

# **EAUC-Scotland Public Bodies Climate Change Duties Overview Report**

2020 Further & Higher Education Submissions  
Analysis & Recommendations

June 2021

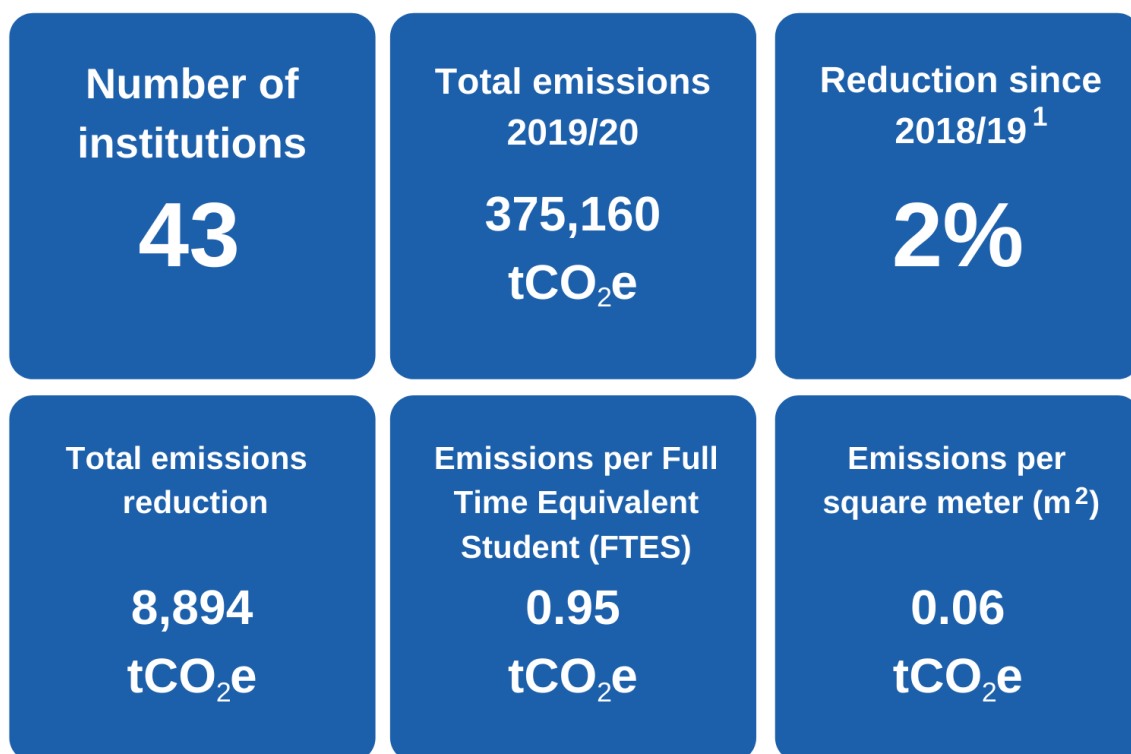
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## Executive Summary

Total greenhouse gas (GHG) emissions for the Further & Higher Education (FHE) sector reported during 2019/20 were 375,160 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e). Total reported emissions have only reduced by 2% since 2018/19 due to a significant expansion of operational reporting boundaries, without this change FHE sector emissions would have reduced by 17%. However, it should be noted that a portion of this reduction is due to the decarbonisation of the UK grid.

*Figure 1. Key figures for 2019/20*



Average emissions per square meter were 0.06 tonnes of CO<sub>2</sub>e, a reduction of 5% since 2018/19. Average emissions per Full Time Equivalent Student (FTES) were 0.95 tonnes of CO<sub>2</sub>e, an increase of 7% since 2018/19 due to the aforementioned changes to reporting boundaries.

There has been an improvement in the quality of reporting this year and several institutions expanded their operational reporting boundaries to include key sources of emissions (international student travel, domestic student travel, supply chain and hotel stays).

<sup>1</sup> Please note that without the expansion of reporting boundaries sector emissions would have reduced by 17%.

## Introduction

The Public Bodies Climate Change Duties (PBCCD) reports from 42 Scottish institutions were submitted for the fifth mandatory year on 30 November 2020. Due to the pandemic, two institutions missed the deadline this year but one was subsequently able to provide EAUC-Scotland with the relevant data and it has been included in this analysis report<sup>2</sup>. It is estimated that the remaining institution would account for less than 0.5 % of total emissions so the omission does not make a material impact on the total.

The data submitted predominantly covered the academic year 2019/20, which included the first lockdown from March to June 2020. This analysis report will summarise the data and provide comparisons between reporting periods for section three of the PBCCD reports.

Scotland's world-leading climate change legislation set a target date for net zero emissions of all greenhouse gases (GHGs) by 2045. In 2020, the [Climate Change \(Duties of Public Bodies: Reporting Requirements\) \(Scotland\) Amendment Order 2020](#) set out that from 2022 public bodies will be required to annually report:

- Target date for achieving zero direct emissions of greenhouse gases;
- Targets for reducing indirect emissions of greenhouse gases; and
- How the body will align its spending plans and use of resources to contribute to reducing emissions and delivering its emissions reduction targets.

In support of this, the College Development Network (CDN) has released a [Statement of Commitment on the Climate Emergency](#) which includes the ambition for Scotland's colleges to achieve net zero by 2040 or earlier. Universities have also seen carbon mitigation rise up their agenda and 8 Scottish universities have now signed the [UNFCCC Race to Zero](#).

EAUC-Scotland has continued to offer support to the sector to improve reporting, this year it included:

- Virtual training sessions on improving GHG emissions reporting;
- Group and one-to-one peer review sessions;
- [Guidance on revising baselines](#);
- Responding to the Scottish Parliament [Call for Views on the Climate Change Plan Update](#);

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<sup>2</sup> Please note this institution was not included in the [Sustainable Scotland Network PBCCD 2019/20 Analysis Report](#) therefore the totals differ.

- Establishing a Smaller Institutions Net Zero Working Group;
- Joining CDN's Climate Emergency Expert Group and supporting the development of the [Statement of Commitment on the Climate Emergency](#);
- Supporting Responsible Universities Group Scotland (RUGS) and the [Travel Better Package](#);
- Engaging with the Universities Scotland VP Internationals Group on sustainability reporting; and
- Co-ordinating the [Higher Education Supply Chain Emissions Tool \(HESCET\)](#) update.

## Case study: Dumfries & Galloway College

Sustainability Institution of the Year (Green Gown Awards 2020)

Dumfries & Galloway College has successfully embedded sustainability across the institution and collaborated with community and business partners to deliver climate change action across the South of Scotland. The college has declared a climate emergency and aims to be net zero by 2030.

Some key projects include: Green skills academy, digital learning regional collaboration, renewable technology (PV, turbines & heat pumps), student reuse hub & a ban on bottled water. [Further details available here.](#)



## Reporting Quality

As illustrated in Table 1, there continues to be a wide range of different operational reporting boundaries across the FHE sector. However, 100% of institutions are reporting the GHG emissions associated with premises energy consumption, 95% are reporting waste emissions, 93% are reporting water emissions and 81% are reporting business travel emissions.

**Table 1. Percentage of institutions reporting each source of emissions**

Emissions source	Number of institutions reporting	Percentage of total	Change since 2018/19
Energy	43	100%	-
Waste	41	95%	↑
Water	40	93%	-
Business travel	35	81%	↓
Fleet	29	67%	↓
Commuting	6	14%	↓
F-gas	10	23%	↑
International student travel	2	5%	↑
Domestic student travel	1	2%	↑
Supply chain	1	2%	↑
<b>Total</b>	<b>43</b>	-	-

The quality of the reports has improved again this year and SSN reported that fewer quality assurance checks were needed. Following feedback from EAUC-Scotland many institutions have expanded their operational reporting boundaries this year:

- One institution added waste;
- One institution added fleet;
- Four institutions added f-gas;
- Two institutions added hotel stays;
- One institution added international student travel;
- One institution added domestic student travel; and
- One institution added supply chain.

Due to the pandemic some institutions were not able to include all the sources of GHG emissions that they had previously reported:

- Three institutions omitted fleet;
- Two institutions omitted f-gas;
- Two institutions omitted business travel; and
- One institution omitted commuting.

These omissions were generally from smaller institutions and therefore should not make a material impact on the totals. In the case of fleet, changes are likely to be due to the transition to electric vehicles and changes to f-gas are expected every year as there will not always be leaks during the reporting period. However, student travel and supply chain are very significant additions and represent 15% of the reported total.

**Action:** EAUC-Scotland will continue to work with institutions to improve the quality of reporting and align operational reporting boundaries with best practice. The EAUC-Scotland Team will also support the [Climate Commission for UK Higher & Further Education](#) on work to improve sector GHG accounting methodologies and set minimum recommended operational reporting boundaries.

## Analysis

Total reported GHG emissions from the FHE sector in 2019/20 were 375,160 tonnes of CO<sub>2</sub>e. The majority arose from natural gas consumption which contributed 156,641 tonnes of CO<sub>2</sub>e or 42% of total emissions, followed by grid electricity consumption which accounted for 77,780 tCO<sub>2</sub>e or 21% of total emissions. Business travel contributed 36,859 tonnes of CO<sub>2</sub>e or 10% of total emissions and supply chain contributed 35,000 tonnes of CO<sub>2</sub>e or 9% of total emissions. A full breakdown of emissions can be seen in Table 2.

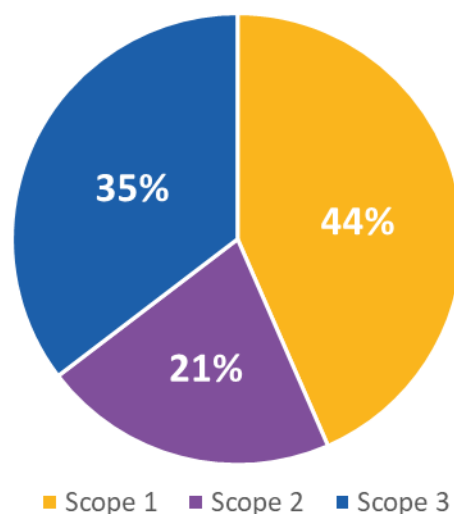
**Table 2: Total FHE sector emissions 2019/20**

Emissions source	2019/20 (tCO <sub>2</sub> e)	Percentage
<b>Scope 1</b>		
Natural gas	156,641	42%
Biomass	929	0.2%
Gas oil	1,898	0.5%
Other fuels	1,029	0.3%
Fleet vehicles	1,111	0.3%
F-gases	1,341	0.4%
<b>Subtotal</b>	<b>162,948</b>	<b>43%</b>
<b>Scope 2</b>		
Grid electricity	77,780	21%
Purchased heat	1,775	0.5%
<b>Subtotal</b>	<b>79,555</b>	<b>21%</b>
<b>Scope 3</b>		
Electricity transmission & distribution	6,678	2%
Heat transmission & distribution	93	0.02%
Waste	2,068	0.6%
Water	2,698	0.7%
Business travel - car	1,633	0.4%
Business travel - rail	755	0.2%
Business travel - taxi	157	0.04%
Business travel - bus	110	0.03%
Business travel - ferry	31	0.01%
Business travel - air	33,813	9%
Business travel - hotel stays	360	0.1%
Staff commuting	13,691	4%
Student commuting	9,209	2%
International student travel	25,982	7%
Domestic student travel	380	0.1%
Supply chain	35,000	9%
<b>Subtotal</b>	<b>132,657</b>	<b>35%</b>
<b>Total</b>	<b>375,160</b>	<b>100%</b>



As shown in Figure 2, in the reporting period 2019/20 Scope 1 sources account for 44% of total emissions, Scope 2 sources account of 21% of the total and Scope 3 sources account for the remaining 35%<sup>3</sup>.

**Figure 2: Breakdown of emissions by scope**



Between 2018/19 and 2019/20 the FHE sector achieved a reduction of 8,894 tonnes of CO<sub>2</sub>e, or 2% of total emissions. A breakdown of the percentage change in emissions for each source is shown in Table 3. The categories are slightly different from Table 2 as historic data is only available in this format.

**Table 3: Comparison of emissions between reporting periods**

Source of emissions	2015/16 (tCO <sub>2</sub> e)	2016/17 (tCO <sub>2</sub> e)	2017/18 (tCO <sub>2</sub> e)	2018/19 (tCO <sub>2</sub> e)	2019/20 (tCO <sub>2</sub> e)	Change since 2018/19
Electricity	187,033	162,582	126,098	105,071	86,233	-18%
Natural gas	159,067	153,610	156,464	157,860	156,641	-1%
Other heating fuel	4,531	3,105	4,010	3,711	2,926	-21%
F-gases	612	1,124	1,022	1,764	1,341	-24%
Waste and recycling	3,804	2,949	2,674	2,878	2,068	-28%
Water and sewerage	3,032	3,080	3,018	2,862	2,698	-6%
Business travel	79,041	83,355	77,498	68,528	36,859	-46%
Fleet	2,800	1,771	1,594	1,808	1,111	-39%
Commuting	13,283	13,284	27,279	32,677	22,900	-30%
Renewables	148	202	214	677	929	37%
Int. student travel	-	-	-	6,118	25,982	325%
Dom. student travel	-	-	-	-	380	-
Supply chain	-	-	-	-	35,000	-
Other	283	-	103	99	93	-6%
<b>Total</b>	<b>453,632</b>	<b>425,062</b>	<b>399,974</b>	<b>384,054</b>	<b>375,160</b>	<b>-2%</b>

The greatest reduction came from business travel which reduced by 46%, a significant portion of this reduction is due to pandemic related travel restrictions. There was also a 39% reduction in fleet emissions and a 30% reduction in commuting emissions. The emissions associated with grid electricity reduced by 18% however it should be noted that

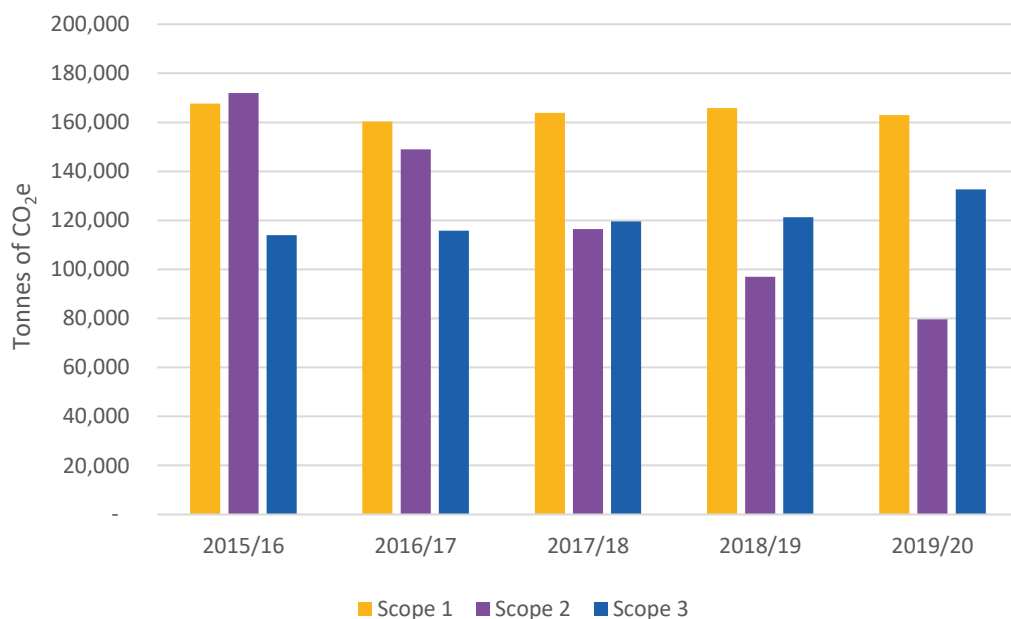
<sup>3</sup> Please note the slight discrepancy is due to rounding.

the carbon intensity of UK grid electricity reduced by 9% during the reporting period. The 37% increase in emissions from renewables is due to greater use of biomass. The 325% increase in international student travel emissions is due to a second institution expanding its reporting boundary to include this source of emissions. Emissions associated with supply chain, domestic student travel and hotel stays were also reported for the first time this year. These additions total 55,591 tonnes of CO<sub>2</sub>e and account for 15% of total emissions in 2019/20. Without this change, total emissions would have fallen by 64,485 tonnes of CO<sub>2</sub>e, or 17% since 2018/19.

A comparison of total emissions broken down by scope between reporting periods is shown in Figure 3. This shows that since PBCCD reporting began in 2015/16:

- Scope 1 emissions have reduced by 3%;
- Scope 2 emissions have reduced by 54%; and
- Scope 3 emissions have increased by 16%.

**Figure 3: Comparison of emissions broken down by scope between reporting periods**



Please note that a significant portion of the Scope 2 emissions reduction is the result of the decarbonisation of the UK electricity grid, which has reduced by 43% since 2016, and the increase in Scope 3 emissions is primarily due to the expansion in reporting boundaries<sup>4</sup>.

<sup>4</sup> See Reporting Quality section for further details (Page 6).

In comparison, it is concerning that Scope 1 emissions have only reduced by 3% since 2015/16. These are direct emissions and reducing them by decarbonising heat will be essential to meeting the Scottish Government's net zero targets.

**Action:** EAUC-Scotland will continue to support institutions to develop net zero plans, share best practice projects, signpost sources of funding and collaboration opportunities.

## Case study: University of St Andrews

The University of St Andrews has committed to be net zero by 2035 in its [Environmental Sustainability Strategy](#) and it is the first institution in the UK to include supply chain and international student travel emissions in its target. The university's Environmental Sustainability Board has set up working groups to look at:

- Students in the Community;
- Research;
- Sustainability in the Curriculum;
- Energy, Estates & Environment; and
- Operational Adaptation.

They have split emissions into four key streams (energy & estates, travel, construction & procurement) and will identify opportunities and challenges to deliver emissions reduction projects in each work stream. For residual emissions that cannot be reduced the university has launched the [St Andrews Forest](#), which will include tree planting and peatland restoration.



## Performance Metrics

As shown in Table 4, average FHE sector emissions during 2019/20 were 0.06 tonnes of CO<sub>2</sub>e per square meter and 0.95 tonnes of CO<sub>2</sub>e per Full Time Equivalent Student (FTES), a 5% reduction and 7% increase respectively since 2018/19. The increase in average emissions per FTES is due to the expansion of reporting boundaries<sup>5</sup>. The decrease in average emissions per square meter is because the institution that included supply chain and international student travel is research-based so therefore has a large campus which mitigates the impact of the additional emissions.

**Table 4. Performance metrics for 2019/20**

Performance metrics	2017/18	2018/19	2019/20	Change since 2018/19
<b>Colleges</b>				
Floor area (tCO <sub>2</sub> e/m <sup>2</sup> )	0.06	0.05	0.04	-18%
Students (FTES)	0.57	0.48	0.39	-17%
<b>Universities</b>				
Floor area (tCO <sub>2</sub> e/m <sup>2</sup> )	0.08	0.08	0.08	5%
Students (FTES)	1.60	1.51	1.79	18%
<b>FHE Sector</b>				
Floor area (tCO <sub>2</sub> e/m <sup>2</sup> )	0.07	0.06	0.06	-5%
Students (FTES)	0.96	0.89	0.95	7%

Colleges continue to have lower average emissions per square meter and FTES, due to differences in operational reporting boundaries and lower rates of business travel. Colleges also reported reductions in both metrics this year as the majority of institutions that expanded their operational reporting boundaries were universities.

These performance metrics will allow institutions to monitor relative progress between reporting periods and facilitate meaningful comparison between similar institutions.

**Action:** EAUC-Scotland will continue to encourage institutions to submit this data and improve the quality of the performance metrics. To support this work EAUC-Scotland will sit on the Advisory Group for the Scottish Government's Energy Benchmarking Initiative.

<sup>5</sup> See Reporting Quality section for further details (Page 6)

## Summary & Recommendations

The fifth mandatory year of the Public Bodies Climate Change Duties Reporting has again shown progression for colleges & universities with sustainability reporting.

Headline points to note:

- There was only a 2% decrease in FHE sector GHG emissions from 2018/19 to 2019/20 due to a significant expansion in reporting boundaries. Without this addition FHE sector emissions would have reduced by 17%.
- Since 2015/16 Scope 2 emissions have reduced by 54% while Scope 1 emissions have only reduced by 3% over the same period;
- The training and peer review sessions that EAUC-Scotland provided to institutions has resulted in better quality data and more key sources of emissions being reported; and
- The pandemic has not had a material impact on the quality of data submitted but has contributed to reductions in emissions related to the estate and travel.

Progress achieved to date is positive but going forward it is important that the FHE Sector prioritises decarbonising heat in order to reduce its Scope 1 emissions. These emissions are generally under the direct control of institutions and should therefore present some of the greatest reduction opportunities. Delivering these reductions will be essential to meet CDN's [Climate Emergency Commitment](#) and the more ambitious targets set by the Scottish Government in the [Climate Change \(Duties of Public Bodies: Reporting Requirements\) \(Scotland\) Amendment Order 2020](#).

Business travel is another key source of emissions that the FHE Sector needs to address. The changes to working practices made necessary by the pandemic, and the subsequent reductions shown in this report, present a huge opportunity to deliver long-term organisational change in relation to both business travel and commuting.

With the significant developments in policy from the Scottish Government and the suite of support on offer from EAUC-Scotland, it is hoped that future reporting years will see further improvements in both the quality of submissions and the scale of reductions delivered.



Prepared and delivered by EAUC-Scotland

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