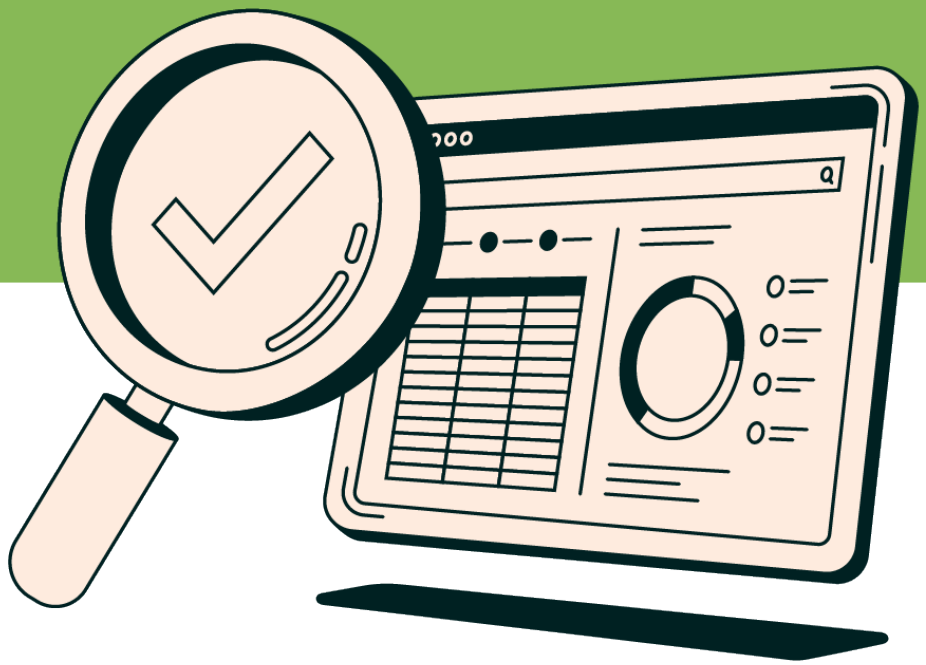
Streamlined Energy and Carbon Reporting

COLCHESTER INSTITUTE CORPORATION

Colchester Institute, Sheepen Road, Colchester, Essex, CO3 3LL

Reporting Period: 1st August 2024– 31st July 2025



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Verification and Assurance

While there is no requirement in SECR legislation for emission and energy use data or the narrative to be independently assured, it is regarded as best practice.

The contents of this report have been assurance checked for accuracy, completeness, and consistency of energy use, emissions data, and energy efficiency actions by a qualified energy professional, independent of the author.

This report:

- Has a reporting period consistent with the College's annual financial statements.
- Has been prepared in line with HM Government *Environmental Reporting Guidelines: including streamlined energy and carbon reporting guidance (March 2019)*.
- Is based on information received from various sources, both internally and externally of the business, and contains as far as practically possible, no material misstatements.

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1 Summary Report

Company Information
COLCHESTER INSTITUTE CORPORATION was established under The Further and Higher Education Act 1992 to conduct Colchester Institute. Colchester Institute is an exempt charity for Part 3 of the Charities Act 2011 with the main college campus at Colchester Institute, Sheepen Road, Colchester, Essex, CO3 3LL, and a secondary college campus at Church Lane, Braintree, Essex CM7 5SN plus 4 other outreach delivery sites.

Reporting period
1st August 2024 – 31st July 2025, corresponding with the academic and financial accounting period.

Reasons for Change in Emissions
During the fifth year of reporting under SECR, natural gas and electricity emissions have reduced significantly since the base year 2020-21. However combustion of fuel for transport has increased in line with college activity levels. There has been a significant decrease in gross emissions overall since the base year, with an overall reduction of 33% (525 tonnes of CO2e) since the base year.

There was an increase in carbon emissions during the year (46 tonnes of CO2e) compared with the previous period due to a one-off planned renewal of air conditioning systems at the Colchester Campus Data Centre, causing carbon emissions for refrigerants to increase by 75 tonnes of CO2e. This is expected to have considerable beneficial impacts on electricity consumption over the next 10 – 15 years. Emissions from natural gas also increased in the year in line with college activity levels, but this was offset by a reduction in electricity emissions.

Business travel
Activities relating to travel are limited to company-owned vehicles and employee-owned vehicles for business uses.

Quantification and Reporting Methodology
HM Government Environmental Reporting Guidelines: including streamlined energy and carbon reporting guidance (March 2019) has been used for the collation of data sources and reporting of emissions. UK Government GHG Conversion Factors for Company Reporting has been used for the reporting of emissions, using the 2025 version.

Organisational boundary
The financial boundary of the business has been used to determine the reporting boundary.

Operational scope
Measurements include mandatory scope 1, 2 and 3 emissions. Negligible estimates have been made with the collation of data.

Exclusions
There are no data exclusions in this reporting period.

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Base Year
The base year is August 2020 – July 2021 and the gross reported emissions during that period were 1,598 tonnes of CO2e. The emissions for the current period show a significant reduction of 525 tonnes of CO2e compared to the base year, which is mainly due to the reduction in natural gas and electricity consumption.

Target setting & Responsibilities
The target is to reduce gross scope 1 and 2 emissions in tonnes of CO2e per number of staff members by 2 to 5% per year. The improvement in performance of the current period compared to the base year was 33%, against a published interim target of a 50% reduction by 2030.

Intensity Measurement
The reporting metric chosen is gross scope 1, 2, and 3 emissions in tonnes of CO2e per number of staff members, as this best reflects college activity. The intensity measurement will be reported each year, with a comparison made against the previous year's performance.

Carbon Offsetting
Electricity purchased on a green contract, certified by REGOs has been considered in this report. Additionally, on-site generation through solar PV panels installed in five of the campus buildings has also been included in this report.

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SCOPE 1 CO_2e (tonnes)	% estimated	Exclusions (%)	2020/21	2021/22	2022/23	2023/24	2024/25
Natural Gas	0%	None	726.20	608.95	537.82	460.66	517.24
Combustion of fuel for transport purposes	0%	None	2.21	3.13	5.59	6.08	8.40
Refrigeration, air conditioning equipment and heat pumps	0%	None	155.08	14.62	0.00	6.20	81.15
Total Scope 1	**0**		**883.49**	**626.71**	**543.41**	**472.93**	**606.79**
SCOPE 2 CO_2e (tonnes)	**% estimated**	**Exclusions (%)**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
Purchased Electricity	0%	None	637.45	324.38	511.61	485.55	400.41
Total Scope 2	0		637.45	324.38	511.61	485.55	400.41
SCOPE 3 CO_2e (tonnes)	**% estimated**	**Exclusions (%)**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
Grey Fleet	0	None	20.66	23.10	24.67	25.27	23.75
Transmission & Distribution Losses	0	None	56.41	29.67	44.26	42.92	41.92
Total Scope 3			77.07	52.78	68.93	68.19	65.67
TOTAL CO_2e Scope 1, 2, 3 Gross emissions (tonnes)	1,598.01	1,003.86	1,123.94	1,026.68	1,072.87		
Intensity Metric gross measure per number of staff			773.00	750.00	765.00	751.00	793.00
Intensity Metric (gross emissions) tCO_2e gross figure / # of staff			2.07	1.34	1.47	1.37	1.35
Energy Consumption			**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
kWh			7,060,237.56	5,119,139.69	5,616,832.33	5,254,472.88	5,422,340.45
Intensity Metric (Net Emissions)			**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
Scope 1, 2, 3 emissions (Gross) tCO_2e			1,598.01	1,003.86	1,123.94	1,026.68	1,072.87
Carbon Offsets			0.00	276.34	511.61	485.55	400.41
TOTAL CO_2e Scope 1, 2, 3 Net emissions (tonnes)			1,598.01	727.52	612.33	541.12	672.46
Intensity Metric (Net emissions) tCO_2e/ # of staff			2.07	0.97	0.80	0.72	0.85

Figure 1: Emissions summary

2 Energy Efficiency Actions

In the reporting period 1st August 2024 – 31st July 2025 Colchester Institute has made efforts to minimise energy consumption and improve sustainability awareness by undertaking the following projects:

- Completion and launch of the Net Zero and Renewables Centre at Colchester Campus in September 2024
- Replaced 100 outdated PC's with high efficiency PCs and display panels
- Replaced 20 inefficient projectors with more efficient Samsung interactive screens
- Retired an outdated and inefficient walk-in freezer
- Undertaken further LED lighting replacements across Colchester including J Block
- Replaced inefficient halogen lights with LED sensor lights in Colchester staff car park
- Refurbishment of block J toilets including new hand drying equipment and water saving sanitary ware
- Downsized the number of corridor printers on site and moved to a cold print solution to reduce energy consumption by 70%
- Upgraded the main data centre in Colchester including replacing core switch, backup systems and air conditioning units to save energy
- Enabled auto-off scripts that run at 6pm every night to ensure PC's, AV systems and Printers turn off at night to reduce residual consumption
- Implementing enhanced digital hardware / software reporting to control effective distribution and utilisation of end user compute.
- Replacement of 3 diesel college pool cars with electric vehicles.
- Planted 133 tree saplings at Colchester Campus
- No mow May and No mow June initiatives

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Introduction to the Reporting Regulations

The Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 introduced changes to require quoted companies to report their annual emissions and an intensity ratio in their Directors' Report.

Under changes made by the 2018 Regulations, unquoted companies incorporated in the UK which are required to prepare a Directors' Report under Part 15 of the Companies Act 2006, and which are "large" (see below) are required to prepare and file energy and carbon information in their Directors' Reports. This applies to both registered companies and unregistered companies that are required to prepare company accounts and reports.

Under the 2018 Regulations, LLPs which are "large" are also required to prepare and file energy and carbon information in their accounts and reports (in a new 'Energy and Carbon Report').

The definition of "large" is the same as applies in the existing framework for annual accounts and reports, based on sections 465 and 466 of the Companies Act 2006.

The qualifying conditions are met by a company or LLP in a year in which it satisfies two or more of the following requirements:

- Turnover of £36 million or more
- Balance sheet total £18 million or more
- Number of employees 250 or more

Mandatory data and additional voluntary information that is likely to be useful to qualify organisations and a wide range of stakeholders are to be reported. Each period covers one financial reporting year, starting with the first financial year which commences on or after 1st January 2020.

The legislation affects:

- quoted companies
- large unquoted companies (including charitable companies)
- large Limited Liability Partnerships (LLPs).

Companies incorporated outside of the United Kingdom are not required to include energy and carbon information in their Directors' Report under this legislation, including foreign parent companies of UK subsidiaries.

Under changes introduced by the 2018 Regulations, large unquoted companies and large LLPs are obliged to report their UK energy use and associated greenhouse gas emissions as a minimum relating to gas, electricity and transport fuel, as well as an intensity ratio and information relating to energy efficiency action, through their annual reports.

If reporting at group level, for a financial year for which it is required to prepare a group Directors' Report when making energy and carbon disclosures, the report must include the information of any subsidiaries included in the consolidation which are quoted companies, unquoted companies or LLPs.

A corporate group is defined in sections 1158 to 1162 of the Companies Act 2006.

3 Organisational Boundary

The organisational boundary can be defined in either financial or operational terms. In most cases, whether an operation is controlled by the organisation or not does not vary based on whether the financial control or operational control approach is used.

Financial control

An organisation has financial control over the operation if it directly or indirectly can direct the financial and operating policies of that organisation. An organisation has financial control over an operation for environmental reporting purposes if the operation is considered a subsidiary for financial reporting.

Operational control

An organisation has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. Such arrangements commonly arise in the oil and gas industry, where one of the investors in a joint venture or consortium is nominated to operate the joint venture activity on behalf of other investors.

Reporting is carried out at the Colchester Institute Corporation level. The organogram below shows the corporate structure.

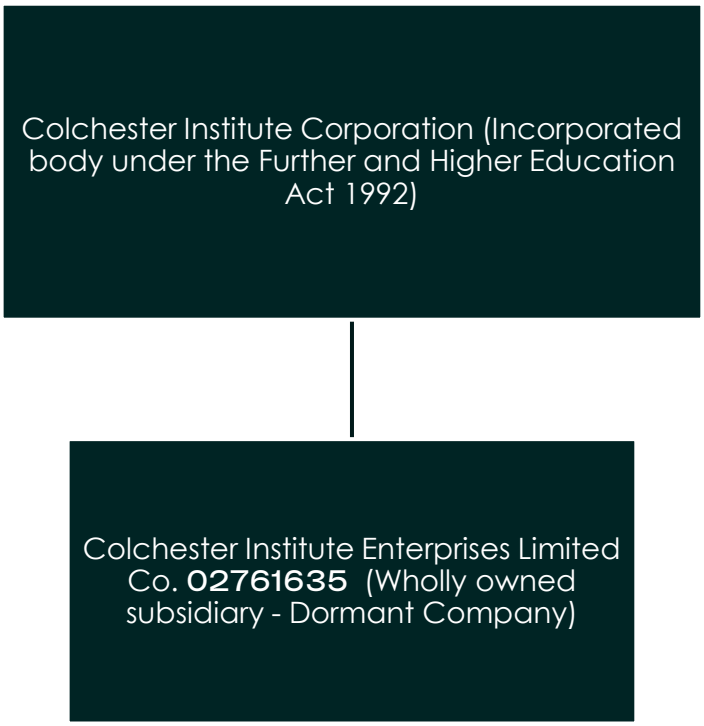

Figure 2: Corporate Organogram

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4 Reporting Period and Reporting Scopes

The reporting period should be for 12 months and ideally correspond with the financial year. This allows for an easier comparison of financial performance with other aspects of performance.

This reporting period falls in line with the financial year.

The scope of reporting covers all UK energy use, which involves:

- Combustion of gases (natural gas, methane, propane, butane, hydrogen etc.)
- Purchase of electricity for the company's own use
- Transport
    - Fuel used in company cars for business use
    - Fuel used in fleet vehicles which you operate on business use.
    - Fuel used in personal/hire cars for business use.
    - Fuel used in private jets, fleet aircraft, trains, ships, or drilling platforms.
    - Onsite transport such as fork-lift trucks.
- Any significant business activity contributing to environmental emissions

	In Scope	Out of scope
Emissions	**Scope 1** – Direct emissions: Combustible gases, kerosene heating oil, Owned vehicles	None
	Scope 2 – Indirect emissions: purchased electricity	None
	Scope 3 – Other indirect emissions relating to electricity transmission and distribution losses, and private vehicles used for work purposes	Employee commuting, emissions from hotel accommodation, couriers, and suppliers

Figure 3: Report scope summary

Scope 1

(Direct emissions): Emissions from activities owned or controlled that release emissions into the atmosphere. These can include combustion of natural gas, propane, butane, or hydrogen and road vehicles owned (including leased) by the company.

Scope 2

(Energy indirect): Emissions released into the atmosphere associated with the consumption of purchased electricity. These are indirect emissions that are a consequence of the organisation's activities, but which occur at sources the organisation does not own or control (i.e. emissions generated from the production of grid electricity).

Scope 3

(Other indirect): Emissions that are a consequence of activities, which occur at sources that the business does not own or control and which are not classed as scope 1 or 2 emissions. This can include road transport not owned (employee cars).

5 Calculation Approach

Data quality is an important part of the emission calculation process. The higher the data quality submitted, the more accurate and meaningful the calculated emission values become. Resource use that cannot accurately be measured cannot accurately be managed, so robust data collection methodologies are vital. While this appears to be a fundamental statement, many organisations do not currently collect or monitor their energy and resource consumption.

There are three important aspects of data quality to consider when calculating emissions values.

Source

The consumption figures supplied and the sources of data (e.g. kWh consumption of electricity from meter readings or spend on fuel from receipts for a company car).

Completeness

The period the data considers and the coverage within the business. This report rates each piece of information provided for the calculation of the emission values following a three-tier traffic light system. All pieces of data will be categorised by source (as primary, secondary, or spend) and by completeness, as per the definitions below:

Primary: Actual consumption of fuel/energy / or product with the appropriate units

Secondary: Data which can be converted into fuel/energy/product consumption simply i.e. mileage, bags of waste, etc

Spend: Data that can be approximated to consumption through a series of assumptions which include several other factors i.e. VAT, levies, and other taxes.

Quality

The quality of data is very important and should be based on actual readings rather than estimated data. The table below explains data quality:

	Good quality data Primary data sources have been used. Data completeness and accuracy are high
	Average data quality Mixed primary and secondary data sources. Limited extrapolation with average completeness and accuracy
	Poor data quality High levels of estimation and benchmarking. Poor completeness and accuracy

Figure 4: Data quality definition

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6 Data Quality

Figure 5 presents the raw data sources used to calculate emissions and the corresponding data quality rating for the information received.

Operational area	Emissions source	Raw data supplied	Unit	Data status	Notes
Premises	Natural Gas	Billing	kWh		Monthly consumption has been provided in an Excel sheet.
	Electricity Purchased	Billing	kWh		Monthly consumption has been provided in an Excel sheet.
	Self-Generated Electricity (Solar)	Meter Read	kWh		Meter reading provided from solar inverters.
	Refrigerant gasses	F-Gas Register	Kg Refrigerant		Actual refrigerant top-ups.
Company Vehicles	Company-owned leased vehicles	Fuel Card Statements	Litres		Fuel car statement summarising annual litres purchased.
Private vehicles	Cars	Accounts Summary	Miles		Total mileage claims with details of car size and type of fuel used.

Figure 5: Data quality summary

7 Emission Sources, Energy Use, and Carbon Emissions

Figure 6 summarises the energy use and gross carbon emissions in each reporting area.

Scope	Emissions Source	Operational Area	Energy (kWh)	Gross Emissions (tCO_2e)
Scope 1	Direct emissions arising from owned or leased stationary sources that consume fossil fuels	Natural Gas	2,827,075	517.24
	Direct emissions from owned or leased vehicles used on company business that consume fossil fuels	Company vehicles	23,297	8.40
	Direct emissions from refrigeration & air conditioning units	Fugitive emissions	-	81.15
Scope 2	Emissions from the generation of purchased electricity	Electricity	2,262,228	400.41
	Emissions from the self-generation of PV electricity		269,272	-
Scope 3	Electricity Transmission & Distribution	Electricity	-	41.92
	Private vehicles on company business	Private Cars	40,469	23.75
TOTAL			**5,422,340**	**1072.87**

Figure 6: Energy use and gross carbon emissions per reporting area

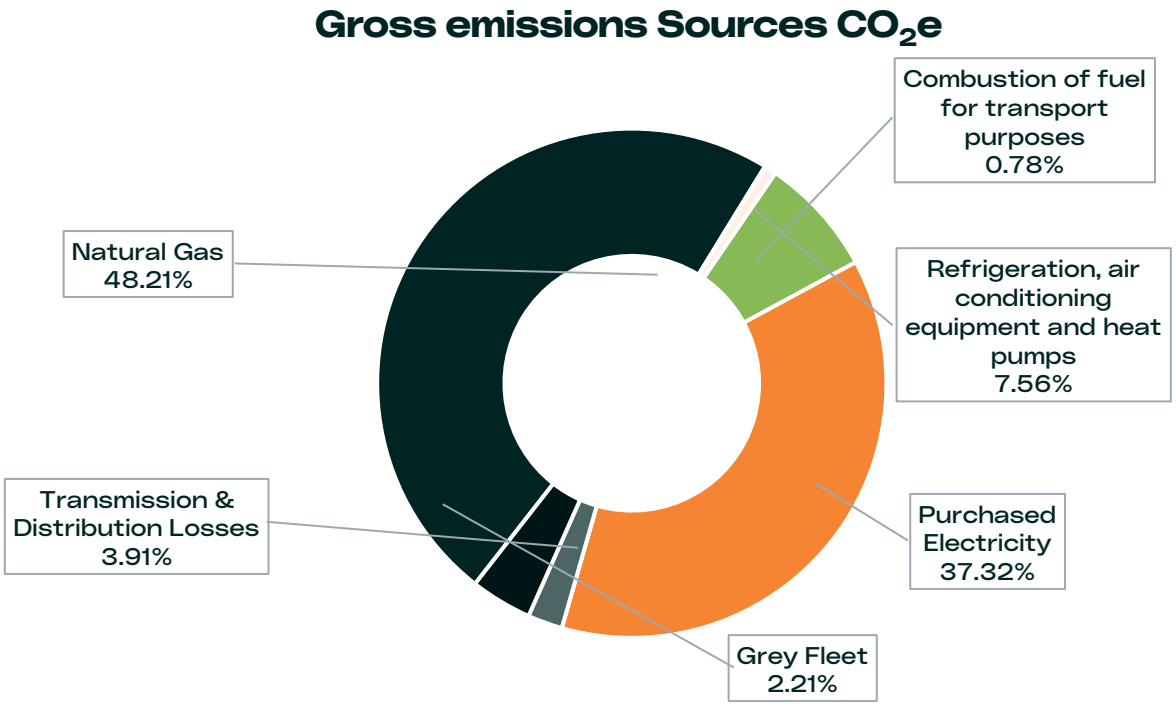

Figure 7: Energy/gross emissions summary

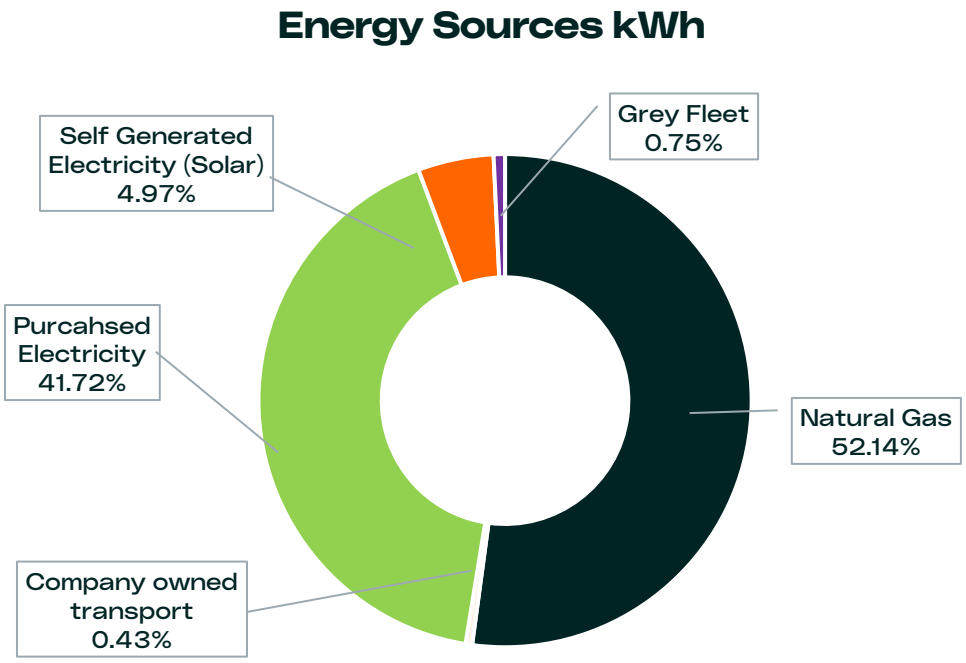

Figure 8: Energy source split

8 Intensity Ratio and Significant Change

To compare the emissions efficiency of the business year on year as the business changes, metrics have been used to analyse emissions and to measure progress.

These intensity metrics consider the growth of the business and are a measure of business performance and emissions.

The reporting metric chosen is gross scope 1, 2, and 3 emissions in tonnes of CO2e per number of staff members, as this best reflects college activity.

	2020/21 (BY)	2021/22	2022/23	2023/24	2024/25
Gross tCO_2e/ number of staff members	2.067	1.338	1.469	1.367	1.353
Change against base year (%)	**0**	**-35.00%**	**-29.00%**	**-34.00%**	**-34.55%**

9 Significant Changes

There is a significant reduction in the intensity ratio (Gross tCO_2e per number of staff members). It dropped 35% against the base year, which is mainly due to a reduction in emissions related to natural gas, electricity and refrigerant gasses.

As all purchased electricity is on a green contract, the Net tCO_2e per number of staff members intensity ratio has decreased by 58.98% since the base year.

10 Quantification and Reporting Methodology

Data has been collected from a variety of sources including utility providers, fuel card records and mileage records.

Data is collated on a single spreadsheet, with all calculations converted to CO_2 emissions.

11 Identification of Operations

Operations covered by this report include all sites and transport for Colchester Institute.

12 Specific Exclusion Details

No data has been excluded from the reporting.

13 Carbon Offsetting

Electricity purchased on a green contract, certified by REGOs has been considered in this report. Additionally, on-site generation through solar PV panels installed in five of the campus buildings has also been included in this report.

14 Target Setting and Responsibilities

The target is to reduce gross scope 1 and 2 emissions in tonnes of CO2e per number of staff members by 2 to 5% per year, with an interim target of a 50% reduction by 2030. The performance against the target will be reviewed annually.