



Streamlined Energy & Carbon Reporting 2020/21 Excalibur Academies Trust

Energy Background

A multi academy trust with over a dozen sites with buildings of varying ages and materials. Heating across the trust sites is predominantly from mains gas but some sites use other liquid and gaseous fuels, and some mobile classrooms rely on electric heating. The academy trust owns minibus transportation and has several members of staff who claim business mileage. For both the minibus and business travel, the trust has recorded the number of miles travelled during the year.

This methodology follows the [GHG Reporting Protocol](#) and uses the 2021 [Government emission conversion factors for greenhouse gas company reporting](#).

Energy Source	Consumption	Scope	Emissions calculation
Gas – total kWh (kilowatt-hours) used for the year	3,563,944 kWh (gross CV (calorific value))	Scope 1	3,563,944 kWh * 0.18316 (2021 fuels, natural gas conversion factor gross CV to kg CO ₂ e) = 652,772 kgCO ₂ e = 652.772 tCO₂e
Electricity – total kWh used for the year	2,151,226 kWh	Scope 2	2,151,226 kWh * 0.21233 (2021 UK electricity conversion factor to kgCO ₂ e) = 456,770 kgCO ₂ e = 456.770 tCO₂e
Kerosene – 20,257 litres used for the year	208,516 kwh	Scope 1	20,257 litres * 2.54014 (2021 Fuels – Kerosene conversion to kgCO ₂ e) = 51,456 kgCO ₂ e = 51.456 tCO₂e
Gas Oil – 45,245 litres used for the year	486,045 kwh	Scope 1	45,245 litres * 2.75857 (2021 Fuels – Gas Oil conversion to kgCO ₂ e) = 124,811 kgCO ₂ e = 124.811 tCO₂e
Propane – 141 kg used for the year	1,974 kwh	Scope 1	141 kg * 2,997.550 (2021 Fuels – Propane conversion to kgCO ₂ e) = 423 kgCO ₂ e = 0.423 tCO₂e

Energy Source	Consumption	Scope	Emissions calculation
LPG – 8,890 litres used for the year	64,537 kWh	Scope 1	8,890 litres * 1.55709 (2021 Fuels – LPG conversion to kgCO ₂ e) = 13,843 kgCO ₂ e = 13.843 tCO₂e
Owned Transport Minibus –51,556 miles in the year	51,556 miles * 1.55 (2021 SECR kWh pass & delivery vehs, vans average) = 79,912 kWh	Scope 1	51,556 miles = 82,971 km 82,971 km * 0.24116 (2021 managed assets vehicles, vans average – used in lieu of passenger vehicles conversion) = 20,009 kgCO ₂ e = 20.01 tCO₂e
Reimbursed Transport – total mileage reimbursed from staff claims = 10,728 miles	10,728 miles * 1.16071 (2021 SECR kWh pass & delivery vehs, average car conversion factor to kWh, petrol) =12,452 kWh	Scope 3	10,728 miles * 0.28053 (2021 business travel and average car conversion factor to kgCO ₂ e, petrol) = 3,009 kgCO ₂ e =3.01 tCO₂e
Total	6,568,606 kWh		1,323.09 tCO₂e
Intensity ratio	Emissions data (tCO ₂ e) compared with an appropriate business activity (pupil numbers as per Autumn census)		1,323.09 tCO ₂ e/6,080 pupils = 0.218 tCO₂e per pupil

Disclosure of Information

UK Greenhouse gas emissions and energy use data for the period 1 September 2020 to 31 August 2021	Current reporting year 2020/21	Comparison reporting year 2019/20 (figures are for illustrative purposes)
Energy consumption used to calculate emissions (kWh)	6,568,606	5,568,995
Scope 1 emissions in metric tonnes CO ₂ e		
	652.772	514.594
Gas consumption	51.456	5.805
Kerosene consumption	124.811	122.762
Gas Oil consumption	0.423	
Propane consumption	13.843	18.938
LPG consumption	20.01	16.3589
Owned transport	863.31	678.458
Total Scope 1		

UK Greenhouse gas emissions and energy use data for the period 1 September 2020 to 31 August 2021

Current reporting year 2020/21

Comparison reporting year 2019/20 (figures are for illustrative purposes)

Scope 2 emissions in metric tonnes CO₂e

Purchased electricity	456.770	480.630
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Scope 3 emissions in metric tonnes CO₂e

Business travel in employee-owned vehicles	3.01	13.4658
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Total gross emissions in metric tonnes CO₂e

1,323.09	1,172.5537
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Intensity ratio Tonnes CO₂e per pupil

0.218	0.211
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N.B: 19/20 Figures are not directly comparable due to the increase of number of schools within 2020/2021

Quantification and reporting methodology

We have followed the 2019 HM Government Environmental Reporting Guidelines. We have also used the GHG Reporting Protocol – Corporate Standard and have used the 2021 UK Government's Conversion Factors for Company Reporting.

Intensity measurement

The chosen intensity measurement ratio is total gross emissions in metric tonnes CO₂e per pupil, the recommended ratio for the sector.

Measures taken to improve energy efficiency

Burbage Primary School	New Boilers fitted in main school, New Radiator in Library Mobile, LED lighting throughout school
Easton Royal Academy	New Electric Heaters, LED lighting throughout school
Fairfield High School	LED lighting throughout school and on astro pitches. A new BEMS fitted, reflective film attached to the south facing windows on 3 rd and 5 th floors to try and reduce the levels of heat in those rooms in the summer months.
Great Bedwyn CofE School	LED Lighting throughout & Parts of the boiler replaced.
John O'Gaunt School	Started the change to LED lights, Woodlands block gas boilers replaced summer 2020
Lambourn Primary School	Thames Water Usage Survey, LED Lighting throughout old main school building
Liden Academy	N/A 20/21 but looking to do windows in 21/22
May Park Primary School	LED emergency lighting (approx. 100/300), The Glade building and Arboretum Hall. Also, removing appliances.
Nythe Primary School	Repaired classroom heaters & thermostat
Oare CofE Primary School	LED lighting throughout the school

Ogbourne CofE Primary School

LED lighting throughout the school

St John's Marlborough

All external lighting and sports hall lighting upgraded to LED.

St Katharine's CofE Primary School

new heaters in 2 classrooms

The Wren School

Powerful Allies, full Energy Audit, gas/electric use dramatically reduced

END OF REPORT

