

Sustainability Performance – UKRI Annual Report 2018 -2019

Supplementary Information: Quantitative reporting areas as split for MRC, NERC, STFC and other UKRI partners.

MRC

Scope of MRC reporting

The MRC reportable estate includes the Laboratory of Molecular Biology, the Harwell Institute and the London Institute of Medical Sciences, in addition to the MRC proportion of the UKRI Office in Swindon at Polaris House. The size of the MRC estate has continued to reduce in 2018 - 2019 with the transfer of two MRC research units (MRC Toxicology Unit and MRC Cognition and Brain Sciences Unit) to the University of Cambridge and the closure of the Elsie Widdowson Laboratory. The utility usage data reflects this reduction in the size of the estate.

MRC greenhouse gas emissions

MRC greenhouse gas emissions		2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (1000t CO _{2e})	Total gross emissions	37.47	31.33	23.16	17.32	
	Total net emissions	37.47	31.33	23.16	17.32	
	Gross emissions Scope 1 (direct)	Gas & LPG	7.42	6.68	6.12	6.08
		Owned transport	0.01	0.01	0.02	0.01
		Fugitive emissions	0.00	0.00	0.00	0.10
	Gross emissions Scope 2 & 3 (indirect)	Electricity	29.87	24.45	16.87	11.13
		Heat	0.00	0.00	0.00	0.00
Business Travel		0.18	0.19	0.15	0.10	
Related energy consumption (million kWh)	Electricity: non-renewable (1)	59.70	54.39	37.54	36.22	
	Electricity: renewable	0.00	0.00	0.00	0.00	
	Gas	40.20	36.27	26.78	33.02	
	LPG	0.00	0.00	0.00	0.00	
	Heat	0.00	0.00	0.00	0.00	
	Other	0.50	0.30	0.30		
Financial Indicators (£M)	Expenditure on energy	6.48	6.68	4.45	5.83	
	CRC Expenditure	0.50	0.50	0.40	0.00	
	Expenditure on accredited outsets	0.00	0.00	0.00	0.00	
	Expenditure on business travel	2.37	2.36	2.08	1.31	

Notes to data

MRC science facilities account for the majority of the MRC’s electricity usage. Facilities at Harwell and the Laboratory of Molecular Biology that produce mice models for the scientific community are required by Home Office regulations to have a large number of air changes per hour and research carried out in other buildings involves use of power-hungry machinery. The reduction in recent years is largely the result of the reduced size of the estate.

MRC other energy refers to the Gasoil used at the MRC Mill Hill site, which housed the National Institute for Medical Research, the site was sold in 2017-2018 so the figure for 2018-2019 is zero.

MRC fugitive emissions for Harwell and Laboratory of Molecular Biology included. London Institute of Medical Sciences is based on a shared site so emissions data is not reportable.

MRC report international business flight costs are detailed in the above figures. This is a voluntary reporting area.

MRC waste generation

MRC waste generation			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
Non-financial Total gross indicators (tonnes)	Total waste		1209.00	1400.00	694.00	612.00
	Hazardous Waste	Total	278.00	315.00	225.00	241.00
		Landfill	220.00	212.00	71.00	53.00
	Non-hazardous waste	Reused/recycled, inc composted	563.00	681.00	240.00	170.00
		Incinerated with energy recovery	148.00	192.00	158.00	148.00
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.47	0.45	0.47	0.40
	Hazardous Waste		0.11	0.10	0.17	0.16
		Landfill	0.09	0.07	0.05	0.03
	Non-hazardous waste	Reused/ recycled	0.22	0.22	0.16	0.11
		Incinerated with energy recovery	0.05	0.06	0.11	0.10
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Notes to data						
Total waste reduction in recent years is largely the result of the reduced size of the estate.						

MRC water consumption

MRC water consumption			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
Non-financial Total gross indicators (000 m ³)	Total water consumption		287.00	186.00	114.00	102.00
	Water consumption (office estate)	Supplied	10.00	3.00	8.00	4.00
		Abstracted	0	0	0.00	0.00
	Water consumption (non- office estate)	Supplied	277.00	183.00	106.00	98.00
		Abstracted	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total cost		0.34	0.34	0.21	0.26
	Water supply cost (office estate)		0.00	0.00	0.00	0.00
	Water supply cost (non- office estate)		0.33	0.33	0.20	0.26
Notes to data						
<p>The reduction in recent years is largely the result of the reduction in the size of the estate. Office estates includes MRC's proportion of the UKRI Office in Swindon plus Kemble Street Offices in London. Note the MRC Kemble Street office space in London is due to be returned to landlord in August 2019.</p>						

NERC

Scope of NERC reporting

NERC reporting scope includes wholly owned NERC sites in the UK including those operated by British Antarctic Survey, British Geological Survey, Centre of Ecology and Hydrology and the National Oceanography Centre in addition to the NERC proportion of the UKRI Office in Swindon (Polaris House). NERC business travel emissions do not include NERC operated ships or planes. There has been no change in the reportable estate over the last year.

NERC greenhouse gas emissions

NERC greenhouse gas emissions		2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (1000t CO ₂ e)	Total gross emissions	10.45	9.81	11.67	8.60	
	Total net emissions	10.45	9.81	11.67	8.60	
	Gross emissions Scope 1 (direct)	Gas & LPG	3.26	2.99	4.61	3.09
		Owned transport	0.18	0.12	0.12	0.11
		Fugitive emissions	0.25	0.13	0.21	0.12
	Gross emissions Scope 2 & 3 (indirect)	Electricity	5.86	5.59	5.51	4.54
		Heat	0.03	0.03	0.03	0.02
Business Travel		0.87	0.95	1.19	0.72	
Related energy consumption (million kWh)	Electricity: non renewable	16.67	15.91	15.67	14.79	
	Electricity: renewable	0.22	0.22	0.18	0.29	
	Gas	17.68	16.22	25.03	16.82	
	LPG	0.00	0.00	0.00	0.00	
	Heat	0.13	0.12	0.15	0.11	
	Other	0.00	0.00	0.00	0.00	
Financial Indicators (£M)	Expenditure on energy	2.20	2.30	2.20	2.90	
	CRC Expenditure	0.19	0.17	0.16	0.00	
	Expenditure on accredited outsets	0.00	0.00	0.00	0.00	
	Expenditure on business travel	2.00	2.20	2.10	1.90	
Notes to data						

NERC Historic data was subject to third party validation in 2018-2019 as part of the Carbon Trust Standard certification retained by NERC.

NERC Purchased heat refers to heat consumption at National Oceanography Centre Liverpool on the University of Liverpool campus.

NERC has improved the quality of its carbon reporting including increased scope and validation historic carbon emissions in collaboration with the Carbon Trust. This has resulted in a change to the total gross emissions reported for the historic data set against the 2018-2019 Sustainability Reporting for Public Bodies Guidelines.

NERC participated in the forecast sale of Carbon Reduction Commitment (CRC) allowances in 2017-2018 which reduced overall cost and following NERC's early departure from the scheme sold its excess allowances in 2018-2019.

Reduction in total when compared to 2017-2018 due to reduction in electricity use at Polaris House and the Centre of Ecology and Hydrology, a milder winter and reduction in business travel emissions.

NERC waste generation

NERC waste generation			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
Non-financial Total gross indicators (tonnes)	Total waste		521.00	429.00	341.00	442.00
	Hazardous Waste	Total	3.00	18.36	13.00	11.00
		Landfill	109.00	77.56	30.00	34.00
	Non-hazardous waste	Reused/ recycled Inc. composting	365.00	257.20	231.00	289.00
		Incinerated with energy recovery	44.00	75.73	67.00	108.00
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.31	0.22	0.22	0.23
	Hazardous Waste		0.18	0.1	0.08	0.09
	Non-hazardous waste	Landfill	0.01	0	0.01	0.001
		Reused/ recycled/ composted	0.04	0.05	0.03	0.06
		Incinerated with energy recovery	0.09	0.07	0.1	0.08
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Notes to data						
All waste sent for incineration is with energy recovery based on local knowledge of sites and waste facilities.						
Liquid hazardous waste volumes not collected as part of reporting, solid wastes only reflected in figure above, this is a voluntary reporting area.						
Waste sent to landfill reduced notably in 2017- 2018 due to completion of a 2-year yard clear out at						

National Oceanography Centre in Southampton in 2016- 2017.
 Note NERC has improved the quality of its historic data which has reduced waste costs reported.

NERC water consumption

NERC water consumption		2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (000 m ³)	Total water consumption	40.00	35.60	34.90	31.07	
	Water consumption (office estate)	Supplied	1.97	1.98	1.08	0.92
		Abstracted	0.00	0.00	0.00	0.00
	Water consumption (non- office estate)	Supplied	38.03	33.62	33.82	30.86
		Abstracted	0.00	0.00	0.00	0.00
	Financial Indicators (£M)	Total cost	0.13	0.11	0.09	0.21
Water supply cost (office estate)		0.003	0.003	0.003	0.003	
Water supply cost (non- office estate)		0.13	0.11	0.09	0.21	

Notes to data

Office estate includes the NERC proportion of the UKRI Office in Swindon, Polaris House. Other NERC buildings are mixed use specialist laboratory buildings. Reduction in declared office estate water use between 2015 - 2016 and 2016 - 2017 due to reduction in the NERC % occupancy of floor area at Polaris House following refurbishment.

No water abstracted for consumption across the NERC estate, however water abstracted and returned for process cooling under permit at National Oceanography Centre Southampton.

Water supply costs to office estate to three decimal places to ensure transparency of costs.

STFC

Scope of STFC reporting

STFC facilities at The Rutherford Appleton Laboratory, the Daresbury Laboratory, The Royal Edinburgh Observatory and Chilbolton Observatory are included. STFC's use of the Polaris House site is included pro-rata.

STFC facilities located overseas and STFC shareholdings in scientific facilities in the UK and overseas are excluded from the data presented. A small contribution from a laboratory in the Boulby mine is excluded as this cannot be easily quantified. There has been no change to the scope of reporting since the last year.

STFC greenhouse gas emissions

STFC greenhouse gas emissions		2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (1000t CO ₂ e)	Total gross emissions	70.29	60.16	55.78	40.55	
	Total net emissions	70.29	60.16	55.79	40.55	
	Gross emissions Scope 1 (direct)	Gas & LPG	2.66	1.64	3.33	3.12
		Owned transport	0.08	0.08	0.07	0.07
		Fugitive emissions	1.52	1.52	1.52	1.52
	Gross emissions Scope 2 & 3 (indirect)	Electricity	65.55	56.46	50.38	35.34
		Heat	0.00	0.00	0.00	0.00
		Business Travel	0.48	0.46	0.49	0.40
Related energy consumption (million kWh)	Electricity: non renewable	131.00	125.70	112.10	115.00	
	Electricity: renewable	0.00	0.00	0.00	0.00	
	Gas	14.42	8.85	18.07	16.94	
	LPG	0.03	0.03	0.06	0.01	
	Heat	0.00	0.00	0.00	0.00	
	Other	0.00	0.00	0.00	0.00	
Financial Indicators (£M)	Expenditure on energy	10.59	11.05	10.92	14.39	
	CRC Expenditure	1.17	0.98	0.83	0.00	
	Expenditure on accredited outsets	0.00	0.00	0.00	0.00	
	Expenditure on business travel	0.92	0.99	1.00	1.32	
Notes to data						
STFC energy consumption is dominated by that of its scientific facilities, whose operations are a highly variable function of the planned science programmes and unforeseen breakdown. Examples of high consumption science facilities include high power lasers, accelerators and computers. STFC fugitive emissions is estimated based on number of refrigeration and air conditioning units.						

STFC waste generation

STFC waste generation			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
Non-financial Total gross indicators (tonnes)	Total waste		878.00	951.13	986.82	961.43
	Hazardous Waste	Total	156.67	53.66	34.45	34.45
		Landfill	134.00	90.07	9.59	19.23
	Non-hazardous waste	Reused/ recycled Inc. composting	663.00	669.07	901.01	736.55
		Incinerated with energy recovery	35.00	35.32	22.56	171.20
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.09	0.11	0.13	0.12
	Hazardous Waste	Total	0.04	0.07	0.03	0.04
		Landfill	0.01	0.01	-	-
	Non-hazardous waste	Reused/ recycled/ composted	0.04	0.03	0.10	0.04
		Incinerated with energy recovery	0.00	0.00	-	0.04
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Notes to data						
The STFC 2016 - 2017 high tonnage and cost for hazardous waste generation was due to removal of shielding from the 'ISIS' facility.						
STFC observed reduction in waste to landfill in 2017 -2018 due to increase in recycling rates.						
*2017 - 2018 waste contractor is unable to split out costs for waste streams they manage						

STFC water consumption

STFC water consumption		2015 - 2016	2016 - 2017	2017- 2018	2018- 2019	
Non-financial Total gross indicators (000 m ³)	Total consumption	153.61	127.41	123.27	142.44	
	Water Consumption (Office Estate)	Supplied	97.51	73.99	77.83	94.58
		Abstracted	0.00	0.00	0.00	0.00
	Water Consumption (Non-Office Estate)	Supplied	56.10	53.42	45.44	47.86
		Abstracted	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total Cost	0.34	0.29	0.28	0.33	
	Water Supply Costs (Office Estate)	0.22	0.17	0.18	0.22	
	Water Supply Costs (Non-Office Estate)	0.12	0.12	0.10	0.11	
Notes to data						
Office estate is defined as the STFC buildings minus the 'ISIS' cooling tower at Rutherford Appleton Laboratory.						
Water consumption for the STFC is predominantly specialist non-office estate.						

UKRI - Other Partners

Scope of UKRI other partner reporting:

The following UKRI partners have not historically reported against the government sustainability reporting requirements:

- Arts and Humanities Research Council (AHRC)
- Biotechnology and Biological Sciences Research Council (BBSRC)
- Economic and Social Research Council (ESRC)
- Engineering and Physical Sciences Research Council (EPSRC)
- Innovate UK
- Research England
- UKRI Central

As of 1st April 2018 the above partners are captured by the sustainability reporting requirements following the creation of UKRI. Combined they operate a small reportable estate which is reflected in the reported figures below. The UKRI London office space and Research England Bristol office space are out of reporting scope.

UKRI other partner greenhouse gas emissions

Greenhouse Gas Emissions		2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (1000t CO _{2e})	Total gross emissions				0.66	
	Total net emissions				0.66	
	Gross emissions Scope 1 (direct)	Gas & LPG				0.14
		Owned transport				0.00
		Fugitive emissions				0.00
	Gross emissions Scope 2 & 3 (indirect)	Electricity				0.52
		Heat				0.00
Business Travel					-	
Related energy consumption (million kWh)	Electricity: non renewable				1.70	
	Electricity: renewable				0.00	
	Gas				0.78	
	LPG				0.00	
	Heat				0.00	
	Other				0.00	
Financial Indicators (£M)	Expenditure on energy				0.25	
	CRC Expenditure				0.00	
	Expenditure on accredited outsets				0.00	
	Expenditure on business travel				-	
Notes to data						
Business travel data is unavailable for the 2018 - 2019 reporting year. Over 2018-2019 Polaris House reduced its total electricity use by over 10% despite increases in staff numbers onsite due to a range of efficiency improvements including large scale LED lighting replacements.						

UKRI other partner waste generation

Waste Generation			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019	
Non-financial Total gross indicators (tonnes)	Total waste					55.58	
	Hazardous Waste	Total				0.99	
		Non-hazardous waste	Landfill				4.55
			Reused/ recycled				31.70
			Composted				0.00
			Incinerated with energy recovery				18.34
			Incinerated without energy recovery				0.00
Financial Indicators (£M)	Total disposal cost					0.02	
	Hazardous Waste					-	
		Non-hazardous waste	Landfill				-
			Reused/ recycled				-
			Composted				-
			Incinerated with energy recovery				-
			Incinerated without energy recovery				0.00
Notes to data Only a single total waste cost is currently available for the reportable estate.							

UKRI other partner water consumption

Water Consumption			2015 – 2016	2016 – 2017	2017 – 2018	2018 – 2019
Non-financial Total gross indicators (000 m ³)	Total water consumption					6.26
	Water consumption (office estate)	Supplied				6.26
		Abstracted				0.00
	Water consumption (non-office estate)	Supplied				0.00
		Abstracted				0.00
Financial Indicators (£M)	Total cost					0.02
	Water supply cost (office estate)					0.02
	Water supply cost (non-office estate)					0.00