

**The Household of Their Royal Highnesses  
The Prince of Wales and The Duchess of Cornwall  
Carbon Report for the year ended 31 March 2016**

## The Carbon Report in context

His Royal Highness The Prince of Wales has been a leader in helping to foster good sustainability practice for 40 years. As part of the Household's role in supporting The Prince and his family in all their activities, it is committed to monitoring, reporting on, and continually improving its sustainability performance.

The 2016 Annual Review includes information about The Prince of Wales and The Duchess of Cornwall's work, their visits throughout the UK and across the world, and key Household statistics – including financial and environmental, including greenhouse gas emissions, data. This Carbon Report provides further information on how its greenhouse gas emissions are calculated and an external assurance report that provides reasonable assurance, as defined by international assurance standards, over the Household's Carbon Statement for the year ended 31 March 2016.

## Roles and Responsibilities

The Senior Management of the Household are responsible for preparing the Carbon Report including the Carbon Statement in accordance with the Household's Carbon Reporting Policy, and for defining the boundaries of operations and the determination of methods and conversion factors used. In preparing the Carbon Report, the Senior Management are required to:

- ensure that the Carbon Reporting Policy is appropriate and applied consistently;
- keep proper records that disclose with reasonable accuracy the carbon emissions of the Household;
- make judgements and estimates that are reasonable and prudent; and,
- take reasonable steps for the prevention and detection of fraud and other irregularities.

## Overview of the Carbon Report

The four main sections of this document should all be read together to gain a full understanding of the Household's carbon emissions:

- **Introduction:** provides narrative details of the Household's carbon performance for the year;
- **Carbon Statement:** sets out this year's greenhouse gas emissions data alongside prior year data;
- **Carbon Reporting Policy:** explains the basis for preparing the Household's emissions data; and,
- **Independent Assurance Report:** the external assurance report prepared by PricewaterhouseCoopers LLP ('PwC'), independent accountants, on the Household's Carbon Statement.

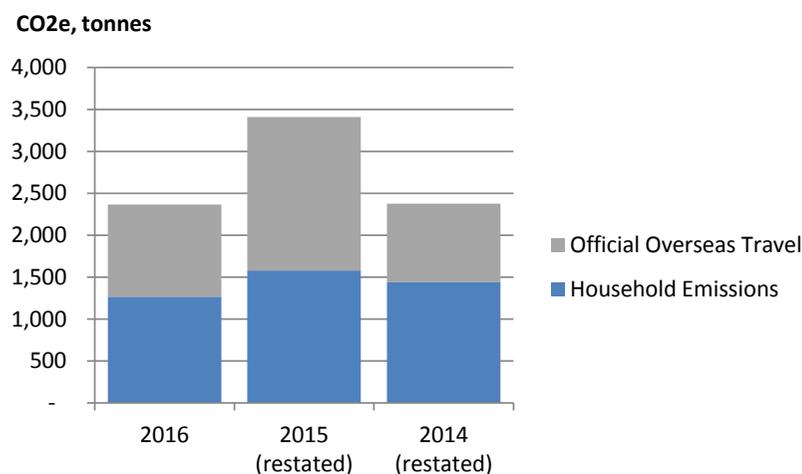
Senior Management confirm that they have carried out their responsibilities as set out above.

**22 June 2016**

# Introduction

While emissions vary each year, the aim is to ensure they are minimised by using renewable energy, promoting energy efficiency, and taking carbon as well as cost, security and logistics into account when planning travel.

The numbers for 2014 and 2015 have been restated following changes in the accounting methodologies for travel. The restatement is made so that emissions are comparable between years. See the Carbon Statement and Carbon Reporting Policy sections below for more details.



Household emissions decreased by 20% this year (2015: an increase of 10%) and emissions from official overseas travel fell by 40% (2015: an increase of 95%). These reductions are due largely to annual variations in the destinations visited by Their Royal Highnesses and changes in the types of transport used. Further details are given in the Travel and Energy sections below.

## Travel

Emissions vary each year according to the programme of engagements that Their Royal Highnesses undertake and the modes of transport used. The environmental impact is considered alongside security, logistics and cost (as well as the positive impacts of the engagements made possible by the travel) when planning and undertaking travel.

Emissions from UK official travel fell due to a decrease in miles travelled and the different types of transport used to meet operational requirements.

Official travel outside the United Kingdom is undertaken at the request either of Her Majesty's Government, or the Government(s) of The Queen's other Realms. Emissions are 40% lower this year than in 2014-15 (for which emissions were particularly high) as there were fewer long-haul trips. In addition, scheduled flights were taken for much of the distance travelled to and from Australia and New Zealand this year, resulting in fewer emissions than if chartered aircraft had been used.

## Energy

Energy use encompasses heating, hot water and electricity for all the offices and residences. The Household aims to reduce its carbon emissions by increasing energy efficiency and through greater use of renewable energy. On-site renewable sources include solar panels at Clarence House and Highgrove, biomass boilers at Highgrove, Birkhall and Llwynywermod and heat pumps at Highgrove.

Total energy use remained roughly constant this year and the proportion of energy from on-site renewable sources remained at 38%. Net emissions fell slightly (by 4%) due to reductions in electricity use and in the carbon intensity of the UK grid fuel mix. Applying new accounting rules (GHG Protocol Scope 2 Guidance) to reflect the actual mix the Household purchases (which would assign zero emissions to purchases of renewable electricity) makes reported emissions significantly lower – see the note on page 5.

## Carbon Statement

The table below sets out the Household's greenhouse gas emissions in carbon dioxide equivalents (CO<sub>2</sub>e). See pages 4 and 5 for further information on the notes to the table.

Year to 31st March	2016	2015 <sup>1</sup>	2014 <sup>1</sup>
CO <sub>2</sub> e emissions, t		Restated	Restated
Official UK travel	305	560	470
Other travel	506	544	507
<b>Subtotal – UK and other travel</b>	<b>811</b>	<b>1,104</b>	<b>976</b>
Energy use (gross)	589	605	609
Green Gas credits <sup>2</sup>	(134)	(131)	(147)
Energy use (net) <sup>3</sup>	455	474	462
<b>Attributable to the Household</b>	<b>1,266</b>	<b>1,578</b>	<b>1,438</b>
<b>Official overseas travel</b>	<b>1,101</b>	<b>1,833</b>	<b>939</b>
<b>CO<sub>2</sub>e emissions<sup>4</sup></b>	<b>2,367</b>	<b>3,411</b>	<b>2,377</b>

1. Prior year numbers have been restated to reflect a change in the travel accounting policy. The numbers were previously reported as: Official UK travel 581t (2015) and 470 (2014); Other travel 564t (2015) and 538t (2014); Official overseas travel 1,818t (2015) and 980t (2014). *The restated numbers have not been subject to assurance.*

2. Equivalent to 729 MWh Green Gas credits in 2016.

3. Applying the market-based rate for electricity purchases reduces emissions for 2016 to 121 tonnes and total emissions attributable to the Household to 932 tonnes. See the note on page 5. *These numbers have not been subject to assurance.*

4. Excludes emissions from burning wood, biodiesel and other biofuels including Green Gas. These emissions are estimated as 2016: 590t, 2015: 530t, 2014: 573t

The Carbon Statement (except where noted above) has been subject to assurance by PwC – see page 6 for the Assurance Report.

## Carbon Reporting Policy

This Carbon Reporting Policy supports the preparation and reporting of the Carbon Statement of The Household of Their Royal Highnesses The Prince of Wales and The Duchess of Cornwall (the Household) for the year ended 31 March 2016.

### Carbon Reporting Principles

In preparing the Policy, consideration has been given to generally accepted accounting and reporting principles for financial reporting. The key principles that the Household has applied are:

- *Information Preparation*: relevance to users and reliability, including completeness and material accuracy; and,
- *Information Reporting*: comparability / consistency with other data including prior years and clarity to users.

### Reporting scope – inclusions and exclusions

The Carbon Statement relates to greenhouse gas emissions arising as a result of Their Royal Highnesses' official duties and private engagements, and those arising from the operations of the Household in support of these activities. The Duchy of Cornwall, the Prince's Charities, Prince's Charities projects and The Home Farm at Highgrove are outside of the scope of this policy. The scope also excludes the activities of third party contractors. In line with reporting in the Annual Review, carbon emissions relating to The Household of TRH The Duke and Duchess of Cambridge and HRH Prince Henry of Wales are not included.

### Greenhouse gases in scope

The Carbon Statement includes emissions of the three main greenhouse gases - carbon dioxide, methane and nitrous oxide.

### Conversion factors and fuel use calculation

The greenhouse gas emissions associated with the activities noted above have been determined on the basis of measured or estimated energy and fuel use, or distances travelled, multiplied by the relevant carbon conversion factors as explained below.

Where possible, fuel or energy use is based on direct measurement, purchase invoices or actual mileage data; in other cases it has been necessary to make estimates. Specific estimations have been used for the following emissions sources:

- Aircraft, using standard fuel use rates where available; see the detailed accounting notes below;
- Sea transport, using data obtained from third party sources;
- Public transport and taxis, based on expenditure and tariffs / fares; and
- Wood chips and pellets, estimated using heat meter readings and records of fuel use.

Energy use and travel data are converted into greenhouse gas emissions using the "UK Government conversion factors for Company Reporting" issued in 2015. (DECC 2015) Where conversion factors change from prior years, those changes are not typically applied retrospectively to comparative periods.

#### **Direct emissions from biofuels**

Two forms of biofuels are used directly – biodiesel / bioethanol (in the Royal Train and cars) and wood chips and wood pellets (in boilers). Direct emissions from these sources are netted to zero in accordance accounting guidance. The gross amounts, along with emissions from natural gas matched by Green Gas Credits, are disclosed separately as a footnote to the Carbon Statement using conversion factors from DECC 2015 and the Biomass Energy Centre. The detailed accounting policy notes give further details.

## **Travel**

### **Scope**

Reported greenhouse gas emissions include:

- *Official UK travel:* travel by air and rail on engagements in the UK undertaken in support of The Queen and on reconnaissance visits;
- *Official overseas travel:* travel by air and rail on engagements undertaken on behalf of Her Majesty's Government, or the Governments of The Queen's other Realms; and

- *Other travel:* travel not classed as official travel - staff travel between residences and in support of engagements, staff commuting and Their Royal Highnesses' private travel.

### **Reporting Methods**

Emissions from the various types of travel are estimated as follows:

#### **Air travel**

Emissions from scheduled flights are estimated using distances travelled multiplied by the emissions factors from DECC 2015.

Non-scheduled flights emissions are calculated on the basis of flight times multiplied by the fuel burn rates for each type of aircraft used. Where actual fuel use is known this is used. This is a change from previous years where distance travelled was used for fixed-wing aircraft. Positioning and repositioning flights are included for UK travel only – a change from previous years to make better use of available information. Fuel burn rates and use are taken from the aircraft operators where available or other reliable sources.

A multiplier of 1.9 has been applied to emissions from all aircraft travel, excluding helicopters, to account for the increased impact of aviation due to non-carbon dioxide emissions and emissions at altitude. An uplift of 8% is included in the emissions factors for scheduled flights to account for non-direct routes, delays and circling.

#### **Royal Train**

Comprises travel on the Royal Train where appropriate and related positioning and repositioning journeys. Emissions are calculated from fuel usage data from the Royal Train operator.

The locomotive of the Royal Train is powered by biodiesel made from used cooking oil. The accounting treatment is explained in the note on direct emissions from biofuels above.

#### **Sea Transport**

Positioning and repositioning journeys are included where appropriate. Emissions are calculated on the basis of distance and fuel consumption.

### **Car use**

Comprises all car journeys made in conducting Household activities. Fuel use is estimated using expenditure and fuel prices.

### **Public transport and taxis**

Comprises the use of all public transport and taxis by the Household. Distances travelled are estimated using expenditure and tariff / fare data.

### **Staff commuting**

Emissions from staff commuting are based on staff surveys last updated in 2016. Emissions are calculated on the basis of distance travelled and mode of transport as provided in the survey responses.

## **Energy use**

### **Scope**

This covers electricity, mains gas, LPG, oil and biomass used at official and private residences and offices, including temporary staff accommodation and holiday lets:

- Clarence House and offices in St James's Palace
- Highgrove, excluding The Home Farm
- Birkhall
- Raymill
- Llwynywermod

Emissions from shared office space are estimated on the basis of the leased floor area.

### **Reporting methods**

Energy use is estimated as follows, using conversion factors from DECC 2015 to convert fuel consumption into greenhouse gas emissions.

### **Electricity**

Comprises electricity supplied via the Grid and by solar panels that is used by the Household at the properties within the scope of reporting. Electricity consumption is obtained from meter readings and half-hourly data.

Emissions are reported using the grid (location-based) emissions factor taken from DECC 2015. Electricity from solar panels used on site is reported at zero emissions.

The Household purchases electricity from renewable sources where possible. New GHG Protocol Scope 2 Guidance (GHG Protocol 2015) allows reporting using market-based factors (as specified in contracts or the supplier fuel mix) where specified Scope 2 Quality Criteria are met. Applying market based factors in 2015/16 would change net emissions from energy use to 121 tonnes.

### **Natural (mains) gas**

Gas consumption is obtained from meter readings and invoices. Net emissions from natural gas have been reduced by 134 tonnes through the purchase of 729 MWh of Green Gas Credits. These credits represent the injection into the local gas distribution network of biomethane from an Anaerobic Digestion Plant near Poundbury operated by a joint venture that includes the Duchy of Cornwall.

The accounting guidance treats biomethane as having zero net emissions as the fuel (agricultural products and waste food) forms part of the short term carbon cycle. While the Household does not use the biomethane directly, the certification and retirement of the credits ensures that only the Household is able to account for its use. Emissions are disclosed within a note to the Carbon Statement.

### **LPG and oil**

Comprises LPG, heating oil and fuel oil, using metered use where available or records of deliveries made during the year.

### **Wood chips and wood pellets**

Comprises wood chips and pellets used in biomass boilers. Fuel use is estimated using heat meter readings and records of fuel deliveries, applying conversion factors from DECC 2015 and the Biomass Energy Centre website. The energy (and carbon) content of wood fuel varies according to wood type and moisture content. Fuel use estimates also depend on estimates of fuel density and boiler efficiency. Estimates of carbon dioxide emissions are therefore subject to greater margins of error than for fossil fuels.

### **Heat pumps**

Heat pumps use electricity to extract heat from the ground and air; they do not result in direct greenhouse gas emissions. Electricity use is included as noted above.



# Independent Assurance Report to the Senior Management of the Household of Their Royal Highnesses The Prince of Wales and the Duchess of Cornwall

The Senior Management of the Household of Their Royal Highnesses The Prince of Wales and The Duchess of Cornwall engaged us to provide reasonable assurance on the information described below and set out in the Carbon Report for the year ended 31 March 2016.

## ***Our conclusion***

**In our opinion, the Carbon Statement for the year ended 31 March 2016 has been prepared, in all material respects, in accordance with the Carbon Reporting Policy.**

This conclusion is to be read in the context of what we say in the remainder of our report.

## ***Selected Information***

The scope of our work was restricted to the Carbon Statement for the year ended 31 March 2016, presented on page 3 of the Carbon Report 2016, available at:

<http://www.princeofwales.gov.uk/media/annual-review/annual-review-2016><sup>1</sup>.

We assessed the Carbon Statement using the Household's Carbon Reporting Policy document as set out on pages 3 to 5 of the Carbon Report 2016. Our assurance does not extend to information in respect of earlier periods or to any other information included in the Carbon Report 2016.

## ***Professional standards applied and level of assurance***

We performed a reasonable assurance engagement in accordance with the International Standard on Assurance Engagements 3410 'Assurance engagements on greenhouse gas statements' (ISAE 3410), issued by the International Auditing and Assurance Standards Board.

## ***Our Independence and Quality Control***

We applied the Institute of Chartered Accountants in England and Wales (ICAEW) Code of Ethics, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We applied International Standard on Quality Control (UK&I) 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our work was carried out by an independent team with experience in sustainability reporting and assurance.

## ***Understanding reporting and measurement methodologies***

The Carbon Statement needs to be read and understood together with the Carbon Reporting Policy, which the Senior Management of the Household is solely responsible for selecting and applying. The absence of a significant body of established practice for evaluating and measuring non-financial information allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time. The Carbon Reporting Policy used for the reporting of the Carbon Statement is applicable as at 31 March 2016.

## ***Work done***

We are required to plan and perform our work in order to consider the risk of material misstatement in the Carbon Statement. In doing so we:

- made enquiries of Household management;
- undertook site visits to St James's Palace;
- evaluated the design of the key structures, systems, processes and controls for managing, recording and reporting the data in the Carbon Statement;
- carried out analytical procedures over the Carbon Statement;
- performed substantive testing on a selective basis of the source data and any assumptions used to prepare the Carbon Statement, including re-performing a sample of calculations; and,
- assessed the disclosure and presentation of the Carbon Statement within the Carbon Report.

## ***The Senior Management of the Household's responsibilities***

The Senior Management of the Household are responsible for:

- designing, implementing and maintaining internal controls over information relevant to the preparation of the Carbon Statement that is free from material misstatement, whether due to fraud or error;
- establishing an objective Carbon Reporting Policy for preparing the Carbon Statement;
- measuring the Household's performance based on the Carbon Reporting Policy; and the content of the Carbon Report 2016.

## ***Our responsibilities***

We are responsible for:

- planning and performing the engagement to obtain reasonable assurance about whether the Carbon Statement is free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the Senior Management of the Household.

This report, including our conclusion, has been prepared solely for the Senior Management of the Household in accordance with the agreement between us, to assist in reporting the Household's carbon emission performance and activities. We permit this report to be disclosed in the Carbon Report for the year ended 31 March 2016, to enable Senior Management to show they have addressed their governance responsibilities by obtaining an independent assurance report in connection with the Carbon Statement. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Senior Management of the Household for our work or this report except where terms are expressly agreed between us in writing.

**PricewaterhouseCoopers LLP**  
**Chartered Accountants, London**  
**22 June 2016**

<sup>1</sup> The maintenance and integrity of this website is the responsibility of the Senior Management of the Household; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the Carbon Statement or Carbon Reporting Policy when presented on this website.