

# Sustainability Performance – UKRI Annual Report 2019 -2020

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 changed over the last year, MRC Kemble Street office space in London was returned to landlord in August 2019 and the Elsie Widdowson Laboratory in Cambridge closed in March 2019.

### MRC greenhouse gas emissions

MRC greenhouse gas emissions		2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	
Non-financial Total gross indicators (1000t CO <sub>2</sub> e)	Total gross emissions	31.33	23.16	17.32	15.58	
	Total net emissions	31.33	23.16	17.32	15.58	
	Gross emissions Scope 1 (direct)	Gas & LPG	6.68	6.12	6.08	6.02
		Owned transport	0.01	0.02	0.01	0.01
		Fugitive emissions	0.00	0.00	0.10	0.00
	Gross emissions Scope 2 & 3 (indirect)	Electricity	24.45	16.87	11.13	9.46
		Heat	0.00	0.00	0.00	0.00
Business Travel		0.19	0.15	0.10	0.09	
Related energy consumption (million kWh)	Electricity: non-renewable (1)	54.39	37.54	36.22	34.12	
	Electricity: renewable	0.00	0.00	0.00	0.00	
	Gas	36.27	26.78	33.02	32.74	
	LPG	0.00	0.00	0.00	0.00	
	Heat	0.00	0.00	0.00	1.00	
	Other	0.30	0.30	0.3	0.00	
Financial Indicators (£M)	Expenditure on energy	6.68	4.45	5.83	5.48	
	CRC Expenditure	0.50	0.40	0.00	0	
	Expenditure on accredited outsets	0.00	0.00	0.00	0	
	Expenditure on business travel	2.36	2.08	1.31	1.02	

<b>Notes</b>	
Reduction in carbon emissions in 2019 – 2020 associated with a small reduction in estate. The reduction in carbon emissions observed in 2018 - 2019 was principally due to changing carbon conversion factors. The reduction seen 2016 - 2019 is largely the result of a reduction in the size of the estate.	
MRC science facilities account for the majority of the MRC’s electricity usage. Facilities at Harwell and the Laboratory of Molecular Biology 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.	
Heat refers to the ground source heat pumps located at the Laboratory of Molecular Biology.	
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 and 2019 - 2020 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			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
Non-financial Total gross indicators (tonnes)	Total waste		1400.00	694.00	612.00	560.89
	Hazardous Waste	Total	315.00	225.00	241.00	227.78
		Landfill	212.00	71.00	53.00	42.93
	Non-hazardous waste	Reused/recycled, inc composted	681.00	240.00	170.00	159.74
		Incinerated with energy recovery	192.00	158.00	148.00	130.44
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.45	0.47	0.40	0.36
	Hazardous Waste		0.10	0.17	0.16	0.14
	Non-hazardous waste	Landfill	0.07	0.05	0.03	0.03
		Reused/ recycled	0.22	0.16	0.11	0.10
		Incinerated with energy recovery	0.06	0.11	0.10	0.09
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
<b>Notes</b>						
Total waste reduction in 2016 – 2017 to 2017 - 2018 was the result of a notable reduction in the size of the estate.						

MRC water consumption

MRC water consumption			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
Non-financial Total gross indicators (000 m <sup>3</sup> )	Total water consumption		186.00	114.00	102.00	94.68
	Water consumption (office estate)	Supplied	3.00	8.00	4.00	3.40
		Abstracted	0.00	0.00	0.00	0.00
	Water consumption (non- office estate)	Supplied	183.00	106.00	98.00	91.28
		Abstracted	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total cost		0.34	0.21	0.26	0.19
	Water supply cost (office estate)		0.00	0.00	0.00	0.02
	Water supply cost (non- office estate)		0.33	0.20	0.26	0.19
<p><b>Notes</b></p> <p>The reduction 2016 - 2020 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. This no longer includes Kemble street in London.</p>						

## NERC

### Scope of NERC reporting

NERC reporting scope includes wholly owned NERC sites in the UK including those operated by British Antarctic Survey and British Geological Survey 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 a significant reduction in the size of the reportable estate over the last year. The UK Centre of Ecology and Hydrology and the National Oceanography Centre went independent in Autumn 2019 (quarter 3) and therefore only included for part of the reporting year.

### NERC greenhouse gas emissions

NERC greenhouse gas emissions		2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	
Non-financial Total gross indicators (1000t CO <sub>2</sub> e)	Total gross emissions	9.81	11.67	8.60	5.84	
	Total net emissions	9.81	11.67	8.60	5.84	
	Gross emissions Scope 1 (direct)	Gas & LPG	2.99	4.61	3.09	2.09
		Owned transport	0.12	0.12	0.11	0.12
		Fugitive emissions	0.13	0.21	0.12	0.002
	Gross emissions Scope 2 & 3 (indirect)	Electricity	5.59	5.51	4.54	3.30
		Heat	0.03	0.03	0.02	0.004
		Business Travel	0.95	1.19	0.72	0.31
Related energy consumption (million kWh)	Electricity: non renewable	15.91	15.67	14.79	0.45	
	Electricity: renewable	0.22	0.18	0.29	11.39	
	Gas	16.22	25.03	16.82	11.39	
	LPG	0.00	0.00	0.00	0.00	
	Heat	0.12	0.15	0.11	0.04	
	Other	0.00	0.00	0.00	0.01	
Financial Indicators (£M)	Expenditure on energy	2.30	2.20	2.90	2.08	
	CRC Expenditure	0.17	0.16	0.00	0.00	
	Expenditure on accredited outsets	0.00	0.00	0.00	0.00	
	Expenditure on business travel	2.20	2.10	1.90	1.49	

**Notes**

The significant carbon reduction observed in 2019 – 2020 was principally due to the reduction in the size of the reportable estate. This is reflected in the energy use and business travel figures. In 2018 NERC transferred to 100% renewable electricity tariff.

The reduction in carbon emissions observed in 2018 - 2019 was principally due to changing carbon conversion factors.

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

NERC has improved the quality of its carbon reporting including increased scope and validation historic carbon emissions.

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.

NERC waste generation

NERC waste generation			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
Non-financial Total gross indicators (tonnes)	Total waste		429.00	341.00	442.00	210.50
	Hazardous Waste	Total	18.36	13.00	11.00	11.00
		Non-hazardous waste	Landfill	77.56	30.00	34.00
	Reused/ recycled Inc. composting		257.20	231.00	289.00	120.89
	Incinerated with energy recovery		75.73	67.00	108.00	66.31
	Incinerated without energy recovery		0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.22	0.22	0.23	0.17
	Hazardous Waste		0.1	0.08	0.09	0.07
		Non-hazardous waste	Landfill	0	0.01	0.001
	Reused/ recycled/ composted		0.05	0.03	0.06	0.04
	Incinerated with energy recovery		0.07	0.1	0.08	0.059
	Incinerated without energy recovery		0.00	0.00	0.00	0.00

NERC water consumption

NERC water consumption		2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	
Non-financial Total gross indicators (000 m <sup>3</sup> )	Total water consumption	35.60	34.90	31.07	26.13	
	Water consumption (office estate)	Supplied	1.98	1.08	0.92	0.25
		Abstracted	0.00	0.00	0.00	0.00
	Water consumption (non-office estate)	Supplied	33.62	33.82	30.86	25.88
		Abstracted	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total cost	0.11	0.09	0.21	0.08	
	Water supply cost (office estate)	0.003	0.003	0.003	0.002	
	Water supply cost (non- office estate)	0.11	0.09	0.21	0.08	
<p><b>Notes</b></p> <p>Office estate includes the NERC proportion of the UKRI Office in Swindon, Polaris House. Other NERC buildings are mixed use specialist laboratory buildings.</p> <p>No water abstracted for consumption across the NERC estate.</p> <p>Water supply costs to office estate to three decimal places to ensure transparency of costs.</p>						

## 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 a small increase in the size of the estate since last year.

### STFC greenhouse gas emissions

STFC greenhouse gas emissions		2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	
Non-financial Total gross indicators (1000t CO <sub>2e</sub> )	Total gross emissions	60.16	55.78	40.55	39.84	
	Total net emissions	60.16	55.79	40.55	39.84	
	Gross emissions Scope 1 (direct)	Gas & LPG	1.64	3.33	3.12	4.03
		Owned transport	0.08	0.07	0.07	0.00*
		Fugitive emissions	1.52	1.52	1.52	1.53
	Gross emissions Scope 2 & 3 (indirect)	Electricity	56.46	50.38	35.34	33.89
		Heat	0.00	0.00	0.00	0.00
		Business Travel	0.46	0.49	0.40	0.40
Related energy consumption (million kWh)	Electricity: non renewable	125.70	112.10	115.00	122.20	
	Electricity: renewable	0.00	0.00	0.00	0.00	
	Gas	8.85	18.07	16.94	21.93	
	LPG	0.03	0.06	0.01	0.07	
	Heat	0.00	0.00	0.00	0.00	
	Other	0.00	0.00	0.00	0.00	
Financial Indicators (£M)	Expenditure on energy	11.05	10.92	14.39	17.28	
	CRC Expenditure	0.98	0.83	0.00	0.00	
	Expenditure on accredited outsets	0.00	0.00	0.00	0.00	
	Expenditure on business travel	0.99	1.00	1.32	1.35	
<b>Notes</b>						
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.						

\*Owned transport data combined with lease rental data, currently unavailable as split figures.  
 Business travel cost does not include international flights and partially estimated.  
 The reduction in carbon emissions observed in 2018 - 2019 was principally due to changing carbon conversion factors.

#### STFC waste generation

STFC waste generation			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
Non-financial Total gross indicators (tonnes)	Total waste		951.13	986.82	961.43	649.96
	Hazardous Waste	Total	53.66	34.45	34.45	47.89
		Landfill	90.07	9.59	19.23	9.94
	Non-hazardous waste	Reused/ recycled Inc. composting	669.07	901.01	736.55	459.89
		Incinerated with energy recovery	35.32	22.56	171.20	132.24
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
Financial Indicators (£M)	Total disposal cost		0.11	0.13	0.12	0.36
	Hazardous Waste	Total	0.07	0.03	0.04	0.23
		Landfill	0.01	-	-	0.003
	Non-hazardous waste	Reused/ recycled/ composted	0.03	0.10	0.04	0.04
		Incinerated with energy recovery	0.00	-	0.04	0.09
		Incinerated without energy recovery	0.00	0.00	0.00	0.00
<b>Notes</b>						
The STFC 2016 - 2017 high tonnage and cost for hazardous waste generation was due to removal of shielding from the 'ISIS' facility.						
Waste contractor is unable to split out costs for waste streams in some historic years.						



STFC water consumption

STFC water consumption		2016 - 2017	2017- 2018	2018- 2019	2019- 2020	
Non-financial Total gross indicators (000 m <sup>3</sup> )	Total consumption	127.41	123.27	142.44	171.21	
	Water Consumption (Office Estate)	Supplied	73.99	77.83	94.58	121.21
		Abstracted	0.00	0.00	0.00	0.00
	Water Consumption (Non-Office Estate)	Supplied	53.42	45.44	47.86	50.00
		Abstracted	0.00	0.00	0.00	0.00
	Financial Indicators (£M)	Total Cost	0.29	0.28	0.33	0.56
Water Supply Costs (Office Estate)		0.17	0.18	0.22	0.40	
Water Supply Costs (Non-Office Estate)		0.12	0.10	0.11	0.16	
<p><b>Notes</b> 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.</p>						

## 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 1<sup>st</sup> 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		2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	
Non-financial Total gross indicators (1000t CO <sub>2e</sub> )	Total gross emissions			0.66	0.60	
	Total net emissions			0.66	0.60	
	Gross emissions Scope 1 (direct)	Gas & LPG			0.14	0.14
		Owned transport			0.00	0.00
		Fugitive emissions			0.00	0.00
	Gross emissions Scope 2 & 3 (indirect)	Electricity			0.47	0.47
		Heat			0.00	0.00
		Business Travel			-	-
Related energy consumption (million kWh)	Electricity: non renewable			1.70	1.68	
	Electricity: renewable			0.00	0.00	
	Gas			0.78	0.74	
	LPG			0.00	0.00	
	Heat			0.00	0.00	
	Other			0.00	0.00	
Financial Indicators (£M)	Expenditure on energy			0.25	0.28	
	CRC Expenditure			0.00	0.00	
	Expenditure on accredited outsets			0.00	0.00	
	Expenditure on business travel			-	-	
<b>Notes</b>						

Business travel data is unavailable for the 2018 – 2020 reporting years.  
There were no fugitive emissions from Polaris House in 19/20.

#### UKRI other partner waste generation

Waste Generation			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
-Non-financial Total gross indicators (tonnes)	Total waste				55.58	71.23
	Hazardous Waste	Total			0.99	1.37
		Non-hazardous waste	Landfill			4.55
	Reused/ recycled/ composted				31.70	38.94
	Incinerated with energy recovery				18.34	30.08
	Incinerated without energy recovery				0.00	0.00
	Total disposal cost				0.02	0.03
Financial Indicators (£M)	Hazardous Waste				-	-
		Non-hazardous waste	Landfill			-
	Reused/ recycled				-	-
	Composted				-	-
	Incinerated with energy recovery				-	-
	Incinerated without energy recovery			0.00	0.00	

**Notes**  
Increase in waste generation as the result of increased activity at Polaris House in 2019-2020.  
Only a single total waste cost is currently available for the reportable estate.

#### UKRI other partner water consumption

Water Consumption			2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020
Non-financial Total gross indicators (000 m <sup>3</sup> )	Total water consumption				6.26	7.77
	Water consumption (office estate)	Supplied			6.26	7.77
		Abstracted			0.00	0.00
	Water consumption (non-office estate)	Supplied			0.00	0.00
		Abstracted			0.00	0.00

Financial Indicators (£M)	Total cost			0.02	0.02
	Water supply cost (office estate)			0.02	0.02
	Water supply cost (non- office estate)			0.00	0.02
<b>Notes</b>					
All of Polaris House is defined as office estate.					