

# THE CROWN ESTATE

Integrated Annual Report and  
Accounts 2020/21

*EVORA Global Environmental Reporting  
Methodology*

JUNE 2021

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## INTRODUCTION



EVORA Global (EVORA) has been instructed to support The Crown Estate in the collection, validation and reporting of sustainability data (energy, carbon, water and waste) across its directly managed property portfolio.

EVORA operate as data guardians, focused on data management and stakeholder engagement. All sustainability data is managed using EVORA in-house sustainability software management system SIERA.

- The process and methodology presented in this document relates to the reporting period 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021.
- This document sets out the data management processes, including roles and responsibilities.
- This document defines the reporting boundary and scope of key performance indicators (KPIs) presented in the *Integrated Annual Report and Accounts 2020/21*.

This document will be updated annually to accurately reflect The Crown Estate's reporting programme.

## Portfolios & Stakeholders:

### 1. *London*

- Managing Agent (MA) - JLL
- Energy Bureau (EB) - Carbonxgen (appointed by JLL)



### 2. *Regional*

- Managing Agent - Savills
- Energy Bureau - Savills Energy



### 3. *Windsor Estate*

- Directly managed by The Crown Estate



## SCOPE & REPORTING BOUNDARY



### Scope & Reporting Boundary:

EVORA data guardian role covers 100% of directly managed properties within the three portfolios: London, Regional and The Windsor Estate.

Indirectly managed properties including FRI (full repairing and insuring lease) are not included in the scope of reporting.

The reporting boundary includes all directly managed operations at properties under The Crown Estate's control. Up to date records of properties across each portfolio are downloaded from The Crown Estate's property management database (Horizon) and provided to EVORA.

The collation, validation and management processes for all sustainability data at directly managed properties are detailed in this document. See *pages 6-11*.

For full list of reporting KPIs calculated by EVORA see *Appendix 1 page 20*

## DATA PROCESS QUARTERLY CYCLE

### Data Source Hierarchy

The hierarchy ranking system below was reviewed and agreed by EVORA and the MAs at the outset of the annual reporting period. The agreement is to ensure consistency in data processing.

Utility	Hierarchy Ranking		Portfolio
Energy-Water	1	Half Hour Data	Regional/Windsor
	2	Invoices	
	3	Meter Reads	
	4	Annual Supplier Statement	
Energy-Water	1	Half Hour Data	London
	2	Meter Reads	
	3	Invoices	
	4	Annual Supplier Statement	

## DATA PROCESS QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	Hierarchy Ranking		EVORA Approach
				London	Regional/Windsor	
Elec Gas Water	Half-Hourly data (FTP)	Day +1	Data Collector	(1a)	(1a)	(Electricity only) Through an API (application protocol interface). SIERA receives data on an automated basis from meter operators, data collectors and energy brokers. Verification and validation checks are completed by the consultant using a data gap analysis report from SIERA, which highlights any gaps in the data. Gaps are investigated in collaboration with the source provider.
	Monthly half-hourly data spreadsheet	Quarterly	Energy Bureau	(1b)	(1b)	Where meters have not been appointed to a dedicated data collector, the EBs provide a 3 month half-hourly export. The download is checked and transferred to a standard half hourly data template. The template is sent by a consultant to the in-house SIERA software management team. The team upload the data to SIERA and complete validation protocol such as: duplicate data, overlapping time periods, formatting errors and BST (British Summer Time) adjustment check.
	Invoices	Quarterly	Energy Bureau	(3)	(2)	<p>Invoice data is provided in a standard spreadsheet download from the EBs invoice management software. The data is checked and uploaded to SIERA by a consultant using standardised templates. The system validation detects errors such as: duplicate data, overlapping time periods, formatting errors, and highlights performance outside of 'normal' operating parameters. All errors flagged must be addressed before upload is permitted by platform.</p> <p>Following upload, meter level gap analysis and variance reports are run by a consultant. These reports are shared with the MAs and EBs and where available data gaps are filled with actual consumption data. Variances (&gt;+/-15%) are reviewed by the MAs and EBs to validate data quality. MAs liaise directly with property management teams to provide data impact commentary on variances. Remaining data gaps are prorated by a consultant data using the following methodology.</p> <p>Electricity, is completed over a set of 9 months for every 3 months worth of missing data. This method is used to calculate consumption per day.</p> <p>Gas consumption is prorated by uplifting the previous years quarter, to ensure seasonality changes are accounted for.</p> <p>Water is completed over a set of 9 months for every 3 months worth of missing data. This method is used to calculate consumption per day.</p>

## DATA PROCESS QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	Hierarchy Ranking		EVORA Approach
				London	Regional/Windsor	
Elec Gas Water	Meter Readings spreadsheet	Monthly	Managing Agent	(2)	(3)	<p>Monthly meter reading spreadsheet, lists meter readings taken each month. Consumption is calculated by subtracting the previous month meter reading from the current month meter reading.</p> <p>Unit measurement is indicated in a separate column.</p> <p>Conversion rates are also listed in a separate column.</p> <p>The data upload, validation, gap analysis, variance report and pro rata is completed as per the previous stated method on page 7.</p>



## DATA PROCESS QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Waste	Standard Template	Quarterly	Managing Agent	<p>Waste data issued by MAs using the a standard 'Waste Record Loader', which is directly uploaded onto the SIERA platform. EVORA work with MAs to align waste destinations using a drop down of selected items. Where destination is unclear a comments section has been included to ensure an understanding of the data between both parties.</p> <p>The Waste Record Loader is an interactive visual tool, which allows the user to process and upload waste movement data against disposal routes within SIERA. The module has integrated automatic validation to ensure that the data entered is correct and usable, and will flag up any potential issues to be fixed. Potential issues will be flagged using a colour coded system to ensure that human error is eliminated before uploading onto the platform. Using the SIERA dashboard function, variances will be noted and cross-referenced with MAs if variances are higher/lower than +/-10%.</p> <p>Waste data is prorated where 9 months of data is available. This will occur at the end of each financial year, and is not conducted quarterly.</p>

## DATA PROCESS ANNUAL CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Energy Tariff	Supplier Contracts, REGO Certificates, Supplier Public Disclosure	Annual	Managing Agents	<p>Annually at year end EVORA engage with MAs to confirm and validate electricity contract tariffs. A combination of supplier contract agreements, REGO certificates and supplier public disclosure are used to confirm the status of contract tariffs. EVORA work closely with the MAs to confirm tariffs at contract level and ensure correct assignment at the meter level. The validated information is used to support the calculation of two KPIs:</p> <ol style="list-style-type: none"> <li>1) Percentage (%) of renewable electricity procured at directly managed assets.</li> <li>2) The allocation of scope 2 GHG market based emissions (see pages 12-14 for more information on GHG reporting methodology)</li> </ol>
Energy Spend	Database Download	Quarterly with Annual Consolidation	The Crown Estate	<p>At the end of each quarter London and Regional EBs provide a monthly breakdown of invoicing for the previous three months. The invoice breakdown contains the value (£) excl VAT of all energy invoices under contract. London EB provide a separate void invoice report covering void supplies for the period. Regional EB include void data in the main invoicing breakdown, each void invoice is identified by a comment.</p>
Onsite Renewable (PV)	Meter Readings	Monthly with Annual Consolidation	Managing Agents	<p>Onsite facilities management teams record monthly meter readings for onsite renewable (PV). The meter readings are collated by the MAs within a master spreadsheet for the respective portfolios. EVORA receive this data annually. The meter readings are validated by</p>
Other fuel	Meter Readings	Quarterly with Annual Consolidation	Managing Agents	<p>'Other fuels' consumed at assets is collected by the portfolio MA. This includes minimal usage for oil boiler and heating at one asset and exterior cleaning plant at another. Both data sets a issued to EVORA annually at year end.</p>

## DATA PROCESS ANNUAL CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Fleet (petrol and diesel) Machinery Fuel	Databased Download	Annual	The Crown Estate	<p>Fuel consumed (fleet, machinery, tools) at the Windsor Estate portfolio is managed and collected by the Windsor management team. The data is downloaded from the fuel management system after year end. The Windsor management team split the data into the appropriate categories (fleet, machinery and tools) and fuel type (diesel, unleaded petrol, gasoil/red diesel) . The final download spreadsheet is checked and validated by the Windsor management team.</p> <p>On receipt of the data EVORA review and confirm any data queries with the Windsor management team. The validated data for each category is totalled for the reporting period. Once the total figure is final the appropriate DEFRA carbon factor is applied to according to fuel type to calculate kgCO<sub>2</sub>e. This figure is then divided by 1,000 to convert from kilograms to tonnes.</p>
Evidenced Tenant Energy	Monthly Tenant Recharge	Annual	Managing Agents	<p>Managing agents track and compile tenant recharged energy (kWh) on an ongoing monthly basis. At year end the spreadsheet is validate and finalised and issued to EVORA. The energy recharged to tenants is treated at evidenced tenant energy and used to calculate a portion of scope 3 indirect emissions. (see pages 12-14 for more information on GHG reporting methodology).</p>
Business Travel	Database Download	Annual	The Crown Estate	<p>Business travel data is provided annually the Crown Estate finance team. Travel expenses are exported from the central database at year end. The data is categorised according to travel type (air, bus/coach, tube, rail, taxi, personal car). Travel categories include key journey details to enable carbon calculation: number of travellers, start location and end location. This information is used to calculate the distance travelled. The following sites were used to calculate distance.</p> <p><a href="https://www.airmilescalculator.com/">https://www.airmilescalculator.com/</a>  <a href="https://www.google.co.uk/maps/">https://www.google.co.uk/maps/</a></p> <p>Milage was converted to Kilometres using the following conversion rate (1 mile = 1.60934 kilometres).            For personal car use the expenses information includes actual milage data, which is used to calculate associated carbon. In cases where key journey details were not included in the original expenses claim the journey has been excluded from the calculation. The financial value of journeys excluded from the calculation is 4.5%.            Improvement to business travel data capture is ongoing.</p>
Construction Carbon & Waste	Database Download	Annual	The Crown Estate	<p>Construction energy consumption (electricity - gas), water consumption and waste generation is recorded for each development project and maintained on a central database by the Crown Estate. EVORA receive this data annually.</p>

## ABSOLUTE/LIKE-FOR-LIKE

### **Absolute Data**

Includes all consumption for properties where The Crown Estate held operational control that were purchased or sold during the reporting period and where data is available.

### **Like for Like Data**

Like for like portfolio excludes properties that were purchased, sold or under major refurbishment at any point during the 24 months reported.

Assets where there is incomplete data in either reporting year are also excluded from the like for like analysis.

Major refurbishments are defined according to the GRESB definition: Alterations that affect more than 50 percent of the total building floor area or cause relocation of more than 50 percent of regular building occupants.

## GREENHOUSE GAS REPORTING METHODOLOGY

As data guardians EVORA are responsible for the calculation of GHG emissions associated with annual operations of The Crown Estate. The operational control approach is used to confirm The Crown Estate’s organisational boundary in each reporting year. The table below is a list of GHG emissions reported and for transparency those not currently reported by The Crown Estate. All emissions not currently reported are being reviewed by The Crown Estate as part of the Net Zero by 2030 commitment. Scope 3 emissions currently reported are determined by data availability.

GHG Emissions Reported	GHG Emissions Not Reported
<p><b>Scope 1 - Direct emissions</b></p> <ul style="list-style-type: none"> <li>• Operation fuel for heating of buildings</li> <li>• Operation fuel for owned vehicles</li> </ul> <p><b>Scope 2 - Indirect emissions</b> (procured electricity)</p> <ul style="list-style-type: none"> <li>• Location based (national carbon factor)</li> <li>• Market based (supplier/generator carbon factor)</li> </ul> <p><b>Scope 3 - Indirect emissions</b> (externally owned or controlled sources)</p> <ul style="list-style-type: none"> <li>• Business travel</li> <li>• Evidenced tenant energy (partial coverage, relates to energy data directly recharged to tenants by MAs only. No data directly procured by tenants is included.)</li> <li>• Electricity transmission distribution losses</li> </ul>	<p><b>Scope 1 - Direct emissions</b></p> <ul style="list-style-type: none"> <li>• Refrigerant emissions from air-conditioning</li> </ul> <p><b>Scope 3 - Indirect emissions</b> (externally owned or controlled sources)</p> <ul style="list-style-type: none"> <li>• For the full list please see: <a href="https://www.thecrownestate.co.uk/media/3647/branded-detailed-net-zero.pdf">https://www.thecrownestate.co.uk/media/3647/branded-detailed-net-zero.pdf</a></li> </ul>

## GREENHOUSE GAS REPORTING METHODOLOGY

GHG emissions are calculated in line with the Greenhouse Gas Protocol and most recent available guidance:

- Greenhouse Gas Protocol Corporate Accounting and Reporting Standard
- Greenhouse Gas Protocol Scope 2 Guidance

Source	Location	Scope
UK Government GHG Conversion Factors for Company Reporting	<a href="https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020">https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020</a> <a href="https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019">https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019</a>	Scope 1 Scope 2 Location Scope 3 Location
Association of Issuing Bodies (AIB)	<a href="https://www.aib-net.org/facts/european-residual-mix">https://www.aib-net.org/facts/european-residual-mix</a>	Scope 2 Market Scope 3 Market

### Scope 2 Market Based Emissions

GHG emission calculation includes both Location and Market based approach to highlight the impact of The Crown Estate renewable electricity procurement objective.

EVORA engage with MAs responsible for supplier contract management to confirm and validate contract tariffs. A combination of supplier contract agreements, meter level REGO certificates and supplier public disclosure are used to confirm the status of contract tariffs. MAs provide a master spreadsheet to match and confirm tariffs at the meter level. Contracts with confirmed renewable tariffs for the reporting period are assigned a 0 emissions factor for emissions calculations. Where contracts were switched to renewable tariffs during the reporting period, the date of the switch was confirmed and a 0 emissions factor was applied to the appropriate period. For all supplies confirmed to have non-renewable contact tariffs a residual emissions factor (published by AIB) was applied for emissions calculations. In previous reports the methodology to confirm contract tariffs was applied at an asset level. In 2020/21 a new meter based methodology was applied to increase the granularity of analysis and reporting. The change in methodology has had a notable impact on year-on-year performance. Results are not directly comparable.

## GREENHOUSE GAS REPORTING METHODOLOGY

### Scope 3 Evidence tenant energy

MAs track and compile tenant recharged data (kWh) on an ongoing monthly basis. At year end the data is validated and finalised and issued to EVORA. The energy recharged to tenants is treated as evidenced tenant energy and used to calculate a portion of Scope 3 indirect emissions. EVORA review all validated renewable contract tariffs (see page 13, **Scope 2 Market Based Emissions**) and confirm which buildings with direct tenant recharge are supplied by renewable tariffs. If all main incoming meters are confirmed renewable tariff a 0 emissions factor is applied to the recharged tenant data for emissions calculations. Where some or all of the main incoming meters are confirmed non-renewable contact tariffs a residual emissions factor (published by AIB) was applied for emissions calculations.

### Data Estimation

EVORA estimation approach for each utility type is detailed in the section '*Data Process*'. The estimation methodology is carried out during data mobilisation. The estimation methodology was reviewed and agreed by EVORA and MAs at the outset of the annual reporting period. The agreement is to ensure consistency in data processing.

- Electricity, is completed over a set of 9 months for every 3 months worth of missing data. This method is used to calculate consumption per day.
- Gas consumption is prorated by uplifting the previous years quarter, to ensure seasonality changes are accounted for.
- Water is completed over a set of 9 months for every 3 months worth of missing data. This method is used to calculate consumption per day

### Limited Assurance

KPMG LLP are currently engaged to carry out Limited Assurance over Selected information reported in the Integrated Annual Report and Accounts in accordance with the following assurance standards issued by the UK Financial Reporting Council and International Auditing and Assurance Standards Board:

- International Standard on Assurance Engagements (UK) 3000 - 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' ('ISAE (UK) 3000'); and
- International Standard on Assurance Engagements (UK) 3410 - 'Assurance Engagements on Greenhouse Gas Statements' ('ISAE (UK) 3410').

Please see the most recent Integrated Annual Report and Accounts for further detail and the link to the full opinion over the most recent reporting year.

### Restatement threshold

Material errors identified of 5% or more will be retrospectively updated and disclosed annually.

# ENERGY & CARBON INTENSITY METHODOLOGY



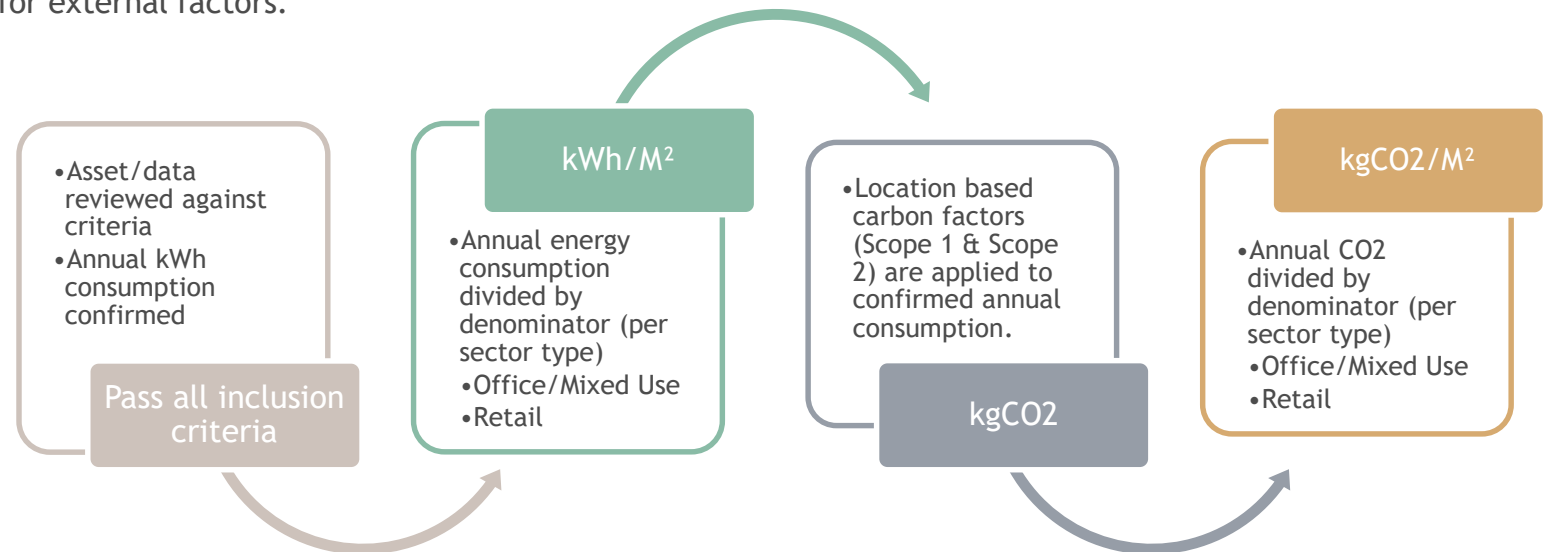
## Intensity methodology

Energy and Carbon data has been normalised against floor area based denominator (square meters) to identify an intensity ratio. The data and denominator (square meter) applied is dependant on two broad sector categories: Office/Mixed Use and Retail

- Office/Mixed Use
  - = square meter of gross internal area 'whole building'
- Retail
  - = shopping centre square meter of common parts area
  - = retail park square meter exterior lighted area

Criteria for inclusion in the intensity ratio is detailed on page 17 and 18.

Typically, intensity analysis are normalised to remove the impact of external factors on consumption. Normalisation for external factors commonly include occupancy changes and weather patterns (and therefore heat and cooling demand). Operational performance during the current reporting period 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021 was significantly impacted by Covid-19. As a result, the 2020/21 intensity analysis was not normalised for external factors.





## ENERGY & CARBON INTENSITY CRITERIA



Criteria	Status (Inclusion/Exclusion)
Owned for 12 months reported (previous/baseline and current year)	Yes (include)
<p>Major refurbishment during 12 months reported (<i>GRESB definition</i>)</p> <p><i>GRESB refurbishment: Alterations that affect more than 50 percent of the total building floor area or cause relocation of more than 50 percent of regular building occupants.</i></p>	Yes (exclude)
<p>Complete energy (<i>electricity &amp; gas</i>) data set for 12 months reported. Gaps can be estimated to complete data sets within accepted limits.</p> <p>Electricity only can be used; limited to cases where other energy utilities (<i>e.g. gas</i>) are confirmed as not present at the property.</p>	Yes (include)
<p>Multiple meters for energy; complete data set for some but not all meters (<i>electricity and gas</i>) for 12 months reported. Gaps can be estimated to complete data sets within accepted limits.</p>	Yes (exclude)

## ENERGY & CARBON INTENSITY CRITERIA



Criteria	Status (Inclusion/Exclusion)
Meter level set up and area coverage for ( <i>electricity and gas</i> ) are confirmed to represent 'whole building' for offices, 'common part area' for shopping centres and 'exterior area' for retail parks.	Yes (include)
Meter level set up and area coverage ( <i>electricity and gas</i> ) are a combination of 'common space' 'shared services' and 'tenant space' are confirmed to represent the 'whole building' for offices.	Yes (include)
Assumptions about meter level set up and area coverage for 'whole building' were made.	Yes (exclude)
Assumptions about meter level set up and area coverage for 'common space' 'shared services' and 'tenant space' were made.	Yes (exclude)
Number of meters and area coverage for 'tenant space' is based on assumption.	Yes (exclude)

## GLOSSARY

	DEFINITION
Scope 1 (GHG emissions)	<ul style="list-style-type: none"> <li>Direct Greenhouse gas (GHG) emissions from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles.</li> </ul>
Scope 2 (GHG emissions)	<ul style="list-style-type: none"> <li>Indirect Greenhouse gas (GHG) emissions from the generation of purchased electricity that is consumed in its owned or controlled equipment or operations.                             <ul style="list-style-type: none"> <li>Location: A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined geographic locations, including national boundaries.</li> <li>Market: A method to quantify the scope 2 GHG emissions based on GHG emissions emitted by the generators from which the electricity was procured.</li> </ul> </li> </ul>
Scope 3 (GHG emissions)	<ul style="list-style-type: none"> <li>Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company.</li> </ul>
Carbon dioxide equivalent	<ul style="list-style-type: none"> <li>Carbon dioxide equivalent (CO<sub>2</sub>e) is a measure of the overall global warming potential (GWP) of multiple GHGs, expressed in terms of the GWP of one or more units of carbon dioxide.</li> </ul>
Like-for-like	<ul style="list-style-type: none"> <li>Like for like portfolio excludes assets that were purchased, sold or under major refurbishment at any point during the 24 months reported.</li> <li>Assets where there is incomplete data in either reporting year are also excluded from the like for like analysis.</li> </ul>
Energy Intensity	<ul style="list-style-type: none"> <li>Intensity analysis normalises electricity and gas consumption data through the application of a floor area-based denominator (square meters of net lettable area).</li> </ul>
GHG (Carbon) Intensity	<ul style="list-style-type: none"> <li>Intensity analysis normalises GHG emissions data through the application of a floor area-based denominator (square meters of net lettable area).</li> </ul>





<b>EVORA Calculated KPIs</b>
Like for like electricity (direct managed) (London, Regional & Windsor)
Absolute electricity (direct managed) (London, Regional & Windsor)
Like for like fuel (direct managed) (London, Regional & Windsor)
Absolute fuel (direct managed) (London, Regional & Windsor)
Energy intensity (kWh/m <sup>2</sup> ) (direct managed) (London, Regional & Windsor)
% renewables (electricity) (direct managed) (London, Regional & Windsor)
Onsite generation (electricity)
Energy spend (£) (London, Regional & Windsor)
Heating of buildings
Fleet (petrol and diesel)
Machinery and fuels (Windsor)
Emissions from electricity (direct managed London & Regional)
Emissions from electricity (Windsor)
Business travel (tube, train, bus, flight, taxi, car hire, personal car)
Indirect emissions - evidenced customer-purchased energy
Indirect emissions - electricity transmission distribution losses (Central, Regional & Windsor)
Total carbon (tCO <sub>2</sub> e)
Emissions intensity (CO <sub>2</sub> e/m <sup>2</sup> )
Like for like water (direct managed) (Central, Regional & Windsor)
Absolute water (direct managed) (Central, Regional & Windsor)
Water from construction (number of projects)
Water from municipal supplies
Water from harvesting
Water abstraction from Windsor (m <sup>3</sup> ) (indirect use)
Waste generated from buildings (tonnes)
Landfill (%)
Incineration WER (%)
Recycled (%)
Anaerobic (%)
Reuse (%)
Construction waste (number of projects)
Landfill diversion (%)