Sustainable real asset investment & finance consultancy and ESG software

THE CROWN ESTATE
INTEGRATED ANNUAL REPORT AND ACCOUNTS 2022/23 ENVIRONMENTAL REPORTING CRITERIA

June 2023

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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) primarily across its directly managed property portfolio (with an estimation of indirectly managed property carbon emissions from energy consumption).

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 1st April 2022 to 31st March 2023.

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 2022/23.

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

PORTFOLIO & STAKEHOLDERS

Portfolios & Stakeholders:

1. **London**
   - Managing Agent (MA) - JLL
   - Energy Bureau (EB) - Carbonxgen (appointed by JLL)

2. **Regional**
   - Managing Agent – Savills
   - Energy Bureau – Savills Energy
   - Data Collector – Stark (automated transfer of data from meters)

3. **Windsor Estate**
   - Directly managed by The Crown Estate

SCOPE & REPORTING BOUNDARY

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

The data collection process is focused upon the directly managed operations at properties under The Crown Estate's control. For Indirectly managed properties including FRIs (full repairing and insuring lease) an estimation technique has been applied in order to determine scope 3 emissions associated with the operation of these properties to allow for full scope of GHG reporting.

Managing agents provide information on disposals and new assets during the quarterly reporting process advising of meters no longer in the portfolio (disposals) and new meters they start to report against (acquisitions).

The collation, validation and management processes for all sustainability data at directly managed properties are detailed in this document. See pages 6-12.

For full list of reporting KPIs calculated by EVORA see Appendix 1 page 23.

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	Rank	Hierarchy Ranking	Portfolio
Energy-Water	1	Half Hour Data / AMR	Regional
	2	Invoices	
	3	Meter Reads	
	4	Calculated Estimate	
Energy-Water	1	Half Hour Data / AMR	London / Windsor
	2	Meter Reads	
	3	Invoices	
	4	Calculated Estimate	

DATA PROCESS – QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	Hierarchy Ranking		EVORA Approach
				London/ Windsor	Regional	
Elec Gas Water	Half-Hourly Data (FTP)	Day +1	Data Collector	n/a	(1a)	(Electricity only) Through an API (application protocol interface), SIERA receives data on an automated basis from Stark (data collector) via a file transfer protocol (FTP), this automatically transfers data from electricity meters to SIERA on a daily basis (+1 day). Verification and validation checks are completed by the consultant using a data gap analysis report from SIERA on a quarterly basis, which highlights any gaps in the data. Gaps are investigated in collaboration with the source provider.
	Automated Meters	Monthly	Energy Bureau	(1b)	(1b)	For the London portfolios, a variance report is received, detailing monthly consumption by meter in kWh for electricity and gas, and m3 for water. This data has been validated by the EB. Data coverage is also provided. The data is checked and transferred to a standard SIERA data upload template. A consultant will upload the data to SIERA and complete validation checks. For the Regional portfolio, consumption for all automated meters are received in a spreadsheet. Any meters which are not automatically fed to SIERA through the API are checked and transferred to a standard SIERA data upload template. A consultant will upload the data to SIERA and complete validation checks. Any Windsor meters which are automated/smart are included in the below meter readings spreadsheet detailed on the next page.
	Invoices	Quarterly	Energy Bureau	(3)	(2)	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 the SIERA platform. 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 (>+/-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.

DATA PROCESS – QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	Hierarchy Ranking		EVORA Approach
				London/ Windsor	Regional	
Elec Gas Water	Meter Readings Spreadsheet	Monthly	Managing Agent	(2)	(3)	For the London portfolios, a variance report is received, detailing monthly consumption by meter in kWh for electricity and gas, and m3 for water. This data has been validated by the EB. Data coverage is also provided. For the Regional and Windsor portfolios, a 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. Unit measurement is indicated in a separate column. Where gas data is not in kWh, the following conversion rates are used: Imperial Calculation (100's of ft3): unit used X 2.83 to convert to cubic metres X 1.02264 X 39.2 calorific value divided by 3.6 Metric Calculation: unit used X 1.02264 X 39.2 calorific value divided by 3.6 The conversion rates and calorific values align with UK Government guidance. An online calculator is used at https://www.businessenergy.com/business-gas/gas-bill-calculator/. The data upload, validation, gap analysis, variance report and estimation is completed as per the previous stated method on page 7 and below.
	Calculated Estimates	Monthly	EVORA	(4)	(4)	Data gaps are estimated by a consultant using the following methodology for quarterly and annual reporting, where at least 28 days of consecutive, actual data is available to use as a baseline from which to estimate: For electricity and water, average daily consumption is calculated (ensuring only actual consumption is used, and not previously estimated consumption). This daily consumption is then used to fill gaps. For gas, data is used from the same month of the previous year that the gap falls within in the current year, to account for seasonality, applying daily consumption logic. Where the same month for the previous year is unavailable, the best equivalent month is used (Jan/Dec, Feb/Nov, Mar/Oct, Apr/Sep, May/Aug, Jun/Jul). Where neither of these options are available, the same logic as for electricity and water is applied. Where 28 days of consecutive data is unavailable to use as a baseline from which to estimate, these meters are excluded from the analysis.

DATA PROCESS – QUARTERLY CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Waste	Standard Template	Quarterly	Managing Agent	Waste data is issued by MAs using the 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. 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%. Waste data is estimated where 9 months of actual data is available. This will occur at the end of each financial year and is not conducted quarterly.

DATA PROCESS – ANNUAL CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Energy Tariff	Supplier Contracts, REGO Certificates, Supplier Public Disclosure	Annual	Managing Agents	EVORA engages with MAs to confirm the status of electricity contract tariffs. A combination of supplier contract agreements, asset and meter level REGO certificates and supplier public disclosure are used to confirm the status of contract tariffs by the managing agents. EVORA work closely with the MAs to confirm tariffs at contract level and ensure correct assignment at the meter level. Where a specific contract start date within a quarter is unknown, changes are applied to the full quarter. The information is used to support the calculation of two KPIs: 1) Percentage (%) of renewable electricity procured at directly managed assets. 2) The allocation of scope 2 GHG market-based emissions (see pages 16-19 for more information on GHG reporting methodology)
Energy Spend	Database Download	Quarterly with Annual Consolidation	The Crown Estate	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 (£) excluding VAT of all energy invoices under contract.
Onsite Renewable (PV)	Meter Readings	Monthly with Annual Consolidation	Managing Agents	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.
Other fuel	Meter Readings	Quarterly with Annual Consolidation	Managing Agents	'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. This dataset is issued to EVORA annually at year end.
SECR Data	Spreadsheet Template	Annual	Managing Agents	At the end of each year the MAs for Regional and Central London are engaged and asked to confirm spend on energy improvements within the portfolio completed within the reporting year and energy savings associated with these improvements. If some information is not available (i.e. energy savings but spend on improvements is) an estimation will be applied which will depend on the improvement initiative in question. Any assumptions such as this would be detailed specifically within the narrative of the report for clarity.

DATA PROCESS – ANNUAL CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Fleet (petrol and diesel) Machinery Fuel	Database Download	Annual	The Crown Estate	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) as well as whether the items are owned or not (to determine the split between Scope 1 and 3 emissions). The final download spreadsheet is checked and validated by the Windsor management team. 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 kgCO2e. This figure is then divided by 1,000 to convert from kilograms to tonnes.
Evidenced Tenant Energy	Monthly Tenant Recharge	Annual	Managing Agents	Managing agents track and compile tenant recharged energy (kWh) on an ongoing monthly basis (this is energy which is sub-metered directly to the tenant). At year end the spreadsheet is validated and finalised by the managing agents 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. Where any data is missing, gaps are filled using the same methodology as above for electricity or gas respectively (ie where electricity consumption is estimated using a daily rate calculation and gas uses previous year data to account for seasonality). See pages 15-18 for more information on GHG reporting methodology.
Estimated Tenant Energy	Estimation	Annual	Managing Agents	Where tenant consumption is not known (i.e. the tenant is solely responsible for the procurement of energy, not the landlord, i.e. indirectly managed assets – FRI) these are estimated through an approach in line with UK-GBC scope 3 estimation of leased asset emissions to produce Scope 3 emissions (from energy) via the following methodology: Floor areas assumed to be tenant controlled (and therefore subject to estimation) are FRI assets and remaining tenant space not addressed through evidenced tenant energy or landlord-controlled consumption. Where actual data exists for equivalent sector types, the calculated carbon intensities are applied to the floor area. Where no actual data exists for equivalent sector types an applicable BBP REEB energy benchmark is applied and associated split between electricity and gas applied to calculate the required carbon emissions (location-based approach) For Hotels, the CIBSE TM 46 benchmark for general accommodation is used, applying the illustrative typical total carbon benchmark.
Business Travel	Database Download	Annual	The Crown Estate	Business travel data is provided annually by the Crown Estate finance team. Travel expenses are exported from the central database at year end, Crown employees are responsible for inputting accurate data with respect to their travel into the system. 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. https://www.airmilescalculator.com/ https://www.bing.com/maps 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 (i.e. start / end of journey details), a Defra spend-based tool has been used to estimate emissions based on the expenses claim value by travel type. Improvement to business travel data capture is ongoing.
Construction Carbon & Waste	Database Download	Annual	The Crown Estate	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.

DATA PROCESS – ANNUAL CYCLE

Indicator	Data Source	Data Frequency	Stakeholders	EVORA Approach
Fugitive Emissions	Estimation	Annual	The Crown Estate	Actual fugitive emissions data is currently unavailable for the Crown Estate portfolio. An estimation methodology has been developed which uses a number of assumptions based on: asset type, floor area, knowledge of whether air conditioning is in place, average leakage rates, a conservative estimate of refrigerants in use (R410a) to determine the Global Warming Potential (GWP) to apply (2,088) as found here: https://www.gov.uk/guidance/calculate-the-carbon-dioxide-equivalent-quantity-of-an-f-gas, W/m^2/NLA cooling load averages per asset class (ranging from 87-150 based on BSRIA Rules of Thumb Guidelines for Building Services) and average kg refrigerant per KW cooling capacity (0.35-0.5 based on TM65 Embodied Carbon in Building Services). The output of the calculation is divided by 1,000 to convert from kg to tonnes of CO_2e. Emissions have been estimated for the whole building, using gross internal floor area. Improvements to the data collection approach are planned for the next reporting year to move away from an estimation approach.
Supplier Spend Emissions	Database Download	Annual	The Crown Estate	A download is provided from the Crown Estate Supplier system which details spend (£) against SIC code category. Each SIC code category is converted to a categorisation code based on the Quantis system (30 categories in total) and allocated as either a Capital Good or Service dependent upon the spent type. Carbon factors are stated as kg of Carbon per £ spent. Exclusions are made for some spend items, including intercompany charges, marine, rural, tenant, void costs, salaries, bad debts and revenue. Additionally, any items which are considered double counting are excluded (i.e. their emissions would be captured elsewhere within annual reporting). Spend is converted to dollars based on the exchange rate as of 31st March of the reporting year, a price scaling factor is applied and a carbon conversion factor (both factors are categorisation specific, sourced from Quantis). The top 97% of spend is assessed in this manner, with the output uplifted by 3% to provide 100% coverage over the spend. The output value is divided by 1,000 to convert from kg to tonnes of CO_2e. The output is split into emissions associated with capital goods and services.
Commuting	Commuting Survey	Annual	The Crown Estate	A commuting survey was introduced in the 2021/22 reporting year, this was issued to all Crown Estate employees with the aim to obtain information about commuting travel patterns. Information collected included: how long the employee was employed during the reporting period, how often they travel into the office, their method of travel and the number of miles per journey. This information was utilised to calculate the number of miles per method of travel across the year with government carbon conversion factors per type of travel method applied. The data collected covered 22% of Crown Estate employees, therefore the outputs of the calculation detailed above was uplifted to cover 100% of employees. A minor amount of data was excluded where quality was questionable (i.e. exceptionally high mileages, or mileages not provided). The 2021/22 survey results were used to estimate the 2022/23 commuting emissions, uplifted to reflect the latest employee count. Work will continue into the next reporting year to increase participation of employees and improve data quality inputted.

IMPROVEMENTS IN ANNUAL REPORTING APPROACH

Energy and Emission Intensity

This year, we have improved the data quality of the floor areas used for intensity calculations. We have re-calculated how this new floor area data affects the previous reporting year, and as a result energy and emissions intensity can be compared between current year and restated previous year results. Floor area data is based on information from The Crown Estate's central records in their Horizon software system. We are comfortable that this is the most materially up to date floor area available for The Crown Estate's property portfolio.

Tenancy Identification

As a result of a robust review, we have identified leases which fall within the purview of FRI and those outside. This is more important due to mid-year change in lease agreements. This has resulted in an increased amount of coverage due to assets that were previously excluded now being included within both the current and the comparative reporting year.

Fugitive Emissions

We have amended the methodology for calculating the emissions from refrigerants. Emissions from refrigerants have been estimated based on Gross Internal Area, previously based on Common Parts Area, which has resulted in updated scope 1 emissions for the current and the comparative reporting year. This has improved data coverage, as fugitive emissions are now estimated for a larger area.

Meter Inaccuracies

We have improved our process to identify faulty meters, including ones with 0 consumption to understand if this is an error or is it a case of a de-energised meter. We have worked with various partners and teams to have a clearer understanding of metering issues and adjust data accordingly for the current and the comparative reporting year.

Renewable Energy and Market Based Emissions

In 2021/22, data coverage on green tariffs was improved. New information on green tariffs has enabled us to confidently tag a number of additional meters as green, which has led to an increase in our % of renewable electricity generated and associated market-based emissions. Restated previous year and current year % of renewable energy and market-based emissions can now be compared.

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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
Scope 1 – Direct emissions • Operation fuel for heating of buildings • Operation fuel for owned vehicles / machinery • Refrigerant emissions from air conditioning **Scope 2 – Indirect emissions** (procured electricity) • Location based (national carbon factor) • Market based (supplier/generator carbon factor) **Scope 3 – Indirect emissions** (externally owned or controlled sources) • Business travel • Fuel in leased machinery / vehicles • Evidenced tenant energy (partial coverage, relates to energy data directly recharged to tenants by MAs only) • Estimated tenant energy use for remaining tenant consumption • Electricity transmission distribution losses • Commuting • Capital Goods and Services • Waste	**Scope 3 – Indirect emissions** (externally owned or controlled sources) • For the full list please see: https://www.thecrownestate.co.uk/media/3647/branded-detailed-net-zero.pdf

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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	https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022 https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021	Scope 1 Scope 2 Location Scope 3 Location
Association of Issuing Bodies (AIB)	https://www.aib-net.org/facts/european-residual-mix	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. Scope 2 Market based emissions are reported on the basis of information available at the time of reporting. A combination of supplier contract agreements, asset and 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.

GREENHOUSE GAS REPORTING METHODOLOGY

Scope 3 Category 13: Downstream Leased Assets (Evidenced 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. Where data gaps exist, the below methodology for annual reporting is employed to calculate estimates to fill these gaps.

Scope 3 Category 13: Downstream Leased Assets (Estimated Tenant Energy)

Where tenant consumption is not known it is estimated through the following approach in line with UK-GBC scope 3 estimation of leased asset emissions:
- Floor areas assumed to be tenant controlled (and therefore subject to estimation) are FRI assets and remaining tenant space not addressed through evidenced tenant energy or landlord-controlled consumption
- Where actual data exists for equivalent sector types, the calculated carbon intensities are applied to the floor area
- Where no actual data exists for equivalent sector types an applicable BBP REEB energy benchmark is applied and the sector average split between electricity and gas applied to calculate the required carbon emissions (location-based approach)
- For Hotels, the CIBSE TM 46 benchmark for general accommodation is used, applying the illustrative typical total carbon benchmark

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.
Data gaps are estimated by a consultant using the following methodology for quarterly and annual reporting, where at least 28 days of consecutive, actual data is available to use as a baseline from which to estimate:

- For electricity and water, average daily consumption is calculated (ensuring only actual consumption is used, and not previously estimated consumption). This daily consumption is then used to fill gaps.
- For gas, where available, data from the same month of the previous year is used to account for seasonality, applying daily consumption logic where the gap is not equivalent. Where the same month for the previous year is unavailable, the best equivalent month is used (Jan/Dec, Feb/Nov, Mar/Oct, Apr/Sep, May/Aug, Jun/Jul). Where neither of these options are available, the same logic as for electricity is applied.

GREENHOUSE GAS REPORTING METHODOLOGY

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 3410 - 'Assurance Engagements on Greenhouse Gas Statements' ('ISAE 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, changes in methodology or improved methodology resulting in a change in previously disclosed figures of 5% or more will be retrospectively updated and disclosed annually. Where material errors are identified, restatements will not be disclosed until the sufficient level of evidence for the emissions-generating activity is acquired for the reporting year(s) in question. The evidence required for each activity is outlined previously within this reporting criteria (across pages 7-12).

ENERGY & CARBON INTENSITY METHODOLOGY

Intensity methodology

Energy and Carbon data has been normalised against floor area-based denominator (square metres) to identify an intensity ratio. The data and denominator (square metre) applied is dependent on three broad sector categories: Office/Mixed Use, Retail, and Residential.

- **Office/Mixed Use**

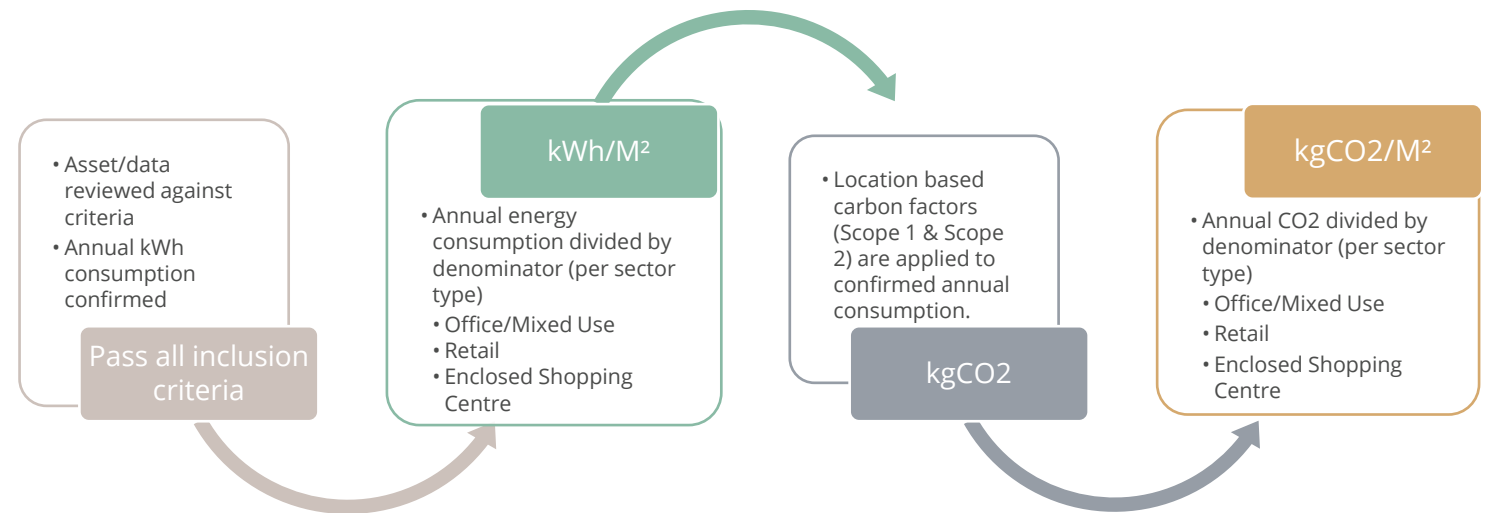 = square metre of gross internal area 'whole building'

- **Retail**

  = shopping centre square metre of common parts area

  = retail park square metre exterior lighted area
  (based upon number of car park spaces*25m^2 as per
  BBP Real Estate Environmental Benchmark methodology)

- **Residential**

  = square metre of gross internal area 'whole building'

Process flow diagram:
- Asset/data reviewed against criteria
- Annual kWh consumption confirmed
- **Pass all inclusion criteria**
→ **kWh/M²**
  - Annual energy consumption divided by denominator (per sector type)
  - Office/Mixed Use
  - Retail
  - Enclosed Shopping Centre
→ Location based carbon factors (Scope 1 & Scope 2) are applied to confirmed annual consumption. **kgCO2**
→ **kgCO2/M²**
  - Annual CO2 divided by denominator (per sector type)
  - Office/Mixed Use
  - Retail
  - Enclosed Shopping Centre

Criteria for inclusion in the intensity ratio is detailed on page 20 to 21. Note that if an asset such as an office, or shopping centre benefits from a car park, the area of the car park is not counted within the floor space. The use of car park space numbers / average size per space is purely for retail park intensities where electricity consumption is primarily for car park lighting, with no other energy demands (unlike offices / shopping centres). This aligns with BBP REEB methodology
https://www.betterbuildingspartnership.co.uk/sites/default/files/media/attachment/2020%20Real%20Estate%20Environmental%20Benchmarks.pdf

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). The 2022/23 intensity analysis was not normalised for external factors.

ENERGY & CARBON INTENSITY METHODOLOGY

Criteria	Status (Inclusion/Exclusion)
Owned for 12 months reported (in both previous/baseline and current year)	Yes (include)
Major refurbishment during 12 months reported (*GRESB definition*) *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.*	Yes (exclude)
Complete energy (*electricity & gas*) data set for 12 months reported. All data gaps in the 2022/23 dataset have been filled with estimations. Electricity only can be used; limited to cases where other energy utilities (*e.g. gas*) are confirmed as not present at the property.	Yes (include)
Multiple meters for energy; complete data set for some but not all meters (*electricity and gas*) for 12 months reported.	Yes (exclude)

ENERGY & CARBON INTENSITY METHODOLOGY

Criteria	Status (Inclusion/Exclusion)
Meter level set up and area coverage for (*electricity and gas*) are confirmed to represent 'whole building' for offices/mixed, 'common part area' for shopping centres and 'exterior area' for retail parks.	Yes (include)
Meter level set up and area coverage (*electricity and gas*) are a combination of 'common space' 'shared services' and 'tenant space' are confirmed to represent the 'whole building' for offices/mixed.	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)	• 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, machinery.
Scope 2 (GHG emissions)	• Indirect Greenhouse gas (GHG) emissions from the generation of purchased electricity that is consumed in its owned or controlled equipment or operations. 　• Location: A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined geographic locations, including national boundaries. 　• Market: A method to quantify the scope 2 GHG emissions based on GHG emissions emitted by the generators from which the electricity was procured.
Scope 3 (GHG emissions)	• Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company.
Carbon dioxide equivalent	• Carbon dioxide equivalent (CO2e) 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.
Like-for-like	• Like for like portfolio excludes assets that were purchased, sold or under major refurbishment at any point during the 24 months reported. • Assets where there is incomplete data (in the 2020/21 dataset) are excluded from the like for like analysis.
Energy Intensity	• Intensity analysis normalises electricity and gas consumption data through the application of a floor area-based denominator (square metres of either gross internal area, common parts area or car park area).
GHG (Carbon) Intensity	• Intensity analysis normalises GHG emissions data (from energy consumption) through the application of a floor area-based denominator (square metres of either gross internal area, common parts area or car park area).

APPENDIX 1

EVORA Calculated KPIs
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/m²) (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 – estimated tenant energy
Indirect emissions – electricity transmission distribution losses (Central, Regional & Windsor)
Total carbon (tCO$_2$e)
Emissions intensity (CO$_2$e/m²)
Like for like water (direct managed) (Central, Regional & Windsor)
Absolute water (direct managed) (Central, Regional & Windsor)
Water from municipal supplies
Water from harvesting
Water abstraction from Windsor (m3) (indirect use)
Waste generated from buildings (tonnes)
Landfill (%)
Incineration WER (%)
Recycled (%)
Anaerobic (%)
Reuse (%)
Landfill diversion (%)
Commuting
Capital Good and Services
Fugitive emissions from air conditioning systems
Construction waste (number of projects)
Water from construction (number of projects)

OUR LOCATIONS

Greater Manchester: Bolton

Head Office: London

Germany: Frankfurt

Italy: Milan

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