

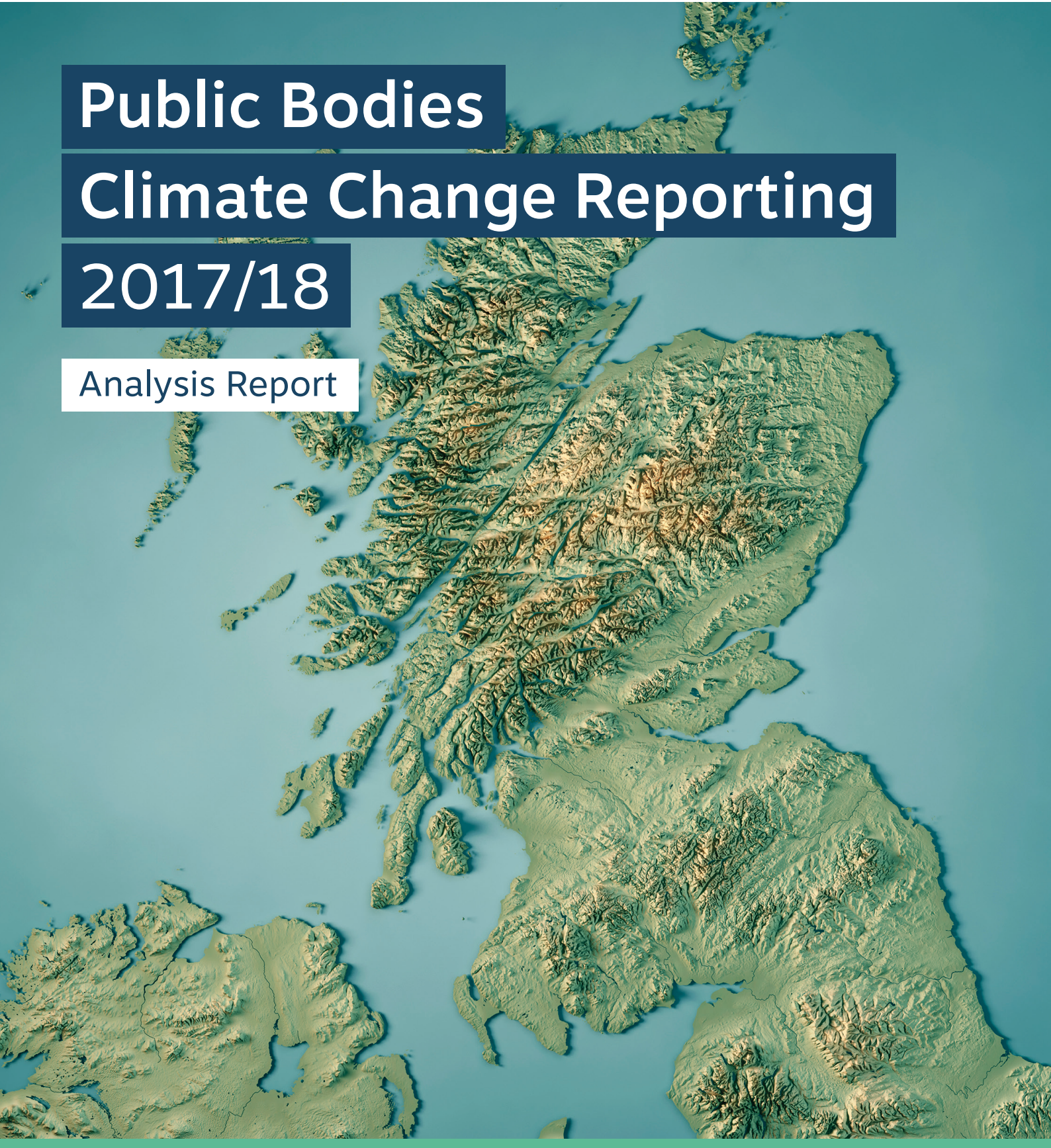


**Public Bodies**

**Climate Change Reporting**

**2017/18**

**Analysis Report**



# Foreword

The Sustainable Scotland Network manages and supports the public sector on mandatory Climate Change reporting. We are pleased to present this analysis of submitted data for the reporting period 2017/18.

Scotland's public sector continues to reduce emissions in this, the third year, of mandatory reporting by public bodies. It is clear that public bodies are making an active contribution to emissions reduction – even when taking into account the decarbonisation of the electricity grid. This year the public sector has reported new project activity relating to CHP installations, BMS upgrades, biomass boilers, insulation, waste-to-landfill diversions, water efficiency measures, business travel policies and EV network expansion.

Importantly, we can see that reporting itself is improving, with the practice of monitoring, reporting and evaluation better embedded across the public sector and more organisations taking a more strategic and whole-organisation approach to sustainability and climate change.

This report presents high-level analysis of the information contained in the Public Bodies Climate Change Reports for the period 2017/18. It focuses on the quantitative information on the corporate emissions (Section 3) reported by the public bodies. It does not consider the other sections of the climate change reports – wider influence, adaptation, procurement or governance.

The SSN will continue to support climate change reporting and to build capacity across the Network to help strengthen and mature organisational reporting. We are working closely with the Scottish Government and our members to consider how reporting can be made more efficient and better used to drive decision making and leadership at individual, organisational, sector and national levels.

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# 1. Introduction

The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015 requires all public bodies classified as major players to publish annual climate change reports. For the reporting year 2017/18 there were 180 public bodies classified as major players.

This report has been produced by the Sustainable Scotland Network (SSN) and presents high-level analysis of the information contained in the Public Bodies Climate Change Reports (Section 3) for the period 2017/18.

The climate change reports provide information on the action being taken by Scotland's public bodies to reduce greenhouse gas emissions, adapt to a changing climate and promote sustainable development.

Reports include information on:

- Profile of the public body
- Governance, management and strategy
- Corporate emissions
- Adaptation
- Procurement
- Validation

It is recommended that public bodies also voluntarily report their 'wider influence' on climate change and other notable activity relating to sustainable development.

This analysis report focuses on the quantitative information on the public bodies' corporate emissions (Section 3). Since Integrated Joint Boards (IJBs) do not have operational control of the services provided by their NHS and local government partners, no emissions data has been reported directly by IJBs. All emissions data relating to integrated health and social care services is captured and reported within NHS and local government reports. Therefore, all information on emissions in this analysis report is taken from the 150 non-IJB reports.

Please note, the analysis is based on data reported by public bodies. The data has been quality assured to:

- correct emission scope allocations
- add in missing paired emission sources (for example, it is assumed that reporting electricity generation also has transmission and distribution losses)
- identify obvious errors of scale.

## About the SSN

Public Bodies Climate Change Reporting is managed and coordinated on behalf of the Scottish Government by the Sustainable Scotland Network (SSN) secretariat. The SSN secretariat is delivered by the Edinburgh Centre for Carbon Innovation (ECCI) and Sniffer and is based at ECCI.

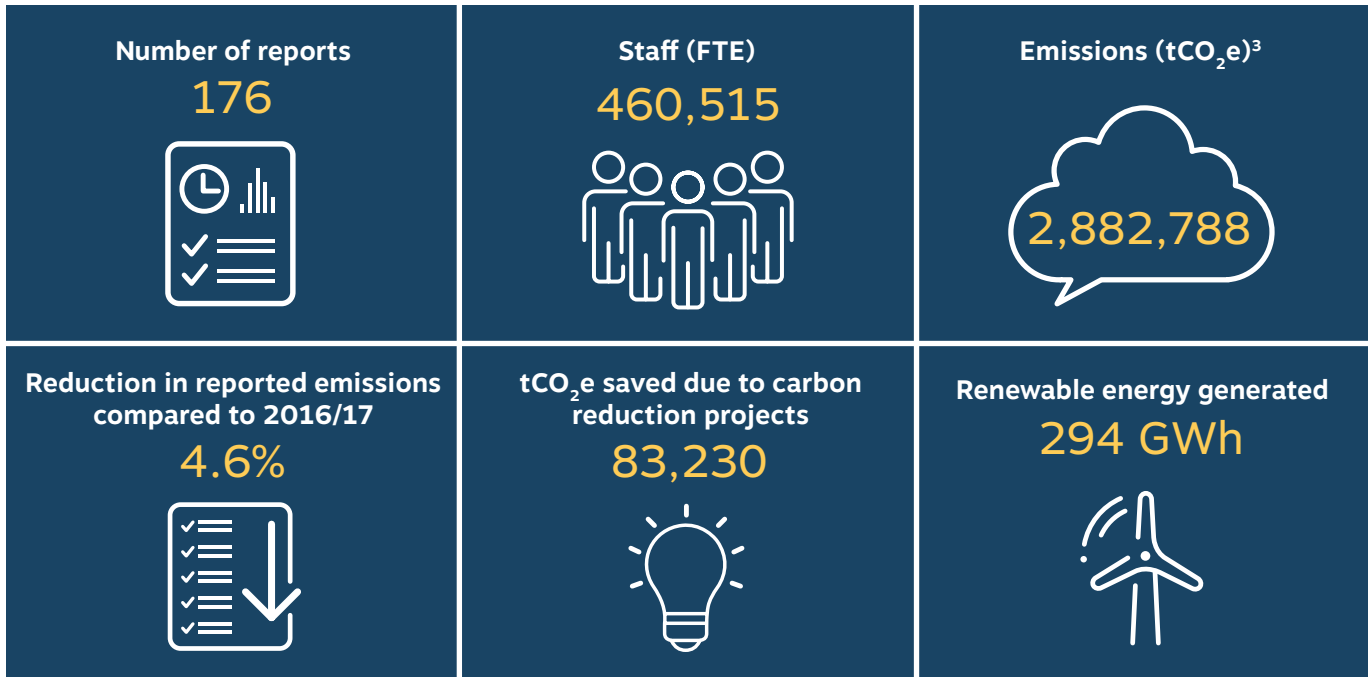
Supported by the Scottish Government, SSN is the national network for public sector professionals working on sustainable development and climate change.

SSN works with the 180 public sector organisations in Scotland which have been identified as 'major players'. The major players include Scotland's 32 local authorities, 25 colleges, 19 universities, 14 regional NHS boards, 5 Special NHS Boards, 7 Regional Transport Partnerships, 30 Integrated Joint Boards and many other bodies including Scottish Water, Scottish Natural Heritage, the Scottish Environment Protection Agency and Historic Environment Scotland. The SSN currently has over 700 individual members from across the public sector.

## 2. Overview

In 2017/18, 176 major player public bodies submitted climate change reports. The four non-compliant organisations were all IJBs<sup>1</sup>. Therefore all 150 organisations that completed Section 3 submitted their reports before the deadline. In addition to the 100% reporting of mandatory information, 90 public bodies<sup>2</sup> voluntarily provided information on their wider influence activities on climate change and sustainable development to some degree.

### Key facts and figures



### Number of reports, split by sector

| Sector                   | 2017/18                     |            |
|--------------------------|-----------------------------|------------|
|                          | Number of submitted reports | % return   |
| Local Government         | 32                          | 100%       |
| National Health Service  | 19                          | 100%       |
| Educational Institutions | 44                          | 100%       |
| Transport Partnerships   | 7                           | 100%       |
| Others*                  | 48                          | 100%       |
| Integration Joint Boards | 26                          | 87%        |
| <b>Total</b>             | <b>176</b>                  | <b>98%</b> |

\* National and regional public bodies

<sup>1</sup> IJB reports are not part of this analysis.

<sup>2</sup> These were 32 local government, 24 education institutions, 5 NHS, 4 transport partnerships, and 25 others. IJBs excluded from this analysis.

<sup>3</sup> CO<sub>2</sub>e, or carbon dioxide equivalent, is a standard unit for measuring carbon footprints and includes the different greenhouse gases in one unit. tCO<sub>2</sub>e refers to tonnes CO<sub>2</sub>e.

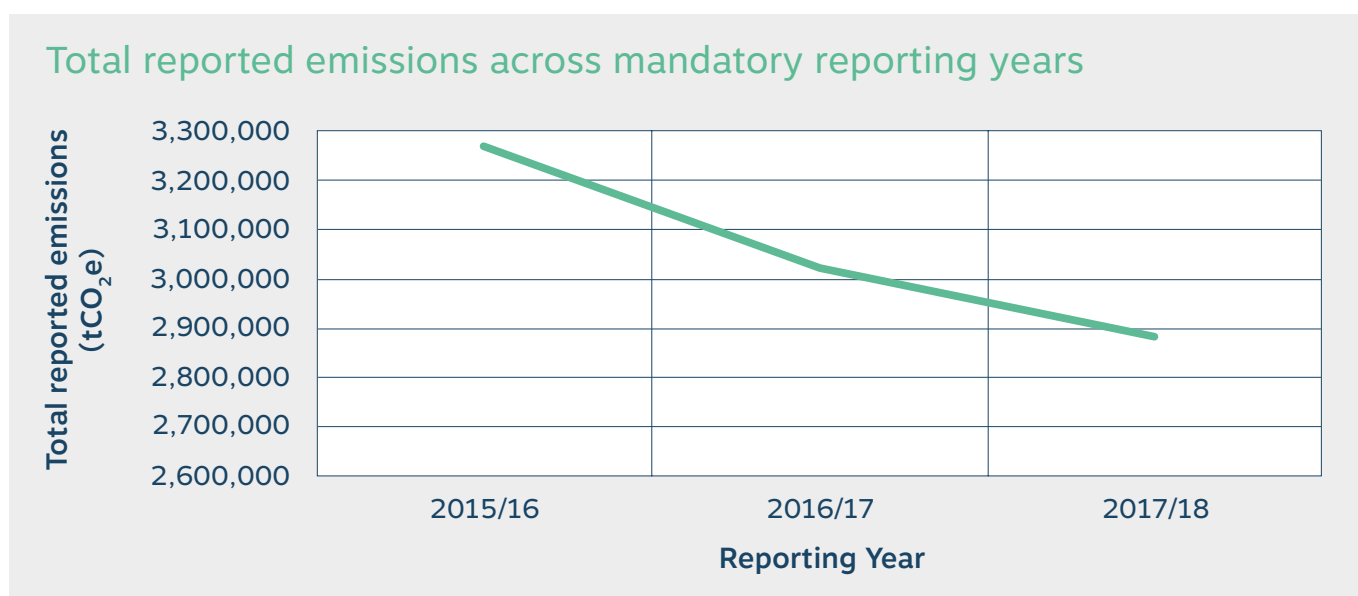
## Total reported emissions

For the reporting period 2017/18 there has been a 4.6% reduction in emissions from 2016/17. It is important to understand the variables that influenced this overall reduction.

Emissions have primarily reduced due to a reduction in the carbon intensity of electricity generation – referred to throughout this document as the electricity emission factor. This emission factor reflects the carbon intensity of the electricity grid in the UK<sup>4</sup>. However, 2017/18 was a cooler year than 2016/17, which increased heating demand and therefore also emissions from heating.

Taking these variables into account, it is possible to estimate that out of the 4.6% reduction in emissions, around 2% is due to action by public bodies. This estimate is based on the level of emissions reduction reported by public bodies from projects and other factors<sup>5</sup>.

The chart below shows the progress public sector bodies have made in reducing reported emissions over the three years since mandatory reporting came into effect. There is a clear year-on-year decreasing trend since 2015/16. Reported emissions for 2017/18 are 4.6% less than 2016/17 and 11.8% less than 2015/16.



### **SPOTLIGHT** Loch Lomond & the Trossachs National Park Authority

#### **Funding native woodlands**

The National Park Authority Grant Scheme supported the planting of 560 native trees and 2,710 hedge plants across the National Park last year. Scotland's native trees and woodlands are a vital tool in combating the effects of climate change and the National Park Authority estimates that the trees and hedges planted as part of the Grant Scheme will absorb 1.38 tCO<sub>2</sub> every year. They aim to continue to offer this funding for small scale planting within the National Park.

<sup>4</sup> Decarbonisation of Scotland's electricity system is being achieved by increasing the generation share of low-carbon energy sources, including renewables.

<sup>5</sup> Other factors include estate and staff changes and changes in service provision.

### 3. Corporate Emissions Breakdown

Public bodies report on their corporate greenhouse gas (GHG) emissions<sup>6</sup>. Corporate emissions are emissions that relate to the activities of the public bodies, including emissions from their estate, owned assets and service activities.

Each public body determines what it includes in its reporting boundary. While there is some variability, the majority include emissions from gas, fuel use, water and electricity consumption (Scopes 1 & 2). The inclusion of emissions from other activities such as waste, non-fleet business travel, and procurement (Scope 3) is much more varied.

#### What are Scopes 1, 2 and 3?

Corporate emissions are emissions relating directly to the organisation’s assets and activities. Many organisations already record Scope 1 and 2 emissions plus selected Scope 3 emissions.

|   |   |  |
|---|---|--|
| <div style="background-color: #003366; color: white; padding: 5px; border-radius: 10px 10px 0 0;"><b>Scope 1<br/>(direct emissions)</b></div> <div style="background-color: #e0e0e0; padding: 10px; border-radius: 0 10px 10px 10px;"><p>Activities owned or controlled directly by an organisation that release emissions straight into the atmosphere. Examples include emissions from combustion in owned or controlled boilers, furnaces, vehicles.</p></div> | <div style="background-color: #33a06c; color: white; padding: 5px; border-radius: 10px 10px 0 0;"><b>Scope 2<br/>(energy indirect)</b></div> <div style="background-color: #e0e0e0; padding: 10px; border-radius: 0 10px 10px 10px;"><p>Emissions being released into the atmosphere associated with an organisation’s consumption of purchased electricity, heat, steam and cooling but which occur at sources outside ownership or control.</p></div> | <div style="background-color: #e67e22; color: white; padding: 5px; border-radius: 10px 10px 0 0;"><b>Scope 3<br/>(other indirect)</b></div> <div style="background-color: #e0e0e0; padding: 10px; border-radius: 0 10px 10px 10px;"><p>Emissions that are a consequence of the organisation’s activities but which occur at sources outside ownership or control and which are not classed as Scope 2 emissions. For example, business travel by means not owned or controlled by your organisation.</p></div> |
|---|---|--|

For more information on identifying and calculating emission sources, see the Greenhouse Gas Protocol: <https://ghgprotocol.org/corporate-standard>



#### **SPOTLIGHT** NHS Lanarkshire

##### **Energy efficiency savings**

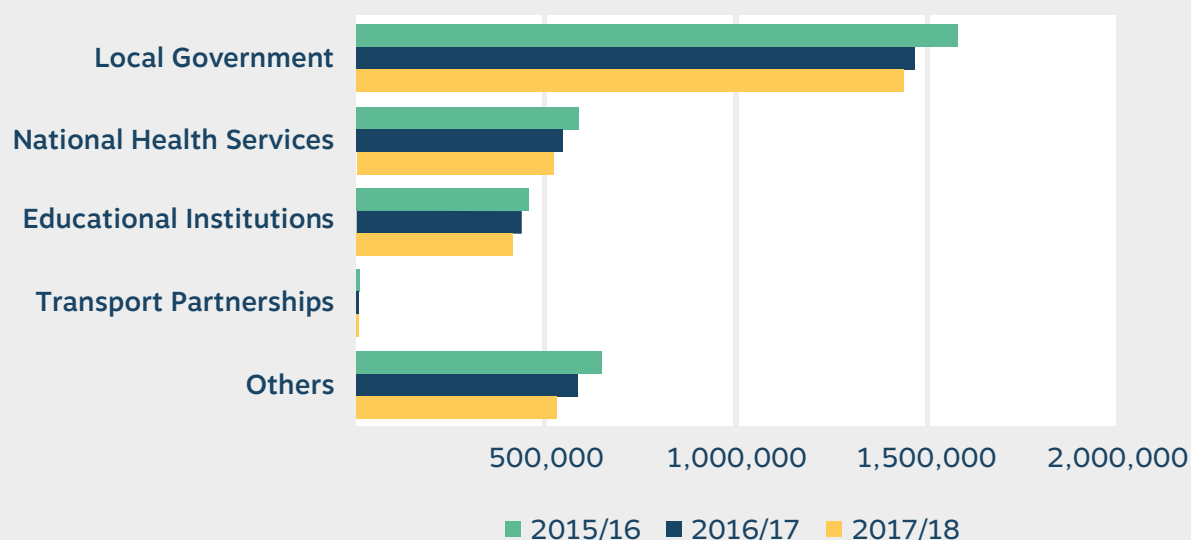
NHS Lanarkshire replaced the 480 kWh Combined Heat & Power (CHP) plant at Wishaw Hospital as part of a life cycle replacement. After review, a 730 kWh unit was installed in late 2017, commissioned in January 2018 and was fully operational by February 2018. In order to gain maximum benefit from the unit the existing transformer was upgraded at the same time. NHS Lanarkshire anticipates savings of over £150k and 1,200 tCO<sub>2</sub> per annum.

<sup>6</sup> Reported as tonnes of carbon dioxide equivalent, tCO<sub>2</sub>e.

## i. Reported emissions, split by sector

| Sector                   | 2015/16 <sup>7</sup>              | 2016/17                           | 2017/18                           | % change<br>2017/18<br>versus<br>2016/17 |
|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
|                          | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) |  |
| Local Government         | 1,580,335                         | 1,463,298                         | 1,436,627                         | -2%                                      |
| National Health Service  | 583,252                           | 541,381                           | 509,551                           | -6%                                      |
| Educational Institutions | 453,632                           | 432,079                           | 410,138                           | -5%                                      |
| Transport Partnerships   | 8,892                             | 7,345                             | 6,571                             | -11%                                     |
| Others                   | 642,481                           | 578,780                           | 519,902                           | -10%                                     |
| <b>Total</b>             | <b>3,268,592</b>                  | <b>3,022,885</b>                  | <b>2,882,788</b>                  | <b>- 4.6%</b>                            |

### Total emissions (tCO<sub>2</sub>e)



## Insights

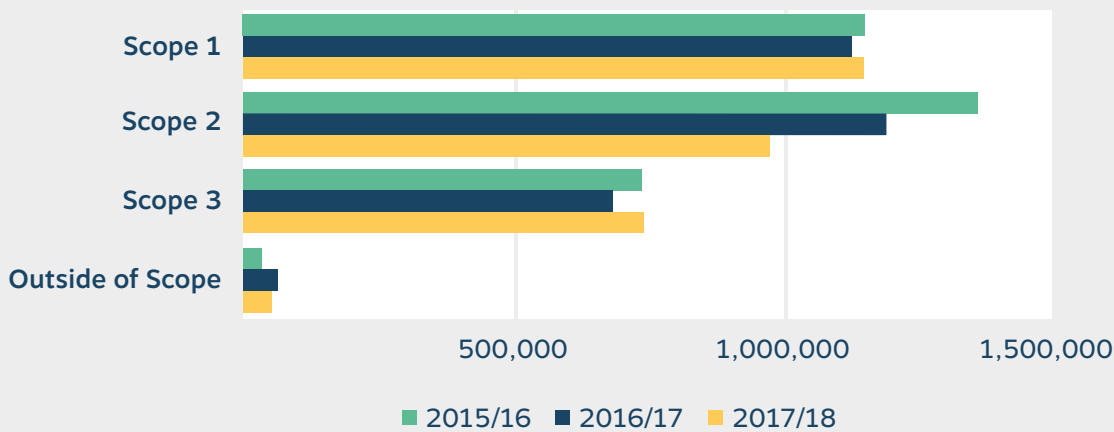
- Local Government represents the biggest share (50%) of emissions. This is consistent with the last two periods of mandatory reporting.
- All sectors have reported a decrease in emissions when compared to 2016/17.

<sup>7</sup> It should be noted that 145 reports were analysed in 2015/16 compared to 150 in 2016/17 and 2017/18.

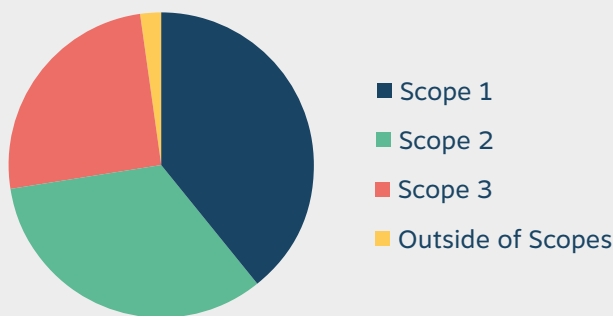
## ii. Corporate emissions, split by Scope

| Sector   | 2015/16                           | 2016/17                           | 2017/18                           | % change<br>2017/18 versus<br>2016/17 |
|--|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|
|  | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) |                                       |
| Scope 1  | 1,158,400                         | 1,132,344                         | 1,156,837                         | 2%                                    |
| Scope 2  | 1,369,236                         | 1,198,287                         | 981,931                           | -18%                                  |
| Scope 3  | 740,956                           | 692,254                           | 744,020                           | 7%                                    |
| Outside of Scope                               | 31,262                            | 61,998                            | 55,096                            | -11%                                  |
| <b>Total (Not including<br/>OOS emissions)</b> | <b>3,268,592</b>                  | <b>3,022,885</b>                  | <b>2,882,788</b>                  | <b>-4.6%</b>                          |

### Total emissions (tCO<sub>2</sub>e)



### Total emissions 2017/18 by Scope (tCO<sub>2</sub>e)



## Insights

- Scope 2 (electricity) emissions represent the biggest change when comparing against 2016/17 figures. This is largely due to a 16% drop (on average) to the electricity emission factor this year.
- Scope 1 emissions have remained mostly flat and the small increase recorded is likely attributed to an increase of degree days<sup>8</sup> in 2017/18 which meant an increase in the consumption of natural gas and other heating fuels.
- Scope 3 emissions have increased by 7%. This can be attributed to increased reporting of emissions. In 2017/18 37 more transport emission sources were reported (many Scope 3) and 30 more waste sources were reported (all Scope 3).

<sup>8</sup> Heating degree days (HDD) are a measure of how cold the temperature was on a given day or during a period of days. A high number of degree days generally results in higher levels of energy use for space heating or cooling. There was a 5.8% increase in degree days from 2016/17 to 2017/18.



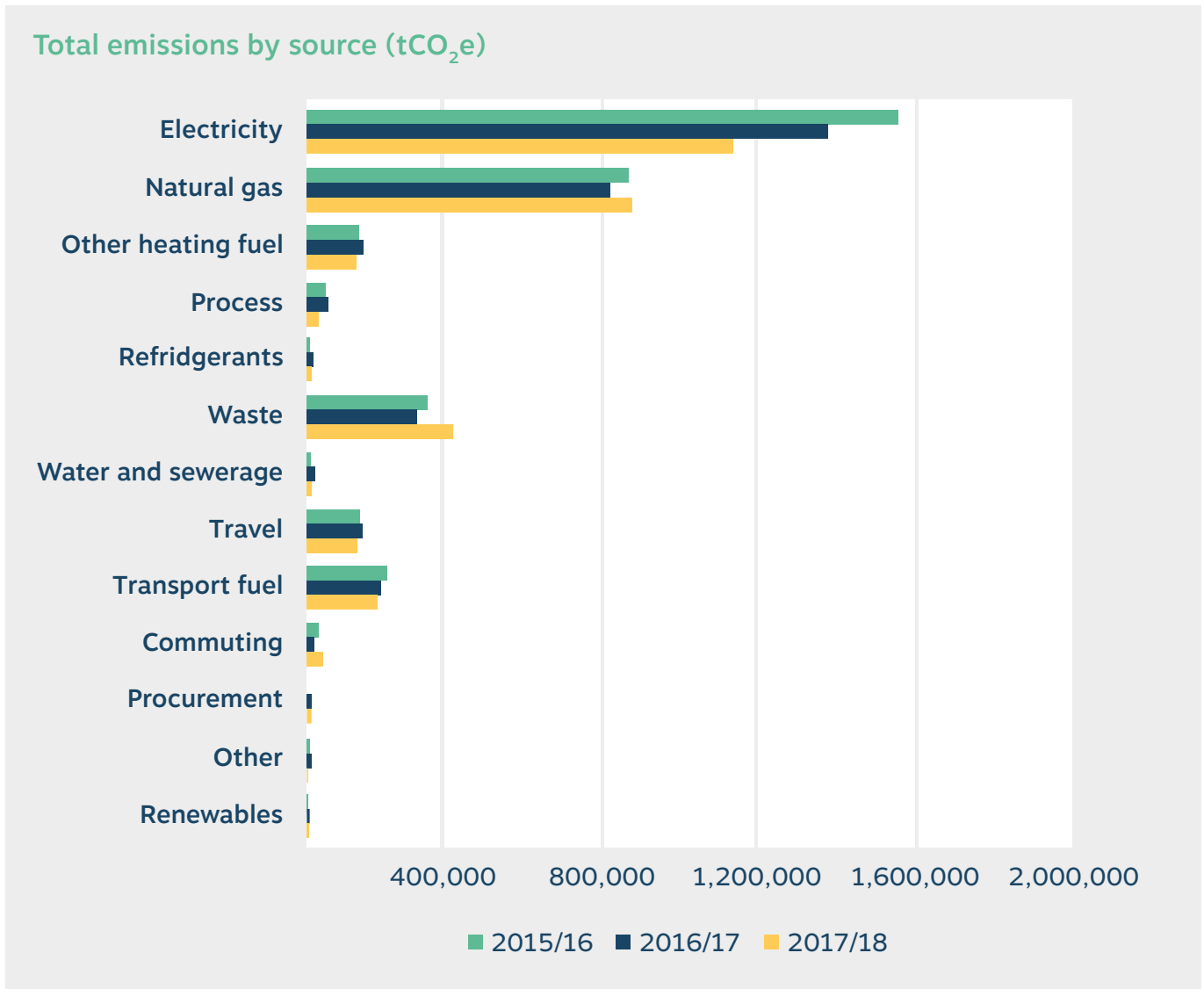
## iii. Corporate emissions, split by source

| Sector             | 2015/16                           | 2016/17                           | 2017/18                           | 2017/18<br>% share of<br>emissions |
|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
|                    | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) | Emissions<br>(tCO <sub>2</sub> e) |                                    |
| Electricity        | 1,550,894                         | 1,360,690                         | 1,119,642                         | 38.8%                              |
| Natural gas        | 843,615                           | 804,047                           | 851,158                           | 29.5%                              |
| Other heating fuel | 133,536                           | 145,319                           | 129,744                           | 4.5%                               |
| Process*           | 47,772                            | 48,048                            | 28,025                            | 1.0%                               |
| Refrigerants       | 620                               | 1,129                             | 1,056                             | 0.0%                               |
| Waste              | 314,737                           | 283,657                           | 381,315                           | 13.2%                              |
| Water and sewerage | 13,655                            | 17,345                            | 15,540                            | 0.5%                               |
| Travel             | 136,532                           | 140,587                           | 132,091                           | 4.6%                               |
| Transport fuel     | 207,559                           | 196,272                           | 190,002                           | 6.6%                               |
| Commuting          | 18,193                            | 13,295                            | 27,286                            | 0.2%                               |
| Procurement*       | -                                 | 5,000                             | 5,000                             | 0.9%                               |
| Other**            | 647                               | 4,391                             | 178                               | 0.0%                               |
| Renewables         | 832                               | 3,105                             | 1,750                             | 0.1%                               |
| <b>Total</b>       | <b>3,268,592</b>                  | <b>3,022,885</b>                  | <b>2,882,788</b>                  | <b>100%</b>                        |

\* Only one body reported on this source in 2016/17 and 2017/18.

\*\* No information was given on source.





## Insights

- Electricity and gas (essentially heating and lighting of premises) make up almost 70% of overall reported emissions in the public sector.
- Reduction in electricity emissions is attributable to the electricity emission factor as well as a 2.9% drop in electricity consumption. This is an improvement on the 2.2% reduction in consumption between 2015/16 and 2016/17.
- Increase in natural gas emissions relates to an almost 6% increase in consumption when compared to reports submitted in 2016/17. This may in part relate to 2017/18 being a cooler year, taking account of degree-day adjustment. Accounting for degree days shows that the consumption from natural gas compared to 2016/17 is essentially flat.
- There was a 3% reduction in tonnage sent to landfill from 2016/17 to 2017/18. While there is less waste being sent to landfill, changes to the emission factor for waste<sup>9</sup> have resulted in higher emissions.
- Commuting emissions have more than doubled between 2016/17 and 2017/18. This is almost certainly due to improved reporting of emissions in this complex area.

<sup>9</sup> There have been methodological changes to how waste emission factors are calculated. These factors are now based on a standardised modelled approach. See the 2018 Government GHG Conversion Factors for Company Reporting; Department for Business, Energy & Industrial Strategy; July 2018; page 10.



## SPOTLIGHT Skills Development Scotland

### Less travel for staff

Skills Development Scotland held its annual 'Limited Internal Travel Month' campaign in February 2018 during which staff were encouraged to make an extra effort to hold their meetings online to reduce the organisation's business travel footprint. Colleagues from locations across the country got involved and achieved a 35% reduction in miles claimed for internal meetings compared to the baseline of February 2016. This amounted to a saving of 13,500 miles and 3 tCO<sub>2</sub>e.



## SPOTLIGHT Argyll and Bute Council

### Biomass investment

Argyll & Bute Council utilised the Scottish Government's Biomass Energy Supply Agreement Framework to procure ten biomass projects on a design and build model, with a six-year operations and maintenance performance contract – the project included a 'community benefits' commitment by the provider to offer talks on renewables and biomass to school pupils.

Lochgilthead Joint Campus was the largest of the ten projects and involved a conversion from an oil-fired heating system to a wood pellet fired system. As a PPP school, this was a challenging project with multiple partners and stakeholders but everyone collaborated and the biomass project was successfully delivered in 2017. The installed system has forecasted carbon savings of 273 tCO<sub>2</sub> per annum and an individual simple project payback of circa eight years (including RHI income).



## 4. Emission Reduction Projects

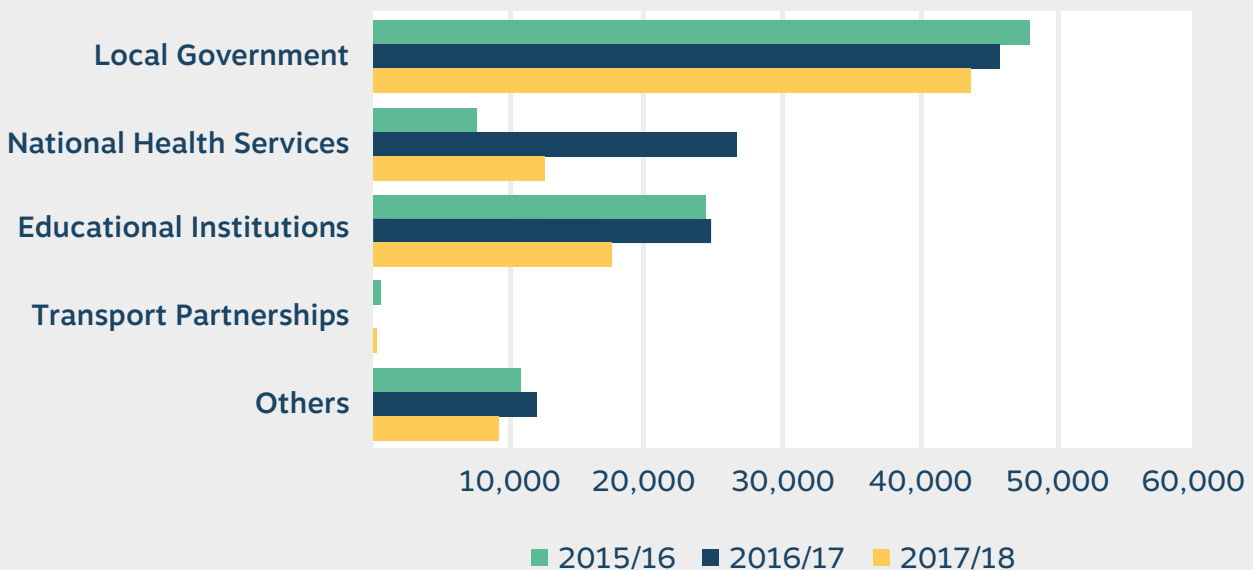
Emission reduction projects are those activities that reduce the emission of greenhouse gases (GHGs) within the reporting year. The table below shows emissions saved by projects, in tCO<sub>2</sub>e, for this year and the two previous years, split by sector. It also presents what these emissions savings are as a percentage of each sector’s total emissions for each year. So, for example, in 2017/18 the emissions savings from projects reported by local authorities was 43,714 tCO<sub>2</sub>e, and this represents 2.95% of local authority emissions for that year. The range of projects reported include those that aim to reduce demand for energy (for example, energy efficiency projects) as well as those that reduce emissions from the supply of energy (for example, renewable energy projects).

### i. Emission reductions from projects, split by sector

| Sector                   | 2015/16                        |                             | 2016/17                        |                             | 2017/18                        |                             |
|--------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------------|
|                          | Emissions (tCO <sub>2</sub> e) | % of total sector emissions | Emissions (tCO <sub>2</sub> e) | % of total sector emissions | Emissions (tCO <sub>2</sub> e) | % of total sector emissions |
| Local Government         | 48,066                         | 2.95%                       | 45,918                         | 3.04%                       | 43,714                         | 2.95%                       |
| National Health Service  | 7,563                          | 1.28%                       | 26,595                         | 4.68%                       | 12,667                         | 2.43%                       |
| Educational Institutions | 24,315                         | 5.09%                       | 24,611                         | 5.39%                       | 17,457                         | 4.08%                       |
| Transport Partnerships   | 442                            | 4.74%                       | -                              | 0.00%                       | 158                            | 2.35%                       |
| Others                   | 10,711                         | 1.64%                       | 11,811                         | 2.00%                       | 9,235                          | 1.75%                       |
| <b>Total</b>             | <b>91,097</b>                  |                             | <b>108,935</b>                 |                             | <b>83,230</b>                  |                             |

Percentage figures are provided to normalise emissions data in relation to total emissions by sector. Percentages are based on the following calculation: Sector total emissions saved by projects / Sector total annual emissions plus project emissions saved.

### Emissions saved due to projects by sector (tCO<sub>2</sub>e)

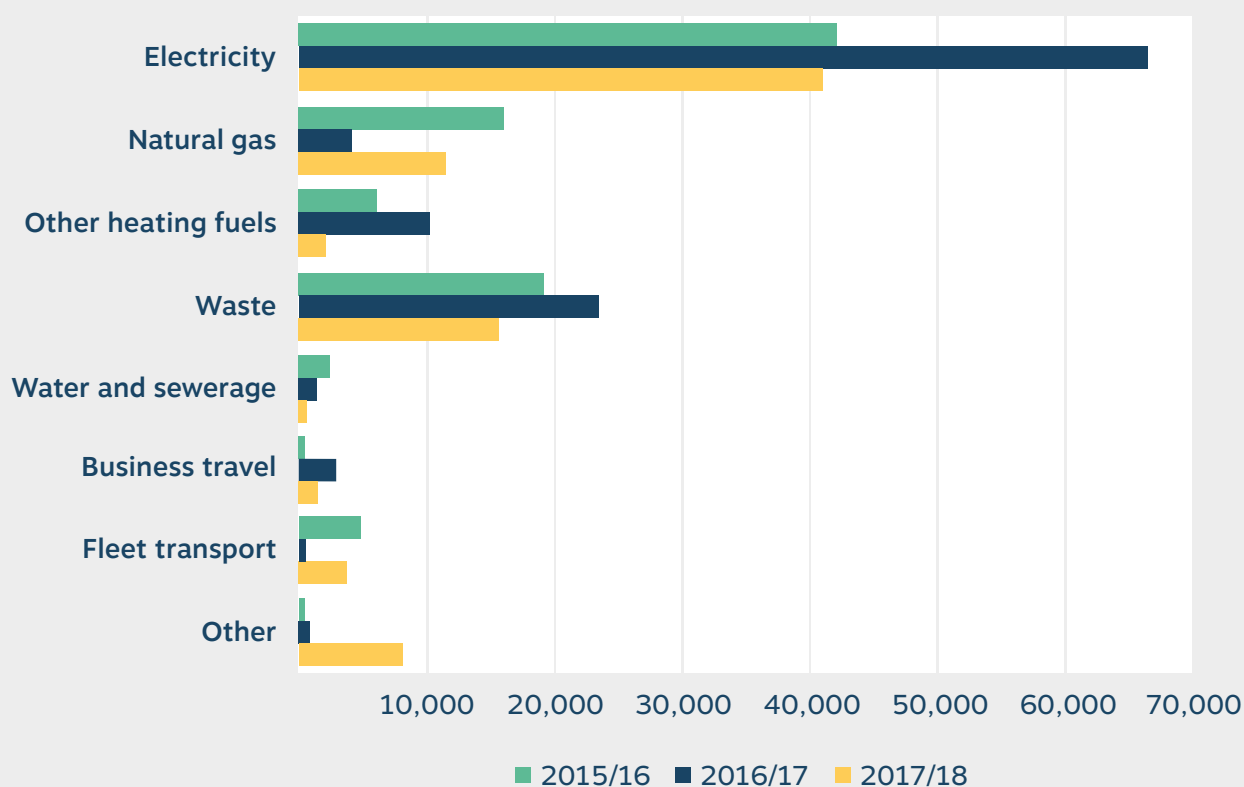


## ii. Emission reductions from projects, split by emission source

Emission reduction projects had an impact on a range of emission sources. Savings of emissions by source are detailed in the table below.

| Sector              | 2015/16                        | 2016/17                        | 2017/18                        |
|---------------------|--------------------------------|--------------------------------|--------------------------------|
|                     | Emissions (tCO <sub>2</sub> e) | Emissions (tCO <sub>2</sub> e) | Emissions (tCO <sub>2</sub> e) |
| Electricity         | 42,054                         | 66,337                         | 40,970                         |
| Natural gas         | 16,112                         | 3,993                          | 11,532                         |
| Other heating fuels | 5,983                          | 10,257                         | 2,023                          |
| Waste               | 19,136                         | 23,188                         | 15,533                         |
| Water and sewerage  | 2,442                          | 1,166                          | 423                            |
| Business travel     | 323                            | 2,739                          | 1,208                          |
| Fleet transport     | 4,670                          | 403                            | 3,675                          |
| Other               | 377                            | 852                            | 7,867                          |
| <b>Total</b>        | <b>91,097</b>                  | <b>108,935</b>                 | <b>83,230</b>                  |

### Emissions saved due to projects by source (tCO<sub>2</sub>e)



## Insights

- Reported emission reduction projects implemented in 2017/18 have resulted in carbon savings of around 83,230 tCO<sub>2</sub>e in the reporting year. This is 23% less emissions savings than 2016/17.
- The decrease compared to last year's project savings may not be an indication of organisations doing less to reduce emissions but may be due to the fact that many standard solutions to reduce emissions have already been implemented.
- Almost 50% of reported projected savings come from projects that reduce electricity emissions, with waste projects being the second biggest contributor (19%).
- Local Government is reporting the largest reduction in emissions through projects (almost 44,000 tCO<sub>2</sub>e), particularly from reducing electricity, gas and waste. This was also the case in 2016/17 and is to be expected given that they are by far the biggest emitters across all the sectors.
- For the second year in a row it is the Educational Institutions that have saved the most emissions relative to their total emissions.
- There was a decrease in the amount of emissions saved through waste and electricity projects compared to 2016/17. This may be attributed to the fact that most 'low-hanging fruit' projects have already been implemented (i.e. LED lighting projects).
- Savings from transport related projects increased in 2017/18. Given that transport is a key area for meeting national targets it is encouraging to see progress here.



### **SPOTLIGHT** Borders College

#### **Pathfinder Project success**

The College participated in the College Energy Efficiency Pathfinder Project (CEEP) – a Scottish Funding Council and Scottish Government initiative to support retrofit on College estates. Borders' goal was to save 17% of energy across the College estate. The College exceeded this with an annual energy saving of 19% and financial savings of £33k per annum.

Work completed under the CEEP project included: over 3,000 light fittings replaced with LED equivalents, improved and centralised control of heating time clocks and ventilation plant, and reduction of site voltage levels by 5%.



## Common types of emission reduction projects reported in 2017/18

The following table details common types of emission reduction projects being reported in 2017/18.

Red text signifies a new addition from the 2016/17 analysis report.

| Emission Source   |                     | Examples  |
|---|---------------------|---|
|    | Electricity         | <ul style="list-style-type: none"> <li>• LED lighting</li> <li>• Lighting – Internal, external and street lighting</li> <li>• Photovoltaic (PV) panels</li> <li>• <b>CHP installations</b></li> </ul>   |
|    | Natural gas         | <ul style="list-style-type: none"> <li>• Boiler upgrade or replacement</li> <li>• <b>BMS upgrades</b></li> <li>• <b>Biomass boiler installations</b></li> </ul>   |
|   | Other heating fuels | <ul style="list-style-type: none"> <li>• Replacement fuel boilers (oil to gas or oil to biomass)</li> <li>• <b>BMS upgrades</b></li> <li>• <b>Insulation improvements</b></li> </ul>  |
|  | Waste               | <ul style="list-style-type: none"> <li>• <b>Diversion of waste-to-landfill projects through recycling and reuse projects</b></li> <li>• Reduced printing projects</li> <li>• <b>Installation of hand dryers</b></li> </ul>                              |
|  | Water and sewerage  | <ul style="list-style-type: none"> <li>• <b>Water efficiency measures</b></li> <li>• <b>Waterless urinals</b></li> <li>• <b>Water leakage reduction</b></li> <li>• Water efficiency audits</li> </ul>   |
|  | Business travel     | <ul style="list-style-type: none"> <li>• <b>Sustainable business travel policies and practices (i.e. 'Limited internal travel month')</b></li> <li>• <b>CO<sub>2</sub> cap on leased fleet</b></li> <li>• <b>Video conferencing projects</b></li> </ul> |
|  | Fleet transport     | <ul style="list-style-type: none"> <li>• <b>Expansion of EV networks</b></li> <li>• Fleet replacement, including hydrogen and electric vehicles</li> </ul>  |

## 5. Renewable Energy Initiatives

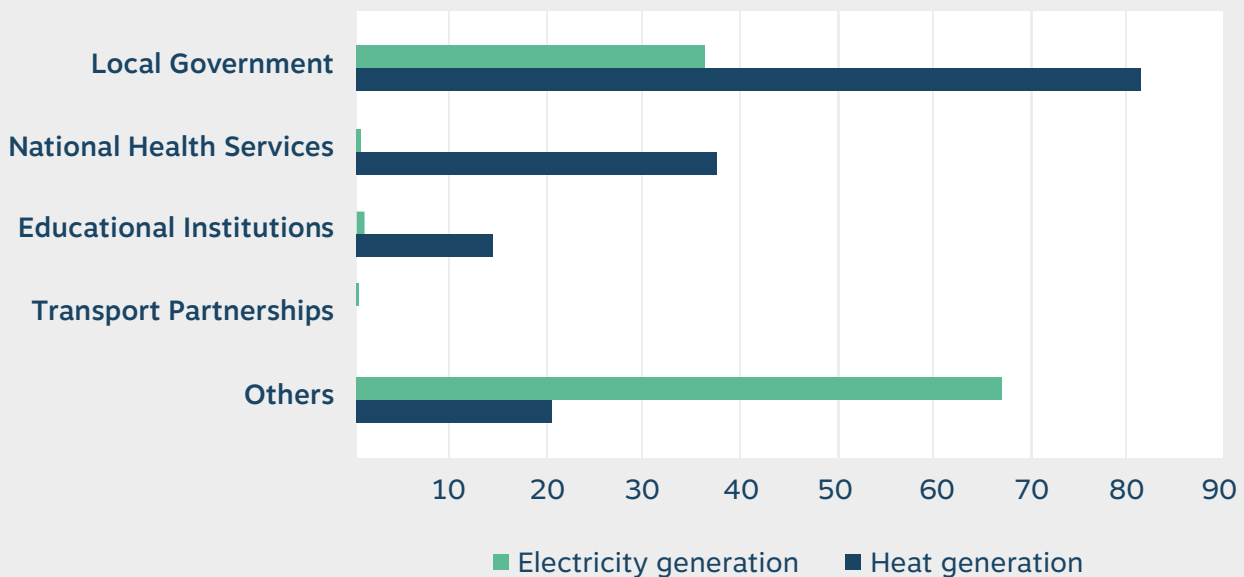
Renewable energy initiatives provide effective means to reduce emissions from public bodies. Activity on renewables was reported by 63% of public bodies with all sectors reporting at least one renewable energy initiative<sup>10</sup>.

As has been the case in past reporting periods, solar panels and biomass boilers are by far the most widely reported renewable technology being used. Other common renewables reported include heat pumps, solar thermal and wind.

### i. Renewable energy generation

| Sector                   | 2015/16                      |                       | 2016/17                      |                       | 2017/18                      |                       |
|--------------------------|------------------------------|-----------------------|------------------------------|-----------------------|------------------------------|-----------------------|
|                          | Electricity generation (GWh) | Heat generation (GWh) | Electricity generation (GWh) | Heat generation (GWh) | Electricity generation (GWh) | Heat generation (GWh) |
| Local Government         | 24.05                        | 78.22                 | 37.51                        | 92.60                 | 36.77                        | 116.35                |
| National Health Service  | 0.25                         | 34.67                 | 1.17                         | 45.48                 | 0.66                         | 37.74                 |
| Educational Institutions | 0.76                         | 10.73                 | 0.80                         | 17.82                 | 0.87                         | 14.37                 |
| Transport Partnerships   | 0.02                         | -                     | 0.02                         | -                     | 0.02                         | -                     |
| Others                   | 57.24                        | 15.07                 | 65.93                        | 21.48                 | 66.94                        | 20.25                 |
| <b>Total</b>             | <b>82</b>                    | <b>139</b>            | <b>103</b>                   | <b>177</b>            | <b>105</b>                   | <b>189</b>            |

### Renewable energy generation in 2017/18 (GWh)



<sup>10</sup>As noted earlier, IJBs are not included.



## Insights

- Reported renewables generated 105 GWh of renewable electricity and 189 GWh of renewable heat in 2017/18. This is an increase of 5% compared to 2016/17.
- Local Government is responsible for over half of the reported renewable energy generated in 2017/18 (153 GWh).
- More renewable heat was generated in 2017/18 than renewable electricity.

### i. Emission savings from renewables, 2017/18 compared to 2016/17 and 2015/16

Using the data on energy generation from renewables, it is possible to deduce the corresponding emission savings, shown below.

| Sector                   | 2015/16  |   | 2016/17  |   | 2017/18  |   |
|--------------------------|--|---|--|---|--|---|
|                          | Estimated annual carbon saving from renewable electricity (tCO <sub>2</sub> e) | Estimated annual carbon saving from renewable heat (tCO <sub>2</sub> e) | Estimated annual carbon saving from renewable electricity (tCO <sub>2</sub> e) | Estimated annual carbon saving from renewable heat (tCO <sub>2</sub> e) | Estimated annual carbon saving from renewable electricity (tCO <sub>2</sub> e) | Estimated annual carbon saving from renewable heat (tCO <sub>2</sub> e) |
| Local Government         | 10,710   | 15,675  | 14,154   | 19,375  | 12,923   | 24,208  |
| National Health Service  | 113  | 7,355   | 482  | 9,622   | 222  | 7,992   |
| Educational Institutions | 316  | 2,233   | 285  | 3,772   | 248  | 2,095   |
| Transport Partnerships   | 8  | -   | 7  | -   | 6  | -   |
| Others                   | 26,455   | 3,111   | 27,167   | 4,545   | 23,335   | 4,163   |
| <b>Total</b>             | <b>37,602</b>  | <b>28,373</b>   | <b>42,095</b>  | <b>37,315</b>   | <b>36,737</b>  | <b>38,458</b>   |

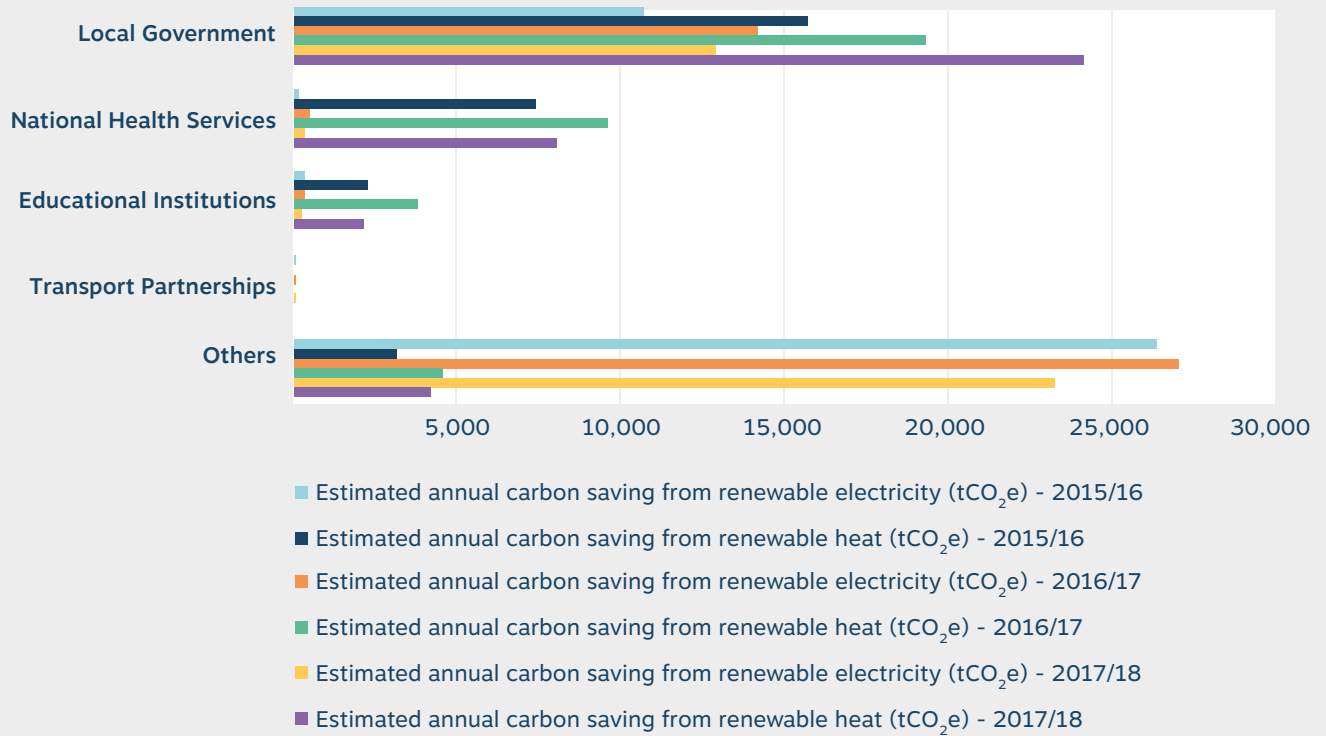


#### SPOTLIGHT East Ayrshire Council

##### Fleet upgrade

East Ayrshire Council has upgraded its fleet considerably – 84 diesel Euro 5 vans have been replaced with Euro 6 models and 20 diesel fleet vehicles have been replaced with electric equivalents. Plans for Ayrshire's first electric vehicle charging hub are at an advanced stage after funding of £315,000 was received from the Low Carbon Travel & Transport Challenge Fund along with a contribution of £172,500 from the Council. An additional 40 ULEV vehicles will be added to the fleet in 2018/19. East Ayrshire's fleet strategy aims to maximise the conversion of all appropriate vehicles to electric within the next five years as funding allows.

## Emissions savings from renewables across three reporting periods



## Insights

- The table and graph above show that there has been a 5% decrease in carbon savings from all renewable generation compared to 2016/17.
- This decrease, however, is a result of a reduction in the electricity emission factor which in turn reduces the emissions savings from renewable electricity generation.



## 6. Targets

Public bodies have set a range of targets to help direct climate change action and emission reductions. These targets can be overall emission reduction targets (percentage or absolute) as well as policy specific targets relating to emission sources or business activities.

### i. Who has targets (split by sector)

| Sector                   | Number of bodies with at least one target | % of organisations with at least one target | Total targets | % of all targets |
|--------------------------|---|---|---------------|------------------|
| Local Government         | 29  | 91%   | 101           | 29%              |
| National Health Service  | 17  | 90%   | 45            | 13%              |
| Educational Institutions | 34  | 77%   | 83            | 24%              |
| Transport Partnerships   | 4   | 57%   | 5             | 1%               |
| Others                   | 37  | 77%   | 112           | 33%              |
| <b>Total</b>             | <b>121</b>                                | <b>80.7%</b>                                | <b>346</b>    | <b>100.0%</b>    |

### ii. Nature/type of targets being set across the public sector and within sub-sectors

| Sector                  | Local Government | National Health Service | Educational Institutions | Transport Partnerships | Others     | Total      |
|-------------------------|------------------|-------------------------|--------------------------|------------------------|------------|------------|
| Energy use in buildings | 27               | 26                      | 15                       | -                      | 21         | 89         |
| All emissions           | 32               | 10                      | 23                       | 1                      | 26         | 92         |
| Waste                   | 16               | 3                       | 18                       | -                      | 23         | 60         |
| Other                   | 11               | 3                       | 11                       | 1                      | 19         | 45         |
| Water and sewerage      | 7                | 1                       | 4                        | -                      | 9          | 21         |
| Staff travel            | 3                | 1                       | 9                        | 1                      | 8          | 22         |
| Transport               | 5                | 1                       | 3                        | 2                      | 6          | 17         |
| <b>Total</b>            | <b>101</b>       | <b>45</b>               | <b>83</b>                | <b>5</b>               | <b>112</b> | <b>346</b> |

## Insights

- Targets relating to overall emissions, as well as building energy use, are the most commonly applied by public bodies.
- Over 80% of bodies have reported at least one target.

## 7. Conclusion

In conclusion, some key points derived from this year's analysis are:

- Reporting is better embedded across the public sector with 98% of public bodies classified as major player submitting climate change reports in line with the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015.
- There is a clear, yearly decrease in reported emissions since mandatory reporting came into effect in 2015/16. In this most recent period (2017/18) reported emissions are 4.6% less than 2016/17 and 11.8% less than 2015/16. Taking the electricity emission factor and increased degree days into account it is possible to estimate that out of the 4.6% reduction in emissions around 2% is due to action by the public sector. This is a positive direction of travel though clearly more needs to be done to reduce emissions.
- Electricity consumption is gradually declining (and has been for the past 3 years).
- Reporting indicates that public bodies are generating less waste overall as well as sending less waste to landfill by recycling more.
- Estimated emissions savings from projects reported in 2017/18 are 24% lower than in those reported in the previous period.
- Energy generation from renewable technologies has increased by 5% compared to 2016/17.
- The quality of climate change reports appears to be improving, with fewer quality assurance checks needing to be addressed and an apparent improvement in the quality and quantity of data reported, especially for projects and renewables.

### Network Support

We would like to thank all SSN members involved in completing and submitting the 2017/18 climate change reports. All submitted individual reports are published on the Sustainable Scotland Network website and are available to download from:

📄 <https://sustainablesotlandnetwork.org/reports>

SSN will continue to support climate change reporting in the next reporting period – 2018/19. Reports will be due on 30 November 2019.

Guidance and support for reporting is available to all SSN members as are other resources such as the Carbon Footprint & Project Register tool. These tools can all be found on the Resources area of our website or by contacting the team on:

✉ [info@sustainablesotlandnetwork.org](mailto:info@sustainablesotlandnetwork.org)

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