

# Sustainability Report 2014-2015

## Sustainability performance 2014-2015

### Environmental Management System

The Museum's Environmental Management System (EMS) has successfully retained certification to the international standard ISO 14001 by UKAS accredited external auditors, demonstrating continual improvement in environmental management across the estate, employees and operations.

### Employee engagement

The Museum works with employees to promote environmental best practice, working with partner organisations to deliver a range of awareness-raising events and information services, including this year, Climate Week, Dr Bike, Exchanging Places and internal communication through staff notices and intranet.

The Museum launched the National Union of Students' Green Impact scheme in October 2014. The scheme promotes sustainable behaviour change - through the completion of online workbooks by staff - across the organisation, improving environmental performance and engaging staff on a range of sustainability issues. Nine teams completed the Bronze level workbook this year and will be presented with their awards by the Museum Director in May 2015.

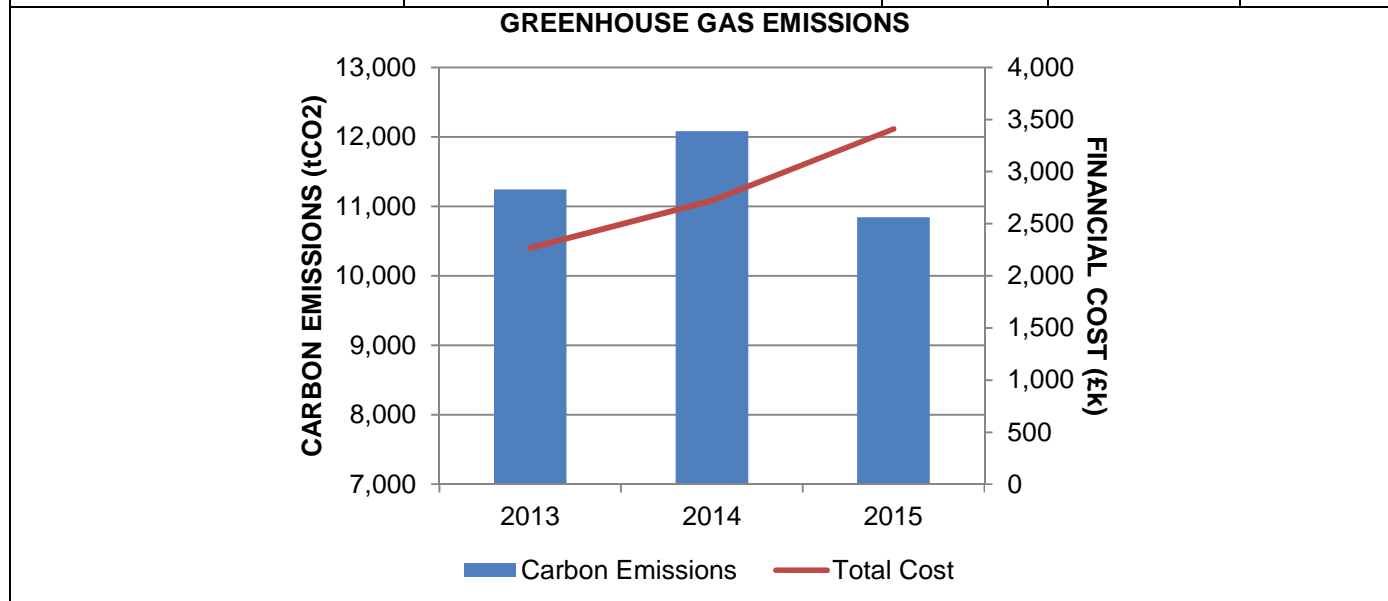
### Energy and Sustainability Team

The Museum has created a new post within the Estates team and appointed an Energy and Sustainability Manager in December 2014. The role, reporting to the Head of Estates, is responsible for:

- Developing and implementing a coherent energy and sustainability strategy for the Museum estate
- Energy and sustainability reporting
- Managing the Museum's key Energy Service contracts
- Managing the utility budget and procurement of energy
- Implementing energy reduction and conservation projects
- Leading the Sustainability Programme and chairing the Environmental Group

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GREENHOUSE GAS EMISSIONS			2013	2014	2015
Non-financial indicators (tCO <sub>2</sub> )	Total (Scope 1&2)		11,242	11,602	10,371
	Electricity		1,686	1,204	418
	Gas		9,556	10,398	9,953
	Business travel (Scope 3)		-	482	474
Energy consumption (MWh)	Electricity	Total	27,853	29,280	31,414
		CHP (on-site)	12,385	13,540	15,284
		Imported	15,468	15,740	16,130
	Gas		50,563	54,746	53,806
Financial indicators (£k)	Total		2,266	2,722	3,369
	Electricity		1,098	1,143	1,585
	Gas		1,021	1,118	1,412
	Carbon trading		147	137	8
	Business travel		-	324	364



## PERFORMANCE COMMENTARY

NOTE: The presentation of utility data has been simplified so that current and previous years' emission figures are based on total gas burned on site (reportable under the European Union Emissions Trading Scheme, EUETS) and total power imported from the grid (reportable under the Carbon Reduction Commitment, CRC), whereas figures had previously been based solely on CRC methodology. Likewise, emissions from on-site generation (i.e. CHP) are included in the gas data. The new approach will ensure consistency of reporting in future. In 2014/15 the consumption of electricity rose by 7% when compared to the previous year. Over the same period the gas consumption fell by 2%.

Total carbon emissions have reduced by 10%. This is due to a combination of a proportional increase in electricity generated by the CHP and a reduction in the UK grid emissions factor owing to a 'greener' energy mix. Total costs increased by 24% as energy consumption and prices have risen.

Business travel data from the Museum's travel management company captures the majority of air and rail journeys completed by staff during 2015. Business travel represents 5% of total CO<sub>2</sub> emissions and 11% of financial cost.

Carbon trading costs have fallen significantly because the Museum no longer falls within the CRC scheme. The £8k is a carbon charge under the EUETS.

## DIRECT IMPACTS COMMENTARY

The main Museum site at South Kensington has become more intensive over the past years, with an increase in visitor numbers and services, new science facilities and the opening of public galleries. However, plant and equipment across the Museum is upgraded as it is replaced to improve efficiency. CHP output has been improved as a result of ring main management in 2013. This has contributed to a reduction in imported electricity and the Museum is now below the threshold for inclusion in CRC Phase 2 (1 April 2014 to 31 March 2019).

Gas consumption is reported to the EU under the Emissions Trading Scheme regulations, a legally binding scheme, which the NHM must participate in due to the magnitude of energy consumed.

During 2014/15 the CHP reached the contracted 60,000hr mark for a complete overhaul. The overhaul was carried out during March 2015 and went without problem. It was completed ahead of schedule and the engine was back running at full power within 2 weeks of the start of the project.

## OVERVIEW OF INDIRECT IMPACTS

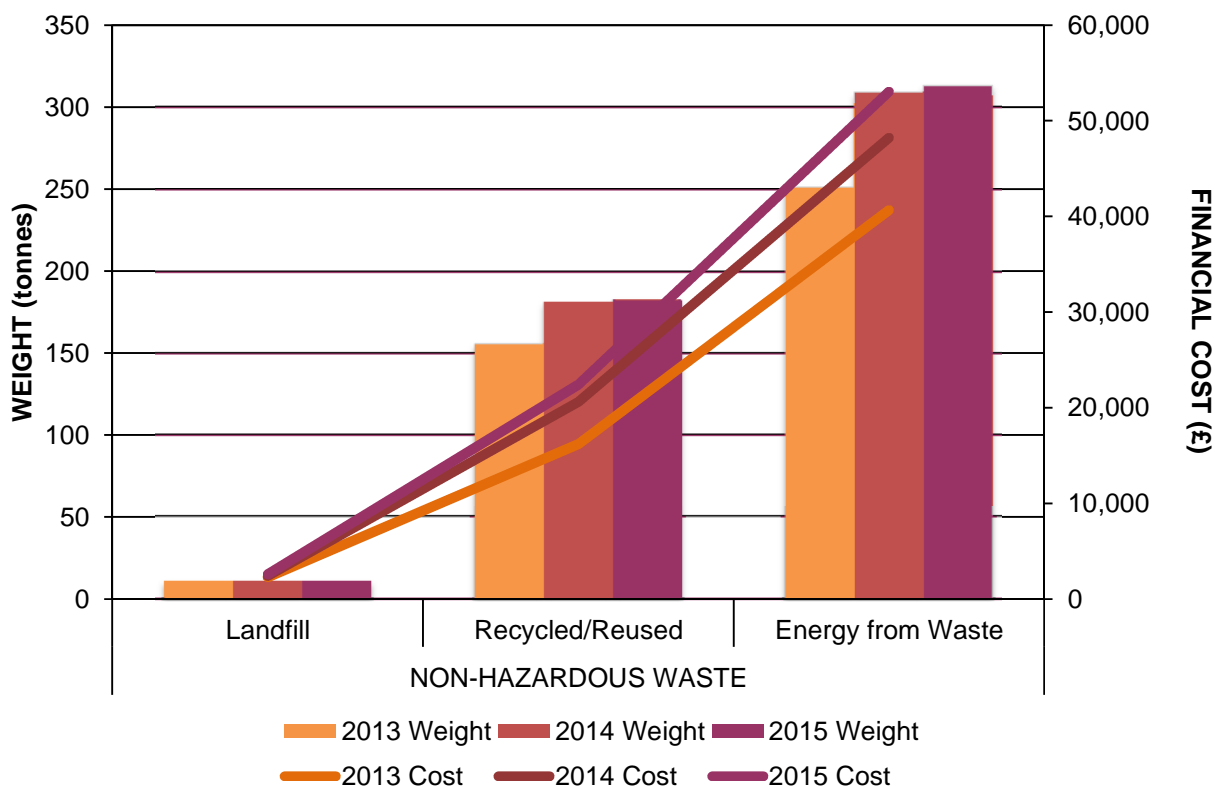
Meeting the demanding targets that have been set as a result of the Carbon Reduction Master plan will rely heavily on Central Government meeting its own objectives in terms of renewable energy generation, energy efficiency and

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decarbonisation of the National Grid.

WASTE MANAGEMENT AND MINIMISATION			2013	2014	2015
Non-financial indicators (tonnes)	Total waste		424	507	513
	Non-hazardous	Landfill	11	11	11
		Recycled/Reused	156	181	183
		Energy from Waste	252	309	313
	Hazardous waste		6	6	6
Financial indicators (£)	Total waste		59,168	77,647	84,743
	Non-hazardous	Landfill	2,288	2,425	2,586
		Recycled/Reused	16,245	20,628	22,418
		Energy from Waste	40,666	48,210	53,052
	Hazardous waste		7,209	6,384	6,686

## WASTE MANAGEMENT AND MINIMISATION



### PERFORMANCE COMMENTARY

Total tonnage of waste generated remained approximately the same as in 2013-14 (total increase of 1.2%). In addition, the weight of individual waste types remained broadly the same across the two years. However, there was a 9% (£7,000) increase in total spend, due to the increased cost of disposal of all waste types.

Hazardous waste remained constant at 6 tonnes and includes the disposal of waste electrical and electronic items, waste chemicals and gas cylinders.

Small amounts of waste are sent to landfill from the Tring Museum, via the Dacorum Borough Council waste management agreement for general waste only.

### DIRECT IMPACTS COMMENTARY

The Museum's direct waste impacts include waste generated by on-site catering facilities, development of exhibitions and office based activities. The Museum provides recycling facilities for a large number of office materials, as well as working with suppliers on take back schemes for specialist equipment and packaging.

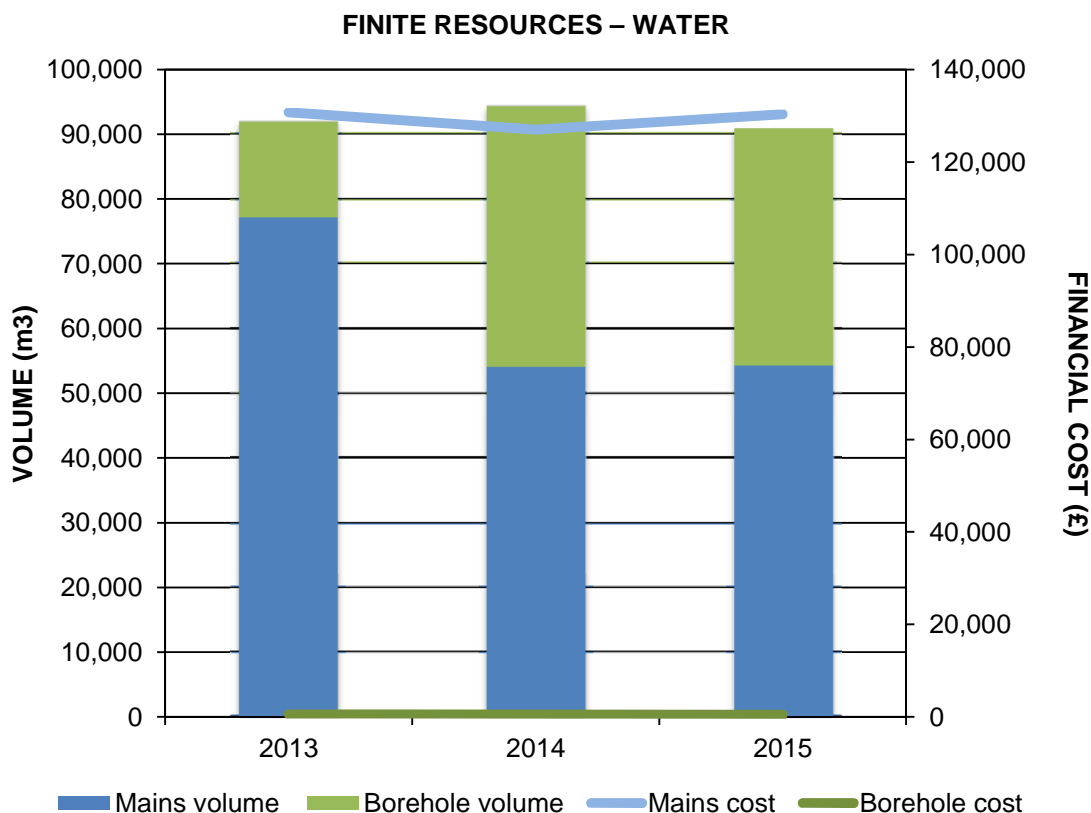
The development of a disposal policy for non-collections items that fall outside of the scope of the normal waste streams has increased the number of items that have been reused both internally and externally. In addition to the reduced environmental impact of reuse, this has reduced costs and, in some cases, enabled income generation. Development and delivery of staff communications and training continues to promote a waste aware culture within the Museum.

### OVERVIEW OF INDIRECT IMPACTS

Indirect waste impacts include waste generated by visitors, contractors and suppliers. Internal visitor waste and recycling facilities available in the public picnic area. External visitor waste and recycling facilities were installed in the DC2 courtyard area in early 2015. The Museum works with contractors and suppliers to encourage waste minimisation and effective waste management.

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FINITE RESOURCES – WATER		2013	2014	2015
Non-financial indicators (m <sup>3</sup> )	Total water consumption	91,980	94,348	90,837
	Mains water	77,257	53,982	54,245
	Borehole abstraction	14,723	40,366	36,592
Financial indicators (£)	Total	131,319	127,458	130,764
	Mains water and wastewater	130,739	126,992	130,297
	Borehole abstraction	580	470	470



### PERFORMANCE COMMENTARY

There has been a small reduction (4%) in total water consumption in 2015. This is mainly as a result of a 4,000m<sup>3</sup> reduction in borehole abstraction (due to problems with the borehole system during winter 2014-15), rather than reduction in mains water consumption. In total, 36,592m<sup>3</sup> (72% of the abstraction licence volume) was abstracted at the South Kensington site.

There has been a small increase in total cost (up £3,300) due to the slight increase in consumption and changes to water rates. Abstraction of water from the borehole remains a very cost effective way of providing water services to the Museum.

### DIRECT IMPACTS COMMENTARY

Abstraction of water from the on-site borehole significantly reduces mains water consumption and costs. This non-potable water supply is used for 'grey water' services across the South Kensington site. The abstraction licence limits can be reviewed in future in line with changes to water use and visitor numbers if necessary.

The Museum took part in a Thames Water water efficiency initiative and had a water audit completed at the South Kensington site. The audit highlighted potential areas of reduction in both water consumption and costs. The Museum is reviewing the feasibility of implementing the recommended actions, prior to implementation in 2015-16.

### OVERVIEW OF INDIRECT IMPACTS

The indirect impacts on water consumption include the influence of visitor water use.

The Grounds Development Programme will consider sustainable drainage options and irrigation as part of the redesign of the South Kensington grounds (see Biodiversity).

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<b>BIODIVERSITY</b>		<b>2015</b>
<b>PERFORMANCE COMMENTARY</b>		
South Kensington	<p>General grounds maintenance at South Kensington is undertaken by the facilities management contractor. No formal biodiversity enhancing practices are included in the maintenance schedule. Following an architectural competition, a designer was selected to work with the Museum to produce a coherent redesign of the South Kensington grounds. The initial designs include consideration of sustainable drainage and positive biodiversity solutions, as detailed in the Supplementary Planning Document.</p> <p>The on-site wildlife garden is managed in accordance with the Wildlife Garden Management Plan 2010-15, which includes ongoing biodiversity development and monitoring activities.</p>	
Tring	<p>General grounds maintenance at Tring is undertaken by a grounds maintenance contractor. No formal biodiversity enhancing practices are included in this maintenance schedule.</p> <p>Part of the meadow has been developed into a shared car parking facility for the Museum and the neighbouring Tring Park (Woodland Trust). A maintenance plan for the remaining part of the meadow has been put in place and addresses issues of maintaining and enhancing biodiversity.</p>	
Wandsworth	<p>There is limited external (and no planted) space at Wandsworth, managed by the facilities management contractor. No biodiversity practices are included in this maintenance schedule.</p>	

<b>SUSTAINABLE PROCUREMENT</b>		<b>2015</b>
<b>PERFORMANCE COMMENTARY</b>		
<p>Current sustainable procurement practices include evaluating new suppliers and contractors on environmental considerations during the tender process, centralising services across the organisation and utilising framework agreements where possible.</p> <p>The Museum took part in a WRAP project providing support to public sector organisations to embed circular economy principles as part of the procurement process. WRAP produced a suite of documents and tailored advice which the Museum will use to explore circular economy approaches with regard to the management of Electronic and Electrical Equipment within the organisation.</p> <p>An internal Procurement Awareness training session was developed and delivered quarterly in 2014-15 by the Environmental and Sustainability Officer and Procurement Team. The bite size workshop provides information on procurement law, sustainable procurement, NHM policy and process and the importance of considering Best Value when procuring works, goods or services on behalf of the Museum.</p> <p>The Museum has agreed funding from our Facilities Management providers for the implementation of BS8903: Principles and framework for procuring sustainably. The Museum will work with Action Sustainability to align the Museum's processes with the framework during 2015-16.</p>		

(end)