



The Health and Safety
Executive
**Sustainable Development
Report 2017/18**

1 Introduction

This Sustainability Report¹ details progress towards improving energy consumption and related reduction in carbon emissions, water consumption and waste management. These are key areas against which the government wishes to measure public bodies' environmental performance.

HSE seeks to comply with all applicable legal and other relevant requirements that relate to our environmental aspects, including official codes of practice.

HSE is committed to the continuous improvement of environmental performance and management and the prevention of pollution from the activities we undertake by:

- ◆ implementing energy-saving technologies and initiatives;
- ◆ adopting strategies to minimise the environmental impacts of business travel;
- ◆ using utilities in a responsible and economic way to minimise negative impacts on the environment;
- ◆ managing waste according to our duty of care, minimising volumes going to landfill, by reuse and recycling wherever possible;
- ◆ purchasing supplies wherever possible which are recycled and recyclable, and whose production and use minimises the consumption of natural resources;
- ◆ conserving resources by ensuring that buildings and fittings are properly maintained and reflect appropriate eco guidance;
- ◆ communicating our environmental aims and performance to appropriate people working for or on behalf of the organisation;
- ◆ using contractors/suppliers who perform the services in accordance with the government's environmental policy, demonstrating commitment to the continuous improvement of environmental performance and the management and prevention of pollution from the activities they undertake;
- ◆ objectives and targets are set and reviewed each year according to the commitments for Greening Government Operations and Procurement;
- ◆ operating an Environmental Management System at our laboratory in Buxton.

2 Exceptional factors

HSE includes a large, mobile workforce that undertakes inspection, investigation and enforcement activity across Britain, which involves a significant amount of business travel.

HSE's laboratory facility in Buxton carries out a diverse range of scientific activities in response to external customer requirements or as part of the investigation of UK workplace incidents. The volume and nature of the work undertaken is therefore variable and the consequential inherent resource consumption is equally so. For this reason the Buxton site was exempted from the GGC targets in 2012/13, although it is still required to report its environmental impact.

1 The Sustainability Report has been prepared in accordance with guidelines laid down by HM Treasury in 'Public sector annual report – sustainability reporting'.

3 Sustainable procurement

Our sourcing of materials and assets complies with Government Buying Standards (GBS).






We continue to assess our key suppliers' corporate environmental, social and economic responsibilities to manage supply chain risks, including sustainability. The last exercise indicated that our key suppliers have sustainable development policies and management systems in place (including environmental and corporate responsibility targets).

4 Increasing commercial opportunities for small and medium enterprises (SMEs)

HSE continues to encourage participation in any new commercial opportunities from the SME market.

5 Summary of performance against Greening Government Commitment targets

This section provides a summary of performance for 2017/18 against the Greening Government Commitments compared to the baseline year (2009/10) and the target (where appropriate) to be reached by 2020.

		<i>Government reduction target to 2020</i>	<i>Progress at 31 March 2018 (2017 figures in brackets)</i>
	Greenhouse gas emissions	32%	30% (28%)
	Waste	Continue to reduce	42% (39%) ²
	Water	Continue to improve	42% (32%) ³
	Paper	50%	54% (9%) ⁴
	Domestic flights	30%	37% (46%) ⁵

2 Against 2009/10 baseline at 596.78 tonnes of waste compared to 2017/18 at 347.16 tonnes

3 2016-17 report erroneously showed 48% improvement on baseline. Against 2009/10 baseline with water at 48,758 litres and 2017/18 at 28,446 litres

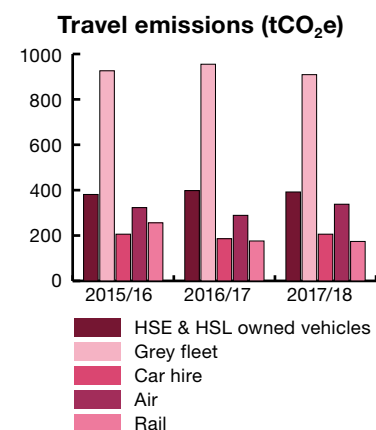
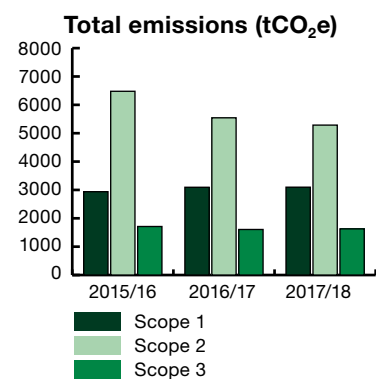
4 There is a large decrease of paper usage, as predicted in the 2016/17 report; this is considered to be due to new printing processes being embedded. Baseline for paper was set at 26,924 in 2011/12 and in 2017/18 at 12,281

5 Following a change of travel contractor, management information relating to the number of flights is presented in a different format and as a result it is not possible to undertake an accurate like-for-like comparison with the baseline flights' figure. However, we can confirm that the amount of CO₂ emissions from domestic business travel has reduced by 37% compared with the 2009/10 baseline

6 Greenhouse gas (GHG) emissions

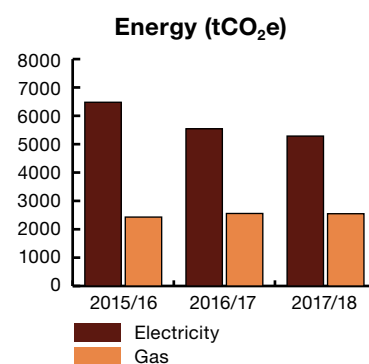
Greenhouse gas **2017/18** **2016/17** **2015/16**

Greenhouse gas				
	2017/18	2016/17	2015/16	
Non-financial indicators (tCO₂e)	Scope 1 Emissions			
	Gas	2,548	2,557	2,430
	Fugitive emissions	138.84	139	127
	HSE & HSL owned vehicles	392	398	381
	Total scope 1 (tCO₂e)	3,079	3,094	2,938
	Scope 2 Emissions			
	Electricity: brown	2	1	1
	Electricity: green	5,284	5,542	6,477
	Electricity: CHP	0	0	0
	Total scope 2 (tCO₂e)	5,286	5,543	6,478
	Scope 3 Emissions			
	Grey fleet	909	955	926
	Car hire	206	186	206
	Air	338	289	323
	Rail	174	176	256
Total scope 3 (tCO₂e)	1,627	1,606	1,711	
Total scope 1, 2 & 3 emissions				
Total emissions (tCO₂e)	10,546	9,156	11,126	
Related energy consumption (KWh)	Scope 1			
	Gas (KWh)	13,849,043	13,896,081	13,138,923
	Scope 2 (KWh)			
	Electricity: brown	3,370	2,620	2,538
	Electricity: green	11,760,440	12,335,028	12,048,779
Electricity: CHP	0	0	0	
Total electricity (KWh)	11,763,810	12,337,288	12,051,317	



Greenhouse gas **2017/18** **2016/17** **2015/16**

Financial indicators (£)				
Scope 1 & 2 (£)				
Gas		349,858	369,236	443,071
Electricity		1,339,724	1,373,438	1,381,532
HSE & HSL owned vehicles		304,284	286,721	291,073
Carbon reduction commitment allowances		137,780	133,630	128,765
Total scope 1 & 2 (£)		2,131,646	2,163,025	2,244,441
Scope 3 (£)				
Grey fleet		1,291,226	1,347,870	1,330,251
Car hire		207,437	208,894	222,421
Air/rail		1,895,205	1,987,570	1,775,219
Total scope 3 (£)		3,394,868	3,544,334	3,327,891
Performance				
Travel normalisation per FTE (tCO ₂ e)		0.72	0.77	0.78
Elec normalisation per FTE (KWh)		4,213	4,300	4,418
Gas normalisation per FTE (KWh)		4,960	4,843	4,816
Travel normalisation per FTE £		1,325	1,468	1,275
Elec normalisation per FTE £		480	479	506
Gas normalisation per FTE £		125	128	163
Elec normalisation KWh per net internal area (m ²)		182	190	180
Gas normalisation KWh per net internal area (m ²)		214	214	194



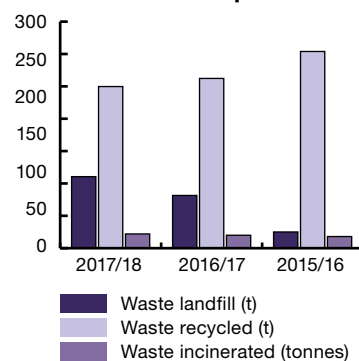
Actions taken by HSE to reduce greenhouse gas emissions include:

- ◆ LED lighting has been installed in properties in Aberdeen and Basingstoke, which is predicted to save 359 tonnes of carbon emissions over a five-year period.
- ◆ Air conditioning inspections have been completed where appropriate as required under the EU Energy Performance of Buildings Directive (EPBDD).
- ◆ Display Energy Certificates (DECs) are displayed where required. Since January 2013, smaller properties of 500m² have a DEC demonstrating to staff the energy efficiency of their building and encouraging positive behavioural changes.
- ◆ We promote and assist in the reduction of greenhouse gases, environmental issues and campaigns such as government sustainability targets, Earth Hour and HSE's car-sharing scheme are communicated to staff via HSE's internal magazine and regular eBulletins.
- ◆ Crown Commercial Services negotiated with electricity framework suppliers (British Gas and EDF) all electricity supplied by them to HSE since 1st April 2014 is 'green' (ie from renewable and low-carbon sources – supported by appropriate Levy Exemption Certificates).
- ◆ We successfully negotiated with the landlord of HSE's Bootle headquarters to install a new upgraded and virtualised Building Management System (BMS) in February 2014. Seventeen servers have been reduced to five, giving more resilience with reduced power usage. The new system is saving approximately £18k per year in energy costs.
- ◆ A combined heat and power (CHP) plant and voltage optimisation system was installed in HSE's Bootle headquarters by Honeywell FM to reduce electrical consumption as part of an invest to save project. The project is guaranteed by Honeywell to deliver £53k savings per annum and has been running for 6 years.
- ◆ Voltage optimisation equipment was installed in 2011 to reduce the supplied voltage that we use, with the added benefit of extending the life of equipment. Effectively this is a saving of 2-3% per annum.
- ◆ We continue to work with Sopra Steria, HSE's primary IT contractor, moving a significant amount of HSE's IT infrastructure to a more virtualised platform, reducing the number of physical servers on that platform by 30% and upgrading the infrastructure to more energy-efficient devices. All PCs that have been replaced use between 70-150 watts, with Dell Wyse class cloud client that use only 9 watts – this is approximately a 90% saving.

7 Waste minimisation and management

	2017/18	2016/17	2015/16	
Non-financial indicator	Waste to landfill (tonnes (t))	24.05	81.45	110.51
	Waste recycled/re-used (t)	303.88	262.24	249.70
	Waste incinerated (t)	18	20	22
	Total waste (t) ⁶	345.93	365.67	382.21
	Waste normalisation per FTE (t)	0.12	0.13	0.14

Waste volumes and disposal routes (t)



Financial indicators

Waste removal is one of a number of services provided by the landlord’s FM contractors at Redgrave Court. The service is covered under the Unitary Charge we pay as part of the PFI contract. As the service charge is not separately itemised, financial indicators for waste minimisation and management are unavailable. While an estimate could be based on the market price, this would not add any value to the table as the target is to reduce the quantity of waste, not the cost of waste removal.

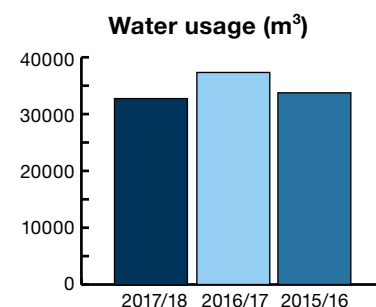
Actions taken by HSE to reduce waste include:

- ◆ We have continued to work with our Facilities Management provider to increase the number of items that can be recycled, for example:
 - ◆ reducing individual desk bins in the majority of offices;
 - ◆ providing more recycling containers for plastic, glass, aluminium, batteries, electrical and electronic equipment waste (WEEE), fluorescent lamps and cardboard waste. This has resulted in a reduction in the amount of waste placed in the general waste bins and the subsequent reduction of daily collections.
- ◆ Paper used is 100% recycled from a closed loop system.
- ◆ All printers are set to a default to double-sided printing.
- ◆ We will be working with our primary IT contractor, Sopra Steria, to reduce the environmental impacts of our e-waste (retired and redundant ICT equipment). Sopra Steria have selected an e-waste processing partner with an outstanding environmental track record and audited environmental systems in place. Together, they will ensure that any HSE equipment that can be reused will be securely data erased, refurbished and put back to work, and what cannot be reused will be recycled to the highest standards, harvesting parts for their reuse if salvageable and materials that can be used in other products in future.
- ◆ Sopra Steria is helping HSE examine how we can support digital inclusion by identifying potential projects for our retired and redundant kit.

6 Many items of ‘incident material’ (evidence from accidents/incidents) arrive at HSE’s laboratory facility in Buxton every year for forensic examination to determine the cause of failure. Incident material may include large items such as trains and industrial plant weighing many tonnes which may remain on site for several years. While this incident material isn’t owned by the laboratory facility in Buxton, responsibility for disposal frequently lies with them, making it difficult to achieve waste reduction targets

8 Finite resource consumption

		2017/18	2016/17	2015/16
Non-financial indicators(m ³)	Water consumption (supplied)	32,810	37,330	33,747
Water normalisation (m ³) per FTE		12	13	12
Financial indicators (£)	Water supply costs	171,129	174,185	160,298
	Paper costs ⁷	54,271	43,963	69,008



The above water usage and costs include offices, warehouse and laboratories. They include water used at the Buxton laboratory site, where the demand-led experimental activities can cause the consumption to fluctuate depending on the specific nature work carried out during the year. They also include an element of estimated consumption due to supply metering problems.

At HSE’s HQ building initiatives to reduce water consumption include use of grey water for toilet flushing and conversion of taps to infrared sensors, which reduce the amount of time the water is running unused.

Report on office water use against best practice benchmarks, ie:

- ◆ ≥6 m³ water consumption per FTE poor practice;
- ◆ 4m³ to 6m³ per FTE good practice;
- ◆ ≤4m³ per FTE best practice; and % offices meeting best/good/poor practice benchmark.

Of the five offices in scope (excluding warehouse and HSE’s laboratory facility in Buxton), 1 office with a water meter has achieved good practice benchmark during 2017/18.

The remaining 4 HSE offices with a water meter (excluding warehouse and HSE’s laboratory facility in Buxton) are operating in the poor practice benchmark during 2017/18.

7 Paper usage fluctuates depending on publishing needs each year

9 Biodiversity Adaptation Plan – HSE’s laboratory facility at Buxton

HSE has liaised in the past with Derbyshire Wildlife Trust and the University of Sheffield to review the ecological and nature management of the site. The Buxton site provides a habitat for a number of nationally and regionally rare species of flora. HSE has undertaken all of its business activities to date without adverse impact on any of these sensitive species.

About 45% of HSL’s 220 hectare estate is pasture and meadow land leased to a local sheep farmer, who manages it in accordance with DEFRA’s ‘Environmental Stewardship’ scheme. The activities undertaken to promote biodiversity on the estate include:

- ◆ not making hay before certain dates to allow the seeds of wild flowers and grasses to set;
- ◆ not cutting grass in certain areas to improve habitats for small mammals, invertebrates and birds;
- ◆ restrictions on the use of fertilisers, herbicides and supplementary feeding;
- ◆ not ploughing the land or cultivating crops;
- ◆ maintaining a range of sward heights during the growing season to allow plants to flower and to provide a more varied habitat;
- ◆ light grazing of sheep to restrict growth of rank vegetation and woody species;
- ◆ monitoring and controlling spread of vigorous non-native species;
- ◆ leaving any felled trees or branches in-situ to provide shelter and overwintering sites for insects.

Fauna on the Buxton site include badgers, foxes, hares, pine martens, visiting red deer and birds typical of the area such as lapwings. Bats are also frequent visitors to the site.

An environmental risk assessment on the potential impacts of climate change on the estate showed one of the greatest risks to biodiversity to be prolonged periods of hot and dry weather increasing the risk of wildfires spread by grass and trees. To reduce the risk of grass/wildfires on site, fire breaks are maintained around vulnerable test areas and fire-fighting equipment (beaters and hydrants) are located where there is a fire risk, with robust emergency procedures in place. Other climate change impacts that could occur on-site include localised flooding and extreme winds, but effects on biodiversity would be shortlived and control measures not practicable.

HSE supports a long term Anglo-American collaborative research project examining the impact of climate change on flora. Since 1989, a small area of species rich grassland (<1 hectare) has been used to carry out climate change experiments, using various techniques to subject plants to predicted conditions 50 years from now to see how fast ecosystems will change as climate changes. Conditions include higher temperatures, severe drought, and floods, improving the understanding of the underlying mechanisms of resistant-high species in diversity grasslands.