergy properties had had energy audits conducted by 2020. As part of this assessment, an estimate of carbon emissions is given.
 - c) **Churches:** The data has been used from the 327 churches that completed the online Parish Return Energy Footprinting Tool for 2020 energy use. Additionally, 57 churches entered EFT data for a Non Church Parochial Building (NCPB).
 - d) **Cathedrals:** Energy bills from 1, extrapolated for 3 Cathedrals.
 - e) **Diocesan Offices:** Energy bills have been collated.
 - f) **Bishops’ Offices:** Energy bills have been collated for those offices for which the Diocese has responsibility.
 - g) **Staff Travel:** No data has been collated for 2020. A small survey of clergy was conducted to generate an indicative figure for Ministerial Miles.
 - h) **Bishop’s Travel:** Expenses claims have been used to arrogate the miles travelled by car and by air.

i) **Glebe land:** No data is available to date.