

Greenhouse Gas Emissions Inventory and Annual Streamlined Energy & Carbon Report

Gloucestershire College
Academic Year 2020 - 2021



gloucestershire college

The emissions outlined in this report cover the 20/21 academic year - reporting period 1st August 2020 to 31st July 2021. The 2019/20 academic year is also included for comparative purposes.

INFORMATION ON EMISSIONS

The tables below refer to emissions independent of any GHG trades such as sales, purchases, transfers, or banking of allowances

Alongside the required Scope 1 and Scope 2 emissions outlined within this report, Gloucestershire College has selected to report the following Scope 3 emissions in this report:

- Fuel from Transport – Grey Fleet
- Consumption - Waste
- Consumption – Water

2020/21 ACADEMIC YEAR

The energy consumption (kWh and fuel consumption) used to calculate scope 1 and 2 emissions set out below is **5,074,677**. This is comprised as follows:

Emissions scope 1 and 2 (kWh):	5,539,715
Minus Market based Renewable Energy at	-469,446
Total	5,070,231
Emissions scope 1 (fuel consumption):	4,446
Total	5,074,677

EMISSIONS	TOTAL (TCO ₂ e)				
	Emission Type	Emission Group	Emission sub-group	Annual TCO ₂ e 2020/21	
Scope 1 and 2	1	Fuel	Gas	Natural Gas	562
			Own Fleet	Diesel mini vans	11
	2	Fuel	Electricity	Grid electricity	579
				Market based renewable energy certificates	-109
				Self generated renewable electricity	0
	Grand Total				1043
	Scope 3 (as outlined above)	3	Grey Fleet Transport		31
Waste			43		
Water			8		
3 Total		82			
Total – all scopes	Annual TCO ₂	Intensity Ratio (Staff Headcount)	Intensity Ratio (Staff FTE)		
	1,124	1.46	2.14		

2019/20 ACADEMIC YEAR

The information set out below is included for comparative purposes. This uses the **2019/20** academic year as a base year.

The energy consumption (kWh and fuel consumption) used to calculate scope 1 and 2 emissions set out below is **4,477,744**. This is comprised as follows:

Emission scope 1 and 2 (kwh):	4,902,037
Minus Market based Renewable Energy at	-432,826
Total	4,469,211
Emission scope 1 (fuel consumption):	8,533
Total	4,477,744

EMISSIONS	TOTAL (TCO _{2e})				
	Emission Type	Emission Group	Emission sub-group	Emission Sub-category	2019/20
Scope 1 and 2	1	Fuel	Gas	Natural Gas	482
		Transport	Own Fleet	Diesel mini vans	22
	2	Fuel	Electricity	Grid electricity	584
				Market based renewable energy certificates	-111
				Self generated renewable electricity	0
	Grand Total				
Scope 3 (as outlined above)	Emission Scope	Emission Type		2019/20	
		3	Grey Fleet Transport		58
	Waste		7		
	Water		8		
3 Total				73	
Total – all scopes	Annual TCo ₂	Intensity Ratio (Staff Headcount)	Intensity Ratio (Staff FTE)		
	1,050	1.30	2.00		

METHODOLOGIES AND EMISSION FACTORS

This report and methodologies used within have been produced in line with the 2020 Government Environmental Reporting Guidelines and GHG reporting protocols.

Emissions calculations are based on the UK Government conversion factors for the relevant year(s) as provided by the Department for Business, Energy and Industrial Strategy.

INTENSITY RATIOS

The college has chosen to use TCO2e per staff member as the intensity ratio in the report to align with the recommended ratio for the sector. This is displayed as both headcount and FTE.

MEASURES TAKEN TO IMPROVE ENERGY EFFICIENCY

The below provides a summary of key points relating to the measures that Gloucestershire College has taken to improve energy efficiency to date:

A significant energy saving project commenced in November 2021 relating to the Gloucester and Cheltenham campuses. £2.5M funds were secured via the Public Sector Decarbonisation Scheme. The project includes:
 Drilling boreholes for heat pumps to generate renewable electricity to heat the college buildings
 Installation of solar panels to generate electricity
 Installation of battery storage and smart energy controls to balance the energy consumption.
 It is anticipated that the project will be completed by Summer 2022.

We have continued with the savings already achieved through :

What have we done?	
Energy	<ul style="list-style-type: none"> ✓ Move to thin client for PCs – less electricity usage ✓ Lights replaced when end life with LED lighting ✓ New Gas and Electricity contract implemented 1st October 2016 with additional half hourly metering implemented to more closely monitor and control usage ✓ Introduced access card control on all Gloucester lifts which has reduced excessive use by non-essential users ✓ All new project work has sensors installed, LED lighting running at 20% energy consumption of the former lighting. ✓ Altered on/off timers and installed additional controllers to reduce the running speed of the heating and extraction systems in Glos. ✓ Since 2016, the new energy contract is providing online reporting of all college sites. ✓ Automated total campus heating on/off criteria introduced and published to all staff and now in operation ✓ BMS systems implemented
Waste	<ul style="list-style-type: none"> ✓ All sites use compactor and recycle off site ✓ Reduced number of bins for more sustainable recycling ✓ Print defaults to Black and White ✓ Print usage and monitoring ✓ Priority for unwanted furniture reuse to staff and community groups
Water	<ul style="list-style-type: none"> ✓ New taps – do not allow to leave tap running ✓ Move to short/long flush boxes as upgrades made to toilets ✓ All adjustable taps now adjusted to lower run times ✓ Three toilets refurbished 18-19
Catering	<ul style="list-style-type: none"> ✓ Reduced single use plastics in catering service. ✓ Reusable coffee cups ✓ Paper straws ✓ Wooden forks ✓ Non-meat options - education
Travel	<ul style="list-style-type: none"> ✓ Bus travel subsidy schemes for students (stagecoach) ✓ Agree stagecoach routes each year ✓ Travel claims – additional premium where take extra passenger ✓ Car park enforcement ✓ Roll out of teams and virtual meetings ✓ Consideration of minibus replacement to low carbon alternative
Procurement (under review)	<ul style="list-style-type: none"> ✓ Consider full life costs (source to end-of-life) when making purchasing decisions – aimed at reducing negative impacts on Co2 emissions, waste management and water consumption. ✓ Avoid use of hazardous substances. ✓ Encourage suppliers to commit to improving environmental performance. ✓ Ensure sustainability is embedded within the design and construction process for building or refurbishments. ✓ Consideration of packaging costs and removal.