GATESHEAD COLLEGE
EDUCATION WITH EMPLOYMENT EDGE

Gateshead College
Streamlined Energy Carbon Reporting Results
01 August 2021 to 31st July 2022

Energy Source	Consumption	Scope	Emissions Calculations
Gas - Total kWh (kilowatt - hours) used for the year, taken from gas bills for each site	**1,759,443 kWh** (gross CV calorific value)	Scope 1	1,759,443 kWh * 0.18316 (2021 fuels, natural gas conversion factor gross CV to kg CO2e) = 322,260 kg CO2e **= 322.26 tCO2e**
Electricity total kWh used for the year, taken from the electricity bills for each site	**2,370,083 kWh** (gross CV calorific value)	Scope 2	2,370,083 kWh * 0.21233 (2021 UK Electricity conversion factor to kg CO2e) = 503,240 kg CO2e **= 503.24 tCO2e**
Transport Minibus - 0 Miles New Van - 4609 Miles Old Van - 717 Miles **Total Miles = 5326**	5326 miles * 1.17682 (2021 SECR kWh pass & delivery vehicles, van class 2 used in lieu of passenger vehicles conversion) **= 6,268 kWh**	Scope 1	5326 miles = 8571 km 8571 km * 0.18315 (2021 managed assets vehicles, vans class 2 - used in lieu of passenger vehicles conversion) = 1569 .78 kg CO2e **= 1.57 tCO2e**
Transport - total mileage for petrol reimbursed from staff claims **staff car mileage = 68,984 miles**	68,984 miles * 1.16071 (2021 SECR kWh passenger and delivery vehicles, average car conversion factor to kWh) **= 80,070 kWh**	Scope 3	68,984 miles x 0.28053 (2021 managed assets vehicles average car conversion factor to kg CO2e) = 19,352 kg CO2e **= 19.35 tCO2e**
Total	**4,215,864 kWh**		**846.42 tCO2e**
Intensity ratio - Emissions data (tCO2e) compared with an appropriate business activity (staff numbers)	Full Time Staff = 286 Part Time staff = 174 Casual Staff = 54 **Total College staff = 514** **FTE Total = 445** Contracted staff = 16 Tenant staff = 73 **FTE Total = 66** **Total Staff = 603** **OVERALL TOTAL FTE = 511**		846.42 tCO2e / 511 members of staff (FTE) **= 1.66 tCO2e per staff member**

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Greenhouse gas emissions and energy use data for the period 01 August 2021 to 31st July 2022	2021 / 2022	2020 / 2021	Change (+ve/(-ve))
Energy consumption used to calculate emissions (kWh)	4,215,864	4,485,475	269,611
Energy consumption break down (kWh)			
Gas	1,759,443	2,172,323	412,880
Electricity	2,370,083	2,244,916	(125,167)
Transport Fuel	86,338	68,236	(18,102)
Scope 1 emissions in metric tonnes CO2e			
Gas Consumption	322.26	397.88	75.62
Owned Transport	1.57	2.75	1.18
Total Scope 1	323.83	400.63	76.80
Scope 2 emissions in metric tonnes CO2e			
Purchased Electricity	503.24	476.66	(26.58)
Scope 3 emissions in Metric tonnes CO2e			
Business travel in owned vehicles (This includes coach)	19.35	13.85	(5.50)
Total gross emissions in metric tonnes CO2e	**846.42**	891.14	44.72
Intensity ratio			
Tonnes CO2e per member of staff	**1.66**	1.77	0.11

Quantification and Reporting Methodology
We have followed the 2021 HM Government Environmental Reporting Guidelines. We have also used the GHG Reporting Protocol - Corporate Standard and have used the 2022 UK Government's Conversion factors for Company Reporting.

Intensity Measurement
The chosen intensity measurement ratio is total gross emissions in metric tonnes CO2e per staff member (FTE), the recommended ratio for the sector.

Measures taken to improve energy efficiency

1. Reduced transport journeys including deliveries, movement between sites and also other College transport related requirements.
2. Signed a long-term agreement to utilise Gateshead Energy Company's District Energy Centre, to supply heat and power to the Baltic Campus site. As part of a Council Salix bid, to also join the Academy for Sport building to the District Energy Centre. A private wire network was installed from June 2022 and the heat connection took place in February 2023. Gateshead Energy Company are also installing 2 x PV farms and installing technologies to use below ground pumped mine water to pre heat systems which will link to the overall system and further decarbonise the energy infrastructure.
3. Gateshead Energy Company are also undertaking an options appraisal to determine whether they can install a new District Energy Centre to the Team Valley area of Gateshead, which potentially would include the 2 x Gateshead College locations.
4. New BMS system and controllers have been installed which will assist to maximise efficiency and effectiveness of energy usage.
5. Continued with the approach to replace all T5 lighting at the College locations and replace with energy efficient LED lighting and controls. This process will continue into 2023 / 2024.
6. Installed new low energy pumps to heating systems at the Baltic campus. Also installed energy efficient motors to the Air Handling units and looking to replicate this at other sites.
7. A successful bid was made from Salix for the production of heat decarbonisation plans. These are now in place.

Next steps/further action

1. Further work has been undertaken with the building management systems (BMS) to achieve greater efficiency.
2. The College continues to explore opportunities to bid effectively for funding through the Government's Public Sector Decarbonisation Scheme. The College submitted a bid that was approved for funding in 2022 but decided not to progress the project as the level of funding was relatively low compared to the overall cost of the project and the opportunity cost could not be justified.
3. Work is ongoing to evaluate projects that can be funded from FE Capital Transformation Funds and FE Reclassification Capital Grants that have been awarded by the DfE. Projects under consideration will address energy efficiency and building condition concerns including improvements to heating, ventilation and air conditioning systems, additional LED lighting and system control software and solar PV to the upper level of the multi-storey car park at the Baltic Campus.
4. The College has implemented an energy consumption key performance indicator and is working to deliver a 5% year on year reduction in energy consumption. Progress towards achieving this target is reported to the Finance and General Purposes Committee.