



GATESHEAD COLLEGE STREAMLINED ENERGY CARBON REPORTING RESULTS

1st August 2020 to 31st July 2021

Energy Source	Consumption	Scope	Emissions Calculations
Gas - Total kWh (kilowatt - hours) used for the year, taken from gas bills for each site	2,172,323 kWh (gross CV calorific value)	Scope 1	2,172,323 kWh * 0.18316 (2021 fuels, natural gas conversion factor gross CV to kg CO2e) = 397,882 kg CO2e = 397.88 tCO2e
Electricity total kWh used for the year, taken from the electricity bills for each site	2,244,916 kWh (gross CV calorific value)	Scope 2	2,244,916 kWh * 0.21233 (2021 UK Electricity conversion factor to kg CO2e) = 476,633 kgCO2e = 476.66 tCO2e
Transport Minibus - 50 Miles New Van - 6124 Miles Old Van - 3125 Miles Total Miles = 9299	9299 miles * 1.17682 (2021 SECR kWh pass & delivery vehicles, van class 2 used in lieu of passenger vehicles conversion) = 10,943 kWh	Scope 1	9,299 miles = 14,965 km 14965 km * 0.18315 (2021 managed assets vehicles, vans class 2 - used in lieu of passenger vehicles conversion) = 2740 .84 kg CO2 e = 2.75 tCO2e

Transport - total mileage for petrol reimbursed from staff claims = 49360 miles	49,360 miles * 1.16071 (2021 SECR kWh passenger and delivery vehicles, average car conversion factor to kWh) = 57,293kWh	Scope 3	49,360 miles x 0.28053 (2021 managed assets vehicles average car conversion factor to kgCO2e) = 1 3,847 kgCO2e = 13.85 tCO2e
Total	4,485,475 kWh		891.14 tCO2e
Intensity ratio - Emissions data (tCO2e) compared with an appropriate business activity (staff numbers)	Full Time Staff = 259 Part Time staff = 195 Casual Staff = 63 Total College staff = 517 Contracted staff = 13 Tenant staff = 81 Total Staff = 611		891.14 tCO2e / 611 members of staff = 1.46 tCO2e per staff member

Greenhouse gas emissions and energy use data for the period 01 August to 31st July 2021	2020 /2021
Energy consumption used to calculate emissions (kWh)	4,485,475
Energy consumption break down (kWh)	
Gas	2,172,323
Electricity	2,244,916
Transport Fuel	68,236
Scope 1 emissions in metric tonnes CO2e	
Gas Consumption	397.88
Owned Transport	2.75
Total Scope 1	400.63
Scope 2 emissions in metric tonnes CO2e	
Purchased Electricity	476.66

Scope 3 emissions in Metric tonnes CO2e	
Business travel in owned vehicles (This includes coach)	13.85
Total gross emissions in metric tonnes CO2e	891.14
Intensity ratio	
Tonnes CO2e per member of staff	1.46

Quantification and reporting methodology

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

Measures taken to improve energy efficiency

1. Reduced deliveries to sites
2. Utilise Gateshead Council's District Energy Centre to supply heat and power to the Baltic Campus site and as part of a joint Salix bid, also plan to join the Academy for Sport building to the District Energy Centre. Gateshead Energy Company are 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 systems.
3. Exploring potential for further increase of the use of the District Energy Centre at other college sites.
4. Looking to install new BMS system and controllers to maximise efficiency and effectiveness in order to control and limit energy usage.
5. Replacing all T5 lighting at the Baltic Campus with LED Lighting. This approach to be mirrored at the other College sites including installation of LED Emergency light fittings.
6. Installed additional PIR devices across the college sites.
7. Ensure plant room PIR light fittings are set to ensure maximum efficiency is received.
8. Submitted Phase 2 Public Sector Decarbonisation scheme bid (PSDS) which was ultimately unsuccessful but will be reapplying again under Phase 4. In the meantime, applied for and awarded funding totalling £ 9456.00 to produce Heat Decarbonisation Plans for the 4 x college sites. This information will then be used to potentially make a new PSDS submission.
9. Installed new energy efficient direct drive motors to the Air Handling Units at the Baltic Campus and Academy for Sport buildings. This will save on energy consumption and maintenance requirement.

10. Install new heating pump systems at the various campuses.
11. Replace thermal insulations jackets across the plant rooms.
12. Driving less business miles - more virtual meetings.