

EAUC-Scotland Public Bodies Climate Change Duties Overview Report

2019 Higher Education Submissions
Analysis & Recommendations

June 2020

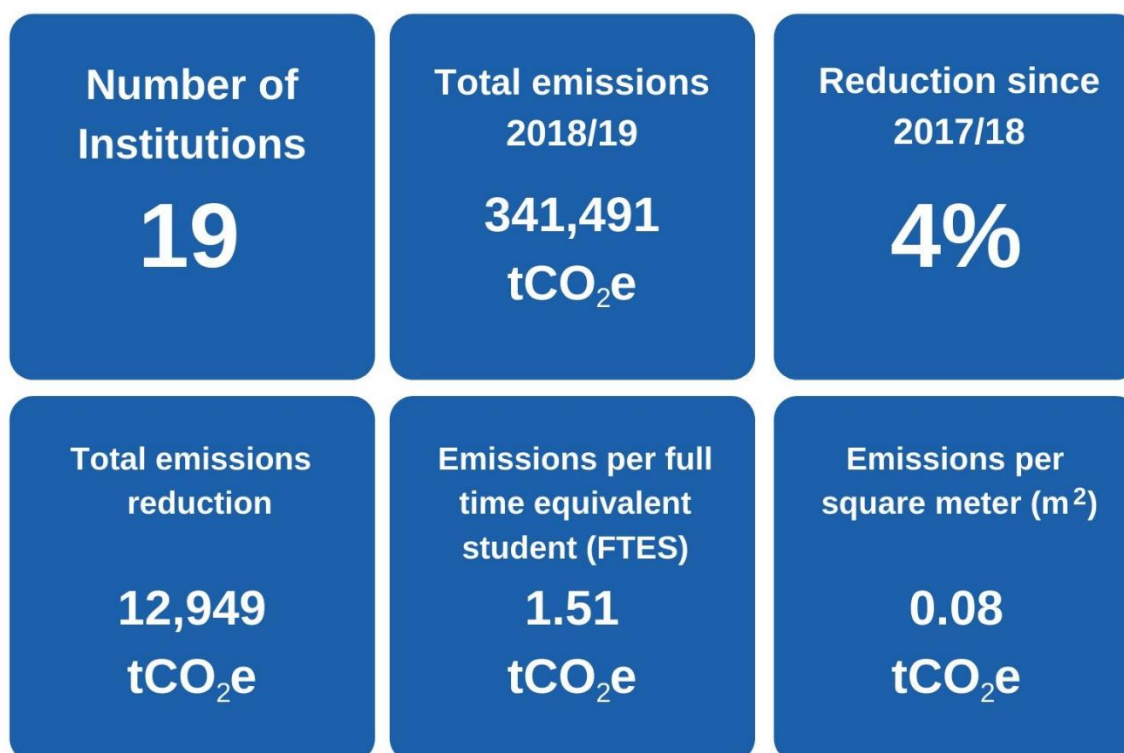
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Executive Summary

Total greenhouse gas (GHG) emissions for the Scottish Higher Education (HE) sector reported during 2018/19 were 341,491 tonnes of carbon dioxide equivalent (CO₂e). The sector has reduced its absolute emissions by a further 4% this year, which is equivalent to 12,949 tonnes of CO₂e. This is consistent with the FHE sector as a whole, which reported total GHG emissions of 384,054 tonnes of CO₂e and a 4% reduction since 2017/18. Since mandatory reporting began in 2015/16, the HE sector has reduced its absolute emissions by 14%, or 56,526 tonnes of CO₂e. However, it should be noted that a significant portion of this reduction is due to the decarbonisation of the UK grid.

Figure 1. Key figures for 2018/19



Average emissions per full time equivalent student (FTES) were 1.51 tonnes of CO₂e and average emissions per square meter were 0.08 tonnes of CO₂e, a reduction of 5% and 0.4% respectively since 2017/18.

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 like business travel.

Introduction

The Public Bodies Climate Change Duties (PBCCD) Reports from 18 universities in Scotland were submitted for the fourth mandatory year on 30 November 2019. Unfortunately, one institution missed the deadline this year due to unforeseen circumstances but was subsequently able to provide EAUC-Scotland with the relevant data¹.

The submissions predominantly covered the academic year 2018/19. This analysis report will summarise the data and provide comparisons between reporting periods for section three of the PBCCD reports.

In 2019, the Scottish Government declared a climate emergency and its world-leading climate change legislation set a target date for net-zero emissions of all greenhouse gases by 2045. Universities have seen carbon mitigation and adaptation rise up their agenda as well, with EAUC-Scotland continuing to support the sector to improve reporting.

This year support has included:

- Guidance on aligning operational reporting boundaries
- Individual feedback and recommendations to each institution on their reporting
- Virtual training sessions on improving GHG emissions reporting
- Risk & Resilience in a Changing Climate event in partnership with Historic Environment Scotland
- Group and one-to-one peer review sessions
- Institutional visit programme and sustainability committees project

¹ Please note this institution was not included in the [Sustainable Scotland Network PBCCD 2018/19 Analysis Report](#) therefore the totals differ.

Reporting Quality

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 two institutions have expanded their operational reporting boundaries this year by adding business travel and commuting emissions and one institution has added the emissions associated with international student travel to campus.

As illustrated in Table 1, there continues to be a wide range of different operational reporting boundaries across the HE sector. However, 100% of institutions are now reporting the GHG emissions associated with premises energy consumption, waste & water, 84% are reporting business travel emissions and 74% are reporting fleet emissions.

Table 1. Percentage of institutions reporting each source of emissions

Emissions source	Number of institutions reporting	Percentage of total
Energy	19	100%
Waste	19	100%
Water	19	100%
Business travel	16	84%
Fleet	14	74%
Commuting	6	32%
F-gas	3	16%
International student travel	1	5%

Action: EAUC-Scotland will continue to work with institutions to improve the quality of reporting and, where possible, align operational reporting boundaries.

Analysis

Total greenhouse gas (GHG) emissions from the HE sector in 2018/19 were 341,491 tonnes of CO₂e. The majority arose from natural gas consumption which contributed 138,830 tonnes of CO₂e or 41% of total emissions, followed by grid electricity consumption which accounted for 78,403 tCO₂e or 23% of total emissions. Business travel contributed 66,835 tonnes of CO₂e or 20% of total emissions and commuting contributed 32,629 tonnes of CO₂e or 10% of total emissions. A full breakdown of emissions can be seen in Table 2.

Table 2: Total FE sector emissions 2018/19

Emissions source	Universities 2018/19	Percentage
Scope 1		
Natural gas	138,830	41%
Biomass	556	0.2%
Gas oil	854	0.2%
Other fuels	1,113	0.3%
Fleet vehicles	1,387	0.4%
F-gases	1,553	0.5%
Subtotal	144,292	42%
Scope 2		
Grid electricity	78,403	23%
Purchased heat	1,637	0.5%
Subtotal	80,040	23%
Scope 3		
Electricity transmission & distribution	6,657	2%
Heat transmission & distribution	99	0%
Waste	2,287	1%
Water	2,532	1%
Business travel - car	2,843	1%
Business travel - rail	898	0.3%
Business travel - taxi	241	0.1%
Business travel - bus	115	0.03%
Business travel - ferry	25	0.01%
Business travel - air	62,712	18%
Staff & student commuting	32,629	10%
International student travel	6,118	2%
Subtotal	117,158	34%
Total	341,491	100%

As shown in Figure 2, in the reporting period 2018/19 Scope 1 sources account for 42% of total emissions, Scope 2 sources account of 24% of the total and Scope 3 sources account for the remaining 34%. 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 remained relatively constant, there has been a significant reduction of Scope 2 emissions and Scope 3 emissions have increased over time.

Figure 2: Breakdown of emissions by scope

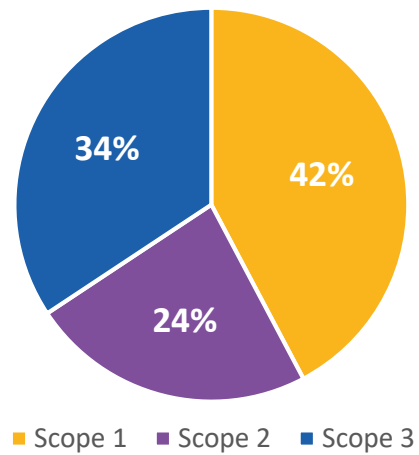
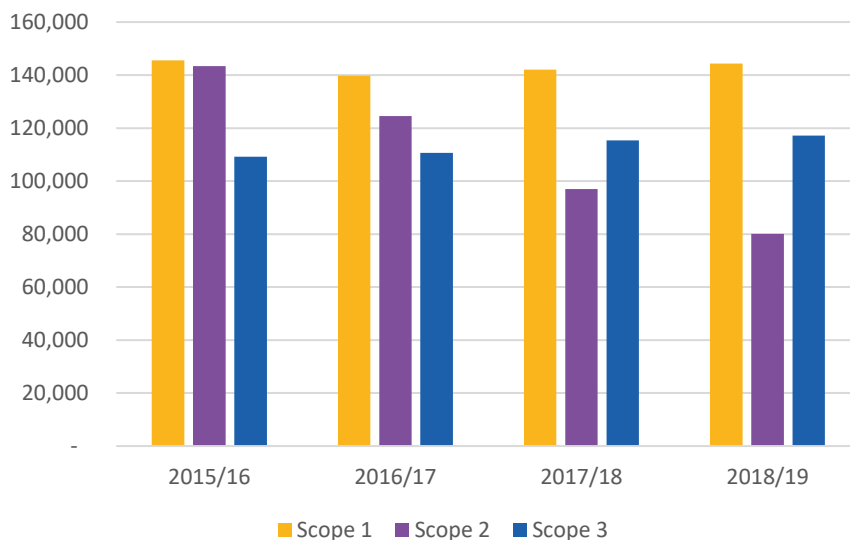
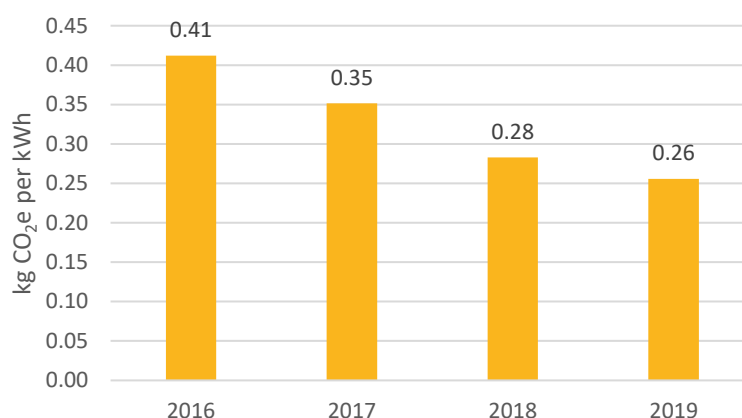


Figure 3: Comparison of emissions broken down by scope between reporting periods



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 38% since 2016 (illustrated in Figure 4). The increase in Scope 3 emissions is partly due to institutions expanding the operational boundary of their reporting. It is concerning that Scope 1 emissions have only reduced by 1% since 2015/16. These are direct emissions so are the primary responsibility of institutions and present the greatest reduction opportunity.

Figure 4: Reduction in Carbon Intensity of UK grid since 2016



Between 2017/18 and 2018/19 the HE sector achieved a reduction of 12,949 tonnes of CO₂e or 4% 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. The most significant reduction came from electricity² which reduced by 17%, however it should be noted that the carbon intensity of UK grid electricity reduced by 10% during the reporting period. The 395% increase in emissions from renewables is due to greater use of biomass. The 52% increase in refrigerant (f-gas) emissions is due to a large loss at one institution. The 20% increase from commuting is due to an increase in the number of institutions reporting this source of emissions.

Table 3: Comparison of emissions between reporting periods

Source of emissions	2015/16 (tCO ₂ e)	2016/17 (tCO ₂ e)	2017/18 (tCO ₂ e)	2018/19 (tCO ₂ e)	Change 17/18 - 18/19
Electricity ¹	156,003	135,848	105,050	86,697	-17%
Natural gas	139,609	135,402	137,061	138,830	1%
Other heating fuel	2,986	1,494	2,220	1,967	-11%
Refrigerants	612	1,124	1,022	1,553	52%
Waste and recycling	3,076	2,288	2,052	2,287	11%
Water and sewerage	2,663	2,716	2,630	2,532	-4%
Travel	77,628	81,274	75,551	66,835	-12%
Transport fuel	1,782	1,446	1,358	1,387	2%
Commuting	13,283	13,284	27,279	32,629	20%
Renewables	94	138	112	556	395%
Other	283	-	103	99	-4%
Int. student travel	-	-	-	6,118	-
Total	398,017	375,014	354,440	341,491	-4%

² Please note that SSN include transmission & distribution in this category

Performance Metrics

As shown in Table 4, average HE sector emissions during 2018/19 were 0.08 tonnes of CO₂e per m² and 1.51 tonnes of CO₂e per FTES, both a reduction since 2017/18. These performance metrics will allow institutions to monitor relative progress between reporting periods (where there have been material changes within the institution) and facilitate meaningful comparison between similar institutions.

Table 4. Performance metrics for 2018/19

Performance metrics	2017/18	2018/19	Percentage Change
Floor area (tCO ₂ e/m ²)	0.08	0.08	-0.4%
Students (tCO ₂ e/FTES)	1.60	1.51	-5%

Summary & Recommendations

The fourth mandatory year of the Public Bodies Climate Change Duties Reporting has shown significant progression for universities with GHG emissions and sustainability reporting.

A few headline points to note:

- There was a 4% absolute decrease in HE sector GHG emissions from 2017/18 to 2018/19
- The HE sector contributed 341,491 tCO₂e (89%) to the overall FHE sector GHG emissions of 384,054 tCO₂e
- The individual feedback and training EAUC-Scotland provided to institutions has resulted in better quality data and more key sources of emissions being reported
- The continuation of 'peer validation' workshops has resulted in higher quality reporting and will be expanded going forward

The absolute reduction in GHG emissions is positive but a significant portion of the decrease resulted from the decarbonisation of the UK grid. Therefore, going forward, it is critical that the HE sector prioritises reducing its Scope 1 emissions in order to meet the more ambitious targets set by the Scottish Government. Business travel is another key source of emissions that the sector needs to address. The changes to working practices made necessary by COVID-19 present a huge opportunity to deliver long-term organisational change in relation to both business travel and commuting.

The Scottish Government decommissioned ProcXed in Jan 2020 and is yet to announce how data will be collected going forward. When an update is made it will be widely communicated with the sector by both EAUC-Scotland and SSN.

The SFC Outcome Agreement Guidance for 2019/20 (see Appendix I) highlights the need for creative and innovative sustainability ambitions tailored to the unique strengths and context of each individual university. The guidance recognises that sustainability is not just for the estates team but a whole institutional issue, and should be embedded within everything from the strategic plan to individual module descriptors, HR policies, and procurement decision-making. Therefore, with this update to the guidance and the suite of support on offer from EAUC-Scotland, it is hoped that subsequent reporting years will see further improvements in completeness and quality.

Appendix I: SFC Outcome Agreement Guidance 2019/20

Leadership in environmental and social sustainability

The Climate Change (Scotland) Act 2009 set ambitious targets for carbon reduction in Scotland, and led to the requirement for universities and other significant publicly funded organisations to submit a mandatory Public Bodies Climate Change Duties (PBCCD) Report on an annual basis. To capitalise on this activity, the climate change targets and sustainability ambitions for each university should also be outlined in their outcome agreement. Climate change targets should be framed within a current emissions reduction plan. SFC acknowledges that each university will be at a different stage in their environmental sustainability journey. This stage will have been determined by their access to resources and the opportunity, past and present, to engage in sustainability activity in order to build knowledge capacity. SFC expects that sustainability ambitions will be creative and innovative, capable of application within the university and able to deliver sustainable impact that is meaningful to each university and their wider communities.

In order to demonstrate leadership in promoting environmental sustainability, SFC expects each university to develop approaches and report activity that evidences their corporate commitment to tackling wider environmental and social sustainability challenges, both in mandatory reporting and as part of their own sustainability ambitions. These ambitions and targets should be detailed within wider strategic documents or through a dedicated sustainability strategy or action plan, and recorded in their Outcome Agreement (including providing links to relevant documentation), and should demonstrate either a whole-institutional approach or describe activity that is working towards a whole-institutional approach. SFC expects that evidence of progress against the strategy will be provided from a variety of operational activity such as approaches to governance in sustainability, climate change adaptation and mitigation activities, successful senior management engagement, curriculum links, estates decision-making, student/staff engagement, general wellbeing initiatives and meaningful community links or through other business areas, either in part or across all areas. Support will be available through the EAUC's programme, and progress should be reported through PBCCD Reporting submissions and the Outcome Agreement process.

SFC anticipates that the diversity that exists within each university in terms of population cohort and learning activity will provide opportunities to deliver the type of environmental

and social sustainability leadership that is transformative in design and unique to each individual university and its wider community. Some of this wider community may include partnerships across other universities. This activity should also provide universities with the appropriate evidence to complete the recommended section on 'wider influence' in PBCCD reporting.

Potential longer term outcomes of note to SFC as a result of this activity will be to strengthen the competitiveness of the sectors, reduce financial and reputational risks, create innovative opportunities for growth, provide a better learner experience for both students and staff and ensure that students develop the understanding of environmental and social sustainability required for the workplaces of tomorrow.

[SFC University Outcome Agreement Guidance 2019/20 \(page 38\)](#)

Prepared and delivered by EAUC-Scotland

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