

**The Household of Their Royal Highnesses  
The Prince of Wales and The Duchess of Cornwall  
Carbon Report for the year ended 31 March 2019**

## 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 2019 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. The Household's Carbon Statement for the year ended 31 March 2019 is yet to be subject to external assurance, at a limited assurance level, as defined by international assurance standards.

## 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; and
- 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 will be 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.

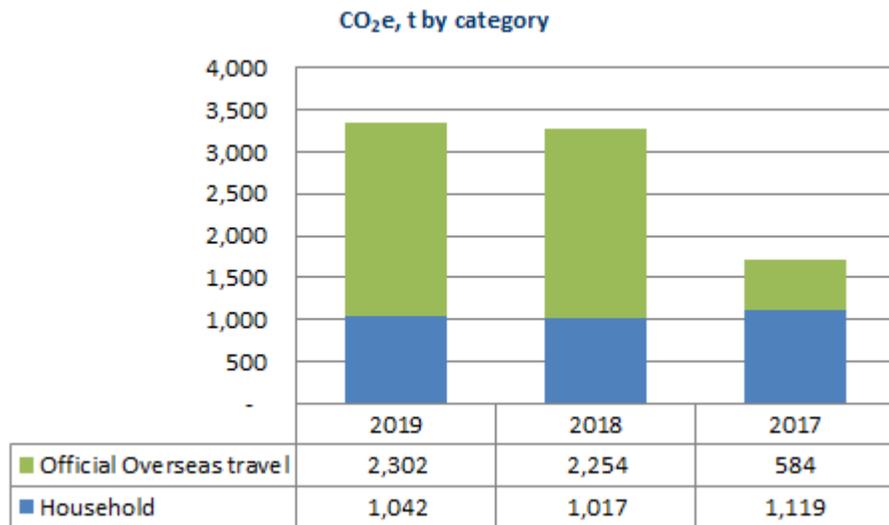
**21 June 2019**

# 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.



## 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.

Household emissions from energy use have decreased by 22% this year; emissions from official UK and other travel have increased by 7%. Combined, these result in Household emissions increased slightly, by 2% this year.

Official overseas travel is undertaken at the request either of Her Majesty's Government, or the Governments of The Queen's other Realms. Another year with busy schedule of overseas engagements, including several long-haul tours, resulted in an emissions remaining about the same as last year.

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 but the proportion of energy from renewable sources (on-site and purchased) hit 90%, from 86% last year. Net emissions fell by 22% 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 (CO<sub>2</sub>e). See pages 4 and 5 for further information on the notes to the table.

CO <sub>2</sub> e emissions, t	2019	2018	2017
Travel: Official UK	471	376	506
Travel: Other	456	494	458
<b>Travel: Official UK and other</b>	<b>927</b>	<b>870</b>	<b>964</b>
Energy use: location-based	455	603	592
Green Gas credits <sup>1</sup>	(125)	(149)	(147)
Electricity instruments <sup>2 x</sup>	(215)	(307)	(290)
<b>Energy use: market-based<sup>x</sup></b>	<b>115</b>	<b>147</b>	<b>155</b>
<b>Household Travel and Energy use<sup>x</sup></b>	<b>1,042</b>	<b>1,017</b>	<b>1,119</b>
Official Overseas Travel	2,302	2,254	584
<b>Total<sup>x</sup></b>	<b>3,344</b>	<b>3,271</b>	<b>1,703</b>
Carbon Credits <sup>3 x</sup>	(3,344)	(3,271)	1,703
<b>Biomass and biofuels<sup>4</sup></b>	<b>560</b>	<b>549</b>	<b>558</b>

1. Equivalent to 679MWh Green Gas credits in 2019.

2. 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.

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

4. This includes emissions from burning wood, biodiesel and other biofuels including Green Gas. These are outside of the Greenhouse Gas Protocol scopes 1 to 3.

x The numbers marked with <sup>x</sup> have not subject to assurance by PwC this year or in previous years.

## 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 2019.

### 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 2018 (BEIS / DEFRA 2018). 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 CO<sub>2</sub> emissions from these sources are netted to zero in accordance accounting guidance. Direct non-CO<sub>2</sub> emissions are included. The gross amounts of CO<sub>2</sub>, along with emissions from natural gas matched by Green Gas Credits are disclosed in the Carbon Statement using conversion factors from BEIS / DEFRA 2018 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 BEIS / DEFRA 2018.

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 (BEIS / DEFRA 2018) 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 BEIS / DEFRA 2018 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 BEIS / DEFRA 2018 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.

CO<sub>2</sub> 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 BEIS / DEFRA 2018 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	2019	2018
CO2 equivalent emissions	Tonnes	Tonnes
1. Direct emissions	441	485
2. Electricity	215	307
3. Other sources	3,028	2,935
<b>Total</b>	<b>3,684</b>	<b>3,727</b>

### Market-based approach

Year to 31st March	2019	2018
CO2 equivalent emissions	Tonnes	Tonnes
1. Direct emissions	316	336
2. Electricity	-	-
3. Other sources	3,028	2,935
<b>Total</b>	<b>3,344</b>	<b>3,271</b>
Carbon credits purchased	(3,344)	(3,271)
<b>Net emissions after credits</b>	<b>-</b>	<b>-</b>
Biomass & other biofuels (out of scope)	560	549

The differences between the approaches are:

- |  |                               |
|--|-------------------------------|
| 1. Direct emissions - Green Gas credits: | 125 tonnes (2018: 149 tonnes) |
| 2. Electricity - using UK grid average:  | 243 tonnes (2018: 307 tonnes) |

**The Carbon Report is subject to external assurance by PricewaterhouseCoopers LLP ('PwC'), independent accountants, on the Household's Carbon Statement.**