



EAUC Scotland Public Bodies Climate Change Duties Overview Report

2022 College Submissions
Analysis & Recommendations

June 2023

Contents

EXECUTIVE SUMMARY	3
INTRODUCTION	3
REPORTING QUALITY	8
ANALYSIS.....	10
PERFORMANCE METRICS	15
SUMMARY & RECOMMENDATIONS.....	15

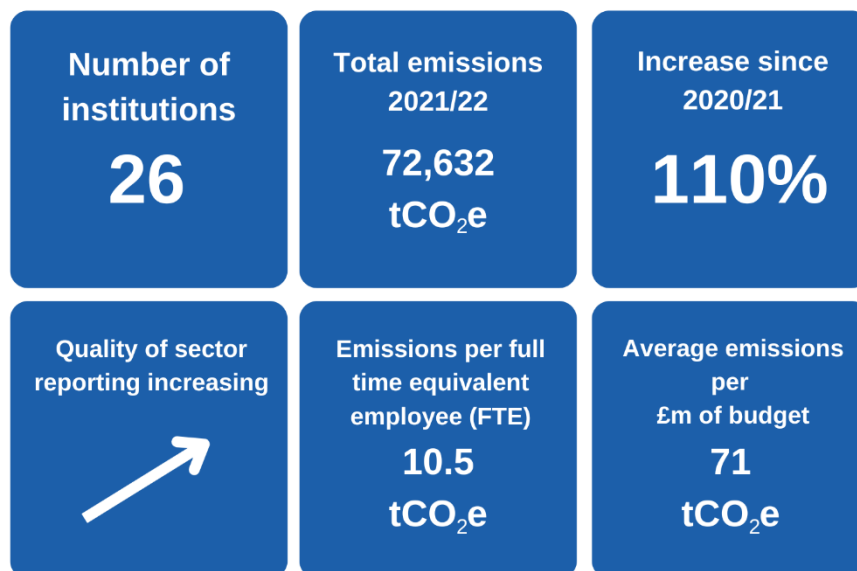
Executive Summary

This analysis report covers sector 2021/22 PBCCD reporting submissions. This was the first year that public bodies were expected to follow the [Scottish Government's Public Sector Leadership on the Global Climate Emergency](#).

Net greenhouse gas (GHG) emissions for the college sector reported during 2021/22 were 72,632 tonnes of carbon dioxide equivalent (tCO₂e). Total reported emissions increased by 110% since 2020/21, mainly due to increased reporting of Scope 3 emission sources (primarily supply chain and commuting) and a reported increase in sector business travel and commuting emissions following the reopening of onsite campus operations. Reported emissions have increased by 31% since mandatory reporting began in 2015/16.

As the college sector fully meets the expectations set out in the [Scottish Government's Public Sector Leadership on the Global Climate Emergency](#), it is expected that reported Scope 3 emissions and total reported emissions will increase significantly more.

Figure 1. Key figures for 2021/22



Average emissions per full time equivalent (FTE) employee were 10.5 tonnes of CO₂e and average emissions per million pounds of budget were 71 tonnes of CO₂e.

Whilst there are examples of best practice reporting by some colleges, this year there has only been a small improvement in the quality of reporting by the Scottish college sector as a

whole. As a result, there remains significant gaps in institutional target setting and reporting against the latest Scottish Government guidance.

Key trends and recommendations for the college sector include:

1. Expanding PBCCD Reporting

Whilst college sector reporting has improved again over the past year, there remains a significant gap between current reporting and the expectations set out by Scottish Government. Colleges should ensure that all relevant emission sources are included in 2022/23 PBCCD reports to be compliant with the guidance.

2. Priority Area 2: Natural Gas Emissions

The college sector has made some positive progress historically in reducing absolute emissions from natural gas. Over the past 7 years emissions from natural gas have reduced by 10%. However, with the Scottish Government expectation of zero direct emissions from public body estate buildings by 2038, the sector must focus efforts to understand, reduce and decarbonise heating emissions.

3. Priority Area 3: Business Travel Emissions

Business travel emissions have rebounded from 2020/21's 140 tCO₂e to this 2021/22's 564 tCO₂e. This remains significantly below pre-Covid 2018/19 emissions of 1,693 tCO₂e. The college sector and supporting sector agencies should look to lock-in changed travel habits and ensure emissions from business travel do not continue to rise in future reporting years.

4. Priority Area 4: Supply Chain Engagement

Supply chain emissions represent 45% of reported sector emissions for 2021/22, despite only 31% of colleges in Scotland reporting this emission source within their PBCCD return. The sector should proactively engage with their supply chains to improve sustainability understanding and action.

5. EAUC Scotland Supporting the Sector

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. EAUC Scotland are also working with key stakeholders to develop new

tools, guidance and sector leadership to tackle key emission areas. Upcoming activities will include:

- Launching an International Student Travel Emissions Calculator Tool;
- Facilitating workshops with sector bodies focused on understanding and reducing sector business travel aviation emissions;
- Publishing guidance on how institutions can use the output from APUC's Scope 3 Supply Chain Emissions Tool within PBCCD reporting and for supply chain engagement.

Priority actions for key college stakeholders:

1. Actions for senior leaders:

- a) ensure robust and extensive institutional monitoring systems are in place to capture and report emissions from all relevant emission sources;
- b) understand the cost for decarbonising the institutional estate and ensure spending and investment strategies for the institution align with net zero obligations;
- c) understand the drivers for business travel within the institution and set emission reduction targets, as identified within Scottish Government guidance;
- d) update travel policies to include a ban on the use of flights for UK mainland domestic business travel, as identified within Scottish Government guidance;
- e) review college digital conferencing infrastructure.

2. Actions for sustainability leads:

- a) review Scottish Government guidance and current institutional PBCCD reporting; identify and address data and knowledge gaps for PBCCD submissions;
- b) review business travel monitoring and work to address data gaps and/or improve data quality;
- c) ensure PBCCD returns include a breakdown of all relevant business travel emission sources (e.g. fleet vehicle; private car; van; flight category);
- d) establish internal groups and forums to share best practice in reducing the need for business travel.

3. Actions for sustainability and procurement leads:

- a) review current procurement strategies and ensure alignment with institutional sustainability objectives;
- b) use the APUC scope 3 supply chain emission tool (or similar) to report annual institutional supply chain emissions within PBCCD submissions;
- c) use frameworks and tools such as EcoVardis to review supply chain sustainability credentials alongside wider priorities (e.g. modern day slavery)

Introduction

The Public Bodies Climate Change Duties (PBCCD) reports from 26 Scottish colleges were submitted for the seventh mandatory year on 30 November 2022, resulting in 100% sector compliance.

The data submitted predominantly covered the academic year 2021/22, which included periods of international Covid-19 travel restrictions and ongoing hybrid delivery of campus operations. 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.

EAUC Scotland has continued to offer support to the Scottish Further & Higher Education (FHE) Sector to improve reporting. Over the past EAUC Scotland programme (2020-23) it included:

- Virtual training sessions on improving GHG emissions reporting;
- Group and one-to-one peer review sessions;
- Contributing to the development of the [Public Sector Leadership on the Global Climate Emergency Guidance](#);
- [Briefing Paper on New PBCCD Reporting Guidance for 2022](#);
- Presenting at CDN's [College Climate Change Conference](#); and
- Engaging with the Universities Scotland University Secretaries Group and the Committee of Scottish [university] Chairs on new reporting requirements.

Reporting Quality

As illustrated in Table 1, there continues to be a wide range of different operational reporting boundaries across the college sector. However, 100% of colleges are reporting the emissions associated with estates energy consumption, 92% are reporting homeworking emissions, and 88% are reporting waste, water and business travel emissions.

Table 1. Percentage of institutions reporting each source of emissions

Emissions source	Number of colleges reporting	Percentage of total	Change from 2020/21
Energy	26	100%	-
Home working	24	92%	↑
Waste	23	88%	-
Water	23	88%	-
Business travel	23	88%	↑
Fleet vehicles ¹	15	58%	↓
Supply chain	8	31%	↑
F-gas	6	23%	↑
Staff commuting	6	23%	↑
Student commuting	3	12%	↑
Land use & livestock ²	0	0%	-
International student travel ²	0	0%	-
Domestic student travel ²	0	0%	-
Leased assets ²	0	0%	-
Fuel- and energy related activities (WTT) ²	0	0%	-
Total number of colleges	26	-	-

The quality of the reports has improved again this year and some colleges have expanded their operational reporting boundaries to include new emission sources for the first time.

This included:

- Eight colleges adding supply chain emissions;
- Four colleges adding staff commuting emissions;

¹ In 2020/21 16 colleges reported fleet vehicle emissions. The reduction in fleet reporting is likely due to the transition to electric vehicles (emission reporting then moves to grid electricity consumption).

² Emission source currently reported within the Scottish university sector; note that some of these emission sources may not be applicable to individual colleges.

- Three colleges adding student commuting emissions;
- Three colleges adding homeworking emissions;
- Two colleges adding business travel emissions;
- One college adding f-gas emissions.

Whilst the quality of reports has improved again for several colleges, the sector as a whole has not significantly improved the scope of reported emissions compared to 2020/21. This is despite the Scottish Government guidance for the public sector coming into play for the first time in 2021/22's reports.

In order to be compliant with the guidance, Scottish colleges should report all relevant emission sources for 2022/23 PBCCD submissions. Note that the majority of the emission sources listed in Table 1 are relevant for all colleges in Scotland.

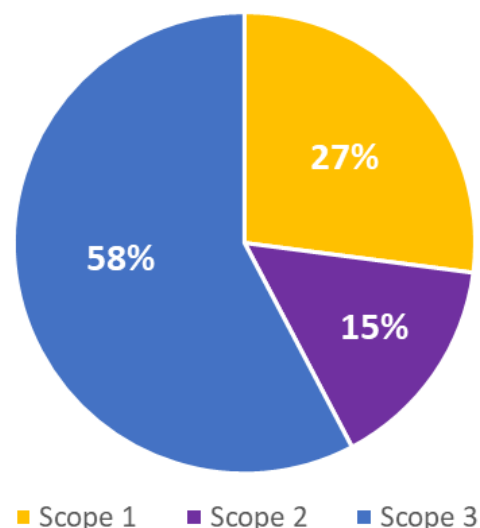
Action: EAUC-Scotland will continue to work with institutions to improve the quality of reporting and expand reporting boundaries in line with the [Public Sector Leadership on the Global Climate Emergency](#) guidance. The next sector PBCCD Peer Review session will be 14th November 2023 (online).

Analysis

Total reported net emissions from the college sector in 2021/22 were 72,632 tCO₂e.

As shown in Figure 2, in the reporting period 2021/22 Scope 1 sources accounted for 27% of total reported emissions, Scope 2 sources accounted for 15% of the reported total and Scope 3 sources accounted for the remaining 58%.

Figure 2: Breakdown of emissions by scope



The majority of reported emissions arose from:

- Supply chains – 32,449 tCO₂e (45% of total reported emissions)
- Natural gas – 17,577 tCO₂e (24% of total reported emissions)
- Grid electricity consumption – 11,004 tCO₂e (15% of total reported emissions)

A full breakdown of reported emissions can be seen in Table 2.

Between 2020/21 and 2021/22 total reported emissions for the college sector increased by 38,069 tCO₂e, or 110% of total reported emissions. A breakdown of the percentage change in emissions for each source is shown in Table 3. The increase in reported emissions is predominantly due to expanded reporting by the sector of key Scope 3 emissions sources (namely supply chain, commuting and business travel) which should be viewed positively. If the college sector meets the expectations set out in the [Scottish Government's Public Sector Leadership on the Global Climate Emergency](#), it is expected that reported Scope 3 emissions and total reported emissions will increase significantly again.

Noticeable emission trends beyond expanding reporting include:

- There has been minimal progress on reducing absolute emissions from natural gas and a small increase in absolute emissions from electricity consumption between 2020/21 and 2021/22 reporting periods.

- There has been a 26% reduction in homeworking emissions compared to 2020/21, despite 3 further colleges reporting this emission source in 2021/22. As more staff move back to working on-site, this has likely caused in a slight increase in the reported for electricity consumption, waste and water emission sources. This trend to increased on-site working is also expected to have contributed to the observed increase in commuting emissions (alongside more colleges reporting commuting emissions in 2021/22).

- There has been a 33% reduction in reported Biomass emissions compared to 2020/21; however, emissions from biomass are relatively minor in the college sector.

- There has been a 29% increase in reported waste management emissions compared to 2020/21. The emission conversion factors for waste management have not significantly changed compared to 2020/21, and the number of institutions reporting waste emissions has stayed the same. As a result, this increase is attributed to increased waste generation for several colleges, likely due to construction work.

- There has been a 303% increase in business travel emissions compared to 2020/21. Emissions from aviation represented 88% of total report business travel emissions in 2021/22. This increase follows the removal of most international Covid-19 travel restrictions.

Table 2: Reported Scottish university sector emissions 2021/22

College Sector 2021/22		
Emissions source	(tCO ₂ e)	Percentage
Scope 1		
Natural gas	17,577	24.2%
Biomass	56	0.1%
Gas oil	880	1.2%
Other fuels	276	0.4%
Fleet vehicles	191	0.3%
F-gases	674	0.9%
Livestock & land use	-	0.0%
Subtotal	19,654	27.1%
Scope 2		
Grid electricity	11,044	15.2%
Purchased heat & steam	15	0.0%
Subtotal	11,059	15.2%
Scope 3		
Electricity transmission & distribution	1,007	1.4%
Heat transmission & distribution	-	0.0%
Waste	309	0.4%
Water (supply and treatment)	84	0.1%
Business travel - car & van	277	0.4%
Business travel - rail	2.7	0.0%
Business travel - taxi	11	0.0%
Business travel - bus	13.2	0.0%
Business travel - ferry	7	0.0%
Business travel - air	253	0.3%
Hotel stays	-	0.0%
Staff commuting	1,630	2.2%
Student commuting	4,162	5.7%
International student travel	-	
Domestic student travel	-	
Homeworking	1,663	2.3%
Supply chain	32,499	44.7%
Leased assets	-	0.0%
Investments	-	0.0%
Fuel- and energy related activities (WTT)	-	0.0%
Subtotal	41,918	57.7%
Total	72,632	100%

*Table 3: Comparison of reported Scottish college emissions between reporting periods*³

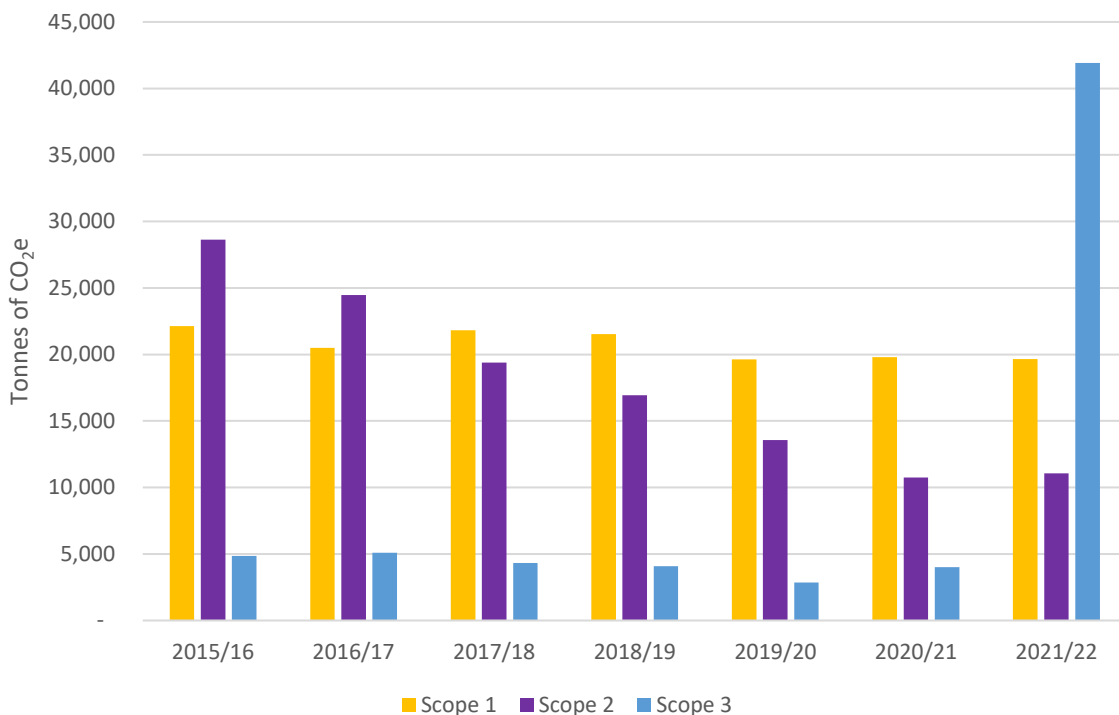
Source of emissions	2015/16 (tCO ₂ e)	2016/17 (tCO ₂ e)	2017/18 (tCO ₂ e)	2018/19 (tCO ₂ e)	2019/20 (tCO ₂ e)	2020/21 (tCO ₂ e)	2021/22 (tCO ₂ e)	Change since 2020/21
Natural gas	19,458	18,209	19,403	19,030	18,285	17,669	17,577	-1%
Biomass	54	64	101	121	112	84	56	-33%
Other heating fuel	1,545	1,610	1,790	1,745	851	1,169	1,157	-1%
F-gases	-	-	-	211	144	757	674	-11%
Fleet vehicles	1,018	325	236	422	228	130	191	47%
Land use & livestock	-	-	-	-	-	-	-	-
Electricity	31,030	26,734	21,048	18,374	14,712	11,698	12,051	3%
Purchased heat	-	-	-	-	-	-	15	-
Waste management	728	661	622	591	277	240	309	29%
Water (supply and treatment)	370	364	388	330	350	77	84	9%
Business travel	1,413	2,081	1,948	1,693	1,026	140	564.40	303%
Commuting	-	-	-	48	46	345	5,792	1581%
Homeworking	-	-	-	-	-	2,255	1,663	-26%
Supply chain	-	-	-	-	-	-	32,499	0%
Total	55,615	50,049	45,536	42,563	36,033	34,563	72,632	110%

³ Please note that “Electricity” includes emissions associated generation and transmission and distribution losses

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 11%;
- Scope 2 emissions have reduced by 61%; and
- Scope 3 emissions have increased by 31%.

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



Scope 1 emissions for 2021/22 reduced slightly compared to 2020/21, primarily due to the reduced use of biomass as a heating fuel. Over the past 7 years, reported emissions from heating fuels (natural gas, biomass and other heating fuels) have reduced by 11%, compared with a 7% average reduction across all relevant public bodies in Scotland.

The 61% reduction in Scope 2 emissions since 2015/16 has been achieved through energy efficiency projects, renewables and the decarbonisation of the UK electricity grid, which has reduced grid carbon intensity by 53% over the past 7 years. The 762% increase in Scope 3 emissions is due to expanded reporting of emissions by colleges.

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

Performance Metrics

As shown in Table 4, average FHE sector emissions during 2021/22 were 90.6 tonnes of CO₂e per million pounds of budget and 10.9 tonnes of CO₂e per full time equivalent employee (FTE). These performance metrics have been modified from previous reporting periods to align with wider public sector reporting.

Table 4. Performance metrics for 2020/21 and 2021/22

Performance metrics	2020/21	2021/22
Universities		
Budget (tCO ₂ e/£m)	65.7	117.5
Employees (tCO ₂ e/FTE)	6.1	11.3
Colleges		
Budget (tCO ₂ e/£m)	43.0	71.0
Employees (tCO ₂ e/FTE)	2.9	10.5
FHE Sector		
Budget (tCO ₂ e/£m)	53.0	90.6
Employees (tCO ₂ e/FTE)	4.3	10.9

Colleges continue to have lower average emissions per million pounds of budget and FTE, due to differences in operational reporting boundaries and lower rates of business travel.

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 within PBCCD Reporting to improve the quality of the performance metrics.

Summary & Recommendations

2021/22 represents the seventh mandatory year of the Public Bodies Climate Change Duties Reporting for Scotland's universities. Headline trends and recommendations to note:

1. **Total Reported Emissions vs Improving Reporting Quality**

Whilst there has been a 110% increase in reported emissions in 2021/22 compared to 2020/22, this is primarily due to increased quality of reporting by institutions. Previous reporting years, particularly for Scope 3 emissions, should be viewed as significantly under-reporting sector emissions.

2. **Priority Area 1: Expanding PBCCD Reporting**

Whilst sector reporting has improved again over the past year, there remains a gap between current reporting and the expectations set out by Scottish Government. Colleges should ensure that all relevant emission sources are included in 2022/23 PBCCD reports to be compliant of the guidance. A complete and transparent emissions profile for an institution will also support better informed decision-making for reducing emissions.

3. **Priority Area 2: Natural Gas Emissions**

The college sector has made some positive progress historically in reducing absolute emissions from natural gas. Over the past 7 years emissions from natural gas have reduced by 10%. However, with the Scottish Government expectation of zero direct emissions from public body estate buildings by 2038, the sector must focus efforts to understand, reduce and decarbonise heating emissions.

4. **Priority Area 3: Business Travel Emissions**

Business travel emissions have rebounded from 2020/21's 140 tCO₂e to this 2021/22's 564 tCO₂e. This remains significantly below pre-Covid 2018/19 emissions of 1,693 tCO₂e. The college sector and supporting sector agencies should look to lock-in changed travel habits and ensure emissions from business travel do not continue to rise in future reporting years.

5. **Priority Area 4: Supply Chain Engagement**

Supply chain emissions represent 45% of reported sector emissions for 2021/22, despite only 31% of colleges in Scotland reporting this emission source within their

PBCCD return. The sector should proactively engage with their supply chains to improve sustainability understanding and action.

6. **EAUC Scotland Supporting the Sector**

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. EAUC Scotland are also working with key stakeholders to develop new tools, guidance and sector leadership to tackle key emission areas. Upcoming activities will include:

- Launching an International Student Travel Emissions Calculator Tool;
- Facilitating workshops with sector bodies focused on understanding and reducing sector business travel aviation emissions;
- Publishing guidance on how institutions can use the output from APUC's Scope 3 Supply Chain Emissions Tool within PBCCD reporting and for supply chain engagement.

Priority actions for key college stakeholders:

1. **Actions for senior leaders:**

- f) ensure robust and extensive institutional monitoring systems are in place to capture and report emissions from all relevant emission sources;
- g) understand the cost for decarbonising the institutional estate and ensure spending and investment strategies for the institution align with net zero obligations;
- h) understand the drivers for business travel within the institution and set emission reduction targets, as identified within Scottish Government guidance;
- i) update travel policies to include a ban on the use of flights for UK mainland domestic business travel, as identified within Scottish Government guidance;
- j) review college digital conferencing infrastructure.

2. **Actions for sustainability leads:**

- e) review Scottish Government guidance and current institutional PBCCD reporting; identify and address data and knowledge gaps for PBCCD submissions;
- f) review business travel monitoring and work to address data gaps and/or improve data quality;

- g) ensure PBCCD returns include a breakdown of all relevant business travel emission sources (e.g. fleet vehicle; private car; van; flight category);
- h) establish internal groups and forums to share best practice in reducing the need for business travel.

3. Actions for sustainability and procurement leads:

- d) review current procurement strategies and ensure alignment with institutional sustainability objectives;
- e) use the APUC scope 3 supply chain emission tool (or similar) to report annual institutional supply chain emissions within PBCCD submissions;
- f) use frameworks and tools such as EcoVardis to review supply chain sustainability credentials alongside wider priorities (e.g. modern day slavery)



Prepared and delivered by EAUC Scotland

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