

EAUC-Scotland Public Bodies Climate Change Duties Overview Report

2019 Further and Higher Education Submissions
Analysis & Recommendations

June 2020

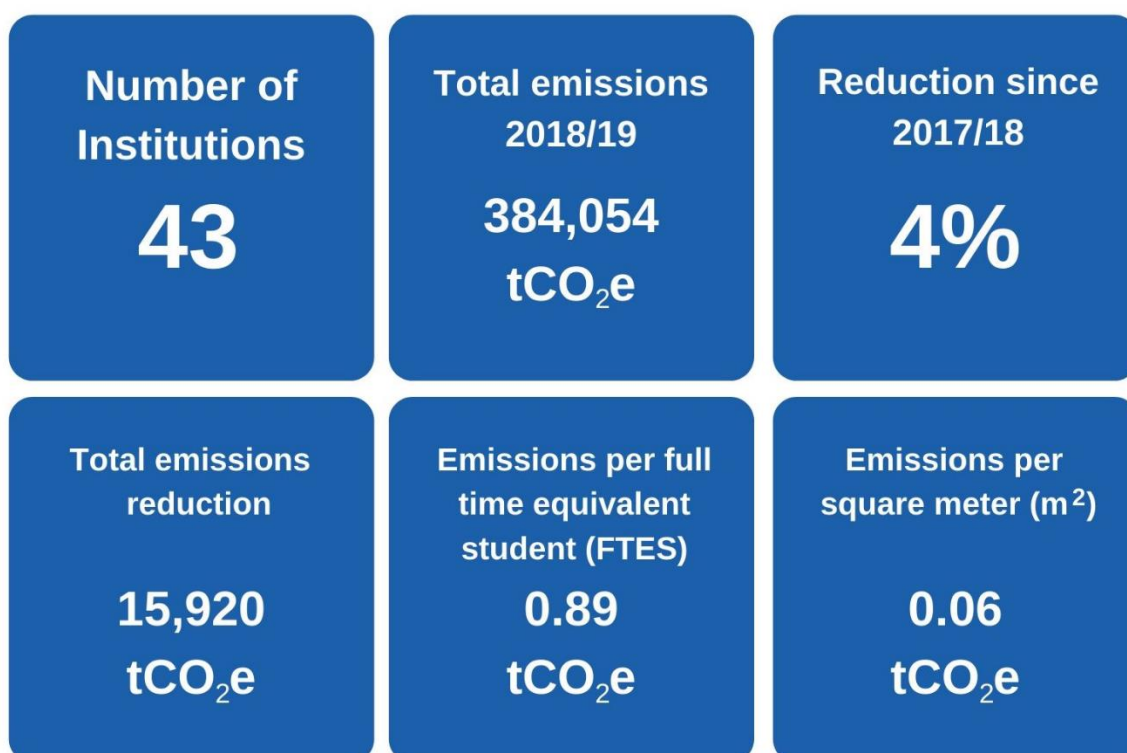
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Executive Summary

Total greenhouse gas (GHG) emissions for the Scottish Further and Higher Education (FHE) sector reported during 2018/19 were 384,054 tonnes of carbon dioxide equivalent (CO₂e). The sector has reduced its absolute emissions by 4% since 2017/18, which is equivalent to 15,920 tonnes of CO₂e. This is lower than the public sector as a whole, which reported total GHG emissions of 2,505,629 tonnes of CO₂e and a 13% reduction since 2017/18¹.

Figure 1. Key figures for 2018/19



For the second year indicative performance metrics have been developed for the sector to facilitate meaningful comparison between reporting periods. Average emissions per full time equivalent student (FTES) were 0.89 tonnes of CO₂e and average emissions per square meter were 0.06 tonnes of CO₂e a reduction of 7% and 4% respectively since 2017/18.

There has been an improvement in the quality of reporting this year with many institutions expanding operational reporting boundaries to include key sources of emissions such as business travel. The absolute reduction in GHG emissions is positive but a significant portion of the decrease is due to the decarbonisation of the UK electricity grid.

¹ This is due to a number of factors: Several FHE institutions have expanded their reporting boundaries this year, electricity comprises a lower percentage of total emissions in FHE and therefore the sector accrues less benefit overall from the decarbonisation of the grid and there was a 20% reduction in Local Authority waste to landfill.

Introduction

The Public Bodies Climate Change Duties (PBCCD) Reports from 18 universities and 24 colleges in Scotland were submitted for the forth mandatory year on 30 November 2019. Unfortunately, two institutions missed the deadline this year due to unforeseen circumstances but one has since been able to submit data to EAUC-Scotland for inclusion in this analysis².

The data submitted predominantly covered the academic year 2018/19 for these 43 Scottish Further and Higher Education (FHE) institutions. The FHE sector represents 24% of the total 180 reporting Public Bodies organisations. This analysis report for the Scottish Funding Council will summarise the data collected and provide comparisons between reporting periods for all seven sections 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 and colleges have seen carbon mitigation and adaption rise up their agenda as well, with EAUC-Scotland continuing to support the sector to improve their reports for the annual submission. 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

² 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 many institutions have expanded their operational reporting boundaries this year:

- Six institutions added business travel emissions
- Three institutions added commuting emissions
- Five institutions added f-gas emissions
- One institution added international student travel

As illustrated in Table 1, there continues to be a wide range of different operational reporting boundaries across the sector. However, 100% of institutions are now reporting the GHG emissions associated with premises energy consumption, 93% report waste & water emissions, 86% report business travel emissions and 72% report fleet vehicle emissions.

Table 1. Percentage of institutions reporting each source of emissions

Emissions source	Number of institutions reporting	Percentage of total
Energy	43	100%
Waste	40	93%
Water	40	93%
Business travel	37	86%
Fleet	31	72%
F-gas	8	19%
Commuting	7	16%
International student travel	1	2%

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

Analysis

Section 1: Profile of the reporting body

The profile data for each of the institutions has again been filled out more thoroughly this year. In line with previous reports 39 institutions reported data for the Academic Year 2018/19, 3 institutions reported data for the Financial Year 2018/19 and 1 institution reported data for the Calendar Year 2018.

Reporting of performance metrics has improved this year: 72% reported floor area (m²), 55% reported full-time equivalent students (FTES) and 45% reported both³.

As shown in Table 2, average sector emissions during 2018/19 were 0.06 tonnes of CO₂e per m² and 0.89 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 2. Performance metrics for 2018/19

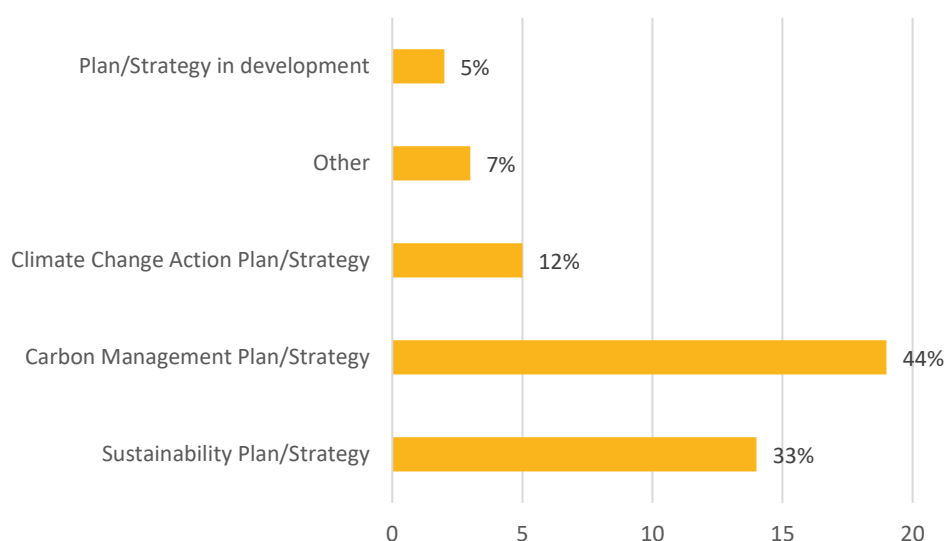
Performance metrics	2017/18	2018/19	Percentage Change
Colleges			
Floor area (tCO ₂ e/m ²)	0.06	0.05	-7%
Students (tCO ₂ e/FTES)	0.57	0.48	-16%
Universities			
Floor area (tCO ₂ e/m ²)	0.08	0.08	-0.4%
Students (tCO ₂ e/FTES)	1.60	1.51	-5%
FHE Sector			
Floor area (tCO ₂ e/m ²)	0.07	0.06	-4%
Students (tCO ₂ e/FTES)	0.96	0.89	-7%

³ Up from 66% for m², 48% for FTES and 34% for both in 2017/18.

Section 2: Governance, management & strategy

The number of institutions with official documentation relating to climate change rose to 95% in 2018/19, up from 82% in 2017/18. As illustrated in Figure 2 this included Carbon Management Plans, Climate Change Action Plans and Sustainability Strategies. The remaining 5% of institutions are currently in the process of developing their documentation so we can expect this figure to increase in the next reporting period.

Figure 2. FHE Institutions with Climate Change related documents in 2017/18



As illustrated in Table 3, the top priorities for the FHE sector in 2018/19 are similar to those reported in 2017/18. Estates continues to dominate, with 50 citations as a top priority for the forthcoming year. Carbon management was the next most common priority with 27 citations.

Table 3: Top priorities for the forthcoming year

Priority	2015/16	2016/17	2017/18	2018/19
Estates	41	32	36	50
Carbon management	-	-	-	27
Strategy & governance	-	23	29	22
Engagement	26	25	17	20
Sustainable travel	-	-	-	18
Curriculum	11	10	8	9
Adaptation	10	10	9	8
Procurement	-	-	6	8
Targets & net zero	-	-	-	7
SDGs	-	-	3	5

Section 3: Sector emissions, projects & targets

3.1 Sector emissions

Total greenhouse gas (GHG) emissions from the FHE sector in 2018/19 were 384,054 tonnes of CO₂e. The majority arose from natural gas consumption which contributed 157,860 tonnes of CO₂e or 41% of total emissions, followed by grid electricity consumption which accounted for 95,344 tCO₂e or 25% of total emissions. Business travel contributed 68,556 tonnes of CO₂e or 18% of total emissions and commuting contributed 32,649 tonnes of CO₂e or 9% of total emissions⁴. A full breakdown of emissions can be seen in Table 4.

Table 4: Total FHE Sector Emissions 2018/19

Emissions source	2018/19	Percentage
Scope 1		
Natural gas	157,860	41%
Biomass	677	0.2%
Gas oil	2,471	1%
Other fuels	1,240	0.3%
Fleet vehicles	1,808	0.5%
F-gases	1,764	0.5%
Subtotal	165,821	43%
Scope 2		
Grid electricity	95,344	25%
Purchased heat	1,637	0.4%
Subtotal	96,981	25%
Scope 3		
Electricity transmission & distribution	8,089	2%
Heat transmission & distribution	99	0.03%
Waste	2,878	1%
Water	2,862	1%
Business travel - car	3,747	1%
Business travel - rail	910	0.2%
Business travel - taxi	280	0.1%
Business travel - bus	117	0.03%
Business travel - ferry	26	0.01%
Business travel - air	63,449	17%
Staff commuting	21,185	6%
Student commuting	11,492	3%
International student travel	6,118	2%
Subtotal	121,252	32%
Total	384,054	100%

⁴ Please note that 86% of institutions reported business travel, 16% reported commuting and only 2% reported international student travel

As shown in Figure 3, in the reporting period 2018/19 Scope 1 sources account for 43% of total emissions, Scope 2 sources account of 25% of the total and Scope 3 sources account for the remaining 32%. A comparison of total emissions broken down by scope between reporting periods is shown in Figure 4. 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.

Figure 3: Breakdown of emissions by scope

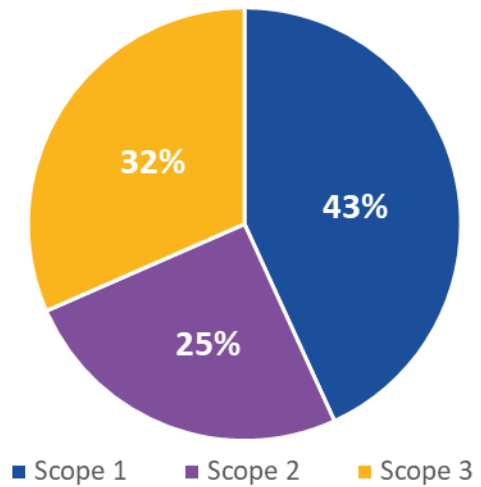
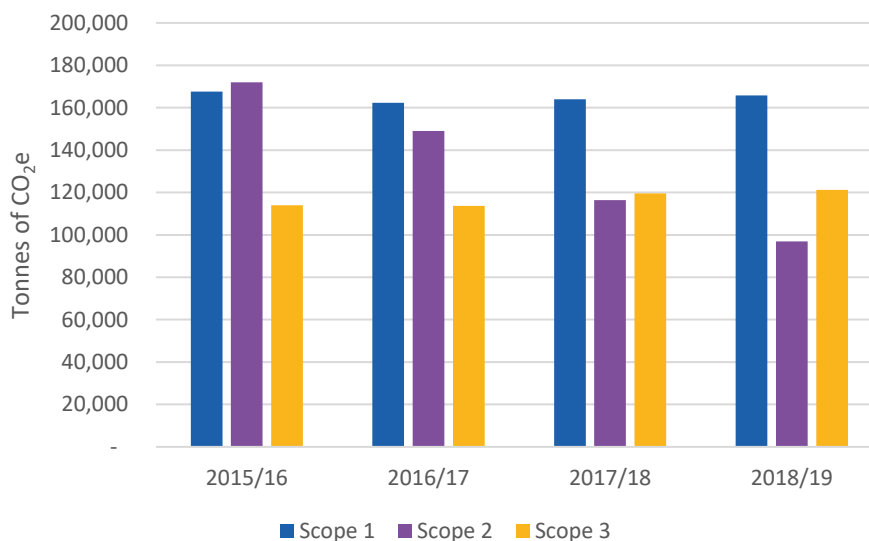
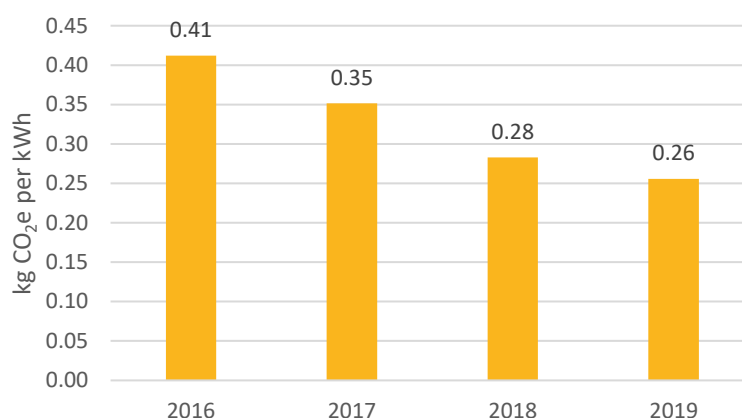


Figure 4: Comparison of emissions broken down by scope between reporting periods



Please note that a significant portion of the Scope 2 emissions reduction should be attributed to the decarbonisation of the UK electricity grid which has reduced by 38% since 2016 (illustrated in Figure 5). 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 5: Reduction in Carbon Intensity of UK grid since 2016



Between 2017/18 and 2018/19 the sector achieved a reduction of 15,920 tonnes of CO₂e or 4% of total emissions. A breakdown of the percentage change in emissions for each source is shown in Table 5. The categories are slightly different from Table 3 as historic data is only available in this format. The largest reduction came from electricity⁵ 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 217% increase from renewables is due to an increase in the use of biomass fuel. The 73% increase in emissions from refrigerants is due to a large loss at one institution. As with last year, the 20% rise in commuting emissions is due to a greater number of institutions electing to report this source.

Table 5: 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	187,033	162,582	126,098	105,071	-17%
Natural gas	159,067	153,610	156,464	157,860	1%
Other heating fuel	4,531	3,105	4,010	3,711	-7%
Refrigerants	612	1,124	1,022	1,764	73%
Waste and recycling	3,804	2,949	2,674	2,878	8%
Water and sewerage	3,032	3,080	3,018	2,862	-5%
Travel	79,041	83,355	77,498	68,528	-12%
Transport fuel	2,800	1,771	1,594	1,808	13%
Commuting	13,283	13,284	27,279	32,677	20%
Renewables	148	202	214	677	217%
Int. student travel	-	-	-	6,118	-
Other	283	-	103	99	-4%
Total	453,632	425,062	399,974	384,054	-4%

⁵ Please note that SSN include transmission & distribution in this category

3.2 Projects

The FHE sector has been less successful on GHG emissions reduction projects in the 2018/19 reporting period. Institutions estimate that 8,216 tCO₂e has been saved compared to 17,458 tCO₂e in 2018/19. This reflects the fact that many quick gains have already been achieved and it is now more challenging for institutions to deliver reductions.

Table 6. Comparison of savings by project type between reporting periods

Project type	2015/16 (tCO ₂ e)	2016/17 (tCO ₂ e)	2017/18 (tCO ₂ e)	2018/19 (tCO ₂ e)
Electricity	19,477	17,580	10,163	3,994
Natural gas	4324	6,192	3,456	2,815
Other heating fuels	32	259	41	5
Waste	372	301	176	31
Water and sewerage	66	19	103	161
Business Travel	14	166	312	796
Fleet transport	30	45	100	90
Other	-	49	3,106	324
Total	24,315	24,611	17,458	8,216

As it is a Scottish Government priority to focus on renewables⁶, we have broken down the data on projects relating to renewables in Table 7. The number of installations has reduced since 2017/18 but institutions still favour Solar PV and Biomass.

Table 7: Breakdown of renewable energy projects by type

Technology type	Number of projects			
	2015/16	2016/17	2017/18	2018/19
Solar PV	22	21	21	22
Biomass	10	12	10	6
Solar thermal	6	6	5	3
Ground Source Heat Pump	6	7	6	4
Wind	2	0	0	1
Biogas CHP	1	0	0	0
Air Source Heat Pump	1	3	3	2
Water Source Heat Pump	0	2	5	2
Total	49	52	50	40

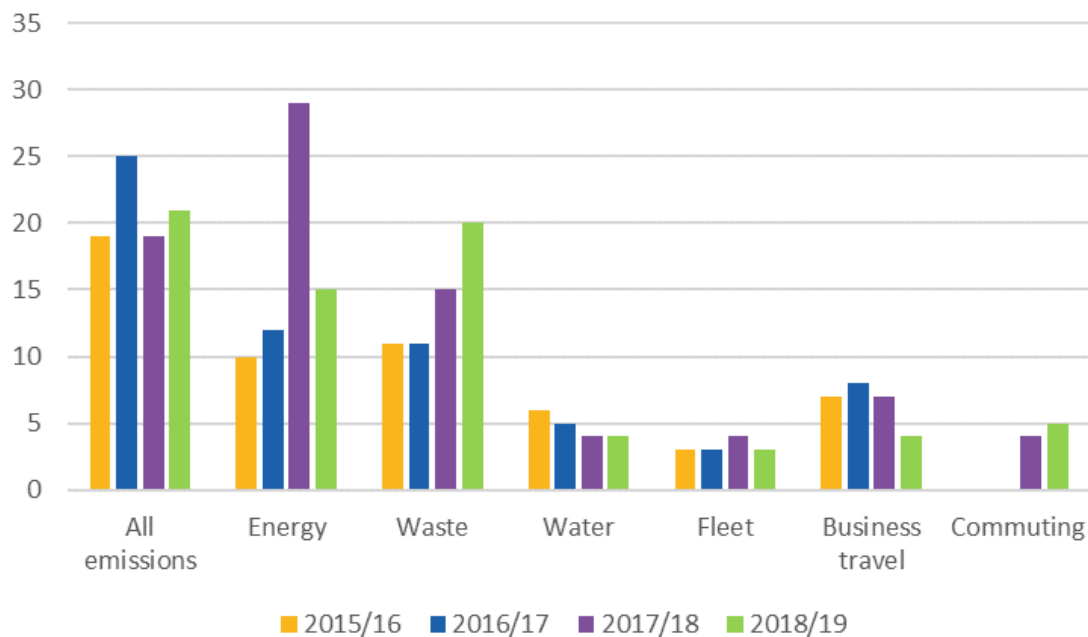
⁶ [2020 Route Map for Renewable Energy in Scotland](#)

Action: EAUC-Scotland will continue to encourage institutions to keep project registers up-to-date to allow for quick responses when funding becomes available, as a lack of time to scope projects is often cited as a reason why institutions don't apply when funding opportunities arise.

3.3 Targets

Targets were reported by 29 institutions in 2018/19, with multiple targets from some institutions resulting in 72 individual targets. Feedback from SSN on targets has been that for the whole public sector it is a difficult section to evaluate, as there are multiple varying factors such as scope, boundaries, units used and reporting time, all of which impact on reporting consistency.

Figure 6: Comparison of targets between reporting periods



Action: EAUC-Scotland will continue to collaborate with SSN to support our members with setting more ambitious targets in line with the Climate Change (Scotland) Act (as amended)

Section 4: Adaptation

The Adaptation section of the PBCCD reporting has seen a slight improvement in submissions from universities and colleges compared to previous reporting years, with 53% of institutions reporting that they have assessed current and future climate related risks and a further 23% planning to undertake a climate risk analysis in the coming year.

In general there is a better understanding of adaptation with fewer organisations incorrectly citing mitigation activities. The range of adaptation projects included:

- Flood risk management (sustainable urban drainage systems, permeable paving, green infrastructure);
- Resilience measures incorporated into development planning;
- Climate proofing existing buildings;
- Biodiversity Action Plans to promote and sustain local biodiversity systems; and
- Research.

Action: EAUC-Scotland will continue to work with Adaptation Scotland and other partners to support the sector with climate change adaptation, including offering training in how to undertake a climate risk analysis.

Section 5: Procurement

Continuing on from last year's reporting success, the Procurement section was completed thoroughly again in 2018/19. Compliance with the Procurement Reform (Scotland) Act 2014 is a main driver for the universities and colleges, often with procurement staff from APUC being situated within the institutions' internal procurement department. A Sustainable Procurement Policy or Strategy was cited by 77% of the institutions, and a further 19% mentioned the use of APUC's frameworks. Only 2 institutions provided no information on their procurement policies.

Action: EAUC-Scotland will continue to collaborate with APUC to investigate how we can support the sector further with sustainable procurement policies, practices and reporting.

Section 6: Validation

As with the previous year the most common type of validation was internal, with either high-level approval from internal bodies such as committees or individual managers. A limited numbers of institutions opted for external validation, with the majority explaining that the external validation was only available in relation to waste data.

Eight institutions in EAUC-Scotland's Smaller Institutions Sustainability Group again undertook a peer-review workshop-based discussion during one of the group's meetings. For the first time this year two larger institutions undertook an in-depth peer review of each other's submission. These processes were given excellent feedback by attendees in providing useful insight to develop the quality of their reporting, both before submission and for the next reporting year.

Action: EAUC-Scotland will continue to provide the peer-evaluation style of validation workshop in preparation for the November 2020 deadline and facilitate in-depth peer review for larger institutions.

Wider Influence Section (Recommended)

The number of institutions submitting a response to the Wider Influence section of the reports has increased to 68% in 2018/19. This is an important area for universities and colleges to evidence the work that they are doing beyond GHG emissions reporting, and linking to their core business areas of education and engagement.

Partnership work was the most reported area, with over 100 entries from the institutions who completed that area of the Wider Influence section. Other areas that were reported on included 'Education' and 'Communications', as well as 'Research & Development'.

Action: EAUC-Scotland will encourage institutions to continue reporting on their wider influence, and especially their educational activity related to climate change and sustainability.

Summary & Recommendations

The fourth mandatory year of the Public Bodies Climate Change Duties Reporting has shown progression for universities and colleges with GHG emissions and sustainability reporting. 43 Scottish Further and Higher Educational institutions submitted data and advances have been made within most of the reporting sections.

Feedback from SSN on the quantity and quality of the data submitted shows that institutions have improved their understanding of the reporting process.

A few headline points to note:

- There was a 4% absolute decrease in sector GHG emissions from 2017/18 to 2018/19
- The sector contributed 384,054 tCO₂e (15%) to the overall public sector GHG emissions of 2,505,629 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
- Estates, Carbon Management, Strategy & Governance and Engagement were the top priorities for institutions in 2018/19
- 68% of institutions completed the Wider Influence section of the reports

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 sector prioritises reducing its Scope 1 emissions in order to meet the more ambitious targets set by the Scottish Government. Scope 1 emissions are the primary responsibility of an institution and present the greatest reduction opportunity. The payback period of SFC & Salix funding has been extended this year so more Scope 1 projects are eligible, however colleges do not have unilateral access to these funds and will continue to be unable to significantly reduce this key source of emissions until this is resolved.

Business travel is another key source of emissions that the HE sector in particular 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 Wider Influence section continues to be positive, and it was helpful to have so many examples of good practice being submitted, allowing better insight into the wide variety of work going on. This area will continue to be supported by the EAUC-Scotland team, as it is one of the most important areas for universities and colleges, enabling them to demonstrate their impactful work in education and engagement.

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 college or 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 throughout all sections of the reports.

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 Colleges/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 college/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 college/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 college/university and able to deliver sustainable impact that is meaningful to each college or university and their wider communities.

In order to demonstrate leadership in promoting environmental sustainability, SFC expects each college and 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 college and 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 college or university and its wider community. Some of this wider community may include partnerships across other universities and colleges. This activity should also provide colleges and 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 \(page 38\)](#)

[SFC College Outcome Agreement Guidance 2019/20 \(page 39\)](#)

Appendix II: Best practice case studies

SSN highlighted in the [Public Bodies Climate Change Reporting 2018/19 – Analysis Report](#) some of the case studies of best practice throughout the submitted individual reports. The following FHE sector case study was highlighted.

Spotlights 2018/19

University of the West of Scotland (Project awards and nominations)

UWS has award winning examples of climate change and sustainability initiatives including:

- UWS Residences - National Green Impact Community Action award winner 2019, selected by DEFRA. Initiatives included bike loan schemes, halls reuse and resource efficiency projects.
- IT Department Travel Reduction – shortlisted for a Green Gown Award 2018 – the team developed an initiative involving software solutions and agile working to significantly reduce commuting and business travel needs across the universities five campuses, reducing emissions by 50 tonnes per annum and saving over 9600 travel hours.

Inverness College (UHI Renewables)

Inverness College has deployed a range of low carbon technologies to provide heating in campus buildings. Four ground-source heat pumps provide under-floor heating for the main campus building which has complex large spaces including an atrium. A biomass boiler provides all space heating via under-floor heating in the Scottish School of Forestry building. The building is naturally ventilated so there is no cooling load requirement. An air source heat pump provides both closed and open water heating for the nursery building.

Prepared and delivered by EAUC-Scotland

Please contact scotland@eauc.org.uk with any queries

