



**The Crown Estate
Environmental
Reporting Criteria and
Methodology**

**FOR THE CROWN ESTATE'S SUSTAINABILITY
AND DATA REPORTING PROGRAMME**

1st April 2016 – 31st March 2017



Document prepared by:

Henry Gilks, Consultant & Oliver Light, Senior Consultant

Carbon Credentials Energy Services Limited

E: henry.gilks@carboncredentials.com T: +44 (0) 203 053 6641

E: oliver.light@carboncredentials.com T: +44 (0) 203 053 6646

Disclaimer:

Important Notice

Whilst reasonable steps have been taken to ensure that the information contained within this report is correct, you should be aware that the information contained within it may be incomplete, inaccurate or may have become out of date. Accordingly, Carbon Credentials, its agents, contractors and sub-contractors make no warranties or representations of any kind as to the content of this report or its accuracy and, to the maximum extent permitted by law, accept no liability whatsoever for the same including, without limit, for direct, indirect or consequential loss, business interruption, loss of profits, production, contracts, goodwill or anticipated savings. Any person making use of this report does so at their own risk [and it is recommended that they seek professional advice from their own adviser whenever appropriate].

TABLE OF CONTENTS

SECTION I: INTRODUCTION

1. Introduction & Background	3
2. The Crown Estate's Portfolio & Stakeholder Structure	4
3. Scope & Boundary	7

SECTION II: DATA MANAGEMENT

4. Building Level Energy, Water & Waste Data	10
5. Transport and Vehicle Data	13
6. Other Fuel Data	14
7. Void Data	15
8. Renewable Generation Data	16
9. Data Check and Validation	17

SECTION III: EMISSIONS CALCULATIONS

10. Greenhouse Gas Emissions Reporting Methodology	20
--	----

SECTION IV: SUSTAINABILITY REPORTING

11. Operating Reporting Process	28
12. The Crown Estate Annual Reporting Process	30
13. The Crown Carbon Indicator	32

Appendix

14. APPENDIX 1: The Crown Estate Teams	36
15. APPENDIX 2: Quarterly Reporting Timeline	37
16. APPENDIX 3: Data Flows by Managing Agent	38
17. APPENDIX 4: Reporting Boundary Decisions Tree	40
18. APPENDIX 5: Organisation Structure	41
19. APPENDIX 6: Status of Joint Ventures for Compliance	42

SECTION I: INTRODUCTION

1. Introduction & Background

The Crown Estate's role is to make sure that the land and property it invests in and manage are sustainably worked, developed and enjoyed to deliver the best value over the long term. The Crown Estate's vision is to be a progressive commercial business creating significant value beyond financial return. The Crown Estate is committed to working with partners and stakeholders to grow its business, outperforming the market whilst delivering sustainable long-term return and making a positive impact through its Total Contribution to the UK.

Carbon Credentials (CCES) has been engaged to support The Crown Estate in the collation, aggregation and analysis of environmental data for the purpose of compliance, reporting and analysing sustainability performance, as well as supporting the Sustainability Action Plan (SAP).

This document sets out roles and responsibilities within the sustainability data process, and details specifically how The Crown Estate and Carbon Credentials ensure that all data is prepared in a robust and auditable manner – with areas of uncertainty clearly identified, documented and managed.

This document will be updated annually to reflect evolution in The Crown Estate's environmental reporting programme. This document specifically relates to the reporting period 1st April 2016 – 31st March 2017.

2. The Crown Estate's Portfolio & Stakeholder Structure

Understanding the organisation structure and key stakeholders (Figure 1) is essential when implementing and rolling out the environmental data programme. Carbon Credentials has built relationships with all stakeholders and have taken significant time and effort in appreciating the organisation structure.

Portfolios

In summary, The Crown Estate has two main portfolio strands subject to the measurement of carbon, water and waste in the SAP (Sustainability Action Plan) – the Urban Portfolio and the Rural Portfolio.

Urban Portfolio

Within the Urban portfolio there are four further defined portfolios named: Central London (Regent Street and St James's), Residential and Regional. These are managed by Managing Agents; Regent Street Management Direct (RSMD), BNP Paribas Real Estate (BNPPRE), and Savills respectively.

Rural Portfolio

The Rural portfolio is made up of Windsor and other rural sites which are managed by both The Crown Estate directly and other Managing Agents. Much of the rural portfolio, excluding Windsor, consists of indirectly managed sites which are excluded for the majority of the environmental data programme (for example, the SAP) except for certain reporting circumstances which require them to be in scope including the annual report, CRC and ESOS. The Windsor estate covers approximately 6,400 hectares and includes Windsor Great Park, extensive forests, residential and commercial properties, golf courses, a racecourse, and let farms.

External Stakeholders and Support

It is important to note that in addition to the Managing Agents who are appointed by The Crown Estate, there are other external stakeholders which support and contribute to the environmental data programme.

Carbon 2018

The Managing Agents, RSMD and BNPPRE, employ the energy bureau service Carbon 2018 for their respective portfolios. Carbon 2018's main role is to ensure procurement, bill validation and energy performance support. It is important to highlight that Carbon 2018 is appointed by the Managing Agents and not directly by The Crown Estate. Carbon 2018 were also used by Cushman & Wakefield during their management of The Crown Estate's regional portfolio which ended in August 2015.

Ecova (Formerly Power Efficiency)

Following the instruction of Savills to manage The Crown Estate's regional portfolio in August 2015, Ecova have been instructed as their energy bureau taking over from Carbon 2018. Ecova's main role is to ensure procurement, bill validation and energy performance support. As with Carbon 2018, it is important to highlight that Ecova is appointed by the Managing Agents and not directly by The Crown Estate.

Arup

Arup are directly employed by The Crown Estate and provide both strategic support in terms of the carbon trajectory which focuses on long term carbon reduction targets as well as support to the SAP for the Urban team. It is also responsible for providing energy performance support to both RSMD and BNPRE for their respective portfolios.

TFT Consulting

TFT Consulting is also employed directly by The Crown Estate and is responsible for supporting the Regional portfolio with its SAP and energy performance projects.

BNP Paribas

BNP Paribas is employed directly by The Crown Estate as the managing agent for the St James's portfolio: the portfolio is comprised of 4 million ft² of retail, office and residential space with a value of over £1 billion. As part of the programme the managing agent provides environmental data such as meter reads to Carbon Credentials. With the support of ARUP, BNP Paribas is responsible for delivering across areas of the SAP.

Savills

In the previous reporting year, Savills were employed directly by The Crown Estate and manages the Residential, and Princesshay. As part of the programme Savills has recently also started reporting on the SAP. In addition to the management of the Residential portfolio, Savills took over the management of the Regional Portfolio in August 2015 and as a result Princesshay will be reported in the SAP under Regional.

Regent Street Management Direct (RSMD)

RSMD is a part of Cushman and Wakefield and is employed directly by The Crown Estate as the managing agent for the Regent Street portfolio: the portfolio is comprised of The Crown Estate properties north of Piccadilly Circus, including office and retail units. As part of the programme the managing agent provides environmental data such as meter reads to Carbon Credentials. With the support of ARUP, RSMD is also responsible for delivering across areas of the SAP.

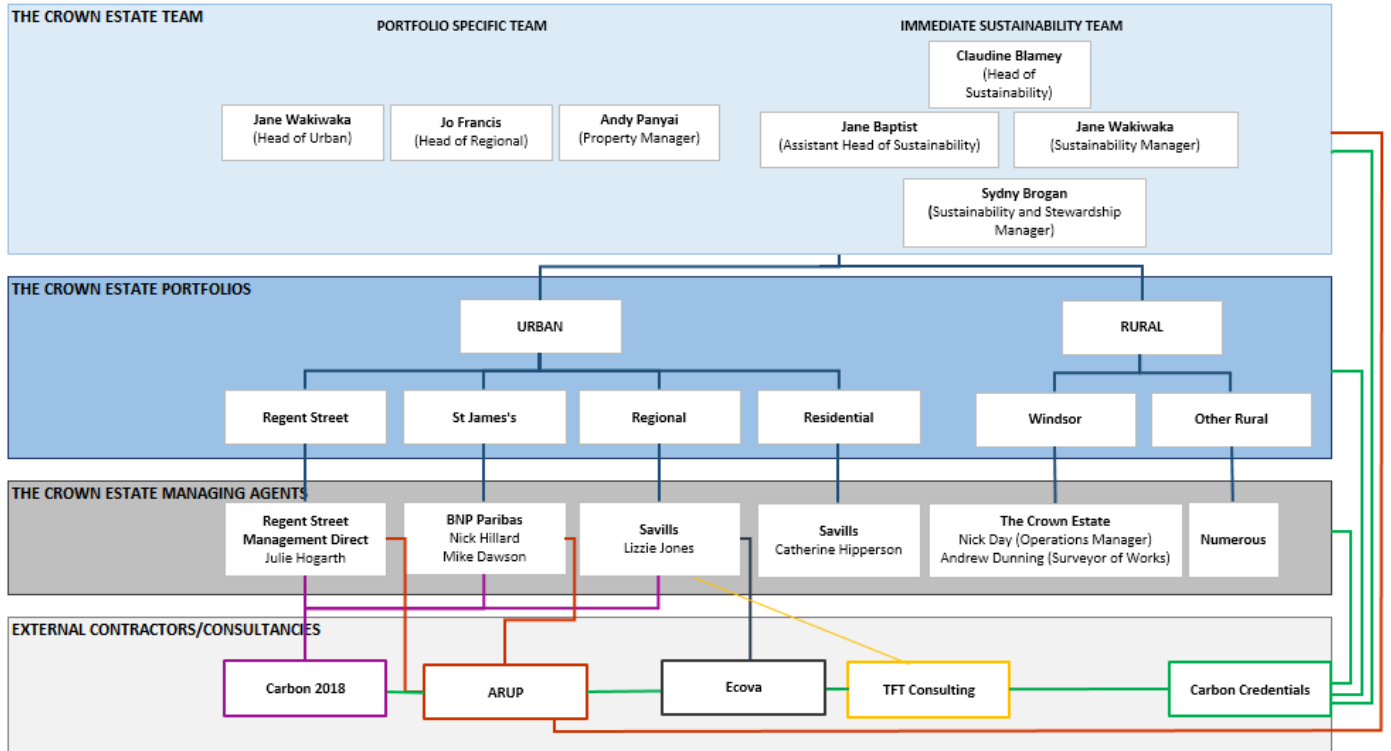


Figure 1: Environmental data programme across the portfolios

3. Scope & Boundary

The Carbon Credentials Crown Estate data programme includes 100% of directly managed properties and can extend to additional assets as required by certain reporting requirements, which further defines the boundaries properties to be included.

Definitions of the scope and boundary can be found in the final proposal (see Appendix 7) delivered to The Crown Estate and the official contract. Figure 1 demonstrates the scope of the environmental data programme with the specific portfolios which are included. Operationally, the organisation is split into the following portfolios:

Urban

The Urban portfolio is directly managed through third party managing agents and includes some tenant energy where these costs are paid by The Crown Estate and re-charged through service charge. The Urban portfolio includes:

- Regent St, which includes offices, retail and some residential in the area around Regent St, London. This portfolio is managed by Regent Street Management Direct (RSMD).
- St James's, which includes offices and retail in the St James's area of London. This portfolio is managed by BNP Paribas.
- Regional, which consists of a number of retail/leisure parks, shopping centres, and offices. This portfolio is managed by Savills.
- Residential, which is primarily in St James and managed by Savills.

Rural and Coastal

The Rural & Coastal Estate is also directly managed and The Crown Estate is only responsible for assets where there is a direct cost to The Crown Estate (no tenant energy is included as this is paid directly by the tenants).

- Windsor Estate, which includes 'The Royal Landscape' and some residential properties.
- Rural portfolio, which includes assets throughout the UK, the majority of which The Crown Estate does not have responsibility for the energy consumption or Infrastructure: The Crown Estate owns assets but is not responsible for energy consumption.

Reporting Boundary

Environmental data reporting encompasses all the directly managed operations under The Crown Estate's control on its Urban, Rural & Coastal (R&C) and Windsor portfolios. The Urban portfolio; comprising of the Regional, St James's, Regent Street and the Residential portfolios are directly managed through third party managing agents and includes some tenant energy where these costs are paid by The Crown Estate and re-charged through service charge. The Rural & Coastal portfolio is also directly managed and The Crown Estate is only responsible for assets where there is a direct cost to The Crown Estate (no tenant energy is included as this is paid directly by the tenants). The Windsor Estate is directly managed and The Crown Estate is only responsible for assets where there is a direct cost to The Crown Estate (no tenant energy is included as this is paid directly by the tenants).

Carbon Credentials, on behalf of the Crown Estate, collects and reports building emissions at a meter level for all energy supplies that are landlord obtained. The one exception to this is at Bell's Brae, Edinburgh, where The Crown Estate is a tenant and responsible for 54% of electricity use and 16% of gas use at the property as apportioned through the service charge. Usage from other heating fuels (e.g. burning oils) at The Crown Estate's properties is calculated based on the amounts delivered to those

properties during the year and meter reads provided by the managing agents. There is also fuel usage for fleet, machinery and rural buildings for the Windsor and R&C portfolios. For both of the portfolios the finance team provides usage via the Agresso finance system, the only instance where this data is not applied is for the Windsor Estate fuel stock data – which is provided directly from the fuel stock database. Primary expenses data from business travel journeys by its employees is used to calculate emissions from those journeys. Types of journey include: tube, train, bus, flights, taxi, ferry and car hire (since the data had to be collated in April 2017, not all expenses could be collected through to the end of March 2017. For the missing periods we applied the pro rata estimation technique). Finance records void consumption for assets that fall under The Crown Estate’s responsibility for a limited time between the lapse and beginning of a new lease; due to the challenges of collecting void data an estimation technique is applied that applies a historic total. For water usage, data coverage includes water consumed at buildings where the supplies are landlord controlled on the Urban, Windsor and rural & coastal portfolios. For waste generation, the data covers all buildings where The Crown Estate is responsible for the disposal of waste on those portfolios. For 2015/16, energy data has also been reported separately for The Crown Estate’s Scottish operations.

Reporting Checks

The Crown Estate’s property, asset management and finance teams provide an up-to-date list on properties across the estate throughout the year. In addition to this, a list of all properties where a service charge is collected, is taken from The Crown Estate’s Horizon property database (set up to record all tenancy details and for internal users only). Windsor’s finance team provides the property listing for the Windsor estate. Any updates (i.e. acquisitions, disposals, lettings, voids, floor areas etc.) to these lists throughout the year are communicated to The Crown Estate on a quarterly basis. In addition to the property lists, Carbon Credentials collects environmental data directly from the managing agents on an on-going quarterly basis – where they are able to provide their own property lists and a void schedule for properties becoming vacant/ tenanted throughout the year. Collecting data routinely also allows for a continual meter mapping process to track existing and new meters. An annual reconciliation is undertaken between the Horizon database and the information provided by the managing agents to ensure an accurate list of properties and voids is used. Regarding Joint Ventures, Carbon Credentials reported on sites where The Crown Estate has operational control and excluded others where they did not such as Princesshay (Exeter).

Importantly, quarterly meetings and on-going data collection enables Carbon Credentials to provide validation checks and highlight anomalies to the managing agents at the Sustainability Action Plan (SAP) quarterly meetings. For energy usage the more sophisticated approach via the Crown Carbon Indicator is applied where usage is compared against key indicators like occupancy and floor area. All data is stored on a structured database that importantly allows for a number of data streams to be collected, including half hour, invoice, meter reads and supplier statements. By being able to collect these data streams Carbon Credentials can carry out validation checks.

As in the previous reporting year, the total absolute scope 1, 2 & 3 2015/16 emissions have continued to be split out due to a better understanding of the scope 3 exclusive tenant energy usage. An example of this includes Quadrant 3 where 14 MWh of consumption was re-charged to the tenant.

SECTION II: DATA MANAGEMENT

4. Building Level Energy, Water & Waste Data

Data Sources

- Electricity
- Natural gas
- Water
- Waste

The Crown Estate’s data is collected and then stored on a software tool that acts as Carbon Credential’s data management platform. This specialised tool is catered towards the professional management of environmental data, whereby information can be stored at a granular level - whether this be at the meter, vehicle or asset level etc. In addition to this, the tool can store numerous data sources such as invoices and half hourly data; this permits us to carry out validation checks on the data to ensure it remains accurate. As shown below, numerous data sources are fed into the system to produce an array of outputs (please see figure 2).

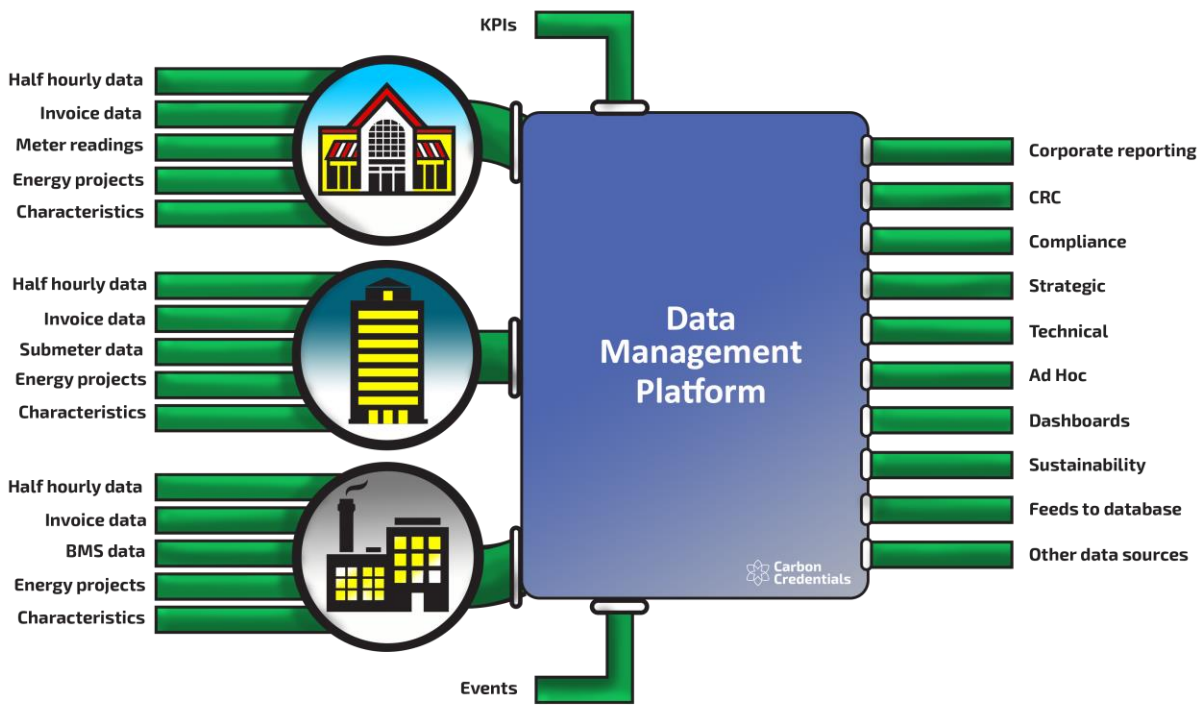


Figure 2: The data management platform inputs and outputs

Summary of Key Processes

- St James's and Regent Street Energy Invoices: This data is currently obtained monthly, direct from the supplier using the supplier account information provided by Carbon 2018, The Crown Estate and Managing Agent.
- Regional Invoices: Since the appointment of Ecova, invoices for the regional portfolio have been sent monthly, directly from the energy bureau in a spreadsheet format.
- Electricity meter reads for non-HH/AMR properties are sent by the Managing Agents at the end of each month/beginning of the following month, either via a monthly spread sheet or daily, directly from the data collator.
- Water and natural gas meter reads for all properties are sent by the Managing Agents at the end of each month/beginning of the following month via a monthly spread sheet.
- Regent Street and St James's HH/AMR: sent monthly by Carbon 2018.
- Regional HH/AMR: Since the appointment of Ecova the HH/AMR is sent weekly.
- Asset Listing: Sent by The Crown Estate and energy bureaus. Requested at least quarterly.
- Projects: Sent by each Managing Agent. Requested at least quarterly.
- Special Events: Sent quarterly by Carbon 2018 for Regent Street, and St James's. Regional is sent by Ecova. Requested quarterly from Rural and Residential.
- Waste Data: This is sent by each Managing Agent responsible for each portfolio on a quarterly basis.
- Sub Meter Data: This is collected by Carbon 2018 and is important for the re-charge of tenant consumption. Sub meter data is key for splitting out scope 3 emissions. The desire is to collect this quarterly.
- Tenant Data: Tenant data is sent by Ecova and Carbon2018 on an annual basis, this is based upon energy recharged to tenants. This allows scope 3 emissions to be split out.

Data Flows

The data flows for each portfolio and thus Managing Agent have been created and distributed to all. These summarise the data flows of all the environmental data and Figure 3 provides an overview. Appendix 4 lists out these data flows per portfolio for more detailed in depth data flows.

PM		Monthly Energy Invoices	Energy HH/AMR	Monthly Meter reads (Energy/water)	Waste Data
Regent Street (RSMD)	Data Flow	Obtained monthly directly from supplier. CCES working to obtain this from Carbon 2018 via spread sheet going forward.	Sent monthly by Carbon 2018. CCES to work in automating this for day +1.	Spread sheet sent direct from RSMD monthly	Sent quarterly in spread sheet form from RSMD
	Contact	Suppliers: Numerous Carbon 2018	Carbon 2018	RSMD	RSMD
St James's (BNPPRE)	Data Flow	Obtained monthly directly from supplier. CCES working to obtain this from Carbon 2018 via spread sheet going forward.	Sent monthly by Carbon 2018. CCES to work in automating this for day +1.	Spread sheet sent direct from BNPPRE monthly	Sent quarterly in spread sheet form from BNPPRE
	Contact	Suppliers: Numerous Carbon 2018	Carbon 2018	BNPPRE	BNPPRE
Regional (Savills)	Data Flow	Obtained monthly from Ecova in a spreadsheet format.	Sent weekly by Ecova.	Sent via email from facility managers monthly.	Sent quarterly in spread sheet form from FMs
	Contact	Suppliers: Numerous Ecova	Ecova	Numerous (see Appendix 4)	Numerous (see Appendix 4)
Residential (Savills)	Data Flow	Obtained directly from monthly supplier.	To be obtained directly from supplier monthly	To be sent monthly by FMS	To be sent quarterly by Savills
	Contact	Supplier: Numerous	Supplier: Numerous	Savills	Savills
Rural (Windsor)	Data Flow	Obtained directly from monthly supplier.	Obtained directly from supplier monthly	Spread sheet sent quarterly	Spread sheet sent quarterly
	Contact	Supplier: Numerous but largely British Gas	Supplier: Numerous but largely British Gas	Windsor Rural	Windsor Rural

Figure3. Summary of Data Flows and Contacts

5. Transport and Vehicle Data

As part of The Crown Estate's annual reporting process; the collection of transport and vehicle takes place towards the end of the financial year (between January and April). This data can be exported from the Finance Team's internal database tool Agresso.

Information on how transport and vehicle data is reported can be found below:

Rural and Windsor

- Fleet Data: This is captured on the Allstar system, when the driver purchases fuel using their credit card. The data is then exported & inputted by the Finance Team into the Agresso System.
- Single Pull Leased Car (Edinburgh): information is collected by the Finance Team via the Allstar system and received by Carbon Credentials annually.
- Petrol Data: The usage is measured and collected by the drivers fob, this can then be accessed and collated by the Finance Team.
- Diesel Data: is also processed and collected by Finance and is received by Carbon Credentials annually in a spreadsheet.
- Employee commuting: excluded

Please Note: Data is collected by Windsor on their fuel stock system (for transport, machinery and other handheld items). This data is viewed to be more accurate than data provided by Finance and therefore takes priority. Finance fuel stock data can be identified under category 5.

Non-road Business Travel

- Rail Data: This is collected via employees' expenses and stored on the Agresso system. To best understand the total emissions, rail data includes whether the journey was:
 - I. Single or return
 - II. First or second class.
- Vehicle (incl. Taxi) Data: This is again collected via employees' expenses data and stored on Agresso. Where possible the engine size is documented by the Finance Team in the expenses system.

Data Controls

Carbon Credentials carry out year on year variance checks on the data to isolate anomalies. Any anomalies identified are queried with the finance team and rectified if required. In regards to the business travel data, the methodology can be found detailed below:

Emissions factors

All emission factors were downloaded from: <http://www.ukconversionfactorscarbonsmart.co.uk/>

Miles to Km: Miles were converted into kilometres using the following conversion:

1 mile = 1.609344 kilometres

6. Other Fuel Data

Other fuel usage data such as diesel used in machinery or in buildings is again collected largely by Finance and provided in the form of invoices or provided directly by the supplier, this impacts Windsor, Rural and The Urban portfolios. Carbon Credentials receive this data twice a year.

For Regent Street & Regional, Carbon Credentials receive building fuel oil usage from managing agents twice a year.

The types of other fuel usage include:

- Lubricant
- Gas Oil
- Diesel
- Engine Oil
- Kerosene

The Gate has a back-up diesel generator which is un-metered and only topped up every 5 years. The managing agents confirm what quantity of fuel is used annually.

Please Note: Data is collected by Windsor on their fuel stock system (for transport, machinery and other handheld items). This data is viewed to be more accurate than data provided by Finance and therefore takes priority. Finance fuel stock data can be identified under category 5. This includes usage for machinery such as tractors or other handheld items, such as: unleaded, diesel or gas oil.

Data Controls

Again Carbon Credentials review the data and carries out year on year variance checks, to identify any anomalies of the data – where there are queries outstanding, Carbon Credentials refers back to the primary evidence or supplier.

7. Void Data

The void period is the period between when a property is generating no rental income, but the landlord still has to cover overhead costs. The managing agents will inform finance and the suppliers when this takes place and the bills will subsequently be collected and paid for by the finance team.

The finance team store all void consumption data and primary evidence (in the form of invoices) on the Agresso System. The data is collated at the meter level and stores the:

- Start and end date of the usage
- The consumption for the period

This data is subsequently used in the CRC annual report, to ensure The Crown Estate has 100% coverage.

Void data for annual reporting

Void data consists of around 3% of total supply; previously this supply had been largely omitted in the annual report.

In 2016/17, the same approach has been taken as in the previous reporting year and the void consumption is included as an estimate. The consumption for each void meter is taken from the 2015/16 CRC. The reason for this is that void data is extremely challenging to collect in April; hence last year's data should provide a good depiction of the totals.

8. Renewable Generation Data

Renewable generation data such as solar PV, biomass, CHP, and Fuel Cell is collected by various contacts within The Crown Estate and provided in various forms. Carbon Credentials receive this data annually. This data is collected for compliance purposes, however, it is not to be assured as a part of the annual GHG assurance process and the generation figure is not a component of the final GHG emissions.

The generation data has been excluded due to the following two scenarios:

- The majority of generation supply is tenant; meaning it does not fall under the operational control of The Crown Estate – therefore it is excluded.
- For the supply consumed by the occupied assets; the generated electricity has an emission factor of zero. This may be re-addressed in the following reporting year, based on the relevant emissions methodology.

Urban

- Fuel Cell, CHP, and PV data are download in a spreadsheet format off esight. Data is download on a bi-annual basis.

Rural

- Solar PV data for Windsor is sent directly from the on-site Windsor team on an annual basis.
- Solar PV data for the Scottish portfolio is sent by Jayshree Patel at the Crown Estate on an annual basis.
- Windsor installed a Biomass boiler in the 2015/16 reporting year and came online on 6th August 2015, the primary evidence for consumption is meter reads sent from the on-site team. The biomass boiler largely supplies tenant properties in the Windsor village. The generation is not included in the annual report final GHG figures.

SECTION III: EMISSION CALCULATIONS

10. Greenhouse Gas Emissions Reporting Methodology

The Crown Estate discloses emissions from its UK wide operations within the company's annual report; the integrated report is aligned with the Companies Act 2006 (Strategic report and Directors report) Regulations 2013. Detailed below are the different scopes that The Crown Estate reports on:

- **Scope 1 'direct' emissions** (from fuel combustion and the operation of any facility, as well as process and fugitive emissions)
- **Scope 2 'energy indirect' emissions** (from purchase of electricity, heat, steam or cooling for its own use)
- **Scope 3 'indirect energy usage'** - This is a GHG emission, other than energy indirect GHG emissions, which is a consequence of an organisation's activities, but arises from GHG sources that are externally owned or controlled. The Crown Estate report on the following Scope 3 emission categories:
 - Category 6: Business travel (see detail below)
 - Category 13: Downstream leased assets (see detail below)

The Crown Estate continuously reviews and modifies current reporting practices in order to ensure its emissions disclosure is transparent, consistent, comparable, complete and accurate. In addition, The Crown Estate shall also develop and maintain robust procedures and internal controls in order to avoid the risk of any material discrepancy within the annual report.

The reporting period is from 1st April to March 31st each year; the reported data is assured by PwC in April, before submission to the board report.

Methodology

The most recent edition of the GHG Protocol Corporate Accounting and Reporting Standard is used to calculate The Crown Estate's Scope 1, 2 and 3 emissions. It is worth noting that in 2015, the GHG Protocol released additional Scope 2 Guidance to update the Corporate Standard and standardise how corporations measure Scope 2 emissions. The Scope 2 Guidance requires that we quantify and report Scope 2 emissions from purchased electricity consumption for our own use using two different methodologies: the location-based method and the market-based method. This is known as dual reporting.

For the current reporting year (2016/17), evidence has been gathered from our electricity suppliers confirming the exclusivity and traceability of the green electricity that we purchase. We have focused on working with the suppliers responsible for the largest proportion of energy supplies to ensure that we can confirm exclusivity and traceability through Renewable Energy Guarantees of Origin (REGO) certificates. The Crown Estate's largest energy supplier, EDF, supply a large proportion of the total electricity supply and due to this we have focused solely on gaining assurance for these supplies.

The assured EDF supplies are on the 'Renewable for Business' tariff which originates from a blend of UK-based sources, including hydropower, wind, solar, biomass and landfill gas. EDF obtains independent assurance over their REGO's for the tariff.

These supply are fully backed by Renewable Energy Guarantees of Origin (REGOs). The exclusivity of the EDF supplies have been independently assured, providing confirmation that the REGOs sold by the supplier do not outstrip the renewable energy

generated. The GHG Protocol Scope 2 guidance outlines a number of quality criteria for evaluating the credentials of contractual instruments used in the market-based Scope 2 emission reporting; all assured renewable contracts meet these requirements.

For that market-based calculation, 62% of Crown's overall scope 2 supply was confirmed to be exclusively supplied with renewable energy by a REGO-backed tariff and therefore a 0 emission factor applied. For the remaining 38%, we have applied the RE-Diss (AIB) factor for the UK in line with the GHG Protocol Scope 2 data hierarchy.

Organisational Boundary

The operational control approach is used to consolidate The Crown Estate's organisational boundary in each reporting year. This approach best reflects the company's influence over its climate change impact. At the legal structure level, it is considered that the company has operational control over an operating entity if The Crown Estate has the full authority to introduce and implement its Environment Policy at the operating entity.

The same operational control approach at the legal structure level is then applied at the facility level in order to define responsibility for emission sources occurring within facilities. The Crown Estate is therefore responsible for reporting GHG emissions from all emission sources that occur within facilities over which The Crown Estate or one of its operations has the full authority to introduce and implement its Environment Policy.

The definition of a facility varies significantly between reporting standards and frameworks, as well as voluntary and regulatory GHG disclosure programmes across the world. ISO14064-1 defines a facility as: "a single installation, set of installations or production processes (stationery or mobile), which can be defined within a single geographical boundary, organisational unit or production process"

The Crown Estate interprets and applies this definition of a facility to mean:

- Any permanent or temporary installation (e.g. a building or portacabin)

For The Crown Estate, facilities therefore predominantly constitute buildings, blocks, vehicles, within their operational control.

Categorizing Emissions from Leased Assets:

1. Operating lease. The lessor has ownership and financial control of these assets but not operational control. Since the operational control approach is used, emissions from fuel combustion and the use of purchased electricity will always be scope 3 (indirect) for the lessor.
2. Finance or capital lease. The lessor does not have ownership, financial or operational control of these assets. Therefore, the associated emissions always are scope 3 (indirect) for the lessor, regardless of the type of organizational boundary approach used.

For The Crown Estate, the operating lease is the most relevant.

Change in Organisational Boundary - Procedure Step

If there is a change in ownership or control at either the legal structure or facility level that could potentially impact data capture, management and/or GHG quantification procedures.

Example: The Legal Structure Level.

- *The Head of Legal identifies that The Crown Estate will be acquiring a new subsidiary within the next three months. This entity has several buildings that may need to be included within data processes. As such, the Head of Legal notifies Carbon Credentials and the Head of Sustainability of this change.*
- *Carbon Credentials will review the change to assure it is needed using the Reporting Boundaries Decision Tree (see Appendix 5), which follows the company's chosen operational control approach.*
- *Carbon Credentials evaluates the associated impact of the organisational boundary change on data capture, management and/or GHG quantification procedures in order to plan any necessary course of action.*
- *Carbon Credentials and the Head of Sustainability approve the organisational boundary change and works with relevant persons to ensure it is reflected in data capture, management and/or GHG quantification procedures.*

Change in Operational Boundary - Procedure Step

A Property Manager identifies a change in emission sources within a facility or group of facilities for which they are responsible that could potentially impact data capture, management and/or GHG quantification procedures.

Example: Substitute emission source.

- *A Property Manager identifies that the current oil-fired heating system will be switched next month to an LPG alternative with an automatic fuel gauge. This will affect the way in which data is captured and managed, as well as the required emission factor for GHG quantification. As such, the Property Manager notifies Carbon Credentials of this change.*
- *The Property Manager notifies Carbon Credentials and the Head of Sustainability that a change to the operational boundary is needed.*
- *Carbon Credentials reviews the change to assure it is needed using the GHG Protocol website and Reporting Boundaries Decision Tree (see Appendix 5), which follows the company's chosen operational control approach.*
- *Carbon Credentials and the Head of Sustainability evaluate the associated impact of the operational boundary change on data capture, management and/or GHG quantification procedures in order to plan any necessary course of action.*
- *Carbon Credentials and the Head of Sustainability approve the operational boundary change and works with relevant persons within the GHG Responsible Parties Register to ensure it is reflected in data capture, management and/or GHG quantification procedures.*

Exclusions

The Crown Estate reports all emission sources under its operational control apart from de minimis sources such as fugitive emissions from air conditioning units.

Emission Factors

All emissions factors are directly extracted from the DEFRA website to reduce risk of transposition error:

<http://www.ukconversionfactorscarbonsmart.co.uk>

Figure 6: 2014 Emission factors table

As shown in the table above, the methodology is designed to select the most appropriate emission factors for sections like business travel.

Restatements & Re-Baselining

The Crown Estate re-state when a 5% difference or greater is identified, from the previously reported total. An instance of this was at Charles House where the gas was over-reported in 2013/14: As a result Carbon Credentials re-stated the 2013/14 year in the 2014/15 annual report.

In the instance of re-allocating Scope 1, 2 and 3 emissions due to our improved understanding of indirect emissions from tenants. It was decided that The Crown Estate would not re-state; since this had affected each and every year and was due to an improvement in our understanding of emissions across the portfolio (rather than an error) – a footnote has been added to the annual report to describe the change.

Estimations & Assumptions

Where possible, it is better to use primary data to calculate emissions. However, in some cases data may not be available or of sufficient quality (e.g. due to lack of measurement capability, equipment replacements, equipment failures or billing issues) in which case secondary data, such as industry-average figures, proxy data and extrapolation, can be used.

EXTRAPOLATED

Bridging using consumption data in the invoice period - the surrounding data is converted to an average daily consumption figure and is used to estimate the missing consumption

PROXY

Bridging using closest actual meter readings to the period - also includes using year-on-year estimation where a previous year's consumption in the same period is used to estimate the current period's consumption.

Estimation techniques should be prioritised based on the level of accuracy provided as illustrated below:

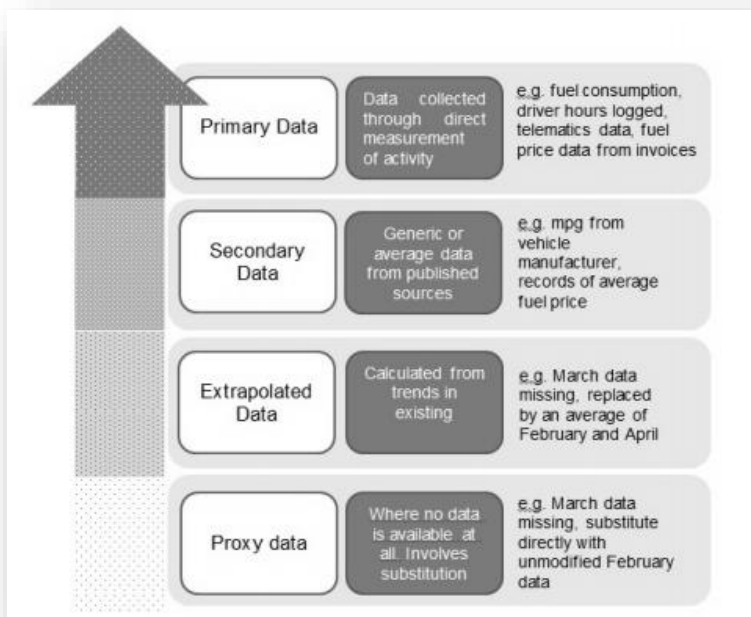


Figure 7: Data hierarchy

We also apply the pro rata technique. More information on this can be found in the CRC section.

Joint Ventures

Increasingly, The Crown Estate has increased the number of joint ventures within the organisation.

The Crown Estate must report 100% of emissions from operating entities over which they have full authority to introduce and implement Crown operating policies (e.g. Crown's Environmental Policy or H&S Policy).

Since The Crown Estate has management control over their joint ventures, a number will be included:

- Wexford Retail LLP; Fosse Park (opened in 2014)
- Maple Investment LP: which occupies under One Eagle Place
- St James Market Haymarket LP – still under development post March 31st 2016
- St James Market Regent Street LP – still under development post March 31st 2016
- TCE Purple Investment LP – this is a wholly owned TCE entity. It forms part of the Regent Street structure.

Not to be included:

- Gibraltar LP – full name: The Gibraltar Limited Partnership (managed by British Land)
- The Westgate Oxford Alliance LP (managed by Land Securities)
- Crown Point, Leeds
- Ellington Estate

Scope 3 Category 6: Business Travel

This category includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars. Data is provided by finance for the following business travel types:

1. Bus
2. Tube
3. Train
4. Flights
5. Taxi
6. Ferry
7. Car hire
8. Grey Fleet

The following tools have been used to find the distances:

1. Origin and destination points are extracted from the dataset as accurately as possible, using postcodes when available, along with country information.
2. These origins and destinations are then passed through the Google Maps API to obtain distances.
 - For all trips other than flights and ferries, the following API address is used;
 - "https://maps.googleapis.com/maps/api/distancematrix/json?origins=%s&destinations=%s&mode=transit&transit_method=%s&key=%s"
 - Where the origin and destination are substituted for the first and second "%s" characters, the transit method is substituted for the third, and the API key is substituted for the final (e.g. "AlzaSyBT_D6OAqsjiesJTeUN6zJ1O5BmQ8tGxWc"). This API call returns distances calculated through Google Maps for the specified travel type.
 - Transit method includes road (car), bus, train, tram and subway.
 - For flights, the following API address is used for both the origin and destination separately;
 - "https://maps.googleapis.com/maps/api/geocode/json?address=%s&key=%s"
 - Where the location is substituted for the first "%s" character and the key for the second. This API call returns latitude/longitude pairs for the specified location. The distance is then calculated as the great-circle distance between locations (i.e. airports) using the Haversine formula.
 - -Ferry trips were found by manually entering the journey in www.google.co.uk/maps, using the directions feature. For flights Air Miles Calculator was used to calculate distance (<http://www.airmilescalculator.com>)
3. For each entry, a multiplying factor is applied to the distance based on whether the journey is single or return, and to account for multiple trips.
4. In each instance, API inputs are detailed alongside the outputs given by Google Maps (where applicable). The outputs are the locations that Google Maps interpreted from the inputs and are a point of reference for auditing the distances.
5. For Mileage, distance was detailed in the 'Text' column. Miles was separated out from the other text within the column to be converted into kgCO₂.

6. For Fuel, litres of fuel were detailed in the 'Text' Column. Litres was separated out from the other text within the column to be converted into kgCO₂
7. Estimations of the overall totals were made by finding an average spend per kilometre (£/km) for each transport type and multiplying the total spend by this figure.
8. All emission factors were downloaded from: <http://www.ukconversionfactorscarbonsmart.co.uk/>
9. Miles to Km: Miles were converted into kilometres using the following conversion:
 - 1 mile = 1.609344 kilometres

Scope 3 Category 13: Downstream Leased Assets

This category includes emissions from the operation of assets that are owned by The Crown Estate (acting as lessor) and leased to other entities in the reporting year that are not already included in scope 1 or scope 2.

Evidence Pack

Information relating to the annual reporting process is stored in an evidence pack; all source data such as half hour and invoice data have been signposted.

Carbon Credentials currently manage and maintain the evidence pack on behalf of the Crown Estate.

SECTION IV: SUSTAINABILITY REPORTING

11. Operating Reporting Process

A vital part of the Environmental Reporting Programme is to ensure that the environmental data and information is used for improving operations and performance across the group. Consequently, there is a process for developing monthly operational reports which support the environmental programme and provide key information, as required, to the appropriate parts of The Crown Estate.

Sustainability Action Plans

The Sustainability Action Plan (SAP) programme was implemented during 2013 with the main objective to enable the Urban Managing Agents to focus on 7 main areas of sustainability within the management of their assigned properties. These include:

1. General
2. Materials
3. Water
4. Waste
5. Landscape
6. Community
7. Carbon in Operation

The vehicle for monitoring progress is currently via an excel document which is updated on a quarterly basis by the Managing Agents and presented at the quarterly Urban SAP Managing Agent Meeting.

Quarterly Data Release Process

Each quarter in preparation for the Quarterly Urban SAP Managing Agent Meeting, Carbon Credentials send out to key contacts the site level energy performance of all assets in The Crown Estate portfolio. The energy performance is reviewed based upon the year on year changes in consumption. As a part of the release, sites that have shown a significant level of variation are flagged as to be investigated with the Managing Agent. Carbon Credentials work with the Managing Agents to contact the flagged sites to create a narrative around the large variance and ensure the reported consumption change is accurate. The information gathered during this process is then presented as a part of the Managing Agent Meeting.

Quarterly Urban SAP Managing Agent Meeting

Each quarter, the Sustainability Action Plan meeting focused on the Urban portfolio is held at The Crown Estate. This includes:

- A trend overview and update presentation by Carbon Credentials
- Project and work updates from Arup and TFT consulting
- Presentations from each of the urban Managing Agents based on their Sustainability Action Plans which covers each of the seven sections.

In order to prepare for this meeting there is a timeline to ensure all participants are aware of requirements (Figure 5). This involves:

- An initial meeting including Arup and Carbon Credentials to discuss what the next quarterly meeting should be focused on and the plan.
- A meeting between Carbon Credentials and Carbon 2018 on energy, special events and any other updates for the last quarter.

- A meeting including each Urban Managing Agent with Carbon Credentials and Arup or TFT Consulting (depending on contractual relationship) to discuss presentation content.
- Deadline for all data a month after quarter end
- Presentations with graphs for each section sent from Carbon Credentials to each Managing Agent, Arup and TFT for input a week before the meeting.
- Presentations returned to Carbon Credentials by the day before the meeting
- Urban SAP Managing Agent Meeting at The Crown Estate.

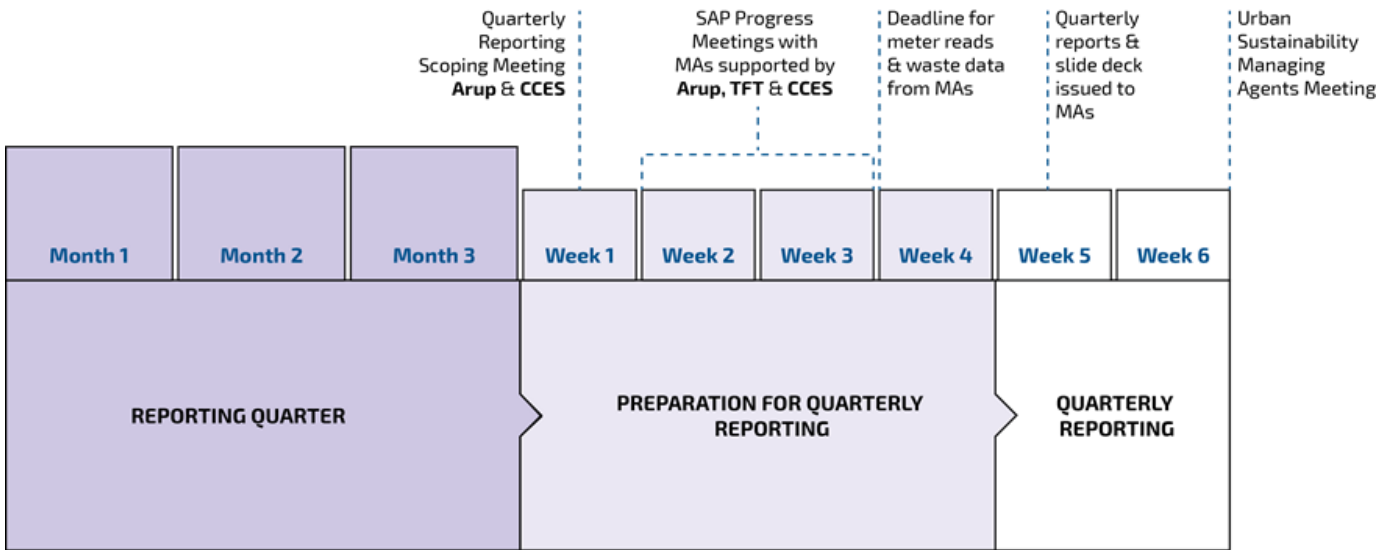


Figure 8: Quarterly Urban SAP Programme Timeline

Quarterly Reporting to the Board

Each quarter the sustainability team report to the Management Board against their targets, Carbon Credentials support by providing data against two key targets:

- Halve our impact: Improve carbon emissions intensity by a further 50% from a 2012/13 baseline for property under our direct control (31st March 2022).
- Zero operational waste to landfill where we have control (31st March 2017).

12. The Crown Estate Annual Reporting Process

The Crown Estate’s Annual report is based on the FY 1st April – 31st March. The annual reporting process is conducted between January and May each year. The purpose of the Annual Reporting Process is to define a set of valid figures which will be published as a public statement of performance. These will be aligned to DEFRA and EPRA guidance.

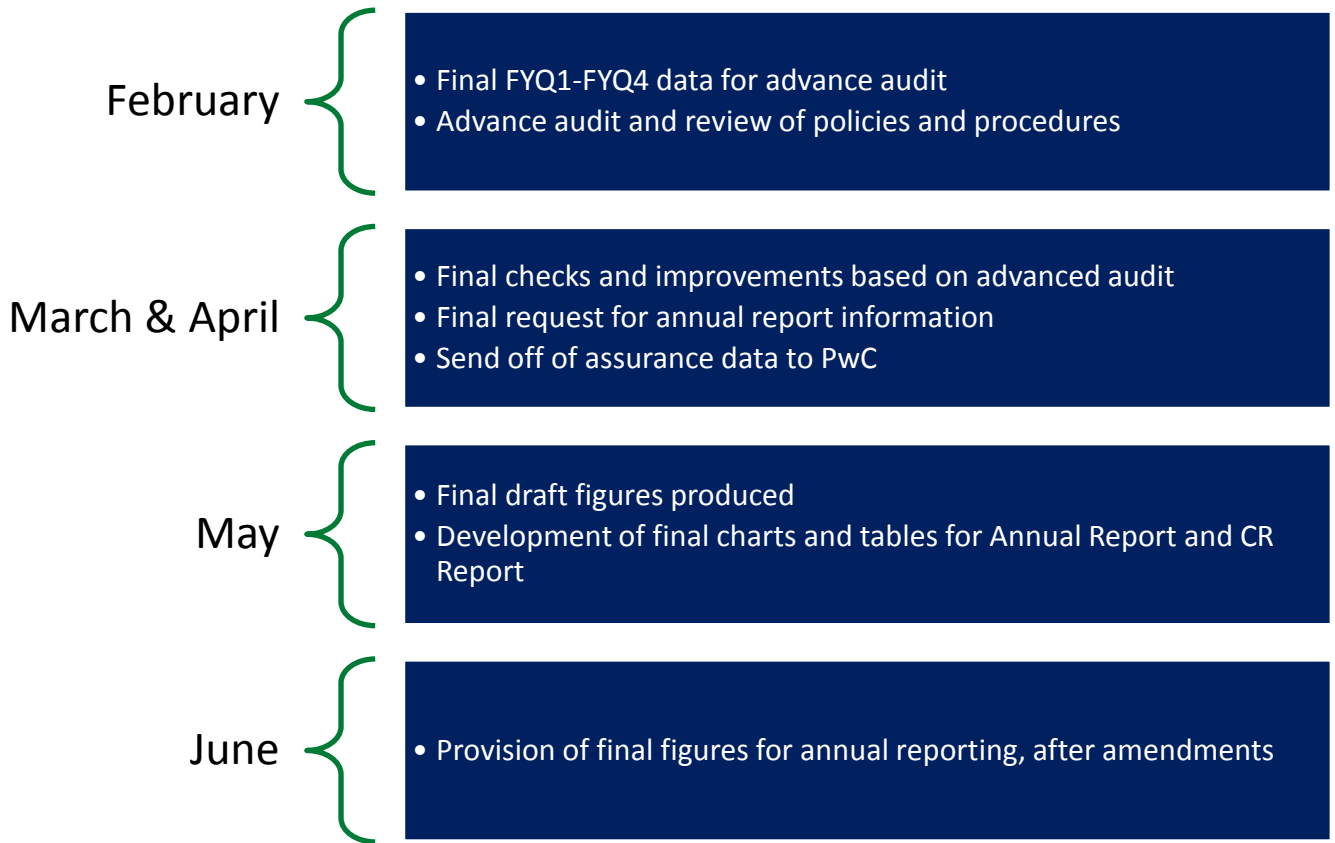


Figure 9: Annual reporting timeline

Component	Stage	Complete?	Included in Audit?	Detail	Date	Actions	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Audit	Dry-Run			Annual Assurance Review Kick Off Meeting: Send off Initial Annual Reporting Calculations Incl: Scope 1, 2 & 3 Data	21/02/2017						
Audit	Dry-Run			Second Annual Assurance Review Meeting: Send off Floor Area and Crown Carbon Intensity Data	28/02/2017						
Audit	Dry-Run			Return of initial findings and requests for primary evidence	Feb to Mar 17						
Audit	Dry-Run			Response to audit queries for dry run	Feb to Mar 17						
Audit	Dry-Run			Receive all information back relating to special events, such as site changes etc	08/04/2017						
Audit	Dry-Run			Majority of Invoice Queries to be complete	01/04/2017						
Audit	Final Figures			Provision of all energy consumption, green tariff & renewables	08/04/2017						
Audit	Final Figures			Provision of all other fuel data	15/04/2017						
Audit	Final Figures			Provision of floor area data	18/03/2017						
Audit	Final Figures			Provision of Business Travel Data	15/04/2017						
Audit	Final Figures			Provision of Carbon Intensity Data	15/04/2017						
Audit	Final Figures			Response to all audit queries - Close Off	29/04/2017						
Audit	Preliminary Report			Reporting Criteria Manual to be Drafted	05/06/2017						
Audit	Preliminary Report			PwC to respond with any edits	20/05/2017						
Audit	Final Report			Completion of Reporting Criteria	27/05/2017						
Audit	Post Final Figures			Final Data Provided by PwC to The Crown Estate	20/05/2017						
Audit	Post Final Figures			Final Opinion Provided by PwC to The Crown Estate	20/05/2017						
Data Provision to The Crown	Final Figures			Final Calculations, Provision of Data for Online & Written Report	27/05/2017						
Data Provision to The Crown	Final Figures			Case Studies - if applicable	27/05/2017						
Data Requests	Dry-Run	Y		Receipt of all dry run data (business travel, energy, other fuels (fleet))	05/02/2017						
Data Requests	Final Figures			Carbon Credentials to Inform all Key Stakeholders of Year End Deadlines: Including Managing Agents, Finance, Windsor, Carbon 2018, Suppliers etc. The Data Request will include Requests for the Total Contribution Manual. Receipt of all major requests (including half hour data) Chase up any outstanding requests	04/03/2017						
Data Requests	Final Figures				05/04/2017						
Data Requests	Final Figures				08/04/2017						
Annual Report Calculations	Dry-Run	Y		Creation of annual report spreadsheet	12/02/2017						
Annual Report Calculations	Final Figures	Y		Completion & QA of annual report spreadsheet	19/02/2017						
Annual Report Calculations	Final Figures			Collation of all energy invoice consumption up until the end of February (pro rata March) <i>This is due to the fact that March invoices will not arrive until the end of April</i>	01/04/2017						
Annual Report Calculations	Final Figures			Collation of all half hour consumption data up until the end of March	04/04/2017						
Annual Report Calculations	Final Figures			Collation of all Green Supply Information	08/04/2017						
Annual Report Calculations	Final Figures			Collation of all Renewable Energy Data	08/04/2017						
Annual Report Calculations	Final Figures			Collation of all other fuel data, including engine oil, fleet etc.	15/04/2017						
Annual Report Calculations	Final Figures			Completion of Scope 1, 2 & 3 Calculations	15/04/2017						
Annual Report Calculations	Final Figures			Confirmation on final property list	08/04/2017						
Annual Report Calculations	Final Figures			Collation of business travel data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Floor Area Data	18/03/2017						
Annual Report Calculations	Final Figures			Collation of Carbon Intensity Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Water Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Waste Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Construction Waste Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Energy Improvement Projects	08/04/2017						
Annual Report Calculations	Final Figures			Collation of Workforce Data (e.g. Health & Safety, Equality Etc.)	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Energy Spend Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Habitat & Env. Incident Data	15/04/2017						
Annual Report Calculations	Final Figures			Collation of Community Investment Data	15/04/2017						
Annual Report Calculations	Final Figures			QA all Calculations and Tables	22/04/2017						
Annual Report Calculations	Final Figures			Send off All Calculations and Tables	29/04/2017						

Figure 10: Proposed Deliverables and Gantt chart for annual reporting

13. The Crown Carbon Indicator

The Crown Carbon Indicator has been developed by Carbon Credentials to describe The Crown Estate's historic performance relative to a baseline and target, the purpose of this is to support:

1. Carbon Reporting of Targets – The Crown Estate has a 10 year emissions' intensity improvement target of 50% from 2012/13 baseline by 2022/23.
2. Operational Reporting of Site Performance
3. Portfolio Comparison

The Crown Carbon Indicator was developed to replace a previously developed benchmarking methodology. The data sources applied include:

1. Floor Areas, consisting of:
 - a. Quarterly on-going horizon report
 - b. Historic survey documents
 - c. Valuation reports (where unable to rely on survey documents)
2. Occupancy:
 - a. This information is provided by managing agents or independent surveyors
 - b. Rental values:
 - i. Where floor area information is absent, rental value has been used to calculate occupancy. Percentage occupancy is obtained by taking the actual rental income for each quarter at a site and dividing it by the total expected income of the site. This information is received on a quarterly basis.
 - ii. Quarterly on-going horizon report
 - iii. Evidence: this is a commercial component of The Crown Estate which makes it highly fluid. Since it is sensitive, Carbon Credentials do not have visibility on how it is evidenced.
 - c. Floor areas:
 - i. Where floor area information is available, occupied floor area has been divided by total building floor area to calculate occupancy. This is done quarterly.
3. Carbon Data
 - a. Quarterly on-going energy data gathered from invoices and half hourly readings.

The Crown Carbon Indicator excludes the following:

- Site that emit less than 4 tCO₂ per annum (di minimum threshold)
- Sites without sufficient floor area data
- Sites where the Energy Provision Scenario is unknown or cannot be calculated using proxy data
- Sites with less than 12 months of data
- Sites which came off-line during the reporting period i.e. redeveloped or sold

In addition, where outliers have been identified these sites are excluded until investigated further. For the 2015/16 reporting period, 8 sites were excluded for this reason.

There are 4 key components of the methodology as shown below:

Occupancy

- Ratio of % of asset which is being used
- Not required for:
 - Retail Parks: Denominator is Car Park Spaces
 - Shopping Centres: Denominator is common parts areas (CPA)
 - Offices where Common Areas only: Denominator is common parts areas (CPA)

Denominator: Occupancy Adjusted Serviced Area

- Based on “appropriate” measurement. Usually:
 - Net Internal Area (NIA) for Offices
 - Common Parts Area (CPA) for Shopping Centres
 - Car Park Spaces for Retail Parks
- Energy Provision: how much area is served by energy: converts to Serviced Area
- Occupancy adjustment where appropriate

Intensity

- Energy data converted to Carbon: GHG Protocol + Defra emissions factors
- 12 months of carbon emissions, rolling quarterly
- Carbon / “Denominator”
- Only calculated if 12 months of data

Index

- The aggregation of individual sites' weighted carbon intensities to the organisation level is:
 - Individual site change in carbon intensity (kWh / floor area adjusted for occupancy)
 - Each site weighted by absolute emissions relative to the entire portfolio
 - The aggregation of this for each site gives the organisation effect
 - This aggregation moves the index

Therefore: If baseline = 100

- Sum of change in intensities, weighted by absolute size = +5
- Crown Carbon Index (CCI), baseline + 1 quarter = 105

Figure11: 4 Components for the Crown Carbon Index methodology

The data flows can also be seen mapped below:

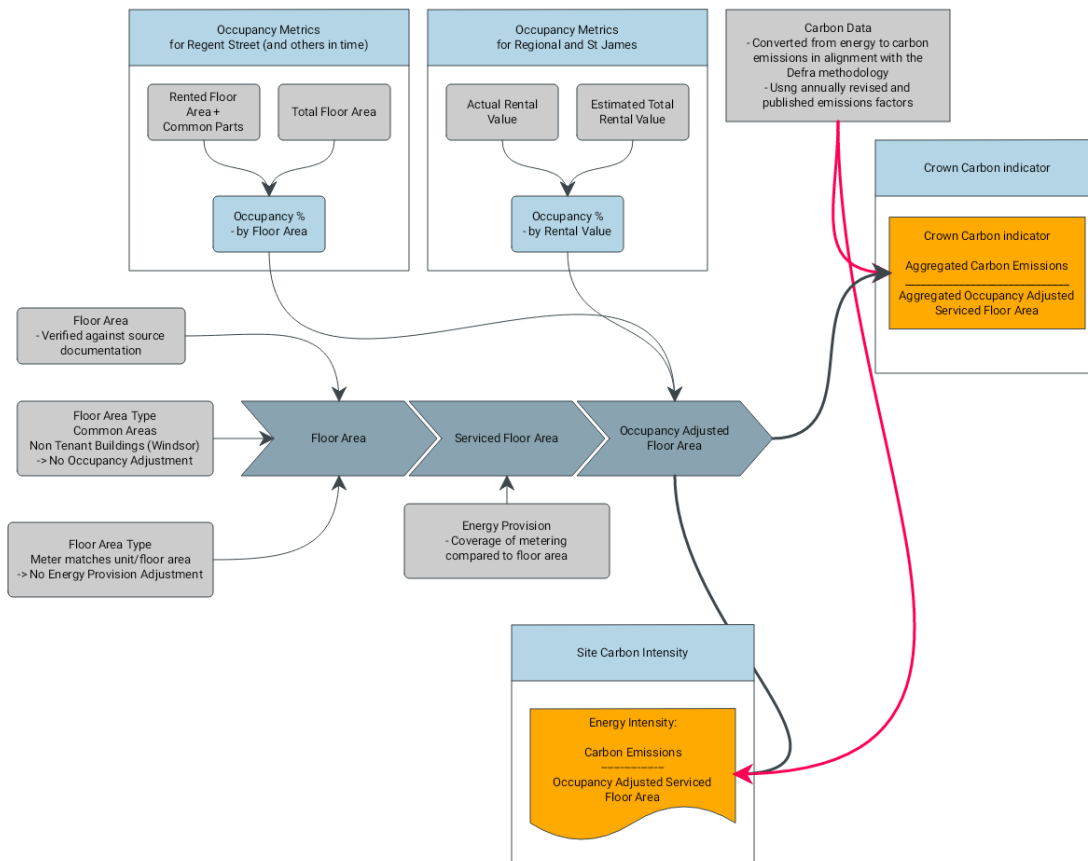


Figure 12: Flow map of Crown Carbon Index data sources

Energy Provision

In terms of energy provision, the following methodology is applied to establish how much of the floor area is served by the metering:

1. If the energy serves the whole building or 100% of the floor area stated in the denominator, then the Energy Provision is 100%
2. If the energy serves only part of the building or the floor area stated as the denominator, then a percentage is applied to provide the amount of the building, by floor area, that the energy would cover
3. Where the Energy Provision Scenario is unknown, Carbon Credentials has worked with Arup to provide an estimated scenario. This is done by taking an average of all intensities where the Energy Provision Scenario is known and correct and reversing it by floor area for the selected property.

4. This part of the metric will be superseded by improving the understanding of which specific floor area are served by meters and specifically allocating the floor areas to the meters.

An illustration of how the floor area split may be split up can be seen below:



Figure13: Breakdown of floor area

Indexing

To establish the performance of each site, all individual sites are indexed to 100.

Aggregation is complex and there is a need to scale to: building, portfolio and organisation, as well as this not all buildings are equal.

Baseline Recalculation

The following methodology is applied for the two scenarios.

Scenario 1: Building enters portfolio

What should happen?

- If nothing happens, there should be no change to the baseline
- Subsequent changes should then affect the CCI

Scenario 2: Building leaves portfolio

What should happen?

- Nothing, building's affect stops with last reporting
- No drop or change due to building departure

14. APPENDIX 1: The Crown Estate Teams

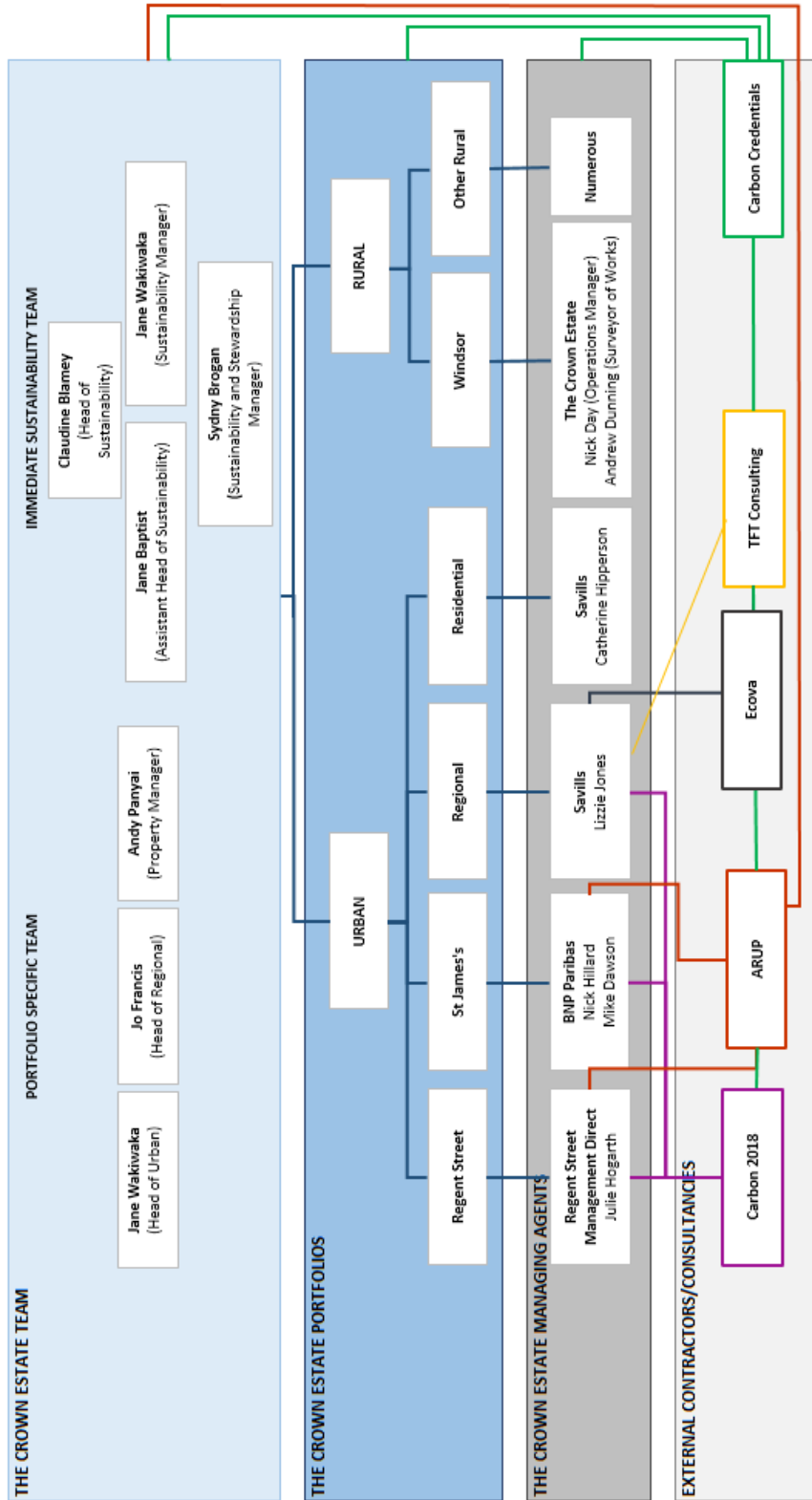


Figure 415: Teams across The Crown Estate

15. APPENDIX 2: Quarterly Reporting Timeline

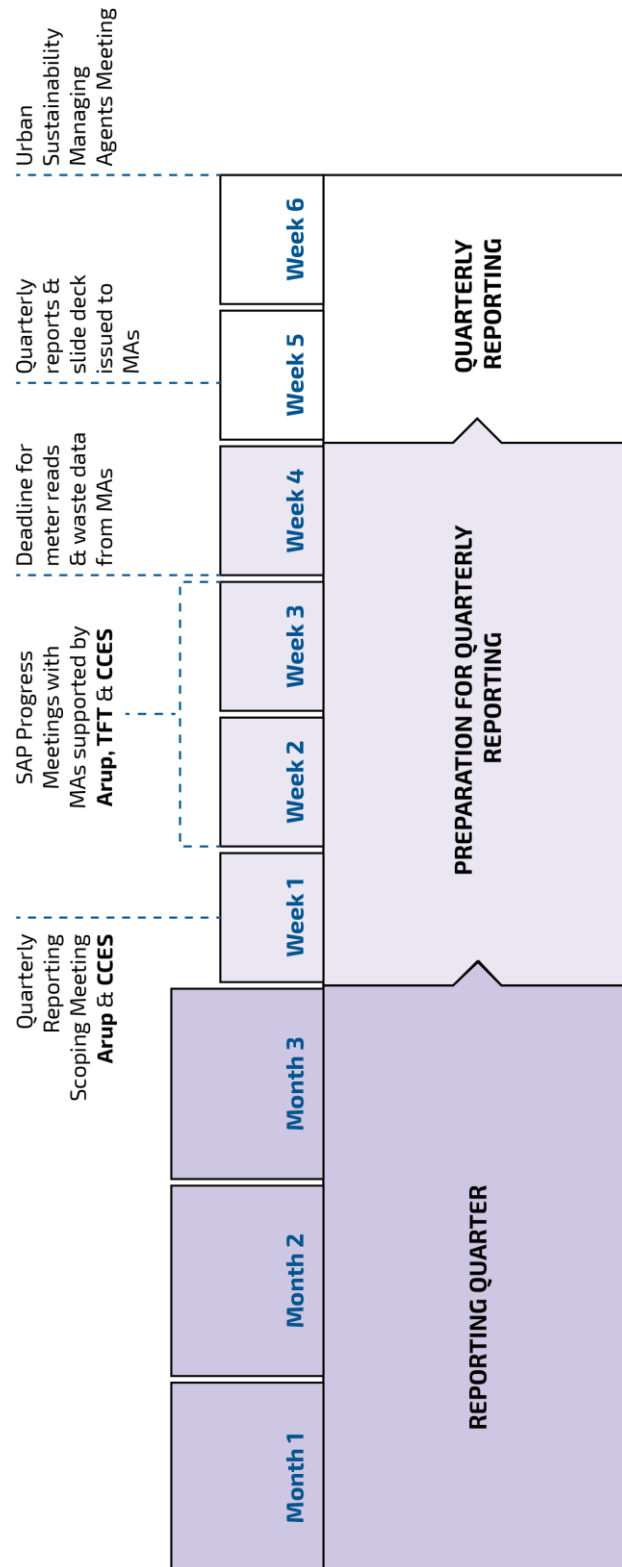


Figure 16: Reporting timeline

16. APPENDIX 3: Data Flows by Managing Agent

Regent Street

Data Type	Data Source	Data Process	Frequency	Deadline (if applicable)	Contact
Energy HH/AMR	Carbon 2018	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st working day after month end	Charlotte Carter (Carbon 2018)
Gas AMR*	IMServ	Daily Update → DigitalEnergy	Daily	Mid-day each day	Duncan Griffiths (IMServ)
Energy and Water Meter Reads	RSD	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st week after month end	Julie Hogarth (RSD)
Energy Invoices	Supplier (Excel); Carbon 2018 (pdf)	Monthly from Suppliers → CCES → DigitalEnergy	Monthly	3rd week after month end	Numerous
Waste	RSD	Sent in collated spread sheet → CCES → DigitalEnergy	Quarterly	3rd week after quarter end	Julie Hogarth (RSD)

St James's

Data Type	Data Source	Data Process	Frequency	Deadline (if applicable)	Contact
Energy HH/AMR	Carbon 2018	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st working day of each month	Charlotte Carter (Carbon 2018)
Gas AMR*	IMServ	Daily Update → DigitalEnergy	Daily	Mid-day each day	Duncan Griffiths (IMServ)
Energy Meter Reads	BNP Paribas	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st week after month end	Mike Dawson
Energy Invoices	Supplier (Excel); Carbon 2018 (pdf)	Monthly from Suppliers → CCES → DigitalEnergy	Monthly	3rd week after month end	Numerous
Waste	BNP Paribas	Sent in collated spread sheet → CCES → DigitalEnergy	Quarterly	3rd week after quarter end	Mike Dawson (BNP Paribas)
Water	BNP Paribas	Sent in collated spread sheet → CCES → DigitalEnergy	Monthly	1 week after month end	TBC

Regional

Data Type	Data Source	Data Process	Frequency	Deadline (if Applicable)	Contact
Energy HH/AMR	Ecova	Emailed via spread sheet → CCES → DigitalEnergy	Weekly	1st working day of the month	Philip Whiting (Ecova)
Gas AMR*	Ecova	Daily Update → DigitalEnergy	Daily	Mid-day each day	Philip Whiting (Ecova)
Energy Meter Reads	Site Contacts	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1 week after month end	Various
Energy Invoices	Supplier (Excel) Ecova (excel)	Monthly from Suppliers → CCES → DigitalEnergy	Monthly	3rd week after month end	Numerous; Philip Whiting (Ecova)
Waste	Savills Facilities Managers	Sent in collated spread sheet → CCES → DigitalEnergy	Monthly	3rd week after quarter end	Karl Rigby
Water	Savills Facilities Managers	Sent in collated spread sheet → CCES → DigitalEnergy	Monthly	1 week after month end	Various

Residential

Data Type	Data Source	Data Process	Frequency	Deadline (if applicable)	Contact
Energy HH/AMR	Supplier	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st working day after month end	Supplier
Energy and Water Meter Reads	Savills	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	4 weeks after quarter end	Catherine Hipperson
Energy Invoices	Supplier (Excel)	Monthly from Suppliers → CCES → DigitalEnergy	Monthly	3rd week after month end	Numerous
Waste	Savills	Sent in collated spread sheet → CCES → DigitalEnergy	Quarterly	3rd week after quarter end	Catherine Hipperson

Windsor

Data Type	Data Source	Data Process	Frequency	Deadline (if applicable)	Contact
Energy HH/AMR	Supplier	Emailed via spread sheet → CCES → DigitalEnergy	Monthly	1st working day after month end	Supplier
Gas AMR*	British Gas	Daily Update → DigitalEnergy	Daily	Mid-day each day	British Gas
Energy and Water Meter Reads	Windsor	Emailed via spread sheet → CCES → DigitalEnergy	Quarterly	4 weeks after quarter end	Andrew Dunning
Energy Invoices	Supplier (Excel)	Monthly from Suppliers → CCES → DigitalEnergy	Monthly	3rd week after month end	Numerous
Waste	Windsor	Sent in collated spread sheet → CCES → DigitalEnergy	Quarterly	3rd week after quarter end	Andrew Dunning or Nicholas Day

17. APPENDIX 4: Reporting Boundary Decisions Tree

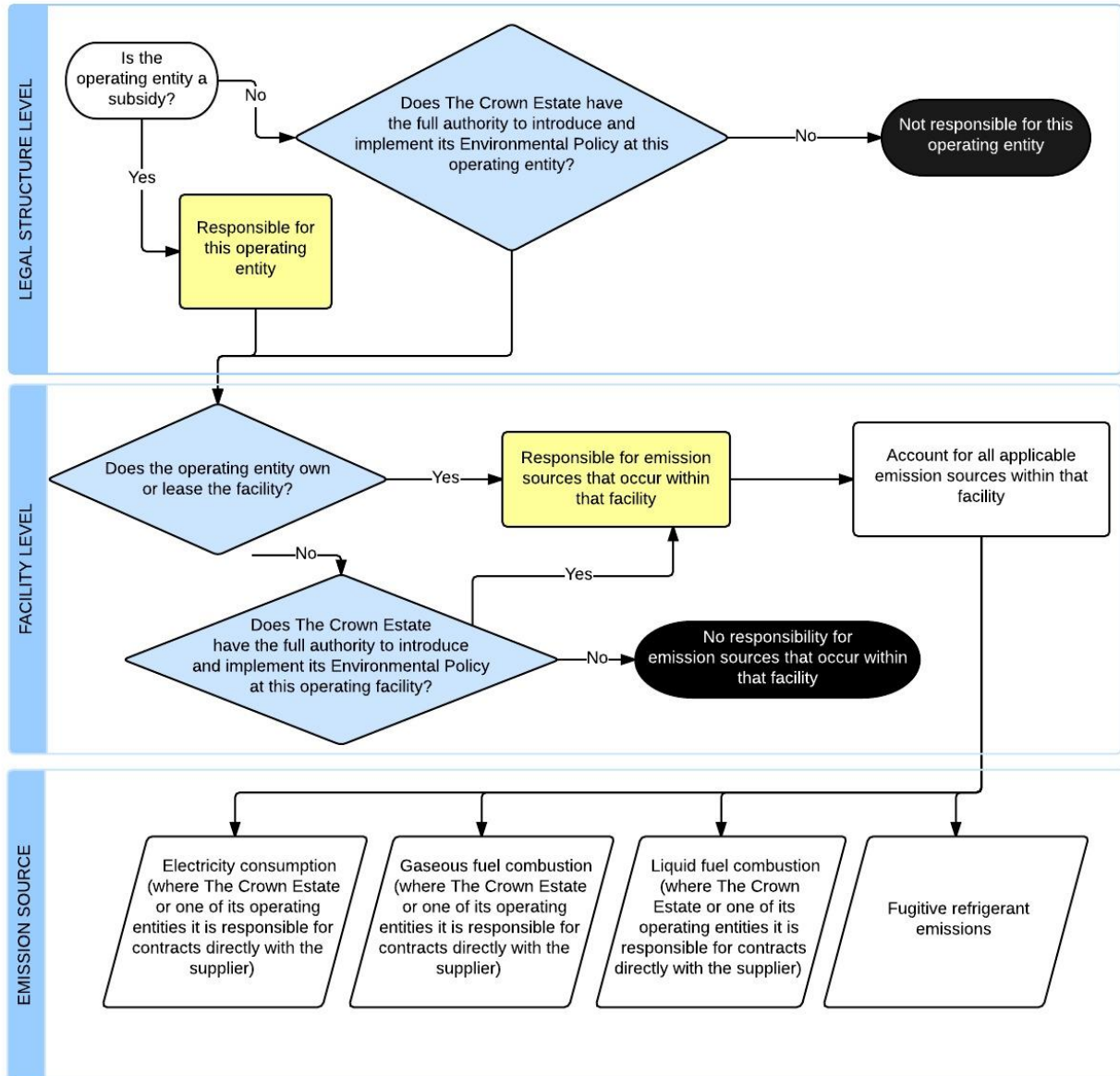


Figure 17: Reporting Boundary Decision Tree

18. APPENDIX 5: Organisation Structure

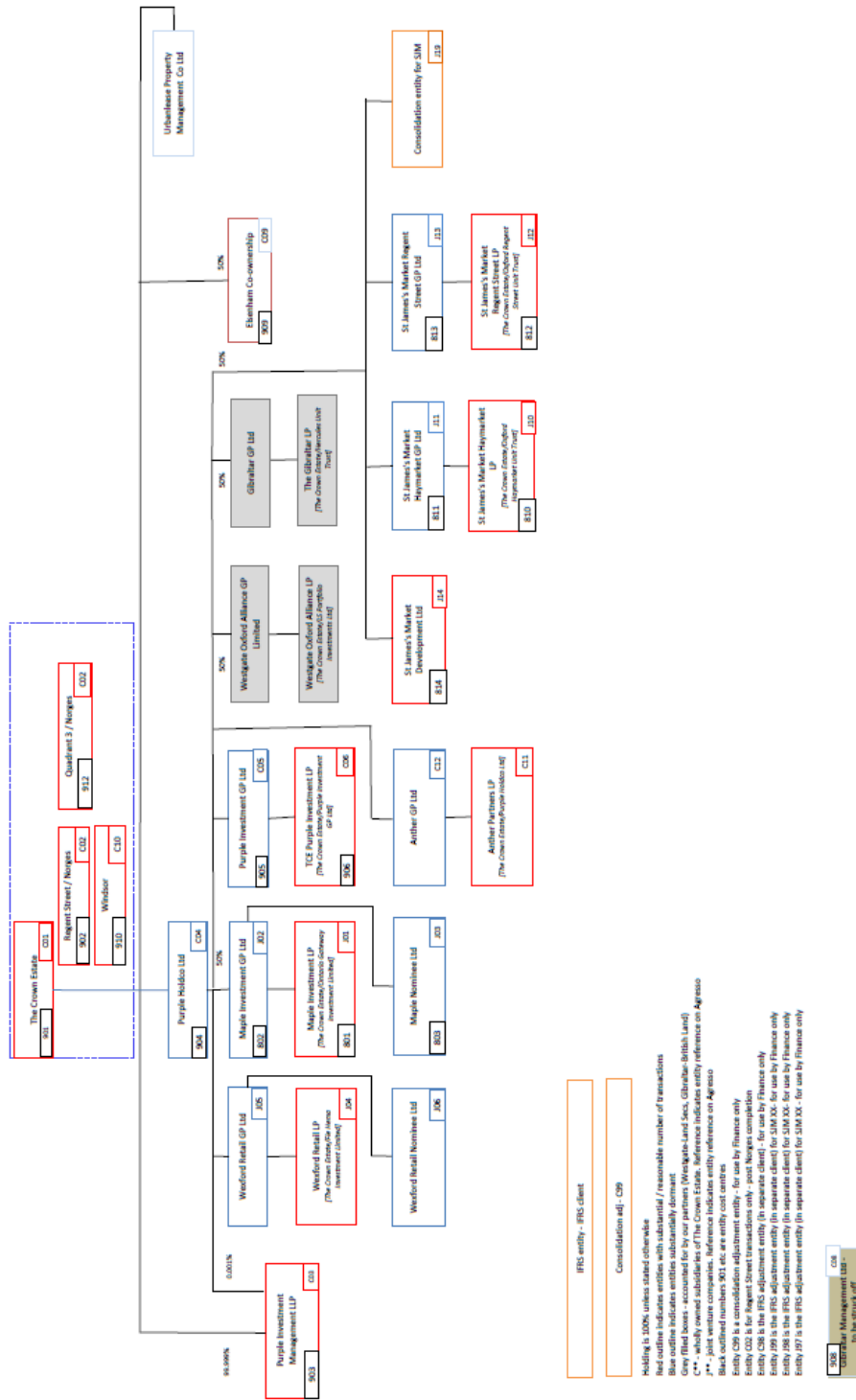


Figure 18: Organisation Structure

19. APPENDIX 6: Status of Joint Ventures for Compliance

The Crown Estate has increased the number of sites in the portfolio where there is a joint venture arrangement. Joint Ventures can pose liability risks to The Crown Estate.

Analysis of the various joint ventures was undertaken in March 2015 between The Crown Estate's internal legal team and Carbon Credentials compliance team, details of the outcome can be seen below:

In both CRC and ESOS, corporate groups are defined by the tests in the Company Act 2006. If The Crown Estate has shares in other undertakings, you need to assess whether you are responsible for these undertakings using the definitions of subsidiary undertaking in s1159 and s1162 of the Act. Corporate groups will participate in CRC and ESOS in their "highest parent group" and all subsidiaries in the group will participate together, unless you disaggregate.

In summary, The Crown Estate will be responsible for an undertaking if it is classed as The Crown Estate's subsidiary because one of the following tests applies:

1. You hold a majority share of the voting rights in the organisation
2. You are a member of that organisation and have the right to appoint and remove a majority of the board members
3. You are a member of that organisation and control alone a majority of the voting rights in the organisation
4. You have any other agreement which gives you a controlling interest of influence

Where an organisation is a joint venture, The Crown Estate's responsibility for the organisation under CRC and ESOS is based on the Companies Act tests above. If the joint venture does not have a higher parent by these tests, it should assess its qualification for CRC separately and if it qualifies, participate separately with the schemes.

While the majority of the joint ventures are English Limited Partnerships, The Crown Estate employ two other structures. "Joint Venture" has no precise legal meaning. Crown Estate also employ:

1. Tiered leases coupled with a collaboration agreement: Exeter and Regent Street.
2. Trust for land couple with a collaboration agreement: See further details below for Crown Point, Leeds.

Other than Regent Street, where the economic split is 75:25 in The Crown Estate's favour, the tiered lease and trust structures are 50:50 and voting deadlock agreements i.e. they operate in the same way as our English Limited partnerships.

Limited partnerships fall within the Companies Act 2006 definition of undertakings and can therefore be subsidiaries or parents. If the general partner is an undertaking, it may form a group with the limited partnership under s1162. For example, if the general partner has sufficient control through management powers.

The general partnerships have voting deadlock agreements, whereby no party in the general partnership has a controlling interest over the limited partnership. The limited partnerships are not subsidiary undertakings of the general partnerships, as the tests above do not apply to them. The limited partnerships with their direct and indirect investments are not therefore subsidiaries of the general partnerships.

Therefore, the limited partnerships do not form part of The Crown Estate corporate group for CRC or ESOS. These limited partnerships should assess their qualification for CRC and ESOS as separate organisations. Please note that the qualification rules are different for the two schemes.

The limited partnerships are as follows:

- Wexford Retail LP
 - Fosse Park
- Maple Investment LP
 - One Eagle Place - HOOP
- St James Market Haymarket LP
- St James Market Regent Street LP
- Gibraltar LP – full name: The Gibraltar Limited Partnership (managed by British Land)
- TCE Purple Investment LP – this is a wholly owned TCE entity. It forms part of the Regent Street structure, this forms part of the TCE corporate group.

The Crown Estate also has an investment at Princesshay, Exeter. We understand that The Crown Estate holds a head lease for 150 years from Exeter City Council, the freeholder. The Crown Estate has let the premises on a lease of 150 years less 1 year to Land Securities, who assigned this lease to Henderson, the present landlord of the occupational leases.

The Crown Estate does not hold responsibility for the supply; rather it is Henderson (HSFC Ltd) that is responsible. For CRC and ESOS purposes, Henderson is considered as the landlord. The property is managed by Purple Investment Management, on behalf of Henderson and TCE. The rules on unconsumed supply are different for the two schemes, but since Henderson has ownership of the supply, it is their responsibility.