



Historic Royal Palaces is the charity that looks after:

Tower of London
Hampton Court Palace
Banqueting House
Kensington Palace
Kew Palace
Hillsborough Castle

We help everyone explore the story of how monarchs and people have shaped society, in some of the greatest palaces ever built.

We raise all our own funds and depend on the support of our visitors, members, donors, sponsors and volunteers.

SUSTAINABILITY REPORT

2013/14

(Final - version 3 - 6 June 2014)



Sustainability Report 2013/14

Historic Royal Palaces is committed to the values of sustainability in the work it undertakes to help everyone explore the palaces and estates it looks after and in the management of its operations.

Conservation is at the heart of HRP's mission, so managing the palaces and the estate with as little environmental impact as possible is important to us. Through our conservation work, we give our buildings, interiors, collections, designed historic landscapes and natural landscapes, species and habitats a future as long and valuable as their past, for the benefit of future generations.

About the data

As this is the second year we are publishing our records and actions on the sustainability topic, there are still limitations with the availability and accuracy of HRP's financial and non-financial sustainability data. We continue to work with internal and external stakeholders to improve the data gathering process and refine the quality of information in this area.

Energy reduction

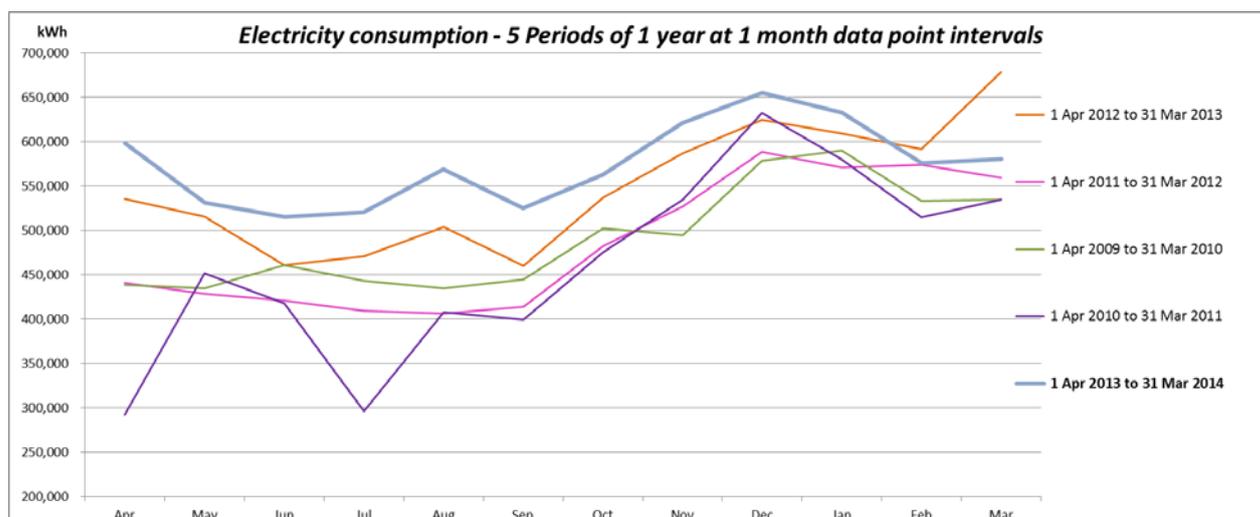
Energy reduction in prestigious historic buildings is always a challenging task. Nevertheless over the years, a number of initiatives have been implemented and we continue to invest in schemes to drive reductions in consumption of electricity and gas.

Electricity

The table and graph below shows trends in electricity consumption over the last five years. The data excludes Stafford unit 3 Retail warehouse as we only started to use it during the course of 2010-11 financial year.

Electricity in KWh	1 Apr 2009 to 31 Mar 2010	1 Apr 2010 to 31 Mar 2011	1 Apr 2011 to 31 Mar 2012	1 Apr 2012 to 31 Mar 2013	1 Apr 2013 to 31 Mar 2014
Total 5 Palaces (excl. Stafford Unit 3)	5,890,131	5,539,530	5,821,539	6,574,866	6,885,724
YoY percentage change increase/(reduction)		-1%	-6%	5%	13%

Figures for electricity consumption are sourced from TEAM (Energy Auditing Agency Ltd)

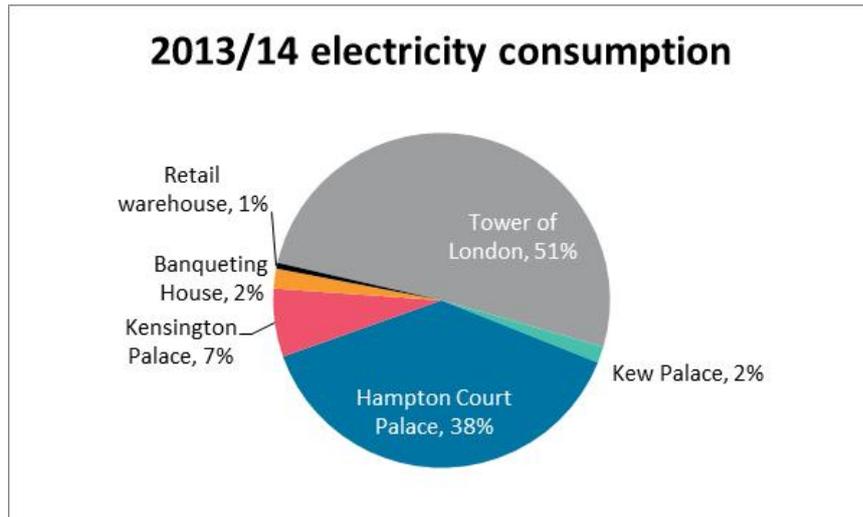


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Initially energy savings on electricity were achieved through:

- Improvements in shut down procedures at nights and week-ends
- Installation of inverters on motors in plant rooms
- Increased use of low energy lighting and conversion to LED lighting (e.g. 80% coverage at the White Tower)
- Upgrades in the lighting controls across the estate

However over the last three years, electricity consumption has increased by 5% over 2012/13 and by 15% over the last five-year average. The increase has impacted all our sites, albeit at various rates, with 2013/14 breakdown by site as follows:



This increase in consumption is mostly explained by changes in activity:

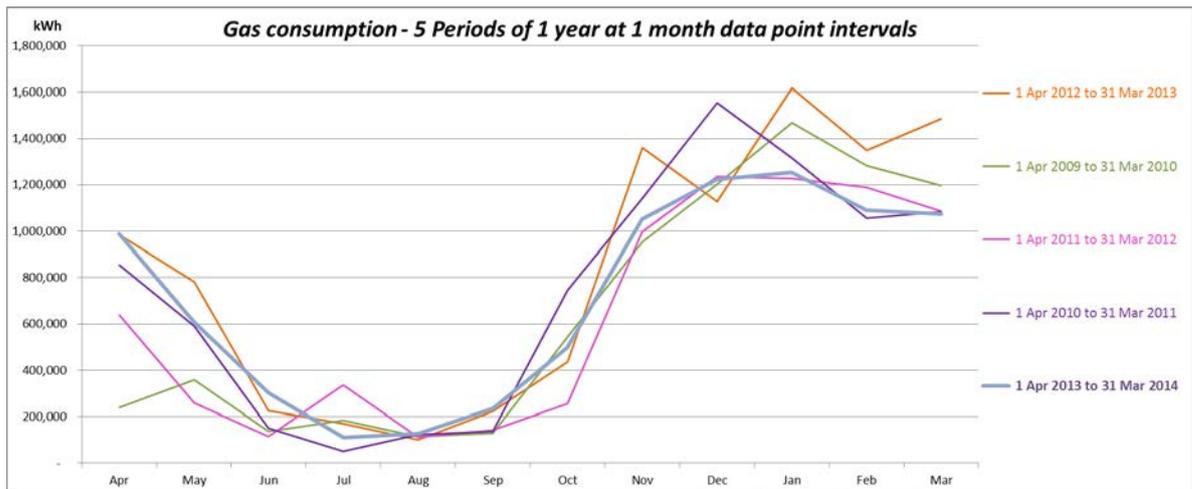
- In three of our palaces, we have significantly changed our catering provision. We have opened brand new catering outlets - café at Kensington Palace and restaurant at the Tower of London in 2012, café at Hampton Court Palace in 2013. We have also taken responsibility for electric consumption at the kitchen of our main outlet at Hampton Court.
- We continue to open more spaces for public routes (e.g. Mint Street exhibition at the Tower) and staff offices and we use more audio visual equipment for our exhibitions and events.
- At the Tower, we now use the Tower's electrical supply instead of generators for the winter and summer moat events, thereby saving the cost of the generators and fuel deliveries. The costs are borne by the external events' providers.
- The Olympics factor for the more significant increase during the summer of 2012 at Hampton Court.
- More generally colder and longer winters have an impact on electric consumption through the provision of portable office radiators.

Gas

The table and graph below shows trends in gas consumption over the last 5 years (no gas consumption at Kew).

Gas in KWh	1 Apr 2009 to 31 Mar 2010	1 Apr 2010 to 31 Mar 2011	1 Apr 2011 to 31 Mar 2012	1 Apr 2012 to 31 Mar 2013	1 Apr 2013 to 31 Mar 2014	
Total 4 Palaces	7,806,417	8,798,901	7,588,388	9,857,271	8,564,047	
YoY percentage change increase/(reduction)		-20%	13%	-14%	30%	-13%

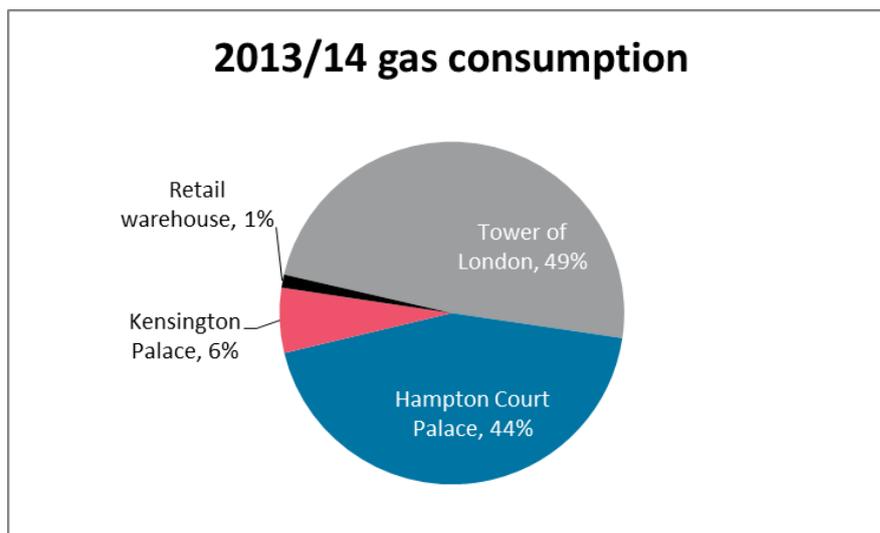
Figures for gas consumption are sourced from TEAM (Energy Auditing Agency Ltd)



Working closely with British Gas, HRP has targeted reduction in consumption of gas by implementing the following initiatives:

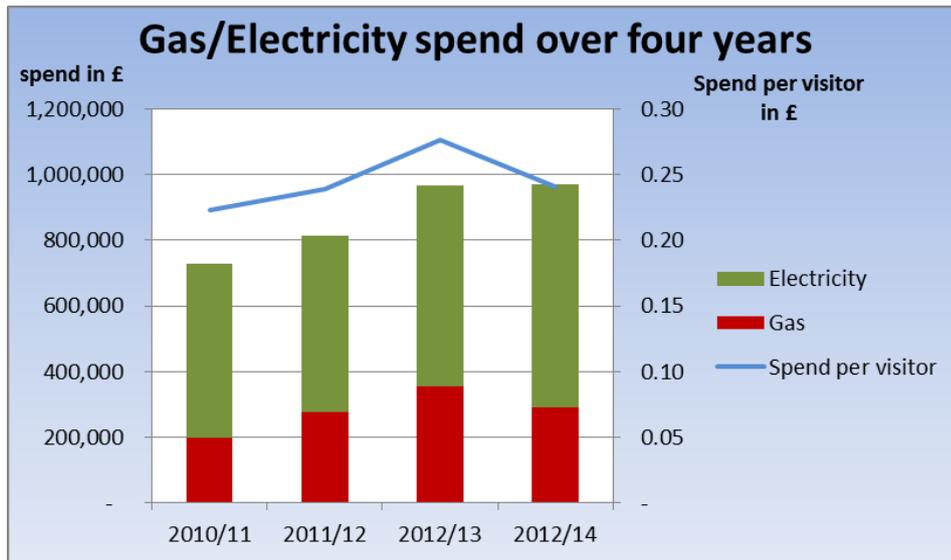
- Draught proofing of historic windows at Hampton Court
- Roof space insulation installed at all three major palaces and lagging on pipes
- Optimisation of boilers' timers at the Tower of London and Hampton Court

As a result, gas consumption has reduced by 2% over the last five-year average and 13% over 2012/13. The drop is primarily driven by Hampton Court and Kensington Palace. The breakdown by site in 2013/14 is as follows:



After three years of steady increase, the combined spend on gas and electricity remained flat in 2013/14. This, however, is the result of 18% decrease in gas expenditure and 11% increase in electricity expenditure. Hampton Court Palace and Tower of London were the key contributors to those trends.

Spend per visitor on gas and electricity combined decreased from 28p to 24p between 2013/14 and 2012/13.



Due to the fact that heating is heavily reliant on gas and electricity, consumption of both is still largely dependent on the severity and length of winter. However we continue to work on initiatives which will reduce energy costs such as:

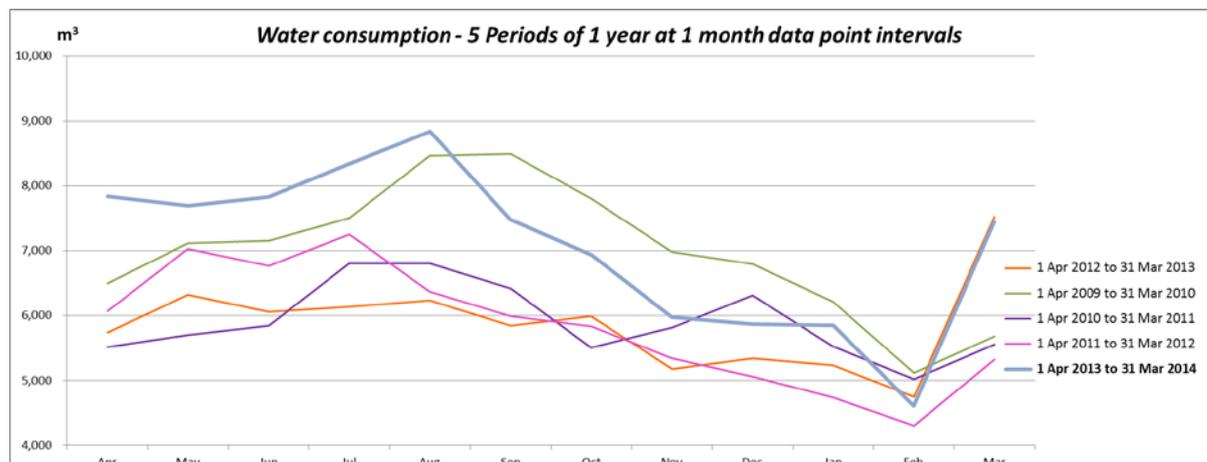
- At the Tower, we are replacing the cooling towers in the Waterloo Block and changing the building management system to allow the air conditioning system to make more use of 'free cooling'.
- At Hampton Court, we are installing more efficient boilers within the Royal Tennis Court area and the west end of the Barrack Block, replacing the largest commercial boiler in Round Kitchen Court and upgrading the Cumberland Suite to bring a new heating system and full LED lights throughout.

Water

The table and graph below shows trends in water consumption over the last five years (excluding Kew which is the responsibility of RBGK and Kensington due to significant gaps in data).

Water in m ³	1 Apr 2009 to 31 Mar 2010	1 Apr 2010 to 31 Mar 2011	1 Apr 2011 to 31 Mar 2012	1 Apr 2012 to 31 Mar 2013	1 Apr 2013 to 31 Mar 2014
Total 3 Palaces	83,820	70,837	70,097	70,351	84,693
YoY percentage change increase/(reduction)		-34%	-15%	-1%	0%

Figures for water consumption are sourced from TEAM (Energy Auditing Agency Ltd)



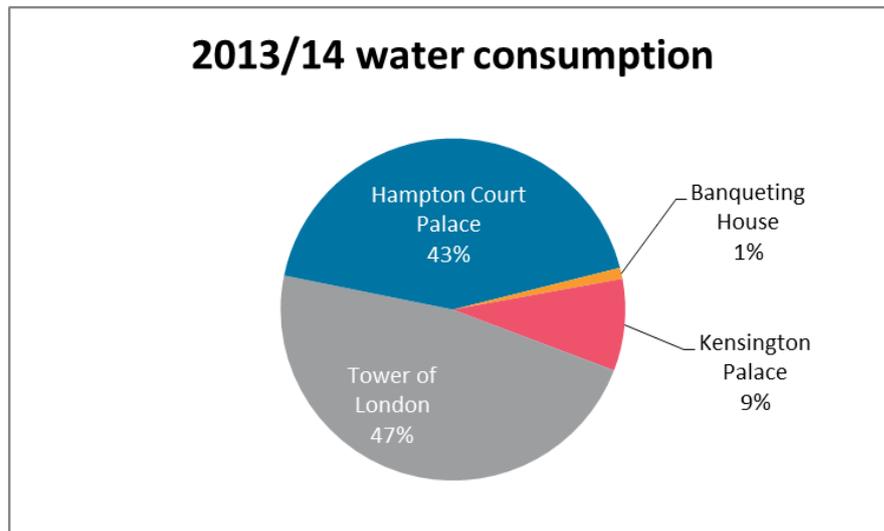
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Consumption of water has increased by 20% over 2012/13 after 3 years of fairly stable consumption. This is mainly driven by the Tower of London (+15% year-on-year) and Hampton Court (+29% year-on-year).

The increase results from a combination of events:

- Impact of a full year of operation for our new restaurant - the Perkin Reveller at the Tower of London
- Opening of a new café during the peak season at Hampton Court Palace
- Growth in staff and visitors at all palaces. The increase in visitors at Hampton Court (+7%) and at the Tower (+14%) is of particular importance as we estimate that more than 80% of water demand is consumed by visitors in public areas.

The breakdown by site in 2013/14 is as follows:



Nevertheless, progress has been made over the years, and consumption per visitor (expressed in litres per visitor in the table below) has reduced by 16% over the last five-year average.

	1 Apr 2009 to 31 Mar 2010	1 Apr 2010 to 31 Mar 2011	1 Apr 2011 to 31 Mar 2012	1 Apr 2012 to 31 Mar 2013	1 Apr 2013 to 31 Mar 2014	13/14 compared to last year	13/14 compared to last 5 year average %
Consumption (litres per visitor)	26	22	21	22	23	3%	-16%

The installation of automated meter readings across the main palaces has enabled close monitoring of water leaks and allowed for prompt repair.

At the Tower of London, grey water is used to irrigate the lawns in the moat and flush some of the public toilets. Half the visitor toilets have been fitted with sensor taps. Working with Thames Water, the water pressure was reduced at the taps, thereby reducing overall consumption.

At Hampton Court, rain water and river water is used for the majority of irrigation and all visitor urinals are fitted with an electrical flow rate controller. The refurbishment at KP has allowed the introduction of sensor mixer taps and low flush toilets in all public areas.

Waste management

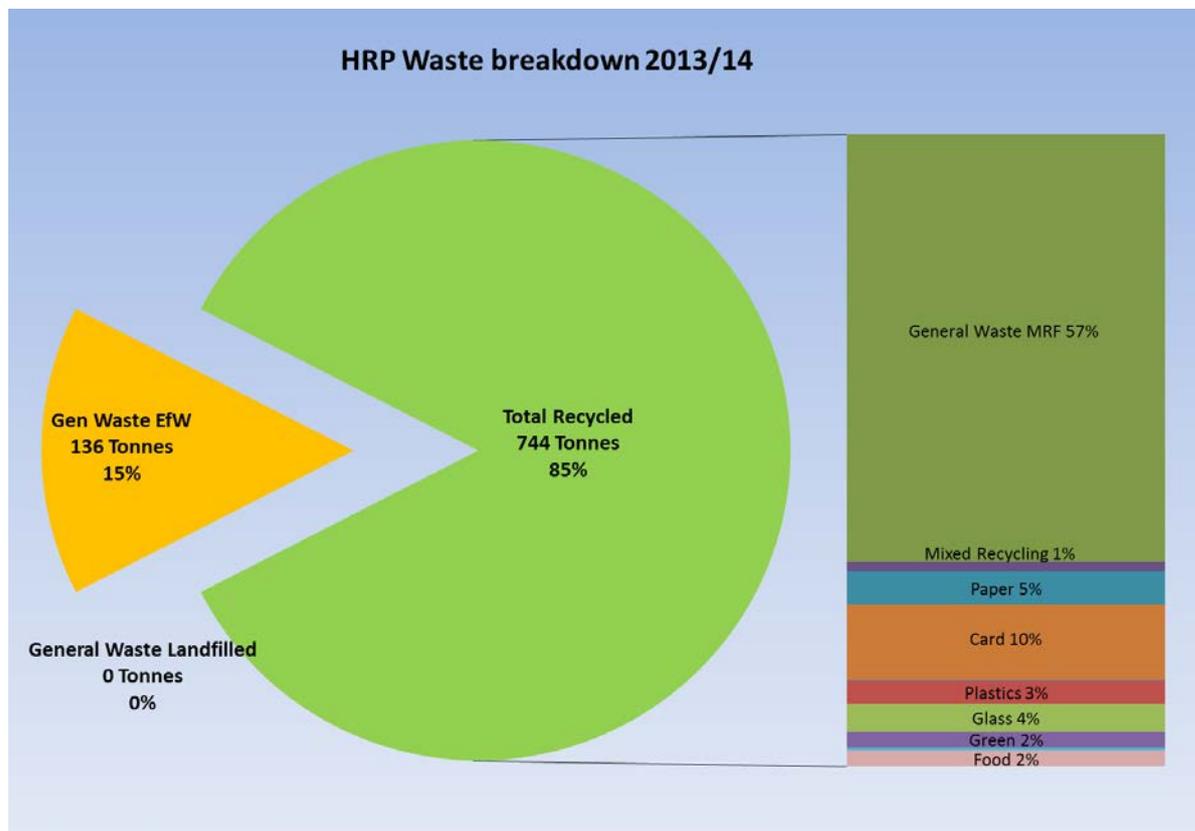
Considerable emphasis has been placed on waste management and increased re-use and recycling over the last few years. This has resulted in most palaces reaching greater than 80% waste recycling for four years in a row (85% at Hampton Court, 84% at Banqueting House, 82% at the Tower of London and 66% at Kensington Palace in 2013/14). Moreover no waste was sent to landfill in 2013/14.

HRP (all palaces excl. Kew)	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Total Waste (tonne)	949	808	1121	1069	940	939	949	880
Total Amount Recycled (tonne)	234	263	410	922	802	816	817	744
Total % Recycled	25%	32%	37%	86%	85%	87%	86%	85%
Waste per visitor (kg per visitor)	0.33	0.28	0.39	0.32	0.29	0.28	0.27	0.23

Figures above are sourced from our contractor, MITIE.

In 2013/14, 27% of the total waste generated from our palaces was recycled directly on site. Of the remaining waste, approximately 60% was recycled at a dedicated sorting facility and the remaining 40% was incinerated, thereby generating energy.

Total waste recorded in 2013/14 is further split as follows:



The following initiatives have contributed to this achievement to date:

- We installed dedicated well sign-posted recycling points in staff and public areas.
- We provided recycling stations at large-scale events such as the Music festival.
- We arranged for specific cardboard collection from all the retail shops and compacting at the Retail Warehouse for recycling.
- We encouraged staff to take responsibility for and participate in good environmental practices.

- We set up a trial at the Tower, in cooperation with our catering concession Ampersand, which successfully demonstrated composting as a means of removing food waste from our waste streams. More work will be undertaken in 2014/15 to roll out the programme across our palaces.

The Gardens and Estates department recycle 95% of their green waste which is shredded and never taken off site. This in turn also reduces the need for transportation off site. We also shred a small proportion of waste paper on site to add to the green waste for compost which is gradually more peat-free. In addition, a dedicated skip is available for collecting used plastic flower pots and trays, and oil is stored and then taken off site for professional recycling.

Recovered timber is collected at Hampton Court in a separate area for use as fire wood on the Tudor Kitchens Great Fire.

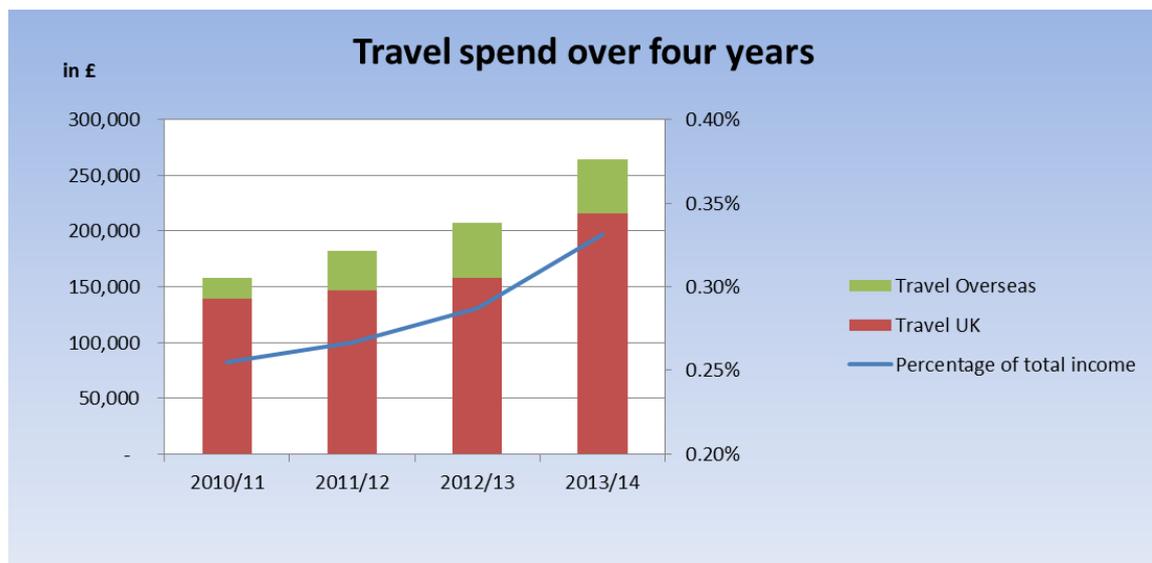
Construction waste is collected in skips for all projects and segregated either on-site or off-site at dedicated facilities. Metal and electrical cables are collected separately.

Used computer, photocopier and printer cartridges are recycled at all palaces and an approved contractor removes equipment to comply with the waste Electrical and Electronic Equipment Regulations (WEEE).

Travel

Staff travel spend in 2013/14 has increased by circa 27% over 2012/13, a marked increase compared to the 15% year-on-year seen previously. This was all driven by UK travel and has a direct correlation with the preparatory work being done by a number of teams before the management of Hillsborough Castle in Northern Ireland was handed over to HRP. Overseas travel spend went marginally down by 2% during the same period.

However travel remains a small proportion of HRP total spend. As a percentage of total income it has marginally increased from 0.25% in 2010/11 to 0.33% in 2013/14.



Biodiversity

Maintaining and encouraging diverse ecosystems within Home Park and the palaces' gardens is a vital part of the management of HRP estate. We seek to enhance the biodiversity value of the estate through sympathetic management. This includes a commitment to the sustainable management of habitats of wildlife conservation importance by:

- Leaving fallen timber and deadwood on site to create habitats for saproxylic species
- No longer adding chemical controls to waterways and water features
- Introducing reed beds and marginal aquatic planting for filtering and habitat creations

We also regularly conduct targeted surveys and biological recording of key habitats and species to monitor change and the impact of management practices and activities. Recent externally commissioned surveys have been conducted for terrestrial and aquatic invertebrates, bats, amphibians, reptiles, birds and fungi. These surveys help to influence management practices.

We are also about to open to the public free of charge the restored Kitchen Gardens, which will be used to show how food was produced for the king's table at the palace. The Tiltyard was used as the royal kitchen garden throughout the 18th century and this recreation will be faithful to its time, right down to the types of gardening displays used to cultivate rare heritage fruit and vegetable.

Historic Royal Palaces works in partnership with a number of local wildlife conservation groups and organisations which enable us to share knowledge of best practice to help coordinate effective working.

As reported last year, Home Park is being considered by Natural England (England's statutory nature conservation body) to become a Site of Special Scientific Interest (SSSI) in recognition of the acid grassland and veteran tree assemblage which exist on site. The decision is imminent with the final outcome expected in June 2014. The designation will include Home Park but may exclude the 'Flower Show' site footprint.

The future

The HRP Sustainability Group was re-launched in 2012 under the chair of the Palaces Group Director. It comprises of key decision-makers who control both budgets and processes across the organisation.

After a review of our activities, departments built bespoke sustainability action plans which were implemented in 2012/13. Subsequently a sustainability consultancy, Useful Simple Projects, which had supported us during the review, undertook an in-depth audit and carbon foot-printing exercise at Hampton Court and the Tower. The audit focused on the areas with the greatest sustainability impact: Energy, Water and Waste.

The working group have agreed an action plan for 2014/2015 which includes:

- Improving the water metering at HCP and ToL
- Upgrading the building management system (BMS) at the ToL
- Improving the air-handling unit in the Waterloo Block at the ToL
- Extending the food waste composting scheme to all palaces with food concessions
- Enhancing on-site recycling facilities for visitors
- Integrating sustainability principles into the ToL Master Plan to inform the overall HRP sustainability strategy.