Sustainability Performance 2011-2012

Environmental Management System

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

Carbon Reduction Masterplan

In 2006, the Natural History Museum along with a number of other South Kensington cultural and academic institutions, successfully applied to HM Treasury's 'Invest to Save' budget, to embark on an ambitious piece of work known as the Carbon Reduction Masterplan (CRM). As well as giving the Museum the opportunity to install energy monitoring technology, the objective of this project was to determine how the Museum and its neighbours could collaborate on a long-term basis, to make significant reductions to their carbon emissions. The CRM Report was completed during the year 2011-12 and was launched at a high profile event involving industry specialists and government representatives in November 2011. It sets out a technological and organisational road map that if followed, would result in the Museum meeting or exceeding, the Government's target of reducing emissions by 80% from the 1990 baseline by the year 2050.

Energy Services Contract

The Museum entered in to its second Energy Savings Contract, resulting in the replacement of almost 5,000 light fittings and the installation of combined heat and power plant (CHP) at the Museum's Tring and Wandsworth sites in 2011. These projects deliver carbon emissions reduction in the order of 1,500 tonnes per year.

Employee engagement

The Museum works with employees to promote environmental best practice, including this year, working with partner organisations to deliver a range of awareness raising events and information services, such as Climate Week, Dr Bike and internal intranet pages.

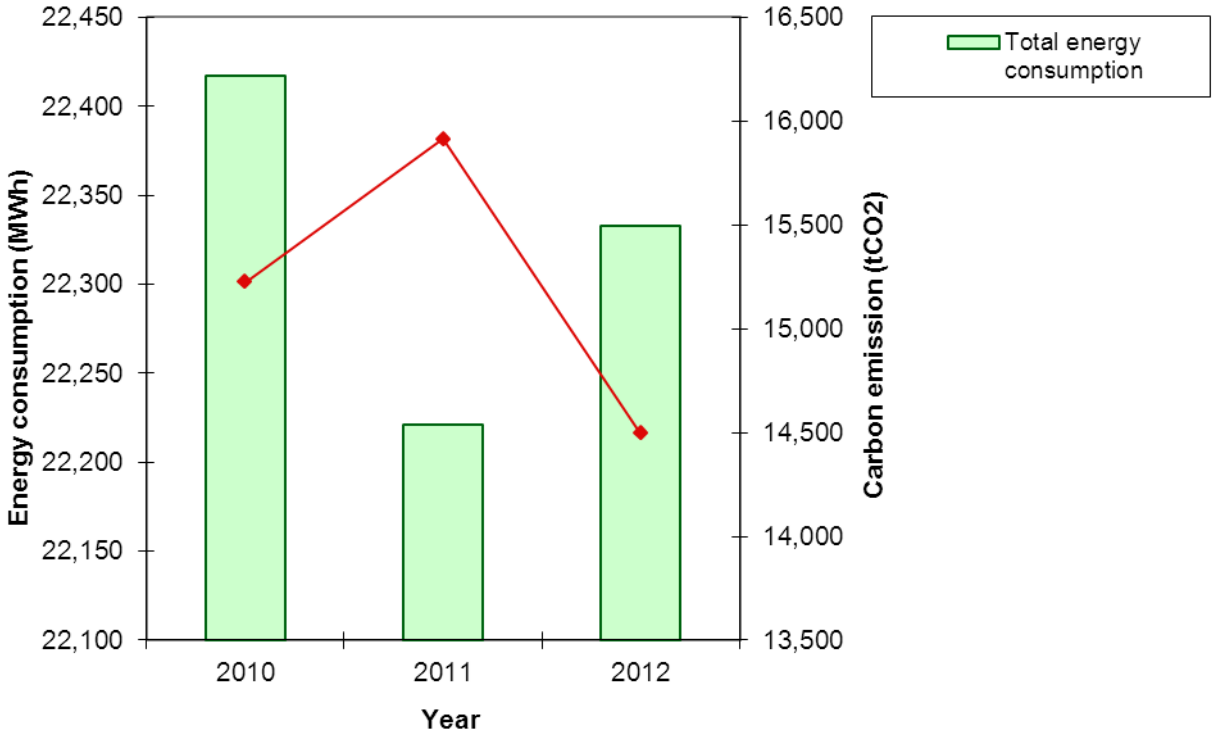
Strategic sustainability plans

The Museum is currently developing an organisation wide Sustainability Programme (2012-16) to deliver on three sustainability aspirations:

- to operate sustainably
- to contribute to the knowledge and understanding of sustainability
- to inspire people towards better care of our planet

The programme will deliver a number of projects to monitor and reduce environmental impact at an organisational, departmental and individual level.

GREENHOUSE GAS EMISSIONS		2010	2011	2012
Non-financial indicators (tCO_2)	Total	15,225	15,914	14,495
	Electricity	5,698	5,632	5,308
	Gas	9,528	10,282	9,187
Energy consumption (MWh)	Total	22,417	22,221	22,333
	CHP (Electricity generated on-site)	12,001	11,926	12,783
	Electricity imported	10,416	10,296	9,704
	Gas	50,145	54,115	48,351
Financial indicators (£k)	Total	1,869	1,869	1,869
	Electricity	1,487	1,173	1,168
	Gas	382	656	708
	Carbon trading	-	-	5



PERFORMANCE COMMENTARY

The figures above represent Scope 1 & 2 emissions only.

2011 marked the completion of the Carbon Reduction Masterplan (CRM). This work was instigated by the Natural History Museum and involved collaboration with other major South Kensington organisations. The main object of the project was to create a road map that can be used to achieve significant emissions reductions, ultimately, meeting the national target of an 80% reduction from the 1990 baseline by 2050 (with intermediate targets along the way).

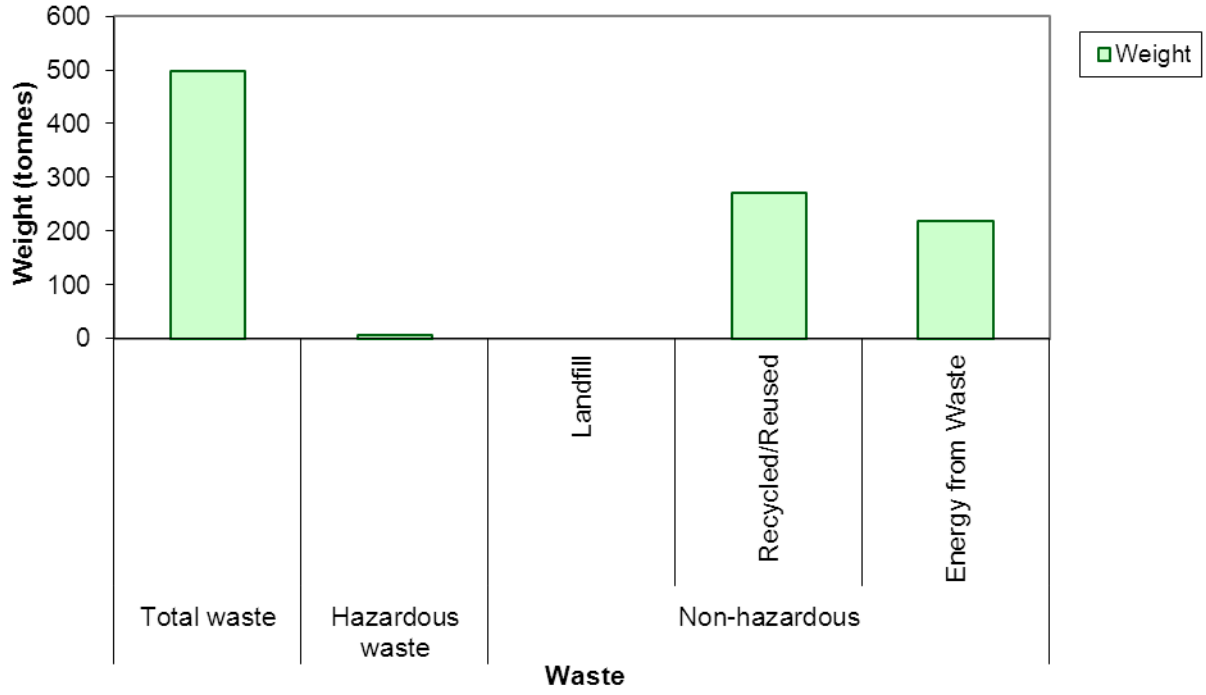
DIRECT IMPACTS COMMENTARY

In terms of physical emissions reductions to date, the Museum installed a high efficiency combined heat and power (CHP) engine, along with absorption cooling in 2006. This plant was installed under an Energy Performance Contract (EPC) that delivers guaranteed financial savings in the order of £579k per year as well as a minimum emissions reduction of 1,500 tonnes of CO2 per year. In 2011, a new EPC was awarded that has seen almost 5,000 old, inefficient luminaires in South Kensington be replaced with modern efficient fittings, as well as the installation of two small CHP units at Tring and Wandsworth. Total carbon emissions reductions that will be realised as a result are in the order of 1,700 tonnes per year.

OVERVIEW OF INDIRECT IMPACTS

Meeting the demanding targets that have been set as a result of the CRM will rely heavily on Central Government meeting its own objectives in terms of renewable energy generation, energy efficiency and decarbonisation of the National Grid.

WASTE MANAGEMENT AND MINIMISATION			2012
Non-financial indicators (tonnes)	Total waste		497
	Hazardous waste		7
	Non-hazardous	Landfill	0
		Recycled/Reused	271
		Energy from Waste	219
Financial indicators (£)	Total disposal cost		43,378
	Hazardous waste		10.881
	Non-hazardous	Landfill	0
		Recycled/Reused	16,025
		Energy from waste	16,473



PERFORMANCE COMMENTARY

While the current waste stream maximises efficiency through collaboration with the Science Museum, recycling and generating energy from waste where possible, no specific reduction targets have been set. The aim to have this in place in the next cleaning and waste management contract commencing in 2013.

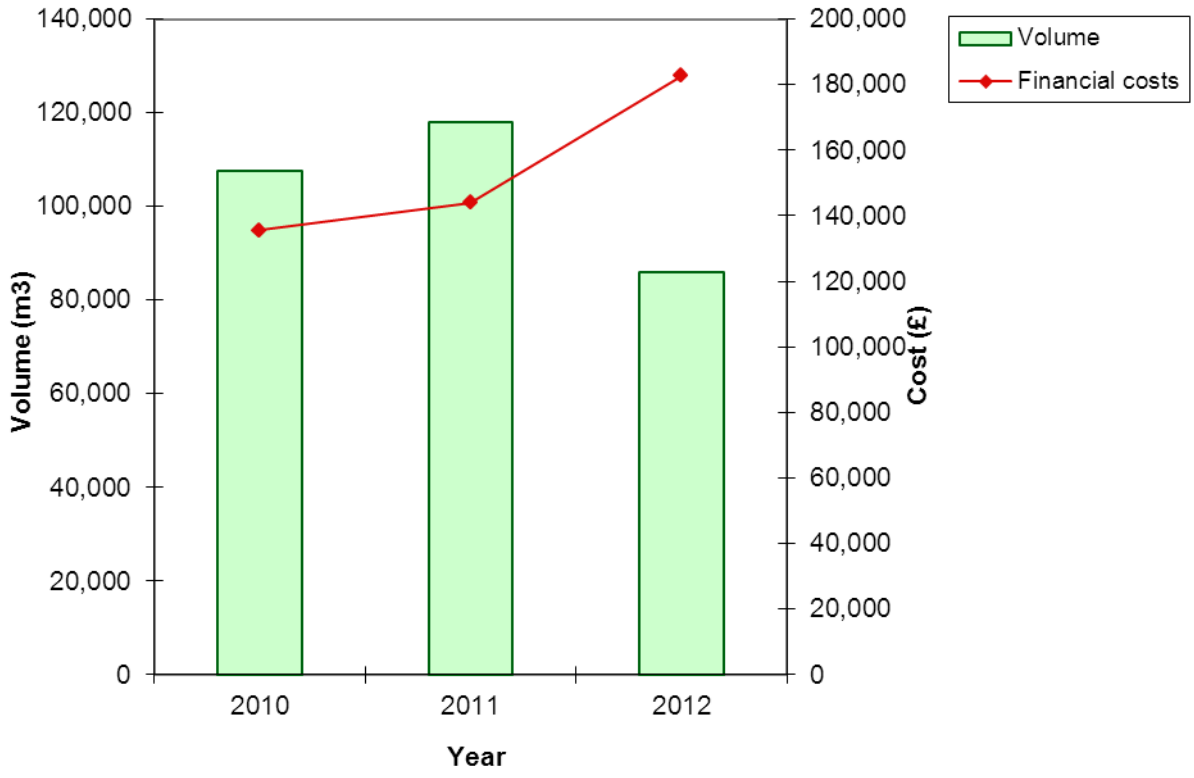
DIRECT IMPACTS COMMENTARY

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. Also, to a limited extent, equipment reuse is encouraged by utilising Museum networks to donate redundant equipment to other organisations. Existing waste management facilities are being reviewed in conjunction with the Science Museum and waste management contractors to implement a range of improvement measures designed to increase recycling rates.

OVERVIEW OF INDIRECT IMPACTS

Indirect waste impacts include waste generated by visitors, contractors and suppliers. Both internal and external visitor waste facilities are being reviewed to incorporate recycling facilities in public areas. The Museum works with contractors and suppliers to encourage waste minimisation and effective waste management.

FINITE RESOURCES – WATER		2010	2011	2012
Non-financial indicators (m3)	Total water consumption	107,601	118,024	85,991
	Mains water	72,207	69,092	75,705
	Borehole abstraction	35,394	48,932	10,286
Financial indicators (£)	Total	135,649	143,968	182,605
	Mains water and wastewater	135,229	143,548	182,185
	Abstraction licence	420	420	420



PERFORMANCE COMMENTARY

Mains water use has been higher than expected in 2011/12 due to breakdown of the borehole pump preventing extraction between May and December 2011. Following repairs, borehole abstraction was maximised within the abstraction licence limits to minimise mains water consumption at the South Kensington site. No specific reduction targets have been set.

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.

A small number of water saving devices has been installed in back of house areas such as 'low flow' restrictors on taps as well as toilet cisterns. As and when the effectiveness of these devices has been evaluated there will be further roll out. .

The Museum has worked with Thames Water to deliver water efficiency awareness sessions that were open to all staff.

OVERVIEW OF INDIRECT IMPACTS

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

In addition, a feasibility study is being undertaken to install a green roof on approximately 1,050 m^2 of roof area. While not inherently minimising water consumption, the study will consider potential for the installation of rainwater harvesting and successful implementation will reduce surface runoff.

BIODIVERSITY	2012
PERFORMANCE COMMENTARY	
South Kensington	General grounds maintenance at South Kensington is undertaken by the facilities management contractor. No formal biodiversity enhancing practices are included in the maintenance schedule. 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.
Tring	General grounds maintenance at Tring is undertaken by a grounds maintenance contractor. No formal biodiversity enhancing practices are included in this maintenance schedule. The on-site meadow is managed in accordance to a Biodiversity Action Plan, implemented in 2004. However, plans are being prepared to develop part of the meadow into a shared car parking facility for the Museum and the neighbouring Tring Park (Woodland Trust).
Wandsworth	There is limited external space at Wandsworth. This is managed by the facilities management contractor. No biodiversity practices are included in this maintenance schedule.

SUSTAINABLE PROCUREMENT	2012
PERFORMANCE COMMENTARY	
Current sustainable procurement practices include evaluating new suppliers and contractors on environmental considerations during the tender process, centralising services across the organisation and with neighbours, and rationalising deliveries to help reduce local congestion (and associated issues such as air quality) where possible. The Museum works continually with suppliers to improve the environmental information related to services and products, with an aim of effectively recording, monitoring and reducing the associated environmental impacts. The Museum will also continue to implement the above practices and to develop improvements in relationships with and performance of contractors and suppliers. Within the next year sustainable procurement activities will be reviewed, including consideration of implementing BS 8903 and explore an opportunity to work with WRAP as part of the European Pathway to Zero Waste (EPOW) targeted assistance programme.	