

**The Household of Their Royal Highnesses
The Prince of Wales and The Duchess of Cornwall
Carbon Report for the year ended 31 March 2017**

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 2017 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 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 2017.

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:

- design, implement and maintain internal controls and processes over information relevant to the measurement and preparation of the reported greenhouse gas emissions so they are free from material misstatement, whether due to fraud or error;
- establish objective reporting policies for measuring and preparing the reported greenhouse gas emissions and apply them consistently;
- present information, including the policies, in a manner that provides relevant, reliable, comparable and understandable information;
- measure and report the greenhouse gas emissions based on the reporting policies.

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 in the Roles and Responsibilities.

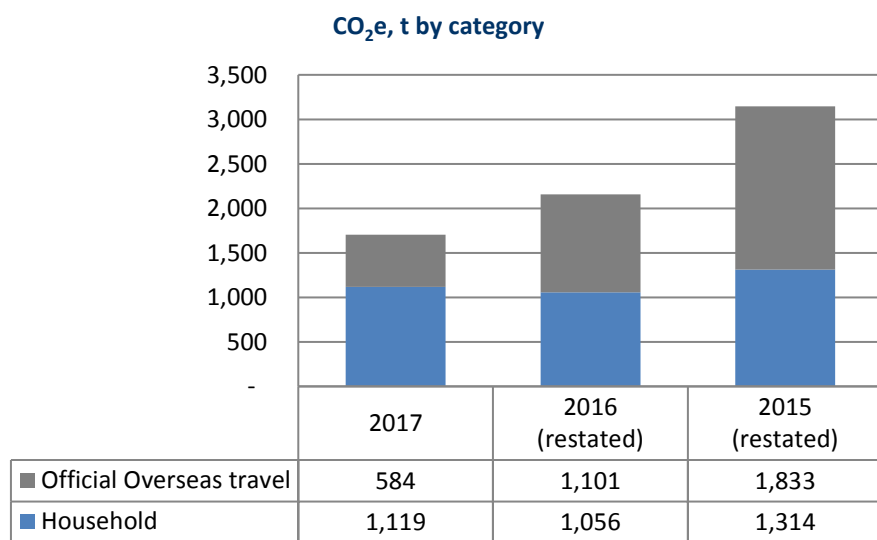
19 June 2017

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 are presented in two formats – by emissions source, as in previous years, and by scope of ownership or control, according to the GHG Protocol. This incorporates new guidance on accounting for electricity purchases (scope 2).

The graph below shows greenhouse gas emissions which are split into Household (comprising energy use, official UK travel and other travel) and Official Overseas travel. Explanations for year-on-year changes are given in the Travel and Energy sections.



The numbers for 2015 and 2016 have been restated so that emissions are comparable between years. See the Carbon Statement and Carbon Reporting Policy sections below for more details.

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 increased by 30% as Their Royal Highnesses undertook a greater number of official engagements in the UK and, in doing so, travelled 39% more miles by air and rail. The previous year had less UK travel due to TRH's busy official overseas tour schedule.

Official overseas travel is undertaken at the request either of Her Majesty's Government, or the Government(s) of The Queen's other Realms. Emissions fell by 47% from 2016 as overseas tours were in countries closer to the UK this year; miles travelled fell by 59%.

Emissions from other travel comprise non-official staff and private travel and vary each year with the amount of travel undertaken and the modes of transport 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 fairly constant this year and the proportion of energy from on-site renewable sources increased slightly to 39%. Net emissions fell by 4% due to reductions in fossil fuel use and greater use of energy from renewable sources.

Carbon Statement

The table below sets out the Household's greenhouse gas emissions in carbon dioxide equivalents (CO₂e). See pages 4 and 5 for further information on the notes to the table.

CO ₂ e emissions, t	2017	2016 ^x Restated	2015 ^x Restated
Travel: Official UK	506	388	604
Travel: Other	458	506	562
Travel: Official UK and other	964	894	1,166
Energy use: location-based	592	630	650
Green Gas credits ²	(147)	(134)	(131)
Electricity instruments ^{3x}	(290)	(334)	(371)
Energy use: market-based^x	155	162	148
Household Travel and Energy use^x	1,119	1,056	1,314
Official Overseas Travel	584	1,101	1,833
Total^x	1,703	2,157	3,147
Carbon Credits ^{4x}	(1,703)	(2,157)	(3,147)
Biomass and biofuels (out of scope)⁵	558	519	502

1. Prior year travel numbers have been corrected to reflect biofuel use on Official UK Travel and revisions for UK flights. The only material change is to "Travel: Official UK" which was reported as 305t (2016) and 560 (2015). Energy use has been updated to include electricity transmission & distribution losses and non-CO₂ emissions from biomass.

2. Equivalent to 800 MWh Green Gas credits in 2017.

3. The difference in emissions between applying the UK grid average emissions factors and the market-based factors using zero for electricity from renewable sources where supported by contracts, certificates and instruments (e.g. REGOs). See the note on page 5.

4. Verified Carbon Standard (VCS) credits – see appendix for details.

5. This includes emissions from burning wood, biodiesel and other biofuels including Green Gas. 2016 has been restated as for note 1 (previously reported as 590t in 2016).

^x The restated numbers and other numbers marked with ^x are not subject to assurance by PwC.

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 2017.

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.

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 2016. (DEFRA / DECC 2016) 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 for transport and wood chips and wood pellets (in boilers). Direct CO₂ emissions from these sources are netted to zero in accordance accounting guidance. Direct non-CO₂ emissions are included. The gross amounts of CO₂, along with emissions from natural gas matched by Green Gas Credits are disclosed in the Carbon Statement using conversion factors from DEFRA / DECC 2016 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 DEFRA / DECC 2016.

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. Positioning and repositioning flights are included for UK travel only. 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 and related positioning and repositioning journeys. Emissions are calculated from fuel usage data from the Royal Train operator.

Sea Transport

Emissions are calculated on the basis of distance and fuel consumption.

Car use

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

Public transport and taxis

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

Staff commuting

Emissions from commuting are based on staff surveys and are calculated on the basis of distances travelled and modes of transport used. The last survey was in 2016 and the results have been updated this year for changes in staff numbers.

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
- Llwynywermud

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 DEFRA / DECC 2016 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 in two ways - using the grid (location-based) emissions factor taken from DEFRA / DECC 2016 and using the market-based approach allowed under the GHG Protocol Scope 2 Guidance (GHG Protocol 2015) where the specified Scope 2 Quality Criteria are met. The impact is shown in the "Electricity instruments" line in the Carbon Report.

CO₂ emissions from biofuels burned in the generation of purchased electricity are excluded as reliable numbers are not available and emissions are not considered material.

Natural (mains) gas

Gas consumption is obtained from meter readings and invoices. Emissions are reported in two ways – using the standard emissions factor for natural gas and using a 'market-based' approach based on the purchase of Green Gas Credits to match gas consumption. 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 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. The direct emissions arising from burning the gas are reported within the "Biomass and biofuels" line in 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 DEFRA / DECC 2016 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.

Appendix – emissions by scope

This appendix discloses emissions according to the Greenhouse Gas Protocol Scopes using the market- and location-based accounting approaches.

Scope 1: Direct emissions from sources that are owned or controlled.

Scope 2: Indirect emissions from the generation of purchased electricity consumed.

Scope 3: Other indirect emissions

The **location-based approach** applies the UK standard emissions factors for mains gas and electricity purchases. The **market-based approach** applies emissions factors based on the fuel-mix supported by contracts, certificates and instruments such as Renewable Electricity Guarantee of Origin (REGO) certificates for electricity and Green Gas Certificates for mains gas.

The Household purchases Verified Carbon Standard (VCS) credits from forestry projects certified under the Climate, Community and Biodiversity Alliance (CCBA) that mitigate global climate change, improve the well-being and reduce the poverty of local communities, and conserve biodiversity.

Location-based approach

Year to 31st March	2017	2016
CO2 equivalent emissions	Tonnes	tonnes
1. Direct emissions	479	461
2. Electricity	290	334
3. Other sources	1,371	1,827
Total	2,140	2,622

Market-based approach

Year to 31st March	2017	2016
CO2 equivalent emissions	Tonnes	Tonnes
1. Direct emissions	332	327
2. Electricity	-	-
3. Other sources	1,371	1,830
Total	1,703	2,157
Carbon credits purchased	(1,703)	(2,157)
Net emissions after credits	-	-
Biomass & other biofuels (out of scope)	558	519

The principal differences between the approaches are:

1. Direct emissions - Green Gas credits: 147 tonnes (2016: 134 tonnes)
2. Electricity - using UK grid average: 290 tonnes (2016: 334 tonnes)

This page is not subject to assurance by PwC



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 2017.

Our conclusion

In our opinion, the Carbon Statement for the year ended 31 March 2017 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 2017, presented on page 3 of the Carbon Report 2017, available at:

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

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 2017. Our assurance does not extend to information in respect of earlier periods or to any other information included in the Carbon Report 2017.

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 2017.

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 2017.

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 2017, 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
19 June 2017

¹ 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.