



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

2021 Further Education Submissions  
Analysis & Recommendations

June 2022

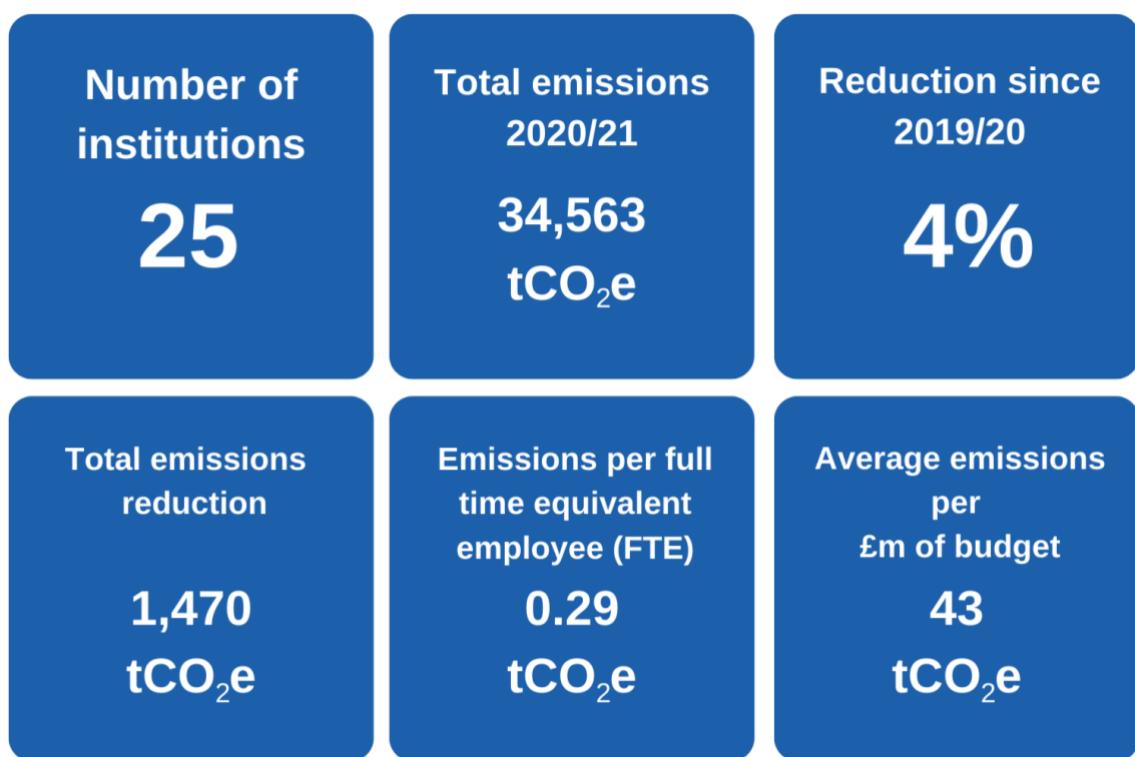
# Contents

|                                |    |
|--------------------------------|----|
| EXECUTIVE SUMMARY.....         | 3  |
| INTRODUCTION .....             | 4  |
| REPORTING QUALITY.....         | 5  |
| ANALYSIS .....                 | 6  |
| PERFORMANCE METRICS.....       | 10 |
| SUMMARY & RECOMMENDATIONS..... | 11 |

## Executive Summary

Total greenhouse gas (GHG) emissions for the Further Education (FE) sector reported during 2020/21 were 34,563 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e). The sector has reduced its absolute emissions by a further 4% this year, which is equivalent to 1,470 tonnes of CO<sub>2</sub>e. Since mandatory reporting began in 2015/16, the FE sector has reduced its absolute emissions by 38%, or 21,052 tonnes of CO<sub>2</sub>e. This is an excellent achievement; however, it should be noted that a significant portion of the reduction is due to the decarbonisation of the UK grid.

**Figure 1. Key figures for 2020/21**



Average emissions per full time equivalent (FTE) employee were 0.29 tonnes of CO<sub>2</sub>e and average emissions per million pounds of budget were 43 tonnes of CO<sub>2</sub>e.

There has again been an improvement in the quality of reporting this year and many institutions expanded their operational reporting boundaries to include key sources of emissions like homeworking and commuting.

## Introduction

The Public Bodies Climate Change Duties (PBCCD) reports from 25 Scottish colleges were submitted for the sixth mandatory year on 30 November 2021 (100% compliance). This is an improvement on last year when one small institution was unable to provide data.

The data submitted predominantly covered the academic year 2020/21, which included periods of lockdown and pandemic related travel restrictions. 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<sup>1</sup>;
- targets for reducing indirect emissions of greenhouse gases;
- 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.

EAUC-Scotland has continued to support the sector to improve reporting. This year support has included:

- Virtual training sessions on improving GHG emissions reporting;
- Group and one-to-one peer review sessions;
- Sitting on the Scottish Government working group that developed the new guidance on [Public Sector Leadership on the Global Climate Emergency](#);
- [Briefing Paper on New PBCCD Reporting Guidance for 2022](#); and
- Presenting at CDN's [College Climate Change Conference](#).

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<sup>1</sup> Please note this means offsetting will not be permissible for Scope 1 emissions

## Reporting Quality

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 reporting the GHG emissions associated with premises energy consumption, 92% are reporting waste, 88% are reporting water and 84% are reporting business travel and home working emissions.

**Table 1. Breakdown of operational reporting boundary by institution**

| Emissions source | Number of institutions reporting | Percentage of total | Change from 2019/20 |
|------------------|----------------------------------|---------------------|---------------------|
| Energy           | 25                               | 100%                | ↑                   |
| Waste            | 23                               | 92%                 | ↑                   |
| Water            | 22                               | 88%                 | ↑                   |
| Business travel  | 21                               | 84%                 | -                   |
| Home working     | 21                               | 84%                 | new source          |
| Fleet            | 16                               | 64%                 | ↑                   |
| F-gas            | 5                                | 20%                 | ↑                   |
| Commuting        | 2                                | 8%                  | ↑                   |
| <b>Total</b>     | <b>25</b>                        | -                   | -                   |

The quality of the reports has improved again this year and many institutions have expanded their operational reporting boundaries:

- Twenty-one institutions added homeworking,
- One institution added f-gas; and
- One institution added commuting.

**Action:** EAUC-Scotland will continue to work with institutions to improve the quality of reporting and expand reporting boundaries in line with the [Public Sector Leadership on the Global Climate Emergency](#) guidance.

## Analysis

Total GHG emissions from the FE sector in 2020/21 were 34,563 tonnes of CO<sub>2</sub>e, which is 9% of the total FHE sector GHG emissions of 321,591 tCO<sub>2</sub>e. The majority arose from natural gas consumption which contributed 17,669 tonnes of CO<sub>2</sub>e or 51% of total emissions, followed by grid electricity consumption which accounted for 10,754 tCO<sub>2</sub>e or 31% of total emissions. Home working contributed 2,255 tonnes of CO<sub>2</sub>e, or 7% of total emissions. A full breakdown of emissions is shown in Table 2.

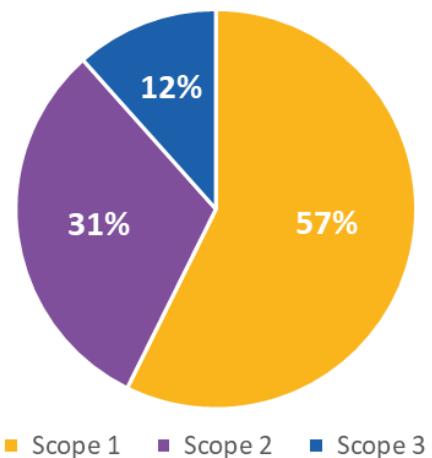
**Table 2: Total FE sector emissions 2020/21**

| Emissions source                        | FE Sector<br>2020/21<br>(tCO <sub>2</sub> e) | Percentage  |
|---|--|-------------|
| <b>Scope 1</b>                          |  |             |
| Natural gas                             | 17,669                                       | 51%         |
| Biomass                                 | 84   | 0.2%        |
| Gas oil                                 | 973  | 3%          |
| Other fuels                             | 196  | 1%          |
| Fleet vehicles                          | 130  | 0.4%        |
| F-gases                                 | 757  | 2%          |
| <b>Subtotal</b>                         | <b>19,809</b>                                | <b>57%</b>  |
| <b>Scope 2</b>                          |  |             |
| Grid electricity                        | 10,754                                       | 31%         |
| <b>Subtotal</b>                         | <b>10,754</b>                                | <b>31%</b>  |
| <b>Scope 3</b>                          |  |             |
| Electricity transmission & distribution | 944  | 3%          |
| Waste                                   | 240  | 1%          |
| Water                                   | 77   | 0.2%        |
| Business travel - car                   | 123  | 0.4%        |
| Business travel - rail                  | 0.1  | 0.0002%     |
| Business travel - taxi                  | 2  | 0.01%       |
| Business travel - bus                   | 0.1  | 0.0002%     |
| Business travel - ferry                 | 3  | 0.01%       |
| Business travel - air                   | 12   | 0.03%       |
| Staff commuting                         | 74   | 0.2%        |
| Student commuting                       | 271  | 1%          |
| Homeworking                             | 2,255  | 7%          |
| <b>Subtotal</b>                         | <b>4,000</b>                                 | <b>12%</b>  |
| <b>Total</b>                            | <b>34,563</b>                                | <b>100%</b> |

As shown in Figure 2, in the reporting period 2020/21 Scope 1 sources account for 57% of total emissions, Scope 2 sources account of 31% of the total and Scope 3 sources account for the remaining 12%.

Between 2019/20 and 2020/21 the FE sector achieved a reduction of 1,470 tonnes of CO<sub>2</sub>e or 4% of total emissions. A breakdown of the percentage change in emissions for each source is shown in Table 3.

**Figure 2: Breakdown of emissions by scope in 2020/21**



The most significant reduction came from business travel which reduced by 86%. Water and sewerage reduced by 78% and transport fuel (fleet) reduced by 43%. The travel related emissions reductions are due to the lockdown and travel restrictions that occurred during the reporting period. The reduction in water emissions is primarily due to an update to the emissions factor.

The emissions associated with electricity<sup>2</sup> reduced by 20%, however the carbon intensity of UK grid electricity reduced by 9% during the reporting period.

The 645% increase in commuting emissions and the 425% increase in refrigerant (f-gas) emissions are both a result of the expansion of reporting boundaries.

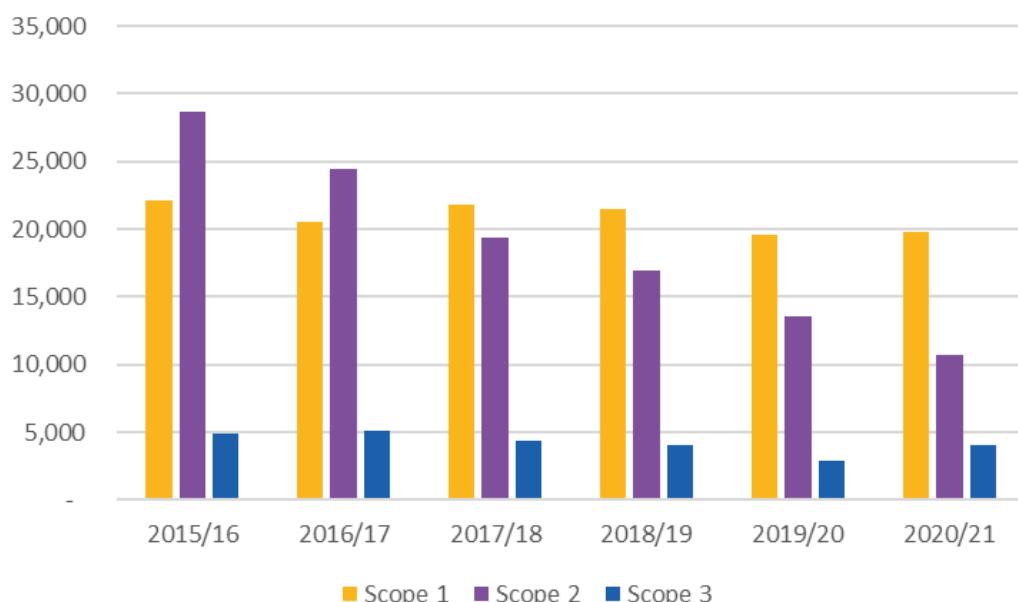
<sup>2</sup> Please note that SSN include transmission & distribution in this category

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

| Source of emissions | 2015/16<br>(tCO <sub>2</sub> e) | 2016/17<br>(tCO <sub>2</sub> e) | 2017/18<br>(tCO <sub>2</sub> e) | 2018/19<br>(tCO <sub>2</sub> e) | 2019/20<br>(tCO <sub>2</sub> e) | 2020/21<br>(tCO <sub>2</sub> e) | Change<br>since<br>2019/20 |
|---------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------|
| Electricity         | 31,030                          | 26,734                          | 21,048                          | 18,374                          | 14,712                          | 11,698                          | -20%                       |
| Natural gas         | 19,458                          | 18,209                          | 19,403                          | 19,030                          | 18,285                          | 17,669                          | -3%                        |
| Other heating fuel  | 1,545                           | 1,610                           | 1,790                           | 1,745                           | 851                             | 1,169                           | 37%                        |
| Refrigerants        | -                               | -                               | -                               | 211                             | 144                             | 757                             | 424%                       |
| Waste and recycling | 728                             | 661                             | 622                             | 591                             | 277                             | 240                             | -13%                       |
| Water and sewerage  | 370                             | 364                             | 388                             | 330                             | 350                             | 77                              | -78%                       |
| Travel              | 1,413                           | 2,081                           | 1,948                           | 1,693                           | 1,026                           | 140                             | -86%                       |
| Transport fuel      | 1,018                           | 325                             | 236                             | 422                             | 228                             | 130                             | -43%                       |
| Commuting           | -                               | -                               | -                               | 48                              | 46                              | 345                             | 645%                       |
| Homeworking         | -                               | -                               | -                               | -                               | -                               | 2,255                           | -                          |
| Renewables          | 54                              | 64                              | 101                             | 121                             | 112                             | 84                              | -25%                       |
| <b>Total</b>        | <b>55,615</b>                   | <b>50,049</b>                   | <b>45,536</b>                   | <b>42,563</b>                   | <b>36,033</b>                   | <b>34,563</b>                   | <b>-4%</b>                 |

Since 2015/16 the FE Sector has reduced its GHG emissions by 21,052 tonnes of CO<sub>2</sub>e or 38%. 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 10%, Scope 2 emissions have reduced by 62% and Scope 3 emissions have reduced by 18%.

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



It is concerning that Scope 1 emissions have only reduced by 10% since 2015/16. These are direct emissions that are the primary responsibility of institutions and present the greatest reduction opportunity.

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 48% since 2016. The decrease in Scope 3 emissions is also partly due to the decarbonisation of the national grid as transmission and distribution losses account for 25% of total Scope 3 emissions.

Please note that Scope 3 emissions are currently under-reported as commuting emissions have only been included by two institutions and supply chain emissions have not yet been reported. Therefore in 2022, the FE Sector should consider expanding reporting to include these key sources of Scope 3 emissions<sup>3</sup>.

<sup>3</sup> [The HESCET tool for reporting supply chain emissions is available from APUC](#)

## Performance Metrics

As shown in Table 4, average HE sector emissions during 2020/21 were 43 tonnes of CO<sub>2</sub>e per million pounds of budget and 2.9 tonnes of CO<sub>2</sub>e per full time equivalent (FTE) employee. These performance metrics have been modified from previous reporting periods to align with wider public sector reporting.

**Table 4. Performance metrics for 2020/21**

| Performance metrics                | 2020/21 |
|------------------------------------|---------|
| Budget (tCO <sub>2</sub> e/£m)     | 43.0    |
| Employees (tCO <sub>2</sub> e/FTE) | 2.9     |

## Case study: Fife College

### Dunfermline Learning Campus

Dunfermline Learning Campus is a collaboration between Fife College & Fife Council and is a pathfinder project for the Scottish Futures Trust's [Net Zero Public Sector Buildings Standard](#). It is due to open in 2024 and will be the first net zero campus in Scotland. The project team used dynamic simulation modelling to set ambitious operational carbon targets and energy consumption is predicted to be 64% lower than average. The embodied emissions associated with construction materials have also been considered and the project aims to reduce these by 40%.



## Summary & Recommendations

The sixth mandatory year of the Public Bodies Climate Change Duties reporting demonstrates further progression for colleges with GHG emissions reductions and sustainability reporting.

Headline points to note:

- There has been a 4% reduction in FE sector GHG emissions since 2019/20 and a 38% reduction since 2015/16;
- Since 2015/16, Scope 2 & 3 emissions have reduced by 62% and 18% respectively, while Scope 1 emissions have only reduced by 10% 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.

Excellent progress has been made but going forward it is important that the FE Sector prioritise decarbonising heat in order to reduce its Scope 1 emissions. 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](#).

Scope 1 emissions from heating are generally under the direct control of institutions and should therefore present some of the greatest reduction opportunities. There is recognition that financing has historically been a key barrier for public bodies who cannot borrow, so the Scottish Government has announced £200million of grants to decarbonise the public sector estate over the course of the next parliament. However, colleges will be competing with other public bodies for these grants and previous programmes have been extensively oversubscribed, therefore the material impact of this funding remains unknown.

With these positive developments in both legislation and funding, and the suite of support on offer from EAUC-Scotland, it is hoped that subsequent reporting years will see further improvements in both the quality of submissions and the reductions achieved by the FE Sector.



Prepared and delivered by EAUC-Scotland

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