

# wakefieldcollege

## Streamlined Energy and Carbon Report 2019 - 2020



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Executive Owner: Executive Director of Finance and Resources  
Lead Reviewer: Director of Estates  
Reviewers: Sustainability Forum  
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## **1.0 Introduction.**

This first Streamlined Energy and Carbon Report (SECR) is Wakefield College's response to The Companies (Directors Report) and Limited Liability Partnership (Energy and Carbon Report Regulations 2018) that encompass March 2019 Environmental Reporting Guidelines. These regulations require the College to provide a streamlined energy and carbon report that is designed to increase awareness of energy costs, provide data to support the adoption of energy efficiency measures and to help organisations to reduce their impact on climate change. The report will also provide greater transparency for stakeholders.

In line with the Guidance for SECR for colleges, the figures contained in this report are calculated in accordance with UK Government GHG factors for company reporting. The College calculates its carbon footprint annually and reports the data to our Board of Governors as part of our performance monitoring of the Carbon Management Plan (CMP). The data also provides key performance indicators (KPI) within our termly business review (Estates) and Sustainability Forum. These KPIs increase awareness of energy costs within the College and inform how the adoption of energy reduction measures has improved the efficiency and reduced the College's impact on climate change. The report also provides greater transparency for stakeholders. The College has voluntarily created this SECR and supports the ESFA desire for carbon reduction within the sector.

## **2.0 Measured Consumption.**

This first iteration of Wakefield College's SECR will use the data for the year 1<sup>st</sup> August 2019 to 31<sup>st</sup> July 2020. Future submissions will allow prior years' equivalent figures to be disclosed for comparison. The emissions are reported from all leased and controlled assets for which Wakefield College is responsible. Emissions have been calculated and reported in accordance with their individual scope and classification as advised by UK Government GHG (Green House Gas) conversion factors for company reporting 2020, that result predominantly from the delivery of the College's core activities of teaching and learning. In circumstances where recorded data is not available a justifiable method of estimation has been applied based on the context of use and end user knowledge.

Gas consumption is recorded in kWh and readings are taken from verified invoices. Our description of "verified" means that actual meter readings have been taken on or around the billing period; the readings are checked against bills and forecast consumptions. Any differences are highlighted and investigated by the College's Utilities Officer.

Vehicle fuel is recorded from fuel receipts that are collated by the College Vehicle Technician. The cost of fuel and volume in litres is recorded and checked against AA Monthly Fuel Report (average price). This calculates the approximate amount of fuel, in litres, that has been used. Consumption is checked against anticipated mileage of each vehicle. The appropriate fuel GHG factor is used to calculate the CO<sub>2</sub>e.

Purchased electricity is recorded in kWh from verified invoices (see gas).

Business travel emissions are calculated in metric tonnes of CO<sub>2</sub> based on an overall mileage figure taken from paid mileage claims within the qualifying period. The College paid 40p per mile claimed as total reimbursement during this period. All recorded mileage is transferred into kilometres. The GHG Conversion factor used to calculate CO<sub>2</sub>e uses the average vehicle with unknown fuel consumption figure.

### 3.0 Progress.

The College has adopted the EAUC Sustainability Leadership Scorecard to monitor its sustainability performance. The latest review by the EAUC has resulted in the further development of the following Wakefield College documentation.

- Environmental Policy
- Carbon Management Plan
- Climate Control Policy
- Green Travel Plan

The College's Biodiversity Policy will be added within the next report.

The College's first Carbon Management Plan (CMP) targeted 30% reduction from our 2010 baseline. We achieved a mean figure of 29% reduction of carbon between 2010 and 2015. Our second CMP using 2015 baseline was to achieve a further 10% reduction of carbon emissions by 2020. The College achieved a staggering 43% reduction in carbon against the 2015 baseline. Overall, this equates to a reduction of carbon of 1653 tonnes over the 10 years. This was achieved by:

- **Utilisation:** The review of operational hours and the introduction of challenging booking for both internal and external customers. Improving the centralised timetable database to allow appropriate use of spaces and challenge inefficiencies.
- **Environment:** The creation and implementation of an environmental policy that identified the College's operational boundaries for heating and ventilation. This is supported by room information and how to operate controls locally. The introduction of responding to wasteful or inefficient practices has significantly impacted on reducing previously wasted energy.
- **Harrison Building Refurbishment:** 2011/12. The College invested £4.2m nett construction cost to refurbish and extend this tired building. We chose not to include fossil fuelled heating and ventilation in lieu of air source heat pumps supported by photovoltaic panels. This building achieved a **Very Good** rating under the BREEAM 2008: Education standard.
- **Photovoltaic Installation:** 2012 – Castleford. The Coalfields Regeneration Trust (CRT) supplied and installed free of charge PV panels to the Castleford Campus. The College benefits from the energy generated and the CRT benefit from the Feed in Tariff (FiT).
- **Salix Fund:** 2012/13 – LED Lighting. £348,000 funding awarded to replace inefficient lighting with LED.
- **Photovoltaic Installation:** 2013 – Castleford. The CRT installed an additional 50kw of PV.
- **Radcliffe Fenestration and Cladding:** 2013/14. The College has invested £2.1M nett construction cost as part of the property strategy to refresh the external face of the building. The cladding and windows replaced the poor-quality materials fitted to the building that was constructed in 1965. The cladding included super insulation of the main structure and the installation of triple glazed windows that reflect thermal gain and retain internal heat. Since completion, the gas consumption in this building has been reduced by 49%.
- **Procurement of College Fleet:** 2013-2016. The College has leased highly energy efficient pool cars and is in the process of replacing the people carrier and the older van stock and is looking to replacing the remaining minibuses.

- **Radcliffe Local Water Heaters:** 2015. Localised water heaters have been installed in this building at a cost of £15,400. Hot water is now generated at source and does not require a large hot water storage system, circulation pipes and pumps. This also significantly reduces legionella risks.
- **Installation of highly efficient boilers to Gissing Building:** 2017. This project reduced energy consumption and heat wastage from the campus network pipeline. This system heated numerous properties regardless of their hours of operation. The now independent operation of Gissing allows greater control that has reduced wasted energy.
- **ASIC:** 2017. The removal of a single story 1000m<sup>2</sup> property that had antiquated heating and ventilation and little insulation or energy control, replaced with a three storey 2176m<sup>2</sup> property that was built and achieved BREEAM excellent standard.
- **Installation of highly efficient boilers to Radcliffe Building:** 2018. The main boilers within Radcliffe were replaced with a highly efficient modular heating system. This was made possible by the super insulation of the property that was completed in 2013. This has resulted in a 60% reduction in the use of gas with an estimated saving of £45,000.
- **Building Management System (BMS)** 2019: All operational properties owned by the College now have BMS controls including Radcliffe, Gissing, and Beaumont. The BMS controls heating, ventilation, and lighting systems through our central computerised BMS.
- **Disposal of Thornes Park:** All operations ceased and were transferred to the Beaumont Building in August 2019. Thornes was then handed over to the new owners who purchased the site in 2018.
- **Beaumont Building Refurbishment:** 2019. The refurbishment of this 1920s property included double glazing, BMS controls, efficient radiant heating and significant insulation.
- **Decommissioning of F Block:** 2020. This inefficient property was vacated by students in February 2020. Most of this property is mothballed with water systems drained down and the heating and ventilation units on frost protect settings only.
- **Reduction in Carbon Factor:** The energy factor that identifies carbon content of purchased energy has significantly reduced for electricity as the National Grid have removed fossil fuel energy producers in lieu of green energy.

Our future aspirations include the purchase of energy to be from renewable resources where possible, maintain zero waste to landfill, increase PV generation on College-owned buildings, discourage single occupancy use of travel to College by providing viable alternative options (Green Travel Plan), improve recycling, upcycling and the disposal of equipment, revise procurement policies of the College to embed sustainability, provide infrastructure for alternative green travel options (Green Travel Plan), engage the College community about sustainability and eradicate single use plastics.

#### 4.0 Performance Data.

The environmental impact data can be normalised by dividing the reported impact i.e. tonnes CO<sub>2</sub>e (tCO<sub>2</sub>e) by and appropriate metric e.g. units produced or staff number. The resulting normalised data is called an intensity ratio.

The intensity ratio facilitates:

- Comparison over time
- Comparison across different organisation sectors and products.

For consistency across the sector college corporations are encouraged to use tCO<sub>2</sub>e per staff member. The same ratio should be used each year for comparability.

The intensity ratios have been calculated using a staff total from payroll data attributable to 668 employees (510.34 Full Time Equivalent (FTE)) that were employed by the College on 31 July 2020 and the FTE of students during the academic year 2019/2020.

<b>Greenhouse Gas Emissions and energy use data for the period 1 August 2019 to 31 July 2020 – UK</b>		
<b>Scope 1 emissions in metric tonnes CO<sub>2</sub>e</b>		
Gas consumption	329.68	
Owned/Managed Transport – Diesel	17.63	
Owned/Managed Transport – Petrol	3.93	
<b>Total Scope 1</b>		<b>351.24</b>
<b>Scope 2 emissions in metric tonnes CO<sub>2</sub>e</b>		
Purchased Electricity	439.48	
<b>Total Scope 2</b>		<b>439.48</b>
<b>Scope 3 emissions in metric tonnes CO<sub>2</sub>e</b>		
Business travel in employee owned vehicles	15.23	
<b>Total Scope 3</b>		<b>15.23</b>
<b>Total gross emissions in metric tonnes CO<sub>2</sub>e</b>		<b>805.95</b>
<b>Intensity Ratio</b>		
Tonnes of CO <sub>2</sub> e per member of staff (All)	668.00	<b>1.21</b>
Tonnes of CO <sub>2</sub> e per member of staff (FTE)	510.34	<b>1.58</b>
Tonnes of CO <sub>2</sub> e per student 2019/2020 (FTE)	3873	<b>0.21</b>