



QUINTAIN

BRINGING PROPERTY AND
PLACES TO LIFE

2022 GHG Inventory

INTRODUCTION

REPORTING SCOPE

EXECUTIVE SUMMARY

In 2020, we refreshed our Sustainability Policy and Objectives, committing to go beyond compliance and minimum requirements and to measure and disclose our performance in a transparent way. Alongside our 2022 Sustainability Report, our 2022 GHG Inventory demonstrates how we are progressing against our Climate Change and Resource Efficiency objectives.

OBJECTIVES & APPROACH

We have been collecting data and reporting on our GHG emissions since 2013, and in 2020 reviewed and updated our procedures in line with updated guidance on GHG emissions reporting in accordance with ISO 14064:1 (2018). We also updated our assessment of potential emission sources to determine those that are currently material to understanding our organisational emissions. Our GHG emissions are calculated and reported by implementing the guidance set out in ISO 14064:1 (2018) and in accordance with our *GHG Policy and Data Management Procedures*.

INFORMATION MANAGEMENT & MONITORING PROCEDURES

Our *procedures* set out the decisions made and actions required to ensure that the data we report is accurate, transparent and comparable; these are available on our website, and details relevant to our GHG Inventory and the transparency of our data are detailed in this document. Our GHG emissions are calculated by multiplying relevant “activity data” by the relevant emission factor; sources of activity data and emission factors are described in our Reporting Scope and Methodology sections that follow. Our monitoring procedures depend on the type of activity we are measuring; for activities that relate to the consumption of resources such as energy and water, we collect data monthly and internally report this on a quarterly basis to help identify reduction opportunities. Other types of data are monitored at a frequency appropriate to the activity.

EXTERNAL ASSURANCE

Our 2022 GHG emissions have been externally assured by BDO who have performed a limited assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3410, *Assurance Engagements on Greenhouse Gas Statements*.

EMISSION CATEGORIES

Under ISO 14064, Scope 1, Scope 2 and Scope 3 emissions are replaced with emission Categories 1 – 6. We use the ‘Scope’ terminology when referring generally to our emissions, and in relation to Scope 3 in particular, as a collective term for all emissions outside our operational control. When setting out our inventory, we use the emission categories identified in ISO 14064. These are outlined in Table A below:

A. ISO 14064 Emission Categories

ISO 14064	GHG Protocol
Category 1: Direct GHG Emissions ¹	Scope 1
Category 2: Indirect GHG Emissions ¹ from Imported Energy	Scope 2
Category 3: Indirect GHG Emissions ¹ from Transportation	Scope 3
Category 4: Indirect GHG Emissions ¹ from used Products	Scope 3
Category 5: Indirect GHG Emissions ¹ from the use of Products	Scope 3
Category 6: Indirect GHG Emissions ¹ from Other Sources	Scope 3

REPORTING ORGANISATION & ORGANISATIONAL BOUNDARY

The data published in this GHG Inventory reflects the 2022 GHG emissions for Quintain Ltd. Our organisational boundary includes all of our subsidiaries. Significantly, this includes our Build to Rent business, Quintain Living, and Wembley Park Estate Management Ltd, which manages the public realm at Wembley Park. The remaining subsidiaries include the holding companies within which our other assets reside.

All assets included within our Gross Asset Value (GAV) calculations are included within our boundary, in addition to any estate assets and supplies over which we have operational control. Quintain Ireland provides development management services and does not hold any real estate assets.

REPORTING BOUNDARY

We have adopted an operational control approach to our reporting, which means that our Scope 1 and Scope 2 emissions are those over which we have a level of operational control. Our remaining Scope 3 emissions are as a result of upstream and downstream activities that are material to our main activities. There are two main aspects of our business activity: the development and then the subsequent operation of real estate assets. The project management of our design and construction activities is carried out in-house at our various corporate offices. The physical build element is delivered by our framework contractors and their sub-contractors, which results in our most significant emissions; these upstream emissions are outside our direct operational control. Our operational activities within completed buildings are managed by our asset management teams, who supervise the activities of our various managing agents. As we directly influence their management approach, we class our managing agents as an extension of ourselves, and report emissions in landlord-operated areas of our buildings as our own Category 1 and 2 emissions. Our estate management team operates the wider Wembley Park Estate, which in addition to our assets, includes significant areas of public realm. In addition, we report on emissions outside of our operational control, but which influence or are influenced by our operational activities. These emissions are recorded under GHG Inventory Categories 3 - 6, also referred to as our ‘Scope 3’ emissions. The aggregation categories we use are:

- **Corporate:** Our owned and leased office space across our multiple locations.
- **Wembley Park Estate:** Our Wembley Park estate assets and public realm, managed by our Estate Team.
- **Quintain Living:** Our Build to Rent residential assets, managed by FirstPort and Pod Management.
- **Wembley Park Residential:**
 - Our Wembley Park residential assets that we no longer own but have operational responsibility for.
- **Wembley Park Retail:** Our Wembley Park retail assets, managed by Realm.
- **Wembley Park Commercial:** Our Wembley Park commercial office spaces, managed by Savills.
- **Wembley Park Leisure:** Our Wembley Park leisure assets, managed by different entities depending on the asset.

¹ and removals.

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EMISSIONS IN SCOPE

Not all emission sources are relevant (material) to our business and operations. Based on the significance criteria we define in our GHG Policy & Data Management Procedures, the following sections outline sources of emissions, their significance and where applicable, the quantification model for calculating emissions for each ISO 14064 GHG emission category.

SIGNIFICANCE CRITERIA

We adopt three tests to determine whether an emission source is considered significant:

- 1) *Is the data required for identified external benchmarking or reporting purposes?*
- 2) *Does the data contribute more than 5% of total Scope 1 and Scope 2 emissions in the reporting year used for assessing significance?*
- 3) *Is data readily available, or can processes be put in place easily to collect data in a cost-effective manner?*

Prior to our 2020 GHG Inventory, our 2015 report was our most recent and complete dataset. Data was collected for the majority of GHG Inventory Categories, and along with our base-year inventory (2013/14), was used to determine the likelihood of a category contributing to more than 5% of our Scope 1 and 2 total. Where a category was not previously reported, or where we have more recent data, this was used as the basis for the threshold assessment instead. Emissions are aggregated according to the area of the business to which they apply; different parts of the business have different individuals responsible for energy management, so this approach to aggregation allows us to easily compare performance over time by owner. Our GHG sources and quantification approach are described in detail in the following sections.

SCOPE 1: CATEGORY 1 DIRECT EMISSIONS

1.1 DIRECT EMISSIONS FROM STATIONARY COMBUSTION

EMISSION SOURCES

Category 1.1 emission sources include the stationary combustion of gas in boilers that we own and operate – currently a single supply

used to generate heat for third party users at London Designer Outlet, The Hilton, Wembley and iQ Student Accommodation. This is recorded as a Category 1 emission source as it is within our operational control to generate that heat. Note that with the exception of London Designer Outlet, the end users of the heat generated are not Quintain tenants and are otherwise outside the scope of our reporting.

SIGNIFICANCE

These emissions are equivalent to 38% of total Scope 1 and Scope 2 emissions and are therefore considered to be material.

QUANTIFICATION MODEL

The volume of gas consumption is measured using meter read data and converted into kWh using the following formula : $(\text{Volume (m}^3\text{)} \times \text{Calorific Value (MJ/m}^3\text{)}) \times 1.02264 / (3.6 \text{ MJ/kWh})$.

The UK is subdivided into thirteen charging areas, and daily calorific value (CV) averages are provided by National Grid to gas shippers and suppliers in the are based on this data. As a gas consumer, we are billed on the basis of the daily averages for the area in which our gas supplies are located. Where a specific calorific value is not provided by the supplier, the daily average figure for the year for North Thames Local Distribution Zone (LDZ) obtained from National Grid is applied to the periods of consumption for which we have data.

The total kWh is then multiplied by the emission factor for natural gas obtained via *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, there was a 0.34% reduction in this emission factor compared with 2021.

1.2 DIRECT EMISSIONS FROM MOBILE COMBUSTION

EMISSION SOURCES

Category 1.2 emission sources include the mobile combustion of fuels in vehicles that we own or lease. In 2021, our vehicle leasing contract came to an end. For day-to-day estate security, we now benefit from the presence of a dedicated neighbourhood policing team and for certain large events, we lease vehicles on a short-term basis to supplement this. We do not have fuel consumption data for these vehicles, and as these are one-off events, we do not consider any fuel consumed to be materials to our inventory. We now have one estate vehicle that is fully electric and is charged from one of our charging

points in the Pink Car Park. A small quantity of fuel was purchased in the reporting year for use in ride-on equipment to support our landscaping needs; over 80% of fuel consumed in 2022 was petrol, with a small quantity of diesel.

SIGNIFICANCE

Mobile combustion emissions were assessed in 2015 and accounted for 0.04% of total Scope 1 and Scope 2 emissions, which is below our threshold for significance; however, this data is included in our Streamlined Energy and Carbon Reporting (SECR), it is considered material for compliance with these requirements and is therefore included in our GHG Inventory and reporting.

QUANTIFICATION MODEL

Vehicle fuel cards are used for the purchase of all fuel consumed, d we are provided with monthly reports detailing the type and quantity of fuel purchased.

Consumption in litres is then multiplied by the emission factor for petrol/ diesel (average biofuel blend) via *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, there was a 1.14% decrease in emissions associated with petrol and a 1.81% increase in emissions associated with diesel.

1.3 DIRECT PROCESS EMISSIONS AND REMOVALS FROM INDUSTRIAL PROCESSES

EMISSION SOURCES

Not relevant – there are not any industrial processes are undertaken by the organisation.

1.4 DIRECT FUGITIVE EMISSIONS FROM THE RELEASE OF GHGS IN ANTHROPOGENIC SYSTEMS

EMISSION SOURCES

Refrigerant leakage in building and vehicle air-conditioning equipment.

SIGNIFICANCE

Refrigerant leakage was assessed in 2014/15 and found to contribute 0.38% of total Scope 1 and Scope 2 emissions. This data is not required for any other 3rd-party reporting at this time and is therefore considered to immaterial to the current GHG Inventory and reporting.

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1.5 DIRECT EMISSIONS AND REMOVALS FROM LAND USE, LAND USE CHANGE AND FORESTRY

EMISSION SOURCES

Not relevant – there is no land use, land use change or forestry are undertaken by the organisation.

SCOPE 2: CATEGORY 2 INDIRECT EMISSIONS

2.1 INDIRECT EMISSIONS FROM IMPORTED ELECTRICITY

EMISSION SOURCES

Our Category 2.1 emission sources include landlord electricity supplies in operational assets and estates supplies (including vacant units), as well as landlord-supplied electricity in offices we lease.

SIGNIFICANCE

These emissions account for 60% of total Scope 1 and Scope 2 emissions in 2022 and are therefore considered to be material.

QUANTIFICATION MODEL

The quantity of electricity consumed is measured in kWh and is multiplied by the emission factor for grid electricity obtained via *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, there was a further 8.9% reduction in the grid electricity emission factor compared with 2021.

2.2 INDIRECT EMISSIONS FROM IMPORTED ENERGY

EMISSION SOURCES

Our category 2.2 emissions sources include heat supplied to assets where we have control over how that heat is consumed. This continues to include The Hive office building, but in 2022, we identified additional assets within our control that are supplied with heat from one of our heat networks (Quintain Living Hub and Yellow Community Centre, both at Wembley Park), and historic heat consumption has been restated to reflect this.

SIGNIFICANCE

Although these emissions are equivalent to just 3% of total Scope

1 and Scope 2 emissions. Whilst below the threshold for significance based on scale, this data is material because it is required to understand the total energy consumption of buildings where heat is provided by district heating, and is used in the GRESB survey

QUANTIFICATION MODEL

The quantity of heat delivered is metered and measured in kWh/MWh and is multiplied by the emission factor calculated for the relevant heat provider.

Heat is supplied by Metropolitan, the operator of the Eastern Lands Energy Centre. Data on gas and electricity consumed in the generation of heat and electricity via boilers and CHP has been provided by Metropolitan, allowing the calculation of a carbon factor for heat using the emission factors for grid electricity and natural gas obtained via *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, 2021 emission factors were recalculated and restated; 2022 emissions associated with the Metropolitan network are 10.65% lower than in 2021.

Heat is supplied to the Quintain Living Hub and The Yellow in the North West Lands via individually metered heat interface units. Whilst these meters are smart, we are not currently obtaining reliable billing from the supplier. Data is provided to the estate team relating to the gas input and heat generation of the system, allowing emissions and losses to be calculated using the emission factors for grid electricity and natural gas outlined above. In 2022, 2021 emission factors were recalculated based on updated input data for this source and restated; 2022 emissions associated with the EOn network are 10.03% higher than in 2021.

SCOPE 3: CATEGORY 3 EMISSIONS FROM TRANSPORTATION

3.1 UPSTREAM TRANSPORT & DISTRIBUTION OF GOODS

EMISSION SOURCES

Not relevant – the upstream transportation of goods is accounted for in GHG Category 4.3a.

3.2 DOWNSTREAM TRANSPORT AND DISTRIBUTION OF GOODS

EMISSION SOURCES

Not relevant – there is no downstream transport or distribution of products.

3.3 EMPLOYEE COMMUTING

EMISSION SOURCES

Employees travelling to and from work.

SIGNIFICANCE

Not measured but unlikely to meet our significance threshold due to the location of our business activities and the modes of transport generally adopted (i.e. public transport, cycling and on foot), as well as the difficulties in reliably collecting this data.

3.4 CLIENT & VISITOR TRANSPORT

EMISSION SOURCES

Visitors to assets operated by the organisation (e.g. London Designer Outlet). There may also be a small number of visitors by clients and partners.

SIGNIFICANCE

Not measured but unlikely to meet our significance threshold due to the location of our business activities and the modes of transport generally adopted (i.e. public transport, cycling and on foot), as well as the difficulties in reliably collecting this data.

3.5 BUSINESS TRAVEL

EMISSION SOURCES

Taxis, flights and public transport associated with business activities and any overnight hotel accommodation associated with business trips.

SIGNIFICANCE

Flights and taxi use data were collected in 2014/15 accounted for less than 0.34% of total Scope 1 and 2 emissions. Journeys made by private vehicle that are reimbursed by the organisation are within the scope of SECR reporting, however due to the central location of offices and developments, they are limited in quantity. Currently, fuel is reimbursed based on distance travelled and government reimbursement rates. Insufficient data is available to allow an accurate calculation of resulting emissions, but as these will be less than 1%, of

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total emissions, this GHG Inventory Category is outside the scope of our GHG Inventory and reporting.

SCOPE 3: CATEGORY 4 INDIRECT GHG EMISSIONS FROM THE USE OF PRODUCTS & SERVICES

4.1 EMISSIONS FROM PURCHASED GOODS²

4.1a Embodied Emissions (Life Cycle Stages A1 –A5) EMISSION SOURCES

These life-cycle stages include emissions associated with the extraction of materials, transport to manufacturing site, the process of manufacturing into construction products, the transport of those products to the construction site and the installation and assembly of those products that comprise the finished building.

4.1 EMISSIONS FROM PURCHASED GOODS SIGNIFICANCE

Embodied emissions are recorded at the point of completion of a building, so their significance in a given year is dependent on the number of construction completions in a that year. There were no new completions in 2022, so emissions are zero in this inventory, but have historically been the most significant emission source, overshadowing those from any other category. These emissions will increase again, as new buildings in the construction pipeline are completed, so they remain significant and as we work to reduce embodied impacts, should be compared on their emissions per m² of completed development rather than an absolute total.

QUANTIFICATION MODEL

An assessment of embodied emissions was undertaken in relation to the construction of Landsby by Cundall in 2019 and continues to be our proxy for residential embodied emissions where no study has been carried out for a specific building completed in the reporting year. The total emissions calculated for Landsby per m² GIA for each life-cycle phase is multiplied by the total GIA of residential assets where construction is completed during the reporting year. This data is only applied to the residential asset typography, and no data is currently available for other asset types. 2021 data has been restated to reflect updated as built asset areas now available.

4.1b Fuel and Energy Related Activities (FERA) EMISSION SOURCES

Emissions from goods supplied to the organisation include those associated with the production of purchased energy.

SIGNIFICANCE

These emissions are equivalent to 28% of total Scope 1 and Scope 2 emissions, accounting for 11% of total Scope 3 emissions in 2022 and are therefore considered to be material.

QUANTIFICATION MODEL

Category 1 and 2 activity data are multiplied by the relevant emission factors for upstream fuel and electricity generation obtained from *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, there were the following changes in emission factor associated with well-to-tank and transmission & distribution for fuels used in our GHG Inventory:

- Gas: 0.8% reduction
- Electricity: 8.92%
- Petrol: 1.14% reduction
- Diesel: 1.81% increase
- Metropolitan Heat Network: 10.65% reduction
- EOn Heat Network: 10.03% increase

4.2 EMISSIONS FROM CAPITAL GOODS EMISSION SOURCES

There are no significant sources of emissions related to capital goods.

4.3 EMISSIONS FROM THE DISPOSAL OF SOLID AND LIQUID WASTE

4.3a Water

EMISSION SOURCES

Category 4.3a includes water consumed in our offices and other assets under our operational control.

SIGNIFICANCE

These emissions are equivalent to 0.43% of total Scope 1 and Scope 2 emissions, accounting for 0.17% of total Scope 3 emissions in 2022. Whilst below the threshold for significance based on scale, this data is material because it is required for by the GRESB survey, and also represents wider environmental interests around resource consumption.

QUANTIFICATION MODEL

The volume of water consumed is metered and meter data is

collected for landlord supplies within operational control. The quantity of water consumed is multiplied by the emission factors for water supply and water treatment obtained from *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions*. In 2022, there were no changes to these emission factors; this follows a combined 60% reduction in 2021.

4.3b Waste

EMISSION SOURCES

Category 4.3b includes waste generated in our offices and other assets under our operational control.

SIGNIFICANCE

These emissions are equivalent to 0.20% of total Scope 1 and Scope 2 emissions, accounting for 0.08% of total Scope 3 emissions in 2022. Whilst below the threshold for significance based on scale, this data is material because it is required for by the GRESB survey, and also represents wider environmental interests around resource consumption.

QUANTIFICATION MODEL

The quantity of waste generated in tonnes is multiplied by the emission factors obtained via *Government Conversion Factors for Company Reporting of Greenhouse Gas Emissions* for waste disposal, depending on the route of disposal. In 2022, there was a small reduction of 0.06% associated with emissions for recycling and treatment at energy to waste plants, and a 0.45% reduction associated with emissions from organic waste sent for composting.

4.4 EMISSIONS FROM THE USE OF ASSETS LEASED BY THE ORGANISATION

EMISSION SOURCES

Not relevant – emissions from the use of leased assets in operational control are accounted for in Categories 1 and 2 where applicable.

4.5 EMISSIONS FROM THE USE OF SERVICES NOT DESCRIBED ABOVE

EMISSION SOURCES

Cleaning, maintenance, mail delivery, banking, consultancy.

SIGNIFICANCE

Whilst without measurement, emission totals from services cannot be properly understood, the scale of these emissions is likely to be low

² Associated with the fabrication of products.

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as it will be a small proportion of the emissions of organisations providing services to the organization, who are likely to have similar emission profiles to our own Corporate emissions, which are negligible. At this point in time, there is insufficient quality data to this effect. This GHG Inventory Category is therefore outside the scope of our GHG Inventory and reporting.

SCOPE 3 : CATEGORY 5 INDIRECT GHG EMISSIONS FROM THE USE OF PRODUCTS

5.1 EMISSIONS FROM THE USE STAGE OF PRODUCTS

5.1a Embodied Emissions (Life Cycle Stages B1 - B5)

EMISSION SOURCES

These life-cycle stages include emissions associated with the use, maintenance, repair, replacement and refurbishment of the building and components within it.

SIGNIFICANCE

Embodied emissions are recorded at the point of completion of a building, so their significance in a given year is dependent on the number of construction completions in a that year. There were no new completions in 2022, so emissions are zero in this inventory.

QUANTIFICATION MODEL

Refer to Category 4.1a.

5.1b In-Use Energy, Water and Waste (Sold Assets)

EMISSION SOURCES

Whilst Quintain has an influence on the energy and water consumed in newly constructed assets through design decisions made, these emissions will not remain static over the life of the building (the 'Sold Product') due to changes in building fabric and equipment replaced during the life of the building and changes to emission factors over time due to the decarbonisation of energy supplies. It would misrepresent emissions in this case to report them over a defined lifespan when for retained assets, these emissions are reported under Category 5.2 Emissions from downstream Leased Assets on an annual basis. It would be within the organisational boundary of the building owner to report these emissions under their Category 1, 2 and 5.2 emissions, so these are excluded to avoid double counting.

As a developer, beyond the provision of waste and recycling facilities,

Quintain has no influence on waste generated in assets sold.

5.2 EMISSIONS FROM DOWNSTREAM LEASED ASSETS

5.2a Gas

EMISSION SOURCES

There are a small number of active gas supplies across Wembley Park Retail serving tenant areas. Quintain is typically responsible for a supply up until the point of formal handover to a new tenant and between tenancies, however gas consumption during these periods is generally zero due to the lack of gas consuming equipment in-use.

SIGNIFICANCE

These emissions are equivalent to 14% of total Scope 1 and Scope 2 emissions, accounting for 5% of total Scope 3 emissions in 2022 and are therefore considered to be material.

QUANTIFICATION MODEL

Where a meter is installed, it is generally read on a monthly basis and data is provided by the managing agent. Where no data regarding the calorific value of the gas supplied is available (as Quintain is not generally responsible for tenant billing) an average calorific value is applied in accordance with the procedure identified under Category 1.1 emissions. The calculated consumption in kWh is multiplied by the Combined 'Natural Gas' emission factors previously outlined in Categories 1.1 and 4.1b.

5.2b Electricity

EMISSION SOURCES

All of our tenants and residents consume electricity. During vacant periods, this data is reported under Categories 2.1 and 4.1b. The majority of assets across the Wembley Park estate are leased to either Quintain Living or retail/ commercial tenants.

SIGNIFICANCE

These emissions are equivalent to 100% of total Scope 1 and Scope 2 emissions, accounting for 40% of total Scope 3 emissions in 2022 and are therefore considered to be material.

QUANTIFICATION MODEL

With the exception of Quintain Living apartments in the North West Lands, individual meters are for the most part read on a monthly basis, access permitting, by our managing agents.

Across the North West Lands, electricity is supplied to Quintain Living apartments via individual meters. Whilst these meters are smart, we are not currently obtaining reliable billing from the supplier, and because of the quantity of meters and their locations, it is not currently feasible to read those meters on a regular basis. We have based consumption on 2020 totals and recorded this data as 100% estimated.

Electricity consumption data is multiplied by the relevant emission factors previously outlined in Categories 1.1 and 4.1b.

5.2c Heat

EMISSION SOURCES

Whilst connection to a heat network is available to most of our tenants, currently only a handful have made a connection and the majority of end users are Quintain Living residents. Heat is provided across the estate via energy centres located in the North West Lands and Eastern Lands, operated by EOn and Metropolitan respectively.

SIGNIFICANCE

These emissions are equivalent to 102% of total Scope 1 and Scope 2 emissions, accounting for 47% of total Scope 3 emissions in 2022 and are therefore considered to be material.

Emissions from this source are the most significant in our 2022 GHG Inventory.

QUANTIFICATION MODEL

Heat is supplied to Quintain Living apartments in the North West Lands via individually metered heat interface units. Whilst these meters are smart, the supplier is currently relying on customer meter reads and consumption totals for each end user, and totals are subject to change depending on the level of actualisation of that data. Buildings supplied by the Metropolitan Heat Network are metered via a single building supply and data is more reliable. For both types of supply, data is provided to the estate team relating to the gas input and heat generation of the systems, allowing emissions and losses to be calculated using the emission factors for grid electricity and natural gas previously outlined in Categories 1.1 and 4.1b. For the EOn Energy Centre, the uncertainty around delivered heat also affects the reliability of data used in the calculation of emission factors associated with this supply, as the heat output over a given period is estimated. This is factored into our uncertainty calculations.

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5.2d Water

EMISSION SOURCES

Depending on metering arrangements, water is provided either to groups of occupiers in bulk, or to individual occupiers. Our newer Quintain Living assets are generally supplied with a single bulk supply for landlord and resident areas. Sub-metering is now provided to individual apartments, which will in the future allow this data to be split out, but we are not yet in a position to mix the types of data we have, and the whole building water supply is recorded under Category 5.2d for these assets at present.

SIGNIFICANCE

These emissions are equivalent to 2.45% of total Scope 1 and Scope 2 emissions, accounting for 0.99% of total Scope 3 emissions in 2022, but as an important component of the GRESB assessment for individual asset performance, and an indicator of our performance against our Resource Efficiency objectives, they are still considered material.

QUANTIFICATION MODEL

Water consumption data in litres is multiplied by the relevant emission factor outlined in Category 4.3a.

5.2e Waste

EMISSION SOURCES

Waste is generated across all Wembley Park assets, collected either via our vacuum waste system Envac, or by individual arrangements with a commercial waste collector. Previously we recorded the waste generated by Wembley Park Residential under our downstream leased assets, however whilst we organise their waste collections as part of the ongoing operation of the estate, they are not leased assets and we have no responsibility for the generation of waste by occupants of those assets,

SIGNIFICANCE

These emissions are equivalent to 1.15% of total Scope 1 and Scope 2 emissions, accounting for 0.46% of total Scope 3 emissions in 2022, but as an important component of the GRESB assessment for individual asset performance, and an indicator of our performance against our Resource Efficiency objectives, they are still considered to be material.

QUANTIFICATION MODEL

It is not possible to determine the origin of waste generated via Envac, and only a total waste generation figure for the whole estate is provided; in 2020, this was recorded under 'Wembley Park Estate' in Category 4.3b. However, as this isn't waste generated by the estate, we adjusted our approach in 2021, and waste is now apportioned according to floor area. Different types of asset generate waste at different rates, so this is not an accurate allocation, but the total waste remains the same. Veolia provide a breakdown of waste by end route, based on weighed waste at the collection facility. The total waste generated by waste route is multiplied by the emission factors for waste removal previously described in Category 4.3b.

5.3 EMISSIONS FROM THE END-OF-LIFE STAGE OF PRODUCTS

5.3a Embodied Emissions (Life Cycle Stages C1- C4)

EMISSION SOURCES

These life-cycle stages include emissions associated with the deconstruction, demolition, transport to disposal facility, waste processing for reuse, recovery or recycling and/ or disposal.

SIGNIFICANCE

Embodied emissions are recorded at the point of completion of a building, so their significance in a given year is dependent on the number of construction completions in a that year. There were no new completions in 2022, so emissions are zero in this inventory.

QUANTIFICATION MODEL

Refer to Category 4.1a.

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The most significant change to the GHG Inventory in 2022 is the lack of emissions reported in relation to embodied carbon. This is purely as a result of the timing of building completions. In 2021, we completed two large assets (The Madison and The Robinson) and handed over the final block in Canada Gardens. Construction continued on our newest asset, Repton Gardens, but handover was been removed from our base-year; the remainder of Wembley Retail Park was decommissioned to make way for future construction; and we experienced a significant increase in occupancy across our Quintain Living portfolio.

DATA COVERAGE

To account for missing data, we provide a coverage figure which gives an indication of the percentage of data that we have been able to obtain in each GHG Category based on floor area. Floor area isn't a perfect metric - not all supplies relate to a specific area (for example those that supply the public realm); and floor area is not a reliable indicator for the proportion of activity data and emissions that are missing, but it is the most consistently available data available to us. Whilst we do estimate some data, this is only in specific circumstances, such as where we are missing a small portion of data across the year and we have sufficiently robust actual data from which to make an educated estimate.

Our target is to continue to improve our data collection to achieve a coverage level of 90% of data by Gross Internal Area across all emission sources, and we have met this across our main emission categories. Overall, we have improved data coverage again in 2022, increasing from 91.9% to 93.6% of our material emissions. This is a small difference and is largely due to the fact that there were no embodied emissions in 2022 (Categories 4.1a, 5.1a and 5.3a). Embodied emissions have large areas associated with them, so are proportionally significant, and are only available for residential assets. Where we have constructed other asset types in previous years, the proportion of data coverage for embodied emission has been lower than for other types of emissions, contributing to overall lower emissions across Category 4, Category 5 and Scope 3 overall. Tenant Gas and Tenant Water are now the only emission sub-categories where we currently do not meet this target, at 53% and 87.0% respectively. We are unable to obtain gas consumption data in relation to Boxpark, which is the largest tenant area, but we expect our proportion of gas data collection to increase as more assets with gas supplies become tenanted within our main Wembley Park Retail portfolio managed by Realm, and for which we have recently improved our collection procedures.

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B. Absolute Emissions

	2022				2021 (Restated)				2020 (Restated)			
	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %
TOTAL GHG EMISSIONS	-	14,562,059	-	93.6%	-	145,035,261	-	91.9%	-	106,043,745	-	89.8%
TOTAL SCOPE 1 & SCOPE 2 EMISSIONS	21,991,968	4,189,922	-	99.6%	21,441,624	4,328,149	-	99.7%	16,254,210	3,595,527	-	99.2%
SCOPE 1 (CATEGORY 1)	8,650,805	1,579,176	57,961	100%	8,997,384	1,649,194	58,467	100%	6,523,434	1,212,979	58,537	100%
1.1 Direct Emissions from Stationary Combustion [kWh]	8,649,560	1,578,891	57,961	100%	8,970,977	1,643,124	58,467	100%	6,528,706	1,200,433	58,537	100%
■ Corporate	-	-	-	-	27,984	5,126	506	100%	42,266	7,772	576	100%
■ Wembley Park Estate	8,649,560	1,578,891	57,961	100%	8,942,993	1,637,999	57,961	100%	6,486,440	1,192,662	57,961	100%
1.2 Direct Emissions from Mobile Combustion [kWh]	1,244	286	-	100%	26,407	6,070	-	100%	54,728	12,546	-	100%
■ Wembley Park Estate	1,244	286	-	100%	26,407	6,070	-	100%	54,728	12,546	-	100%
SCOPE 2 (CATEGORY 2)	13,341,163	2,610,746	291,169	99.5%	12,444,240	2,678,955	290,735	99.6%	9,670,777	2,382,548	238,613	99.0%
2.1 Indirect Emissions from Imported Electricity [kWh]	12,947,555	2,503,238	274,792	99.4%	12,046,963	2,557,932	274,358	99.6%	8,833,900	2,207,987	222,237	99.0%
■ Corporate	260,911	50,455	2,393	75.3%	373,849	79,379	2,900	79.6%	389,514	90,811	2,665	77.8%
■ Wembley Park Estate	4,068,183	786,705	136,752	100.0%	3,678,113	780,974	143,916	100.0%	2,327,474	684,228	132,575	93.1%
■ Quintain Living	5,857,852	1,132,232	96,630	99.9%	5,049,977	1,072,262	87,421	99.8%	3,203,346	746,828	49,739	100.0%
■ Wembley Park Residential	805,125	155,695	14,451	100.0%	951,816	202,099	14,451	100.0%	725,512	169,146	14,451	160.5%
■ Wembley Park Retail	1,454,439	281,259	6,091	85.3%	1,604,088	340,596	7,391	94.1%	1,444,191	343,549	6,992	82.2%
■ Wembley Park Commercial	501,044	96,892	15,814	100.0%	389,119	82,622	15,909	100.0%	743,863	173,424	15,814	100.0%
■ Wembley Park Leisure	0	0	2,661	100.0%	0	0	2,369	100.0%	N/A	N/A	N/A	N/A
2.2 Indirect Emissions from Imported Heat [kWh]	393,608	107,508	16,377	100.0%	397,277	121,023	16,377	100.0%	836,876	174,561	16,377	99.7%
■ Corporate	2,934	1,199	263	100.0%	2,391	888	263	100.0%	1,908	696	262	83.8%
■ Wembley Park Estate	17,562	7,177	300	100.0%	36,664	13,618	300	100.0%	44,907	16,380	300	100.0%
■ Wembley Park Commercial	373,112	99,131	15,814	100.0%	358,222	106,517	15,814	100.0%	790,062	157,485	15,814	100.0%
TOTAL SCOPE 3 EMISSIONS	-	10,372,137	-	92.3%	-	140,707,112	1,938,909	90.5%	-	102,448,210	-	87.7%
SCOPE 3 (CATEGORY 4)	-	1,200,434	-	98.9%	-	94,625,819	640,044	94.3%	-	69,395,916	-	90.5%
4.1 Emissions from Purchased Goods & Services	-	1,174,091	-	99.5%	-	94,612,584	411,334	92.4%	-	69,367,295	-	86.7%
4.1a Embodied Emissions (Life Cycle Stages A1 – A5) [m ²]	N/A	N/A	N/A	N/A	137,039	93,352,956	137,039	83.7%	127,782	68,667,182	127,782	66.0%
■ Wembley Park Estate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40,647	0	40,647	0.0%
■ Quintain Living	N/A	N/A	N/A	N/A	19,142	0	19,142	0.0%	84,354	68,667,182	84,354	100.0%
■ Wembley Park Residential	N/A	N/A	N/A	N/A	84,533	68,812,648	84,533	100.0%	N/A	N/A	N/A	N/A
■ Wembley Park Retail	N/A	N/A	N/A	N/A	267	0	267	0.0%	2,781	0	2,781	0.0%
■ Wembley Park Commercial	N/A	N/A	N/A	N/A	289	0	289	0.0%	N/A	N/A	N/A	N/A
■ Wembley Park Leisure	N/A	N/A	N/A	N/A	2,661	0	2,661	0.0%	N/A	N/A	N/A	N/A
4.1b Fuel and Energy Related Activities	21,991,968	1,174,091	274,792	99.5%	21,441,624	1,259,628	274,294	96.8%	17,268,060	700,114	212,820	99.1%
■ Corporate	263,845	17,994	2,393	75.3%	404,224	30,561	2,900	79.6%	433,688	22,524	2,665	77.0%
■ Wembley Park Estate	12,736,550	547,653	136,752	100.0%	12,684,177	574,984	143,916	94.7%	9,520,910	322,130	123,387	100.0%
■ Quintain Living	5,857,852	399,132	96,630	99.9%	5,049,977	398,797	87,421	99.9%	3,203,346	176,152	49,739	100.0%
■ Wembley Park Residential	805,125	54,885	14,451	100.0%	951,816	75,165	14,451	100.0%	725,512	39,896	14,451	100.0%
■ Wembley Park Retail	1,454,439	99,149	6,091	88.7%	1,604,088	126,675	7,327	94.1%	1,850,679	79,416	6,763	80.5%
■ Wembley Park Commercial	874,156	55,276	15,814	100.0%	747,341	53,447	15,909	100.0%	1,533,925	59,995	15,814	100.0%
■ Wembley Park Leisure	0	0	2,661	100.0%	0	0	2,369	100.0%	N/A	N/A	N/A	N/A

2022 GHG INVENTORY

2022 GHG INVENTORY

(continued)

	2022				2021 (Restated)				2020 (Restated)			
	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %
4.3 Emissions from the disposal of solid and liquid waste	-	26,343	-	98.2%	-	13,253	-	97.6%	-	28,621	-	96.8%
4.3a Water [litres]	42,898,886	18,060	132,146	97.6%	16,604,139	6,990	131,986	96.4%	22,288,354	23,447	139,008	95.8%
Corporate	529,305	223	1,650	64.1%	340,072	143	2,156	49.1%	910,870	958	1,930	69.3%
Wembley Park Estate	19,445,451	8,187	72,201	99.6%	3,677,828	1,548	72,201	99.6%	3,448,921	3,628	62,095	99.5%
Quintain Living	6,475,121	2,726	24,314	98.2%	4,153,759	1,749	22,781	98.3%	5,304,967	5,583	25,720	99.9%
Wembley Park Residential	5,950,257	2,505	9,300	93.8%	2,541,523	1,070	9,300	94.0%	5,930,879	6,239	25,689	100.0%
Wembley Park Retail	9,524,926	4,010	6,206	80.1%	5,307,154	2,234	7,271	67.7%	6,559,085	6,900	7,759	36.3%
Wembley Park Commercial	973,826	410	15,814	100.0%	583,804	246	15,909	99.4%	133,631	141	15,814	100.0%
Wembley Park Leisure	0	0	2,661	100.0%	0	0	2,369	100.0%	N/A	N/A	N/A	N/A
4.3b Waste [kg]	412,282	8,282	82,572	99.1%	299,903	6,263	96,724	99.2%	246,874	5,174	69,770	98.9%
Corporate	14,711	295	2,393	68.9%	15,949	303	2,900	74.4%	12,846	261	2,665	72.1%
Wembley Park Estate	385,374	7,743	78,791	100.0%	278,109	5,843	92,489	100.0%	228,776	4,803	65,602	100.0%
Quintain Living	6,453	129	214	100.0%	1,750	31	46	100.0%	N/A	N/A	N/A	N/A
Wembley Park Retail	5,744	115	1,174	100.0%	4,095	86	1,289	100.0%	5,252	110	1,502	100.0%
SCOPE 3 (CATEGORY 5)	-	9,171,703	-	89.3%	-	46,081,292	-	88.7%	-	33,052,294	-	85.7%
5.1 Emissions from the Use Stage of Products	N/A	N/A	N/A	N/A	137,039	28,413,024	137,039	86.0%	127,782	20,899,630	127,400	66.0%
5.1a Embodied Emissions (Life-Cycle Stages B1 – B5) [m ²]	N/A	N/A	N/A	N/A	137,039	28,413,024	137,039	86.0%	127,782	20,899,630	127,400	66.0%
Wembley Park Estate	N/A	N/A	N/A	N/A	19,142	0	19,142	0.0%	40,647	0	40,647	0.0%
Quintain Living	N/A	N/A	N/A	N/A	84,533	20,943,905	84,533	100.0%	84,354	20,899,630	84,354	100.0%
Wembley Park Residential	N/A	N/A	N/A	N/A	30,147	7,469,119	30,147	100.0%	N/A	N/A	N/A	N/A
Wembley Park Retail	N/A	N/A	N/A	N/A	267	0	267	100.0%	2,781	0	2,399	0.0%
Wembley Park Commercial	N/A	N/A	N/A	N/A	289	0	289	100.0%	N/A	N/A	N/A	N/A
Wembley Park Leisure	N/A	N/A	N/A	N/A	2,661	0	2,661	100.0%	N/A	N/A	N/A	N/A
5.2 Emissions from Downstream Leased Assets	-	9,171,703	1,111,321	89.3%	-	8,227,798	1,018,023	89.3%	-	5,208,599	757,513	85.7%
5.2a Tenant Gas [kWh]	2,659,692	568,217	11,359	53.0%	2,701,522	579,503	11,427	57.2%	2,261,007	469,792	10,487	53.4%
Wembley Park Retail	2,659,692	568,217	11,359	53.0%	2,701,522	579,503	11,427	57.2%	2,261,007	469,792	10,487	53.4%
5.2b Tenant Electricity [kWh]	15,936,448	4,168,178	240,731	93.7%	12,143,044	3,537,269	227,919	93.7%	9,421,989	2,714,758	163,287	89.3%
Wembley Park Estate	22,991	6,013	654	100.0%	19,723	5,745	1,535	100.0%	N/A	N/A	N/A	N/A
Quintain Living	7,016,001	1,835,035	193,785	100.0%	4,431,008	1,290,753	179,771	100.0%	3,087,342	889,556	117,583	100.0%
Wembley Park Retail	7,483,975	1,957,434	38,503	68.6%	5,776,755	1,682,769	36,675	69.0%	4,701,511	1,354,646	35,930	59.1%
Wembley Park Commercial	0	0	1,808	0.0%	0	0	1,763	0.0%	0	0	1,599	0.0%
Wembley Park Leisure	1,413,482	369,696	5,980	79.8%	1,915,558	558,002	8,175	85.2%	1,633,137	470,556	8,175	85.2%
5.2b Tenant Heat [kWh]	12,474,244	4,284,653	194,863	99.7%	10,682,146	4,020,865	177,382	100.0%	7,157,602	2,006,504	117,583	98.9%
Quintain Living	12,379,973	4,253,792	193,763	99.7%	10,643,846	4,007,048	177,142	100.0%	7,157,602	2,006,504	117,583	98.9%
Wembley Park Retail	75,136	24,693	810	100.0%	22,143	7,988	76	100.0%	N/A	N/A	N/A	N/A
Wembley Park Commercial	19,136	6,167	289	100.0%	16,158	5,829	163	100.0%	N/A	N/A	N/A	N/A
5.2d Tenant Water [litres]	243,634,414	102,570	306,748	87.0%	146,990,452	61,883	283,929	86.2%	120,471,682	126,736	192,344	92.4%
Wembley Park Estate	0	0	654	0.0%	0	0	1,535	0.0%	N/A	N/A	N/A	N/A
Quintain Living	235,708,750	99,233	259,681	100.0%	135,112,379	56,882	235,929	100.0%	104,389,222	109,817	151,055	100.0%
Wembley Park Retail	3,625,716	1,526	38,544	3.9%	2,375,914	1,000	36,526	3.1%	1,383,622	1,456	31,515	59.7%
Wembley Park Commercial	311,394	131	1,889	49.8%	3,682,154	1,550	1,763	53.4%	460,894	485	1,599	58.9%
Wembley Park Leisure	3,988,554	1,679	5,980	79.8%	5,820,006	2,450	8,175	85.2%	14,237,944	14,978	8,175	85.2%

2022 GHG INVENTORY

2022 GHG INVENTORY

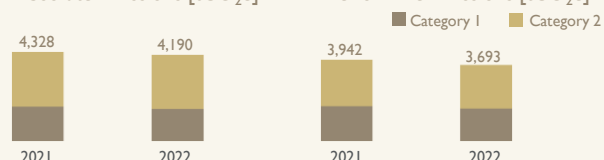
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	2022				2021 (Restated)				2020 (Restated)			
	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %
5.2e Tenant Waste	2,339,131	48,085	357,620	83.9%	1,363,600	28,277	317,367	84.1%	838,253	17,546	273,812	74.3%
Quintain Living	1,971,684	40,466	269,426	100.0%	1,079,750	22,507	231,170	100.0%	676,505	14,214	172,227	94.0%
Wembley Park Retail	307,623	6,347	64,511	45.3%	182,642	3,719	60,444	45.2%	122,319	2,532	75,996	43.9%
Wembley Park Commercial	59,825	1,273	17,703	8.9%	34,528	735	17,577	8.2%	13,771	283	17,414	7.3%
Wembley Park Leisure	0	0	5,980	0.0%	66,680	1,316	8,175	85.2%	25,659	518	8,175	85.2%
5.3 Emissions from the end of life stage of the product	N/A	N/A	N/A	N/A	137,039	9,440,448	137,039	86.2%	127,782	6,944,064	127,400	66.2%
5.3a Embodied Emissions (Life Cycle Stages C1 – C4)	N/A	N/A	N/A	N/A	137,039	9,440,448	137,039	86.2%	127,782	6,944,064	127,400	66.2%
Wembley Park Estate	N/A	N/A	N/A	N/A	19,142	0	19,142	0.0%	40,647	0	40,647	0.0%
Quintain Living	N/A	N/A	N/A	N/A	137,039	9,440,448	137,039	86.2%	84,354	6,944,064	84,354	100.0%
Wembley Park Residential	N/A	N/A	N/A	N/A	30,147	2,481,673	30,147	100.0%	N/A	N/A	N/A	N/A
Wembley Park Retail	N/A	N/A	N/A	N/A	267	0	267	200.0%	2,781	0	2,399	0.0%
Wembley Park Commercial	N/A	N/A	N/A	N/A	289	0	289	100.0%	N/A	N/A	N/A	N/A
Wembley Park Leisure	N/A	N/A	N/A	N/A	2,661	0	2,661	100.0%	N/A	N/A	N/A	N/A

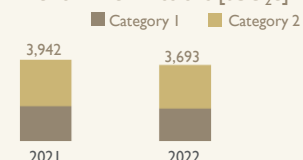
2022 GHG SUMMARY

Scopes 1 & 2

Absolute Emissions [tCO₂e]

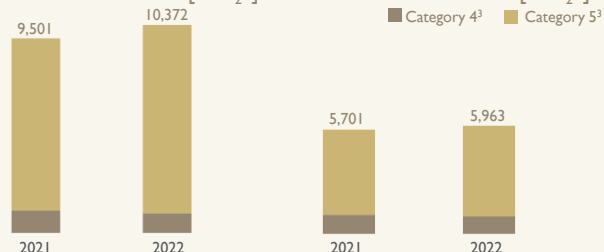


Like-for-Like Emissions [tCO₂e]

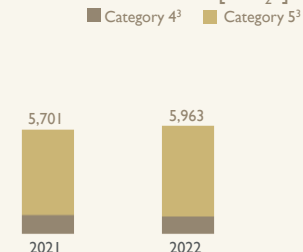


Scope 3³

Absolute Emissions [tCO₂e]



Like-for-Like Emissions [tCO₂e]



Scope 1 Emissions

1,579 tCO₂e

[2021: 1,649 tCO₂e]

Scope 2 Emissions

2,611 tCO₂e

[2021: 2,679 tCO₂e]

Scope 3 Emissions

10,372 tCO₂e

[2021: 140,707 tCO₂e]

4.2%

2.5%

92.6%

TARGET SETTING WORKSTREAM

We are currently preparing a submission to the Science Based Targets Initiative (SBTI) and as part of that piece of work, will be reviewing once again what we include in our inventory going forward; there are some emission types that do not currently meet our criteria for inclusion, but which by virtue of their inclusion in the SBTI framework, will become material once our submission is made, and will then become part of our GHG Inventory going forward. This piece of work will also determine our future targets and we will report on that process in due course.

DATA COVERAGE PERFORMANCE

We are currently exceeding our target of 90% data coverage across each of our emission Scopes.

Scope 1

100%

[2021: 100%]

Scope 2

99.5%

[2021: 99.6%]

Scope 3

92.3%

[2021: 90.5%]

³ excludes embodied emissions in 2021 from Categories 4.1a, 5.1a and 5.3a.

2022 GHG INVENTORY

2022 GHG INVENTORY

LIKE-FOR LIKE EMISSIONS

Like-for Like emissions are included for assets that have the same operational periods and data coverage between reporting years.

For smaller assets such as individual retail units, emissions move between scopes and become our direct responsibility when vacant; occupancy is therefore automatically taken into account. For assets where tenant consumption is reported at a building level, consumption remains within our downstream emissions for vacant units, and we look at the effects of occupancy separately (see Insights on page 15). In these instances, if the building operational period is the same, they are included in our like-for-like data.

SCOPE 1: CATEGORY 1 DIRECT EMISSIONS

1.1 Direct Emissions from Stationary Combustion

Like-for-like consumption and emissions have seen a small reduction compared with 2021. This is as a result of a single asset – our gas boilers that generate heat for London Designer Outlet, Hilton Wembley, iQ Student Accommodation and a handful of residential apartments in Quadrant Court. This is expected given a reduction in heating degree days of 12% in 2022 compared with 2021.

SCOPE 2: CATEGORY 2 INDIRECT EMISSIONS

2.1 Indirect Emissions from Imported Electricity

Like-for-like consumption has reduced by less than 1%, corresponding to a reduction in emissions of just over 8% compared with 2021. The difference between the reduction in consumption and emissions is due to the almost 9% reduction in emissions associated with the generation of grid electricity.

Corporate

Our like-for-like assets include The Amp and Habitat offices in Marathon House, and the Quintain Living Hub in our Landsby building. As heating and cooling is supplied via VRF to these assets, consumption varies depending on heating and cooling requirements, and in all cases is higher in the months where heating or cooling demand is significantly higher than the previous year (July, August and December). The degree to which this consumption differs varies depending on the asset, with the highest summer increases at The Habitat, where consumption is 61% higher in July and 186% higher in

August than the previous year. January and February consumption is higher, despite there being slightly lower heat demand, but this is likely due to reduced personnel on site due to the Covid restriction in place in the early part of the year.

Wembley Park Estate

Significant effort has been placed on reducing electricity consumption across the public realm, particularly in the latter part of 2022.

Initiatives have included ongoing IT works to improve efficiencies; a review of estate lighting, resulting in the re-programming of many lighting supplies and adjustments to the brightness settings on public display screens; and a reduced lighting element to the seasonal decoration of the public realm in December 2022. An overall reduction in consumption 7.5% was achieved across public realm supplies as a result of these initiatives.

Consumption across our parking increased by almost 13%. Pink Parking experienced the highest increase in consumption at almost 29%, with 4% at Red Parking. We do not at present have a detailed breakdown of consumption at these assets but believe that these increases are likely to relate in some part to increased electric vehicle charging. Where we do have data specific to EV charging, we have seen increases in consumption (see Insights on page 17 for

more detail). In mid-2021, our estate fleet contract expired, and after an interim arrangement using hybrid vehicles, we replaced our previous fleet with a single EV and bicycles. This is possible due to the additional support we now receive from a dedicated police presence. Our EV is charged in the Pink Parking, and the resulting additional consumption is positive – it is displacing higher emissions from petrol and diesel vehicles from elsewhere and is in line with our transportation strategy. In 2023, we hope to obtain clear breakdowns of EV use across all our assets where charging points are present, with the intention of reallocating this consumption to Category 3 (Emissions from Transportation).

There was a small increase in consumption of 5.5% at our W05 asset; a large proportion of which supplies the Envac Waste Collection Facility. Reductions across other sub-meters were outweighed by a 32% increase in Envac consumption; however, this is entirely expected due to the increased number of collections as a result of increased occupancy, particularly of our connected residential apartments. At our community space, The Yellow, the team were tasked with identifying measures to reduce consumption and through increased engagement with activity providers and increased vigilance and monitoring of use, a consumption reduction of 8% was achieved.

C. Scopes 1 & 2 Like-for-Like Emissions

	Consumption			GHG Emissions		
	2022 Consumption [unit stated]	2021 Consumption [unit stated]	% Change	2022 GHG Emissions [kgCO ₂ e]	2021 GHG Emissions [kgCO ₂ e]	% Change
TOTAL SCOPE 1 & SCOPE 2	19,419,836	19,620,700	-1.02%	3,693,038	3,941,866	-6.31%
SCOPE 1 (CATEGORY 1)	8,649,560	8,942,993	-3.28%	1,578,891	1,637,999	-3.61%
1.1 Direct Emissions from Stationary Combustion [kWh]	8,649,560	8,942,993	-3.28%	1,578,891	1,637,999	-3.61%
■ Wembley Park Estate	8,649,560	8,942,993	-3.28%	1,578,891	1,637,999	-3.61%
SCOPE 2 (CATEGORY 2)	10,770,279	10,677,707	-0.87%	2,114,148	2,303,867	-8.23%
2.1 Indirect emissions from imported electricity	10,376,668	10,280,430	0.94%	2,006,640	2,182,844	-8.07%
■ Corporate	161,182	153,088	5.29%	31,169	32,505	-4.11%
■ Wembley Park Estate	3,381,527	3,271,859	3.35%	653,920	694,714	-5.87%
■ Quintain Living	4,106,914	3,978,453	3.23%	794,195	844,745	-5.98%
■ Wembley Park Residential	805,125	951,816	-15.41%	155,695	202,099	-22.96%
■ Wembley Park Retail	1,420,876	1,536,095	-7.50%	274,769	326,159	-15.76%
■ Wembley Park Commercial	501,044	389,119	28.76%	96,892	82,622	17.27%
2.2 Indirect emissions from imported energy (heat)	393,608	397,277	-0.92%	107,508	121,023	-11.17%
■ Corporate	2,934	2,391	22.69%	1,199	888	35.00%
■ Wembley Park Estate	17,562	36,664	-52.10%	7,177	13,618	-47.29%
■ Wembley Park Commercial	373,112	358,222	4.16%	99,131	106,517	-6.93%

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Quintain Living & Wembley Park Residential

Like-for-like consumption at Quintain Living has increased by just over 3%, but emissions have still improved compared with 2021 due to the emission factor reduction. There were significant changes in occupancy between 2021 and 2022, particularly in our more recently completed buildings; the impacts of occupancy on landlord electricity consumption are explored on page 15.

D. Quintain Living Occupancy Data

	2022 Annual Occupancy	2021 Annual Occupancy	% Change
Quintain Living	85.00%	36.92%	130.22%
The Madison	68.40%	10.71%	538.93%
Canada Gardens	92.75%	35.09%	164.28%
The Robinson	75.31%	10.12%	644.02%
Elvin Gardens	98.49%	94.08%	4.68%
Alto	97.16%	89.95%	8.02%
Landsby	96.50%	75.66%	27.56%
Ferrum	73.50%	20.02%	267.13%
Alameda	96.08%	53.98%	77.98%
Beton	96.38%	54.06%	78.29%

Three of our assets in the NW Lands share landlord areas and facilities with private homeowners and social housing tenants; consumption is split on a floor area basis and because Quintain exerts operational control via our directly appointed managing agents for all landlord areas, these are recorded under Wembley Park Residential. These three assets are our oldest managed residential assets and are the most well-established, with smaller fluctuations in occupancy. At Emerald Gardens, there was an overall reduction in consumption of almost 16%. Whilst there was a significant increase in consumption relating to car park ventilation that is being investigated; a small increase in consumption at the gym which we believe relates to increased usage following the lifting of all Covid restrictions; and a 48% increase in consumption relating to EV charging; there was a reduction across all supplies to block communal areas and car park lighting, ranging from 12% to almost 20%. There is no breakdown available for Elvin Gardens or Landsby/ Vista, but reductions in consumption of 16% and 5% respectively were achieved. Of the remaining Quintain Living assets, The Madison, the Collyer building at Canada Gardens and The Robinson were excluded from like-for-like comparisons due to the differing operating periods

between years; these assets were all completed part-way through 2021.

There was a 5.4% increase in consumption in the comparable blocks at Canada Gardens; this is in the context of a 164% increase in occupancy between the two years. Similarly, there was a 16% increase in consumption at Ferrum, where occupancy increased by 267%; an 8% increase in consumption at Alameda, where occupancy increased by 78%; and a 5% increase at Beton, where occupancy increased by 78%.

Wembley Park Retail

Wembley Park retail consumption can be split into two categories: landlord consumption in our managed assets; and consumption in vacant units.

Landlord consumption includes the external supply to Stadium Retail Park, which predominantly consists of lighting to the external parking areas; and the landlord managed areas of London Designer Outlet. Landlord consumption includes the external supply to Stadium Retail Park, which predominantly consists of lighting to the external parking areas; and the landlord managed areas of London Designer Outlet. We achieved a 50% reduction in consumption in 2022 at Stadium Retail Park, following then replacement of all street lighting to LED and the installation of a new photocell to improve lighting control. At London Designer Outlet, the communal spaces are managed by Realm, and we include the Realm office and Guest Services consumption in our totals. There was an overall 7% reduction in consumption, with a 7% reduction across the supply to the public realm and back of house areas; a 7% reduction in consumption at Guest Services; and a 20% reduction at the Realm office. In the first quarter of 2021, retail was affected by Covid restrictions, and we saw an increase in consumption over this period of 10% in 2022; this was offset however by efforts in the latter half of the year to reduce consumption, particularly relating to lighting, achieving an almost 20% reduction over quarters three and four.

In the Realm office, consumption has been lower than 2021 throughout the year; we believe this is as a result of changes to working practices and a general increase in staff working from home. The largest reduction was over the final quarter of 2022, which is likely related to reduced space heating demand as a result of a warmer winter; this is particularly noticeable in November, which

experienced a 36% reduction compared with the same period in 2021 (refer to Insights on page 16).

A similar trend was experienced at Guest Services, with the addition of a much greater increase in consumption in the first quarter of 2022 compared with 2021; this is expected given the customer facing nature of this space, and the Covid restrictions in place.

Wembley Park Commercial

The Hive is our only commercial asset with like-for-like consumption; this is a managed office building with eight floors located opposite London Designer Outlet. Occupancy in 2021 was 60%, increasing to 68% in 2022 and consumption increased by almost 29%. The first and final quarter saw a circa 20% increase in consumption, with a greater increase in the middle of the year; we believe this relates to increased cooling demand over the summer, on top of the increased presence of office workers throughout the year as office occupancy returns to pre-pandemic levels.

2.2 Indirect Emissions from Imported Heat

There are few heat supplies within our operational control, but like-for-like consumption has reduced by less than 1%, resulting in an 11% reduction in emissions compared with 2021.

Corporate & Wembley Park Estate

The Quintain Living Hub in our Landsby building and The Yellow community facility in our Alto building both receive heat from the North West Lands Heat Network operated by EOn. Data collection is not automated, and although over time consumption is correctly billed, we do not have data as to which consumption applies to which period, and what proportion of each total we receive is based on actual and estimated data. These totals are also prone to changes as improved data is obtained following the EOn actualization process. Whilst a 23% increase in consumption was recorded at the Quintain Living Hub and a 52% reduction in consumption was achieved at The Yellow, we are unable to provide analysis on these figures without the correct time-period information.

Wembley Park Commercial

At the Hive, we experienced a 4% increase in consumption, which is lower than the corresponding increase in electricity consumption, but this is not unexpected given that the space heating demand in 2022 was lower than in 2021 (refer to Insights on page 16).

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SCOPE 3: CATEGORY 4 INDIRECT GHG EMISSIONS FROM THE USE OF PRODUCTS & SERVICES

4.1 Emissions from Purchased Goods

4.3a Fuel and Energy Related Activities (FERA)

Only the consumption and emissions relating to FERA are comparable on a like-for-like basis. These emissions are the upstream emissions associated with gas, electricity and heat reported under Scopes 1 and 2. As such, the reasons for consumption changes previously explained apply to these totals.

Overall there was a 10.16% reduction in Category 4.1b emissions, which differs from the 6.31% reduction in Scope 1 and 2 emissions due to different changes in the emission factors associated with Well-to-tank (WTT) and Transport and Distribution (T&D) for gas and electricity (also applied in the calculation of emission factors for heat).

4.3 Emissions from the disposal of solid liquid and liquid waste

4.3a Water

Corporate

As with electricity, our like-for-like assets include The Amp and Habitat offices in Marathon House, and the Quintain Living Hub in our Landsby building. We have experienced significant increases across all of these assets in 2022 compared with 2021.

At The Habitat and The Amp, there was minimal consumption in the first quarter of 2021, which corresponds to reduced personnel on site as a result of Covid restrictions that were in place at the time. In the second quarter of 2021, consumption slowly increased month by month at The Habitat as more people returned to the office. From February 2022, consumption has typically doubled, with additional peaks in March and April of 2022 – the reasons for these increases are currently unknown.

At The Amp, consumption is minimal and although it has doubled, this is from an average of 17 litres per day to 35 litres per day and is relatively insignificant.

The Quintain Living Hub has unusual consumption patterns that we will be following more closely and investigating further in the coming year.

E. Scope 3 Like-for-Like Emissions

	Consumption			GHG Emissions		
	2022 Consumption [unit stated]	2021 Consumption [unit stated]	% Change	2022 GHG Emissions [kgCO ₂ e]	2021 GHG Emissions [kgCO ₂ e]	% Change
TOTAL SCOPE 3 GHG Emissions	-	-	-	5,962,592	5,701,489	4.58%
CATEGORY 4	-	-	-	1,016,953	1,124,457	-9.56%
4.1 Emissions from purchased goods	19,419,836	19,710,323	-1.47%	998,952	1,117,553	-10.61%
4.1b Fuel and Energy Related Activities (FERA) [kWh]	19,419,836	19,620,700	-1.02%	998,952	1,117,553	-10.61%
Corporate	164,116	155,479	5.55%	11,196	12,250	-8.61%
Wembley Park Estate	12,048,649	12,251,516	-1.66%	500,765	541,207	-7.47%
Quintain Living	4,106,914	3,978,453	3.23%	279,968	314,178	-10.89%
Wembley Park Residential	805,125	951,816	-15.41%	54,885	75,165	-26.98%
Wembley Park Retail	1,420,876	1,536,095	-7.50%	96,861	121,305	-20.15%
Wembley Park Commercial	874,156	747,341	16.97%	55,276	53,447	3.42%
4.3 Emissions from the disposal of solid and liquid waste	42,757,781	16,398,539	160.74%	18,001	6,904	160.74%
4.3a Water [litres]	42,757,781	16,398,539	160.74%	18,001	6,904	160.74%
Corporate	529,305	340,072	55.65%	223	143	55.65%
Wembley Park Estate	19,445,451	3,677,828	428.72%	8,187	1,548	428.72%
Quintain Living	6,341,942	4,121,313	53.88%	2,670	1,735	53.88%
Wembley Park Residential	5,950,257	2,541,523	134.12%	2,505	1,070	134.12%
Wembley Park Retail	9,517,000	5,134,000	85.37%	4,007	2,161	85.37%
Wembley Park Commercial	973,826	583,804	66.81%	410	246	66.81%
CATEGORY 5	-	-	-	4,945,638	4,577,032	8.05%
5.2 Emissions from downstream leased assets	-	-	-	4,945,638	4,577,032	8.05%
5.2a Tenant Gas [kWh]	125,779	178,247	41.71%	38,081	26,981	41.14%
Wembley Park Retail	125,779	178,247	41.71%	38,081	26,981	41.14%
5.2b Tenant Electricity	9,984,499	7,493,010	33.25%	2,611,446	2,182,714	19.64%
Quintain Living	3,731,821	2,446,972	52.51%	976,058	712,803	36.93%
Wembley Park Retail	6,252,678	5,046,038	23.91%	1,635,388	1,469,911	11.26%
5.2c Tenant Heat [kWh]	6,901,110	6,545,911	5.43%	2,224,176	2,361,573	-5.82%
Quintain Living	6,901,110	6,545,911	5.43%	2,224,176	2,361,573	-5.82%
5.2d Tenant Water [litres]	154,376,852	91,198,690	69.28%	64,993	38,395	69.28%
Quintain Living	150,602,046	85,156,782	76.85%	63,403	35,851	76.85%
Wembley Park Retail	3,463,412	2,359,753	46.77%	1,458	993	46.77%
Wembley Park Commercial	311,394	3,682,154	-91.54%	131	1,550	-91.54%
5.2e Tenant Waste [kg]	274,485	331,916	20.92%	6,943	5,764	20.45%
Quintain Living	216,045	260,906	20.76%	5,432	4,520	20.18%
Wembley Park Retail	32,338	23,603	-27.01%	502	689	-27.06%
Wembley Park Commercial	26,102	47,407	81.62%	1,009	556	81.51%

Wembley Park Estate

There were some extremely large increases in water consumption across the public realm, partly due to leaks and partly due to the significant difference in precipitation between 2021 and 2022.

In 2022, we experienced 32% less rainfall than in 2021, particularly in June and July when higher temperatures increase evaporative effects resulting in even higher irrigation demands. Whilst we have carefully considered landscaping so that much of the planting is drought

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tolerant, a large proportion of green space at Wembley Park is new, and many plants are not yet fully established so must be watered to avoid undue plant stress in their early development phase. This also applies to the 1,000+ trees across the site.

There was a 367% increase to the supply to Union Park. Of this, a significant proportion of consumption is attributable to the draining and refilling of the fountain for maintenance and cleaning following the rectification of a number of defects.

Along Olympic Way, there are a number of supplies that are predominantly used to fill mobile bowers for tree watering, where watering requirements are heavily dependent on rainfall. However, the biggest increase in consumption was due to a leak on one of these supplies that was repaired by the contractor as a defect.

At Red Parking, consumption reduced by almost 20%; and at Pink Parking buy just over 30%. This is due to abnormal activity in 2021 that resulted in increased consumption.; Pink Parking in particular had significantly higher consumption in the second quarter of 2021 due to its use as a temporary space for the UEFA Media Village during EURO 2020 (postponed until 2021).

Quintain Living & Wembley Park Residential

The majority of water consumed in our Quintain Living assets is recorded under Category 5.2d as tenant consumption; this is because the majority of water supplies are building supplies that supply both landlord and resident areas, with the predominant consumption by residents.

We have separate landlord supplies at Emerald Gardens, Elvin Gardens and Landsby and as with energy supplies described under Scope 2 emissions, these are split between Quintain Living and Wembley Park Residential depending on which areas the supply serves.

At Emerald Gardens, there was a 22% increase in consumption in water consumed for irrigation purposes, which is consistent with the increased water requirements following reduced rainfall in 2022 compared with 2021. There were reductions in all supplies to bin stores, although it is not at present clear why.

At Elvin Gardens, there was a 931% increase in consumption at the main incoming landlord supply, however this follows an 80% reduction in 2021 compared with 2020. The large variability of consumption of this supply is currently being investigated.

At Landsby, there was an increase of 49% to the water feature; this follows an increase in 2021 of 73% compared with 2020 and is also being investigated.

Wembley Park Retail

The only asset for which we have like-for-like water consumption is London Designer Outlet, which experienced an 85% increase in consumption; this follows a 20% reduction in 2021 compared with 2020. Given that retail and restaurants were heavily affected by Covid restrictions in both 2020 and 2021, 2022 is the first year post-pandemic. No data was recorded for 2019, and London Designer Outlet opened towards the end of our base-year, so we do not have a 'normal' year to compare this data with. We will be monitoring this supply closely in 2023 to ensure water consumption does not increase further in future.

Wembley Park Commercial

Our office building The Hive is the only commercial asset for which we have like-for-like emissions. Occupancy has increased by 8%, and workplace occupancy has increased throughout the year as people have slowly returned back to full time working from their offices, but the most significant reason for the increase in water consumption is that the sprinkler water tank was drained and refilled whilst works took place.

4.3a Waste

In 2022, all waste under landlord control was collected via Envac.

SCOPE 3 : CATEGORY 5 INDIRECT GHG EMISSIONS FROM THE USE OF PRODUCTS

5.2 Downstream Leased Assets

4.3a Gas

Wembley Park Retail

We were unable to obtain access to many gas meters over 2021 and 2022, so we don't have comparable data for most of our assets. In January 2023, we put in place additional procedures to ensure this data can be obtained more regularly which will allow better comparison in future.

Due to changes in floor area supplied by the main incoming gas meter to London Designer Outlet, the areas covered by gas supplies are not comparable, and we don't have a more detailed breakdown in this inventory. We are therefore only able to compare the supply to one

food and beverage unit: TGI Fridays. Consumption has increased by 42%, however there was zero consumption recorded in the first quarter of 2021 when due to Covid restrictions and the closure of the restaurant, and subdued consumption in the second quarter whilst some restrictions remained in place for part of that period. Daily consumption averaged 490 kWh/day over the remainder of the year, which compares with 499 kWh/day in 2022. This is a negligible difference and has not been investigated further.

INSIGHTS

ENVAC

Total Envac waste has increased by 68% in 2022 as more assets are connected to the network (this is alongside the 32% increase in electricity consumption previously outlined due to increased collections).

In 2022, 3,899,195 sqft of space was connected to the system, compared with 3,576,847 sqft in 2021. Residential assets now account for 71% of the connected area (an increase from 66% in 2021).

In addition to our own landlord and tenant areas, Envac also serves third-party assets; these totals are not included in our GHG inventory, but are included in the total Envac waste reported here. As we have outlined in past reports, the Envac system was damaged during surrounding construction and we have had difficulties in obtaining the materials required to make the required repairs.

With the exception of one section that connects to the North West Lands, repairs have now been undertaken and we have seen an improvement in recycling and organic waste proportions as a result; previously these were having to be collected as general waste due to the level of water saturation that rendered them contaminated.

We continue to experience lower overall recycling rates through Envac than we see where tenants have individual waste collections, but the major benefit of the system: significantly reduced vehicle movements around the site and the surrounding road network remains a key advantage.

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4.3b Electricity

Quintain Living

Resident electricity consumption has increased significantly across the board. This is unsurprising given the significant increase in occupancy across all our residential assets in 2022, and we explore the occupancy vs. consumption relationship in our Insights section on page 15.

Wembley Park Retail

There are an increasing number of retail assets with like-for-like consumption as tenancies become established over time. Retailers were particularly affected by Covid restrictions in the first quarter of 2021, but not all to the same extent. Essential stores remained open, but demand was still more subdued. For the most part, this is the reason why we have experienced increases in consumption in 2022 compared with 2021. Some F&B retailers were able to offer a takeaway service in the first quarter, and due to the closure of other restaurants, had higher consumption in the first quarter of 2021, so have experienced reductions in consumption in 2022 as demand is more evenly distributed across other F&B outlets.

4.3c Heat

Quintain Living

Similar to resident electricity consumption, we have also experienced significant increases in heat consumption. These increases were not as high as those seen for electricity, which is because of the additional relationship that space heating has with external temperature. The heating season in 2022 was warmer than 2021, which is explored further in our Insights section on page 16.

4.3c Water

Quintain Living

Like-for-like resident water consumption is split into two categories: assets which include only the resident component, and assets which include whole building consumption.

The North West Land assets include only resident consumption, but we only have data for Elvin Gardens due to metering issues. There is a bulk meter to this asset which serves all residential consumption, and we have apportioned this based on floor area to the Quintain Living apartments only. Consumption rose by just under 5% in 2022; as we

only have occupancy data for the apartments for which we are responsible, we are unable to accurately determine whether this is proportional, but we saw occupancy increase by 8% between the two years at Alto, so this increase is certainly in line with expectations. At Canada Gardens, consumption increased by 128%, following a 164% increase in occupancy; at Ferrum, consumption increased by 74%, following a 267% increase in occupancy; at Alameda by 60%, following a 78% increase in occupancy; and at Beton by 74%, following a 78% increase in occupancy. The relationship between occupancy and consumption is explored further in our Insights section on page 15, but these increases are all in line with expectations given the significant increases in occupancy between 2021 and 2022.

Wembley Park Retail & Commercial

We have much less accessible data for water than for other utilities across our retail and small commercial assets, and as a result, are only able to compare a small number of assets on a like-for-like basis. Of our fourteen ground floor retail units in our Landsby and Vista buildings, six are comparable on a like-for-like basis. Consumption across these units has increased by almost 48% in 2022 compared with 2021. The specific circumstances around the changes in consumption for each retailer are slightly different, but we believe all relate to the impact of the Covid lockdowns in the early part of 2021. Our low-cost employment spaces in Emerald Gardens and Elvin Gardens are operated by a third-party and we have no data on occupancy levels within those spaces, or how tenancy changes may have affected water consumption. At Emerald Gardens, there was a 16% reduction in consumption and at Elvin Gardens, a 93% reduction. When comparing these figures with waste generation specific to these assets, we saw a 37% reduction at Emerald Gardens and a 6% increase at Elvin Gardens. This suggests that the difference is not related to reduced consumption in the first quarter of 2021 as with other assets, but that the specific activities by those using the space account for these changes. There are frequent changes in tenant at these spaces, which tend to focus on small business and craft-related enterprises. It is possible that some of these activities consume more water, and others generate more waste than others.

4.3d Waste

Quintain Living

Our buildings located in the North West Lands have like-for-like waste data as a result of collections that are separate to Envac. Although waste quantities have increased overall by 21%, this has only resulted in an 8% increase in refuse, with the remaining additional materials either collected as recycling or organic waste. Similar levels of recycling are taking place across these residential assets, with an average combined recycling rate of 46% achieved in 2022 (compared with 40% in 2021).

These figures compare favourably with the recycling rates achieved across the London Borough of Brent, where in 2021/22, 37.8% of household waste was recycled.

At Emerald Gardens in our Montana and Dakota buildings, there was a negligible increase in occupancy in this building of 4% between the two years. Overall waste has reduced by just over 11% and more of it is now recycled. This year, we have achieved a 50% recycling rate, with mixed recyclables now accounting for 44% of the total (compared with 35% in 2021) and organic waste now accounting for 6% (compared with under 4% in 2021).

At Elvin Gardens, there was an 8% increase in occupancy, and a smaller reduction in waste between the two years of 2%. The current recycling rate now stands at 48%, with mixed recyclables accounting for 44% (compared with 34% in 2021) and organic waste accounting for 4% (compared with under 1% in 2021).

Our Landsby building has seen a more significant 28% increase in occupancy between the two years, which has resulted in a 57% in waste generated. Of this total, 41% was recycled (compared to 39% in 2021) and 3% was collected as organic waste (the same as in 2021).

Wembley Park Retail & Commercial

The only assets for which we are able to compare retail and commercial waste are our retail units in Forum House; retail units in Quadrant Court; and the low-cost employment spaces in Emerald Gardens and Elvin Gardens. There has been an overall reduction of 27% in total waste across these assets in 2022, and a slight reduction in the recycling rate from 45% in 2021 to 43% in 2022.

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DATA INSIGHTS

INSIGHTS

IMPACT OF OCCUPANCY ON CONSUMPTION

Different types of consumption have different relationships with occupancy and these relationships can be used to help us to understand how well our assets are performing against each other, and to compare consumption between years by normalising for occupancy.

By the end of 2022, Quintain Living was 98% occupied – this is a significant increase on 2021 and due to the large differences in occupancy between these two years, we have looked at occupancy in detail in relation to Quintain Living assets, where the data is available to allow us to do so.

Average annual occupancy in 2022 was 85%, - a 130% increase on 2021 - but these changes are significantly higher in our more recently completed buildings, as can be seen in Table D on page 11.

ADJUSTING FOR OCCUPANCY

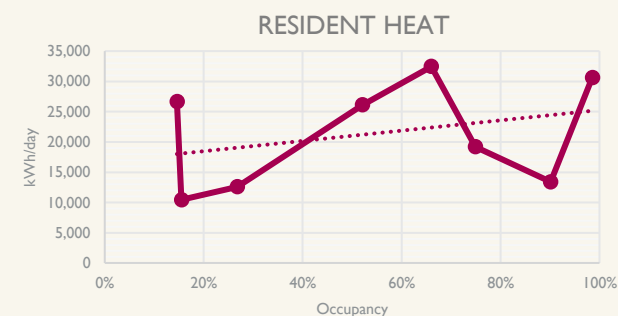
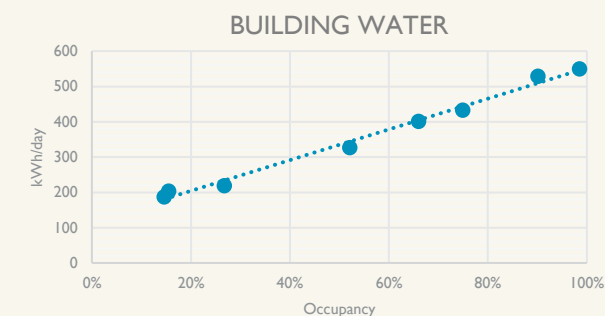
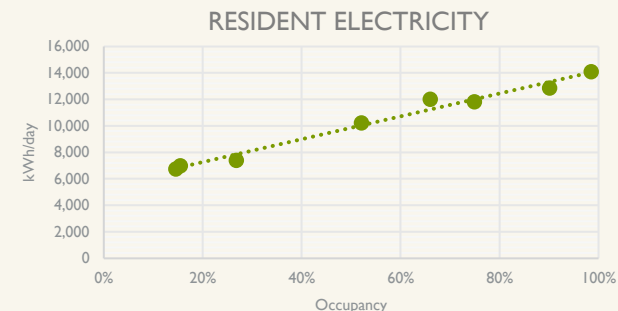
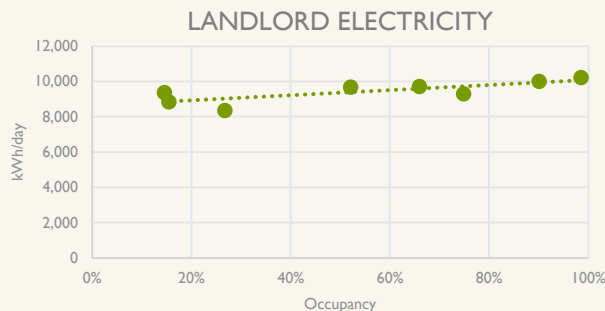
We have reliable building level data for our newer assets and the graphs opposite show the annual aggregated consumption against aggregated annual occupancy for assets where we have two full years of data (therefore providing a good comparison for occupancy).

For the buildings where we have sufficient data (The Madison, Canada Gardens, Ferrum, Alameda and Beton), we have plotted daily consumption against occupancy for each quarter over 2021 and 2022. The graphs show for electricity and water there is good correlation with occupancy, and heat also shows an upward trend.

As would be expected, the proportion of landlord consumption that is occupancy-based is much lower than for resident electricity consumption.

Occupancy is currently increasing over time, so for heat, the data plot is organised on a time-series basis and the fluctuation illustrates the changing heat demand over the seasons.

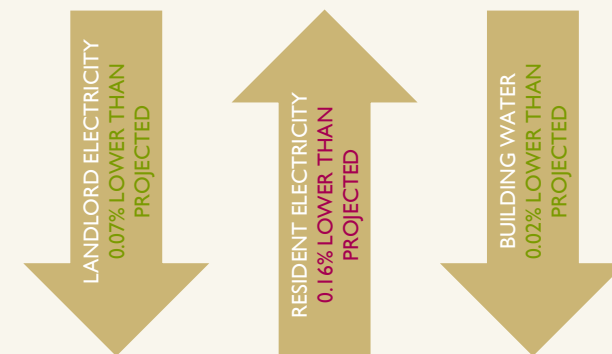
From these trends, we can infer that although there has been an increase in consumption across the board, this is in line with what would be reasonably expected given the significant increases in occupation.



COMPARISONS WITH PROJECTED CONSUMPTION

For each of the assets mentioned where we have sufficient data, we have looked at the relationships between occupancy and consumption over the long-term, and using these trends have retrospectively projected 2022 consumption. By normalising for occupancy, we can make a better judgement as to whether the increases we have seen compared with 2021 are higher or lower than expected.

We are unable to do this easily for heat due to the additional variable of heating demand (discussed in more detail on the following page), but qualitatively, the fact that the slope due to increased consumption is shallower than for resident electricity consumption is in line with expectations given that 2022 had lower heat demand than 2021.



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DATA INSIGHTS

INSIGHTS

IMPACT OF WEATHER ON CONSUMPTION

Many of our energy and water supplies are impacted by the affects of weather, which varies on an annual basis. We have not carried out detailed analysis on all assets, but we have included on this page some context for changes in consumption that might be related to weather. To do this we look at Heating Degree Days (HDDs), Cooling Degree Days (CDDs) and precipitation.

HEATING AND COOLING DEGREE DAYS

HDDs and CDDs are a measure of how much (in degrees), and for how long (in days), outside air temperature was lower higher than a specific "base temperature" (or "balance point"). They are used for calculations relating to the energy consumption required to heat or cool a building.

The selected base temperature for heating analysis we have applied is 15.5°C; this relates to a reasonably well-insulated building and assumes that when the outdoor temperature falls below 15.5C, there is a requirement for heat.

For cooling, it is commonly considered that an ideal office temperature is circa 22°C, so a base temperature of 19°C has been selected which takes into account unwanted heat gains as a result of people and equipment.

Our closest weather station with degree day data is Northolt. In 2021, there were 1,917 HDDs and 114 CDDs. This compares with 1,680 HDDs (12% reduction) and 218 CDDs (48% increase) in 2022.

In 2022, only June, September and December were cooler than in 2021, with July and August particularly hot compared with the previous year.

ELECTRICITY

Space heating and cooling is often delivered via Variable Flow Units (VRFs) in retail and individual commercial units such as offices. Part of the electricity consumption for these assets is affected by heating demand in winter and cooling demand in summer.

HEAT

All of our residential assets are supplied with heat from one of the on-site district heat networks, in addition to several retail and small commercial units. The space heating component of this consumption is directly affected by heating demand.

PRECIPITATION

The quantity of rainfall in a particular location is recorded in mm. This data is useful for understanding differences in water demand for landscaping purposes.

There was almost 36% less rainfall in 2022 than in 2021, with 48% less in the summer months of June, July and August where demand is highest due to the affects of temperature and the resulting increased evaporation.

WATER

Many of our estate water supplies are used for landscaping, and are directly related to rainfall; our residential buildings have varying levels of green space and have different levels of green space within them. Emerald Gardens has over an acre of green space at its core, whilst other buildings have smaller areas or face onto communal green spaces looked after by Wembley Park Estate, such as the new 7-acre park spanning across the Eastern and North Eastern parts of the estate. The estate team are also responsible for over 1,000 trees (approximately 20 per hectare), many of which are newly planted and until they are well-established, will have a higher water demand, exacerbated by dry weather.

HDDs

1,680

[2021: 1,917]

12%

CDDs

218

[2021: 114]

48%

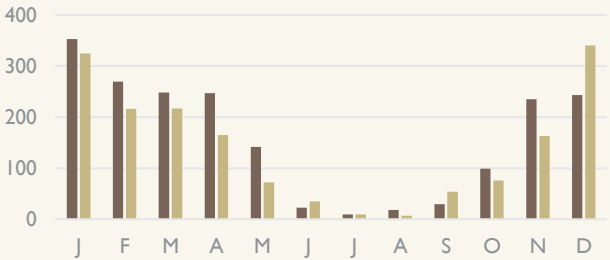
Precipitation

649mm

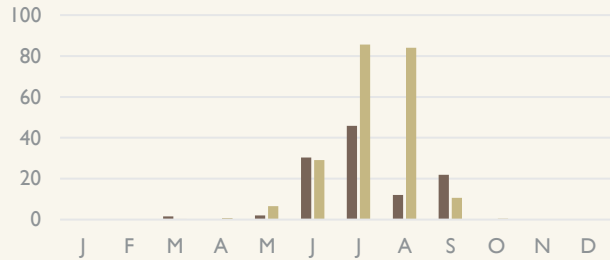
[2021: 1,008]

36%

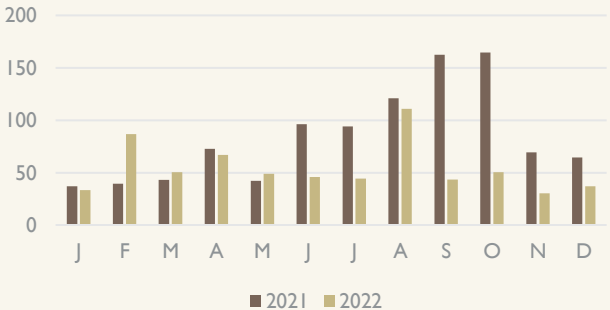
HEATING DEGREE DAYS



COOLING DEGREE DAYS



PRECIPITATION [mm]



2022 GHG INVENTORY

DATA INSIGHTS

INSIGHTS

EVOLUTION OF EV CHARGING

We currently have 208 active and 124 passive charging points across the Wembley Park Estate, 104 of which are available for public use within our car parking facilities, with the remainder inside our residential buildings for resident use.

Electricity consumption related to EV charging has increased year-on-year, both as a result of an increased number of charging points, and through increased usage of existing charging points.

We currently have sight of consumption data specific to EV charging points for three of our facilities: Emerald Gardens (10 residential spaces); the shared car park between The Madison and The Robinson (38 residential spaces); and Blue Parking (20 public spaces). We have presented this opposite in kWh/day as this takes into account the partial operating periods for parking handed over partway through a reporting year (Blue Parking and The Madison/ Robinson Shared Parking were handed over part way through 2021).

Emerald Gardens has been operational for several years and we have data going back to 2018, providing us with a good insight into charging trends over time. Consumption increased by just over 4% in 2019, but then dropped by 14% in 2020; this is consistent with road traffic trends during the Covid pandemic – 2020 saw a reduction in miles travelled by cars and taxis of 23% compared with 2019. 2021 mileage by cars and taxis was still not at 2019 levels by 2021 (the most recent year for which there is data), but we saw an increase of 72% in charging, followed by a further 48% increase in 2022. These increases appear to reflect the increase in sales of EVs following the Government announcement confirming the phasing out the sale of petrol and diesel cars by 2030.

At the shared car park between The Madison and The Robinson, there was a significant increase in absolute consumption of 963% between the two years, reducing to 780% when the reduced operational period is taken into account and a comparison is made based on daily consumption. These two buildings were both completed in early 2021, and in addition to the factors relating to increased EV ownership described previously, the additional

occupancy affect is relevant here. Now that both buildings are almost completely occupied, data in following years will better reflect EV ownership and uptake of the EV charging service.

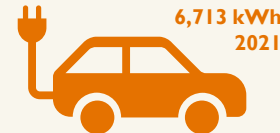
EV charging points at Blue Parking became fully operational in November 2021, so the increase in absolute consumption is high at over 1116%, but reduces to 30% when the reduced operational period is taken into account. Consumption almost doubled in the first quarter of 2022 but has been dropping each quarter since, and by the final quarter of 2022 was lower than in 2021. This is potentially due to the change in pricing structure, where due to significant increases in electricity costs, the tariff was increased at the beginning of August 2022 and again in mid-November. This may have made charging less attractive to visitors, who may have in place preferential rates for overnight charging at home. The public nature of the car park also results in less consistency in terms of who is using the space compared with our residential assets, so we are likely to see more variability in usage.

DATA COVERAGE

We are currently investigating how we can improve visibility of EV charging data so that we can better monitor demand over time and improve our reporting. It is likely that we will separate out this data into Category 3 Emission from Transportation in future years, and we will need to carefully consider how we take this consumption into account when setting reduction targets (as increased EV charging is something we want to encourage as part of our Transportation Strategy, and the associated emissions are displacing emissions from less clean fuels such as petrol and diesel).

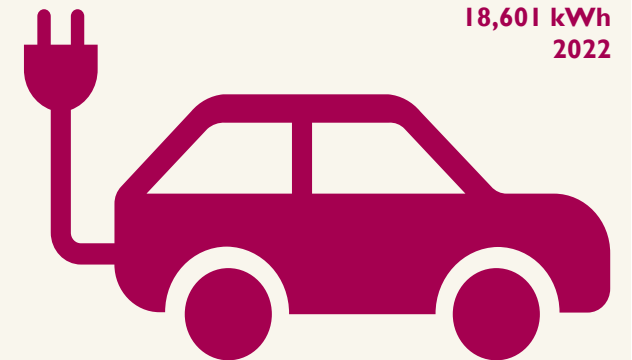
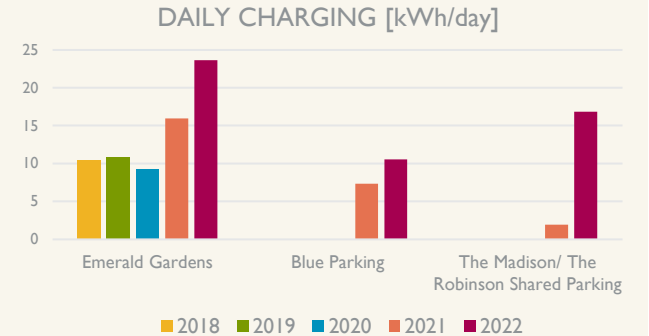
DISPLACEMENT OF OTHER FUELS

Where we have data, we have estimated the emissions saved through the provision and use of EV chargers assuming that the distance travelled using this charge displaces an equivalent distance in an average-sized vehicle of unknown fuel (petrol or diesel). Full details of our calculation procedure can be found on page 23, and Table F opposite shows various statistics related to EV charging across the estate.



F. EV Charging at Wembley Park

	2020	2021	2022
Active Spaces	62	162	220
Data Coverage [% of spaces]	6%	16%	31%
Consumption [kWh]	3,407	6,713	18,601
Estimated Distance Travelled [miles]	8,690	17,123	47,449
GHG Emissions [kgCO ₂ e]	794	1,425	3,597
Equivalent GHG Emissions [kgCO ₂ e]	2,397	4,725	13,032
Emissions Saved [kgCO ₂ e]	1,603	3,300	9,435



2022 GHG INVENTORY

METHODOLOGY

BASE-YEAR RECALCULATION

In 2020, we carried out a full evaluation of our base-year emissions and recalculated our base-year taking into account our significant divestments and new emission sources. There have been some minor changes in 2022, mostly reflecting the movement of assets and data between scopes.

Emissions from our downstream leased assets are now a significant part of our GHG Inventory, where in our 2013/14 base-year, they were not measured. Table G sets out our original base-year, as well as our adjusted base-year taking into account the factors described above.

We have then provided a direct comparison with our recalculated base-year, taking into account only the assets and emission categories that are included in that total. This results in an 11% increase in Scope 1 emissions; a 44% reduction in Scope 2 emissions; and a 37% reduction in Scope 3 emissions. The table also breaks down the 2013/14 base-year and the recalculated base-year by GHG Inventory Category to allow a comparison with our more recent GHG Inventory figures.

DATA QUALITY

All GHG assessments – unless obtained through the direct measurement of gases released at source – are estimates.

The quality of our reporting is determined by the quality of our input data, the treatment of that data, the proportion of the overall data within scope that is available and the level of certainty we have that the activity data and emission factors we are applying are accurate. Our *GHG Policy and Data Management Procedures* set out how our data is obtained and treated in order to generate our GHG Inventory. Data coverage and our performance against our data coverage targets is set out on page 9 and has improved slightly in 2022.

An additional measure we adopt is an assessment of parametric uncertainty, which provides an upper and lower bound limit to our estimates of emissions; the smaller the difference, then the better the certainty in our data.

UNCERTAINTY

On completion of the GHG Inventory, an assessment of uncertainty in our GHG Inventory is made by applying an uncertainty interval to each source of activity and emission factor data based on the quality of the data.

Our Methodology section outlines our approach, as well as the sources of activity and emission factor data applied to our GHG Inventory and reported in this report, along with the uncertainty interval applied to that data and the calculation procedure we have adopted that results in the aggregated uncertainty levels in Table F. Based on the uncertainty estimates, we have also provided an upper and lower limit of potential emissions by emission source, as well as an aggregated total for all emissions.

Note that the more data included in the assessment, the lower the overall level of uncertainty becomes; aggregated totals reflect this and are not a sum of the reported sub-category totals.

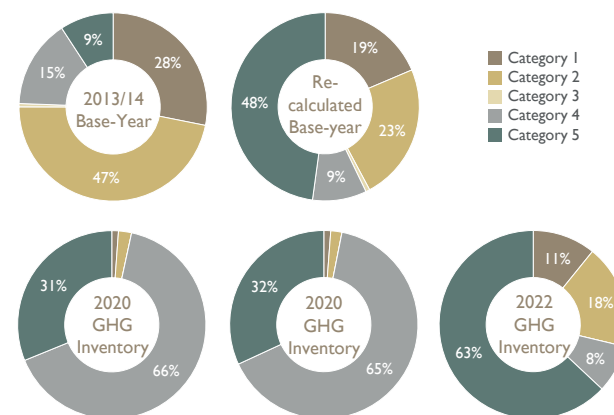
Our Category 1 emissions are a 'Good' representation of the emissions in this category; gas supplies from national grids show a small level of variation in emissions, and emission factors are therefore generally reliable. Our activity data is also of good quality, the majority based on actual meter reads or apportioned from actual meter reads. Vehicle emissions are based on fuel card consumption, which is deemed to be of good quality.

Our Category 2 emissions are deemed to be a 'Fair' representation of the emissions in this category; unlike gas from national grids, grid electricity fluctuates significantly depending on when it is consumed, and we do not have that level of granularity on our data, or the actual emissions associated with the electricity we consume.

This is typical of the market, and we do not envisage any improvements on this score in the medium-term, until electricity consumption and associated emissions are reported more accurately by suppliers. As our calculation of heat emissions is based on gas and electricity inputs, these are affected by the factors described above. The level of estimated input data, particularly at the North West Lands Energy Centre, further decreases the certainty over those emissions.

Our Category 4, Category 5 and overall Scope 3 emissions are also considered to be a 'Fair' representation of the emissions reported, based on the criteria described in more detail on page 20.

% Total Emissions by GHG Inventory Category



INSIGHTS

OUR CHANGING EMISSION PROFILE

As our business has evolved, so has our emission profile. In our base-year, 2013/14, we owned a broad portfolio of standing assets, located across the UK and in multiple sectors. Over time, we have divested from our non-core operations to focus on the development of Wembley Park. With fewer operational assets, our Scope 1 and Scope 2 emissions reduced dramatically, but are increasing again as more buildings are completed and become standing assets.

At the same time our Scope 3 emissions have increased significantly and are now our predominant emission source.

The greatest difference between 2021 and 2022 emissions is the lack of embodied emissions reported across Categories 4 and 5 in 2022. These were our most significant source of emissions in 2021, but there were none recorded in 2022 because we only record these on completion and handover of an asset from the construction team and there were no completions in 2022.

There were no embodied emissions recorded in our base-year, so this year our emissions profile is more comparable with our base-year than has previously been the case. Our Scope 1 and 2 emissions are now a smaller proportion of our total, primarily as a result of the fact that an increasing proportion of our overall asset area is tenanted, resulting in more significant emissions from our downstream leased assets.

2022 GHG INVENTORY

METHODOLOGY

G. Comparison of 2022 GHG Inventory with Base-Year and Recalculated Base-Year by Scope and Entity

	2013/14 Base-Year			Recalculated Base-Year			2020 Comparison with Base-Year			2021 Comparison with Base-Year			2022 Comparison with Base-Year		
	Scope 1 [tCO ₂ e]	Scope 2 [tCO ₂ e]	Scope 3 [tCO ₂ e]	Scope 1 [tCO ₂ e]	Scope 2 [tCO ₂ e]	Scope 3 [tCO ₂ e]	Scope 1 [tCO ₂ e]	Scope 2 [tCO ₂ e]	Scope 3 [tCO ₂ e]	Scope 1 [tCO ₂ e]	Scope 2 [tCO ₂ e]	Scope 3 [tCO ₂ e]	Scope 1 [tCO ₂ e]	Scope 2 [tCO ₂ e]	Scope 3 [tCO ₂ e]
TOTAL	2,919	4,862	2,591	1,492 ⁴	1,892	4,636	1,213	2,379	102,234	1,649	2,679	135,716	1,579	2,611	10,372
Corporate	40	166	109	21	120	89 ⁵	8	80	23	5	80	46	0	52	19
Wembley Park Estate	2,078	1,953	863	1,468	1,139	534	1,205	795	317	1,644	795	1,356	1,579	794	570
Quintain Living	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,072	99,592	N/A	1,072	96,915	N/A	1,132	6,631
Wembley Park Residential	N/A	N/A	N/A	N/A	N/A	N/A	N/A	202	46	N/A	202	34,567	N/A	156	57
Wembley Park Retail	N/A	N/A	Not Available	N/A	632	588	N/A	341	1,709	N/A	341	2,208	N/A	281	2,662
Wembley Park Commercial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	189	61	N/A	189	62	N/A	196	63
Wembley Park Leisure	N/A	N/A	Not Available	N/A	N/A	1,422	N/A	N/A	486	N/A	N/A	560	N/A	N/A	371
iQ Property Partnership (50%)	547	1,311	233	Removed	Removed	Removed	N/A	N/A	Removed	N/A	N/A	N/A	N/A	N/A	N/A
Other Assets	77	653	1,247	Removed	Removed	Removed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Assets Sold in Reporting Year	177	779	139	Removed	Removed	Removed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

H. Uncertainty Analysis & GHG Inventory Base-Year Comparisons by Emission Category

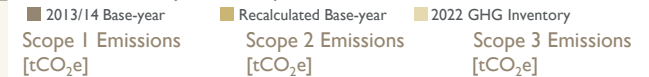
	2013/14 Base-Year	Recalculated Base-Year	2022 GHG Inventory					
	GHG Inventory [tCO ₂ e]	GHG Inventory [tCO ₂ e]	GHG Inventory [tCO ₂ e]	Aggregated Uncertainty	Lower Limit Emissions [tCO ₂ e]	Upper Limit Emissions [tCO ₂ e]	Uncertainty Ranking	Coverage %
GHG INVENTORY	10,372	7,962	14,562	+/-12.0%	12,812	16,313	Good	%
CATEGORY 1: DIRECT GHG EMISSIONS	2,919	1,492	1,579	+/- 10.1%	1,419	1,739	Good	%
1.1 Direct Emissions from Stationary Combustion	2,907	1,476	1,579	+/-10.1%	1,419	1,739	Good	%
1.2 Direct Emissions from Mobile Combustion	0	3	0	+/-13.3%	0	0	Good	%
1.4 Direct Fugitive Emissions in Anthropogenic Systems	13	13	-	-	-	-	-	-
CATEGORY 2: INDIRECT GHG EMISSIONS FROM IMPORTED ENERGY	4,862	1,890	2,611	+/-27.6%	1,890	3,332	Fair	%
2.1 Indirect Emissions from Imported Energy - Electricity	4,862	1,890	2,504	+/-28.8%	1,783	3,224	Fair	%
2.2 Indirect Emissions from Imported Energy - Heat	0	0	108	+/-29.0%	76	139	Fair	%
CATEGORY 3: INDIRECT GHG EMISSIONS FROM TRANSPORTATION	59	56	-	-	-	-	-	-
3.5 Emissions from Business Travel	59	56	-	-	-	-	-	-
CATEGORY 4: INDIRECT GHG EMISSIONS FROM PRODUCTS & SERVICES	1,578	745	1,200	+/-21.3%	945	1,456	Fair	%
4.1 Emissions from Purchased Goods & Services	1,290	712	1,174	+/-21.8%	919	1,430	Fair	%
4.3 Emissions from the Disposal of Solid and Liquid Waste	19	33	26	+/-22.1%	21	32	Fair	%
4.4 Emissions from the Use of Assets Leased by the Organisation	268	N/A	-	-	-	-	-	-
CATEGORY 5: INDIRECT EMISSIONS FROM THE USE OF PRODUCTS	954	3,836	9,171	+/-17.1%	7,605	10,738	Fair	%
5.1 Emissions from the Use Stage of the Product	954	0	-	-	-	-	-	-
5.2 Emissions from Downstream Leased Assets	N/A	3,836	9,171	+/-17.1%	7,605	10,738	Fair	%
5.3 Emissions from End-of-Life Stage of the Product	N/A	N/A	-	-	-	-	-	-

⁴ Base-year includes Category 1.4 Direct Fugitive Emissions in Anthropogenic Systems, which are not included in the 2022 GHG Inventory.

⁵ Base-year includes Category 3.5 Emissions from Business Travel, which are not included in the 2022 GHG Inventory.

Base-Year Comparison

Total Emissions by GHG Scope



Lower and Upper Limit Emissions



2022 GHG INVENTORY

METHODOLOGY

This section describes how we obtain and assess the quality of our activity data and emission factors, as well as how our data is aggregated and what we mean by some of the terminology we have used in this report. Our GHG Policy and Data Management Procedures set out our approach in full and can be found on our website.

UNCERTAINTY

The quality of activity and emission factor sources have a direct impact on the quality of the GHG Inventory; the robustness of emissions reporting is dependent on the quality of data used to calculate the emissions profile, and the communication of any uncertainties.

in accordance with the requirements of ISO 14064:1, we assess the uncertainty associated with the quantification approaches we use and conduct an assessment that determines the level of uncertainty at the GHG Inventory Category level.

SOURCES OF UNCERTAINTY

Sources for uncertainty arise along the value chain when any assumptions are made, or emissions are not directly measured. In relation to our emissions data, the following have been identified as the key uncertainties:

SCIENTIFIC UNCERTAINTY

Calculated in the UK by BEIS, based on a range of inputs and outputs. The process does not measure exact emissions into the air, but rather uses a series of educated assumptions, presenting a degree of scientific uncertainty. The use of BEIS emissions factors is widespread across UK companies reporting their UK emissions. For this reason, despite the scientific uncertainty in those factors, the ability to compare data between companies, and over time, will not be affected, and it is beyond the scope of our analysis to measure beyond the induced parameter uncertainty.

MODEL UNCERTAINTY

The use of equations to characterise the relationships between various parameters and emissions process can introduce model uncertainty if incorrect inputs and / or equations are used. Our quality management procedures and external assurance processes are

used to address and eliminate this risk and model uncertainty risks are therefore not considered further.

PARAMETER UNCERTAINTY

Quantifying the parameters used as inputs, for example activity data or emissions factors, can lead to parameter uncertainty. Emission estimation models that consist of only activity data multiplied by an emission factor only involve parameter uncertainties, assuming that emissions are perfectly linearly correlated with the activity data parameter. Parameter uncertainties are the subject of the uncertainty analysis that we carry out annually on our data and are included in this report.

PARAMETER UNCERTAINTIES

SYSTEMATIC UNCERTAINTY

Systematic uncertainty occurs if data are systematically biased – if the average of measured or estimate values is always higher or lower than the true value. Such biases can arise because emissions factors are constructed from non-representative samples, all relevant source activities or categories have not been identified, or incorrect or incomplete estimation methods or faulty measurement equipment have been used.

Our data management procedures are implemented to ensure that errors in transcription and calculation are reduced, but systematic uncertainties are not considered beyond this.

STATISTICAL UNCERTAINTY

Statistical uncertainty results from natural variations (e.g. random human errors in the measurement process, fluctuations in equipment) and can be estimated, assuming a normal distribution of the relevant variables. Measurement of statistical uncertainty is presented as an uncertainty range of +/- percent of the mean value reported.

THE GHG PROTOCOL UNCERTAINTY TOOL

The GHG Protocol produce an Uncertainty Tool for the calculation of parametric uncertainty in GHG inventories and *GHG Protocol Guidance on Uncertainty Assessment in GHG Inventories and Calculating Statistical Parameter Uncertainty*. We have adopted the use of this tool for calculating the parametric statistical uncertainty of our GHG Inventory. The tool applies the first order error propagation method (Gaussian Method) to calculate a simple assessment of statistical uncertainty. The guidance provides a typical, although arbitrary, scale for the quantitative assessment of data accuracy for the different inputs; we have used this as a basis for determining uncertainty levels,

but do not use the High/ Good/ Fair/ Poor scale published in the directly.

It then ranks data accuracy based on the scale above at several levels:

- Single source data for indirectly measured emissions (activity data and emission data)
- The sub-total and total level

Additional advice is provided on the ranking that should be given to different types of data; where relevant, this has been used to determine the rankings of data quality described for activity and emission data, summarised below.

Data Accuracy	Interval as % of Mean Value
High	+/- 5%
Good	+/- 15%
Fair	+/- 30%
Poor	> 30%

At the end of each reporting period, an assessment of uncertainty is made by inputting the quantities of emissions by GHG Inventory sub-category with the data quality factors determined. An overall assessment of quality is presented for each emission category using the High – Poor scale above.

The GHG Inventory includes an assessment of data quality for each GHG Inventory sub-category. For metered supplies, this is calculated by allocating the activity data to the relevant data type and corresponding data quality. This data is aggregated at the GHG Inventory sub-category level, and uncertainty analysis is applied to each sub-category. For other data types, our approach to the assessment of data quality is described in the following sections on Activity Data and Emission Factors by Source and set out in Table MI.

ACTIVITY DATA BY SOURCE

METER READINGS

Meter readings relate directly to the assets and supplies under consideration and are considered 'Primary Data'. Meter reads are the main source of activity data for most electricity, gas, heat and water supplies, including those that are remotely read (in this case, meter reads are used to corroborate automated data).

GRID ELECTRICITY & WATER

Electricity and water meters measure precise volumes or pulses and are considered to be highly accurate in their measurement of consumption. Main incoming supplies are preferred over sub-metered

2022 GHG INVENTORY

METHODOLOGY

data as these are payment-grade and provide additional reassurance over the quality of the data.

Where data is based entirely on meter reads between the start and end date of the reporting period, this is considered to be of 'High' quality, and an uncertainty interval of +/- 5% is applied.

Where data is apportioned based on actual data for periods outside the reporting period, this is considered to be of 'Good-High' quality, and an uncertainty interval of +/- 10% is applied.

Data is only estimated where historic supply information is available within the reporting period. Historic daily consumption covering an appropriate time period is applied to missing data periods and as this is specific to the supply, this is considered to be 'Good' quality, with an uncertainty interval of +/- 15% applied. Estimates that are not based on supply data, including that provided by suppliers, are not used; the supply is instead reported as having 0% data coverage for the period.

NATURAL GAS

Although the measurement of gas volumes is as accurate as that for electricity and water, an additional calculation has to be performed to convert the volume of gas consumed into energy. This is based on standard conversion factors and the calorific value of the gas, which varies throughout the day. Where billing data is available, this includes the conversion figures required and is applied to the consumption total. Where a calorific value specific to the supply is not available, gas transmission data, including calorific value, is available from National Grid, specific to the Local Distribution Zone (LDZ); supplies in London are located in LDZ NT (North Thames) and an annual average calorific value for gas supplies at Wembley Park of 39.26 MJ/m³ has been calculated and applied where calorific data from the supplier is unavailable. Where this is the case, data quality is downgraded to the same level as apportioned electricity and water data. If already apportioned, the increase in uncertainty is considered to already be accounted for in the increased uncertainty interval.

HEAT

Heat is metered by measuring the temperature differential between two points, which is less accurate than measuring a pulse or volume if not correctly installed (e.g. the distance between measured points is too short or too long, or there is a bend in pipework between two points), then an inaccurate reading will be produced.

The quality of heat meter read data is therefore considered to be slightly lower than that of electricity and water meter data:

- Meter data interval of +/- 10%
- Apportioned data interval of +/- 15%
- Estimated data interval of +/- 35%

FUEL CARD DATA

Fuel consumed in vehicles is recorded by fuel cards and is deemed to be a highly accurate record of consumption with an interval of +/- 5% applied. Where apportioned to cover periods at the start or end of a year, the start and end mileage between fuel tank refills is used to apportion fuel use by day. As the data is recorded weekly, this is not likely to result in any significant uncertainty, and no adjustments to the uncertainty interval are applied.

COMMERCIAL WASTE COLLECTION DATA

Primary activity data is used, based on actual waste generated and quantified at source; as this is directly measured, it is considered to be of 'High' quality, with an interval of +/- 5% applied.

EMISSION FACTORS BY SOURCE

Uncertainty intervals for emission factors are summarized in Table M2 by GHG Inventory Category on page 17. These are calculated based on the assumptions that follow.

NATURAL GAS, PETROL & DIESEL (BEIS 2022 & 2021)

Direct & Indirect (upstream) Emissions

All fuel conversion factors in the BEIS dataset are based on the emission factors used in the UK GHG Inventory (GHGI) for 2020 (2022) and 2019 (2021).

Natural gas consumption figures quoted in kWh by suppliers in the UK are generally calculated from the volume of gas used, on a Gross CV basis, and the Gross CV emission factor is the default factor for the calculation of emissions.

Information on quantities and source of imported gas are available annually from Digest of UK Energy Statistics (DUKES), which relates to two-years prior to the year the emission factors will be applied to (i.e. 2020 DUKES data applies to 2022 emissions) and are used to calculate the proportion of gas in UK supply coming from each source. This is used to provide a weighted average for UK supply.

As there are only very small changes in the emissions associated with mains gas between different years, the fact that the emissions data applied is two-years out of date is not considered to be a significant issue.

The GHG Protocol guidance on uncertainty determines that carbon

content is almost standard for national supplies, and emission factor data calculated in this way is 'High' quality; however, as the data used to calculate UK emission factors is an average of data from multiple countries from within the EU, an uncertainty interval of +/- 10% has been applied.

Upstream emission factors used to report FERA emissions are taken from a 2015 study by Exerga.

Indirect Well-to-Tank (WTT) upstream emission factors relating to natural gas are taken from a study by Exerga, EM Lab and COWI (2015) and are based on the UK % share of LNG imports.

For petrol and diesel, the Exerga study is based on:

- Detailed modelling of upstream emissions associated with 35 crude oils used in EU refining, accounting for 88% of imported oil in 2012.
- Estimates of emissions associated with then transport of these oils
- Emissions from refining, modelled on a country-by-country basis, based on specific refinery types by location and the calculation of an EU average based on the proportion of each crude fuel going to each refinery type
- An estimate of emissions associated with imported finished products from Russia and the US.

Conversion factors are also calculated for petrol and diesel as supplied at public and commercial refuelling stations based on Department for Transport Renewable Fuel Statistics (DfT, 2020b) and by factoring in:

- For diesel: the WTT component due to biodiesel supplied in the UK as a proportion of the total supply of diesel and biodiesel.
- For petrol: the bioethanol supplied in the UK as a proportion of the total supply of petrol and bioethanol (5.44% by unit volume, 3.57% by unit energy).

GRID ELECTRICITY (BEIS 2022 & 2021)

Electricity conversion factors represent the average CO₂ emissions from the UK national grid per kWh of electricity generated. The UK electricity emission factors provided in the 2022 *GHG Conversion Factors* are based on emissions from sector 1A1a (power stations) and 1A2b (autogenerators) in the GHGI for 2020 according to the amount of CO₂, CH₄ and N₂O emitted per unit of electricity consumed (BEIS, 2021). The UK is a net importer of electricity from the interconnectors with France, the Netherlands and Ireland, and in

2022 GHG INVENTORY

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2021, net imports were calculated from DUKES data. An average imported electricity emission factor is calculated from the individual factors for the relevant countries weighted by their respective share of net imports.

The methodology for estimating the UK Electricity WTT factor has been improved to more appropriately estimate the emissions from plant and animal biomass. This has been done using the Ofgem Biomass Sustainability Dataset 2019-20 (Ofgem, 2021a) in which electricity generating stations using biomass fuels report against certain sustainability criteria. These criteria include the type of biomass used, the quantity consumed, and the emission factors for the fuel consumed. By pairing the quantity of the fuels consumed with the appropriate calorific values and the reported emission factors, the emissions from each fuel can be calculated. The weighted average of the emissions is then taken using the energy supplied to produce an average emission factor. For the plant biomass factor, there is an additional step of including the fuels used in gasification/pyrolysis. The overall impact of this improvement is a 16% decrease in the WTT UK Electricity factor for CO₂e compared to the 2021 value.

Average WTT emission factors are calculated using the corresponding fuel WTT emission factors described previously.

The GHG Protocol guidance on uncertainty states that electricity emission factors are to be considered 'Fair' if an annual average is used for a grid with multiple fuel sources. This is downgraded to 'Poor' to reflect that emissions are based on data that is two years old and there is significant variation between years in how electricity is generated. Emission factors are likely to significantly over-estimate actual emissions as a result and a resulting uncertainty interval of +/- 30% is therefore applied.

HEAT (calculated from generator data)

Heat emission factors are calculated based on gas and electricity import and export data, total heat generation and total heat delivery provided by the heat generator.

EASTERN LANDS ENERGY CENTRE (METROPOLITAN)

Metropolitan provide detailed data on each of the three boilers and two combined heat and power (CHP) engines that contribute to the generation of heat at the Eastern Lands Energy Centre, in addition to emission factors (described earlier) to generate the total carbon emissions associated with the generation of heat and power. This is all electricity imported and exported from the energy centre. Total

input mains gas and grid electricity are multiplied by their respective then divided by the total heat and power exported to derive a quantity of CO₂e per kWh of energy by end user. Regular meter readings are provided, some on a daily and others on a monthly basis, for the import and export of energy to each boiler and CHP engine; these have not been verified but records are thorough and are assumed to be reliable. The emission factors applied are the same as those described for Mains Gas and Grid Electricity, with their respective uncertainties applied. On balance, an uncertainty interval of +/- 22.5% is applied ('Fair to Good').

NORTH WEST LANDS ENERGY CENTRE (EON)

The NW Lands Energy Centre is designed to initially operate using gas boiler plant. EON have had some difficulties in obtaining accurate gas consumption data, either from the main supply or via the BMS, and currently estimate their gas consumption based on an assumed efficiency of their boilers. The total gas consumed is compared with the total heat consumed by end users, some of which is also estimated, to calculate an emission factor for heat. Due to the high level of uncertainty in the inputs used for calculating the emission factor for heat, an uncertainty interval of +/-30% is applied.

WATER (BEIS 2022 & 2021)

The emission factors for water supply and treatment in sections "Water supply" and "Water treatment" of the 2022 (2021) GHG Conversion Factors were calculated based on 2020 data from UK water companies *Carbon Accounting Workbooks (CAW)*. These data give GHG intensity for each water company for water supply and wastewater treatment accounting for emissions associated with offices and transport. Note that the methodology does not specifically state that emissions relating to the actual treatment and supply of water are included in the figures. In addition, the BEIS Methodology Paper states that this data is subject to significant uncertainty, so these emission factors are considered to be 'Poor' quality with an uncertainty level of +/-30% applied.

In 2020 (2019) emission factors were obtained from *Water UK* and are based on submissions by UK water suppliers. Water UK represents all UK water and wastewater service suppliers at national and European level. Water UK (2011) gives total GHG emissions from water supply, wastewater treatment, offices, and transport. In the 2012 update of the GHG Conversion Factors, these emissions were split between Water Supply and Water Treatment using the same proportional split

from previous years. However, since this publication, Water UK has discontinued its "Sustainability Indicators" report and so no longer produces further updates to these emission factors. Therefore, the Conversion Factors had remained unchanged since the 2012 GHG Conversion Factors values. In the intervening period there were significant reductions in emissions from sources likely to affect water treatment operations; these emission factors are therefore likely to be over-estimates and are also considered to be 'Poor' quality with an uncertainty level of +/-30% applied.

WASTE (BEIS 2022 & 2021)

The methodology applied in calculating the waste emission factors assumes emissions attributed to the company which generates the waste cover only the collection of waste from their site. Under this standard, in order to avoid double-counting, the emissions associated with recycling are attributed to the user of the recycled materials, and the same attribution approach has also been applied to the emissions from energy generation from waste. Only transportation and minimal preparation emissions are attributed to the entity disposing of the waste. Landfill emissions remain within the accounting Scope of the organisation producing waste materials.

Figures for Refuse Collection Vehicles have been taken from the Environment Agency's *Waste and Resource Assessment Tool for the Environment (WRATE)* (Environment Agency, 2010).

Waste collected at Wembley Park is sent to the Veolia Waste Transfer Station at Marsh Road, located just over 5km away. From there, waste is segregated further and sent either for recycling (dry recycling) at various facilities depending on the material; for the production Waste (EFW) facility located in Lewisham (30km away). The transport distances for waste used to calculate emission factors are estimated, assuming 10km by road to a transfer station, 25km by road to a MRF or 50km to a municipal waste incineration/ EFW plant. Given the proximity of Wembley to these end destinations, this is likely to result in an over-estimate of distances and resulting emissions. Road vehicles are volume limited rather than weight limited. For all HGVs, an average loading factor (including return journeys) is used based on the HGV factors provided in the 2022 *Conversion factors*. Waste vehicles leave a depot empty and return fully laden. A 50% loading assumption reflects the change in load over a collection round which could be expected.

The methodology described has not been updated since 2010, and

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conversion factors for transport apply 2017 figures. The freight sector, including the transportation of waste has seen significant improvements over recent years, so this is likely to over-estimate emissions. For the reasons outlined above, waste emission factors are considered to be a poor representation of emissions, resulting in an uncertainty interval of +/- 30%.

AGGREGATION OF GHG EMISSION DATA

GHG emissions are aggregated in a number of ways, generating totals by GHG Emission Scope, GHG Emission Category and Sub-Category, and for each of the above, by the following reporting entities within the business:

- Corporate
- Wembley Park Estate
- Quintain Living
- Wembley Park Residential
- Wembley Pak Retail
- Wembley Park Commercial
- Wembley Park Leisure

DATA COVERAGE

Data coverage is calculated based on the Gross Internal Area for which we have been able to obtain data as a proportion of the total Gross Internal Area for assets included within a GHG Inventory Category. This data forms the basis for the measurement of our performance against our annual target to achieve 90% data coverage across all data sources. In some instances, for example where an energy or water supply supplies the public realm, no area is included and the supplies are excluded from the coverage calculation. As in most cases we have data for these areas, coverage figures are likely to under-estimate actual data coverage.

ANNUALISED AREA

As our portfolio of standing assets increases year on year, and assets are handed over from construction part-way through reporting years, we calculate an 'annualised area' based on the proportion of the year the asset was considered a 'standing asset'. This is calculated by multiplying the area by the number of days it was operational and dividing by the number of days in the year.

GLOBAL WARMING POTENTIAL (GWP)

All emission factors used in the GHG Inventory present non-carbon dioxide (CO₂) GHGs as CO₂ equivalents (CO₂e), using Global Warming Potential (GWP) factors from the Intergovernmental Panel on Climate Change (IPCC)'s Fourth Assessment Report that describes

the total warming impact of the six greenhouse gases covered by the Kyoto Protocol: methane (CH₄); nitrous oxides (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF₆). Only CO₂, CH₄ and N₂O are included in the *BEIS GHG Conversion Factors*. This is consistent with reporting under the United Nations Framework Convention on Climate Change

Greenhouse Gas	GWP
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298

(UNFCCC) and with the UK Greenhouse Gas Inventory, upon which the 2020 and 2021 GHG Conversion Factors are based. The underlying methodology states that this is because although the IPCC has prepared a newer version of GWP figures, methods have not yet been officially accepted for use under the UNFCCC.

EXTERNAL ASSURANCE

Our 2013/14 baseline emissions were externally assured to a limited level of assurance using the ISO 14064-3: 2006 standard. This was updated in 2015 (assured to a reasonable level of assurance using the ISO 14064-3: 2006 standard) to include additional emissions that were missing from our initial inventory. These assurance activities were carried out by Carbon Credentials.

Our 2020 and 2021 emissions were assured to a limited assurance engagement in accordance with ISAE 3410, Assurance Engagements on Greenhouse Gas Statements, and were carried out by BDO.

Whilst we aim for accuracy in our data, we are not always able to obtain full and correct information in the timeframe required for reporting. As a result, our 2022 GHG Inventory includes restatements of historic emissions that reflect new information that has come to light in the current reporting year. This includes, for example, the replacement of estimated with actual consumption figures; the addition of data that was not previously available; and updates to building areas based on as-built rather than design information. Our restatements have not been re-assured, but these adjustments are made in line with our GHG procedures and have been reviewed alongside our 2022 emissions.

INSIGHTS

OCCUPANCY [p15]

Occupancy data is provided by the Quintain Living team on a monthly basis and the occupancy percentage is calculated based on the number of apartments let at month-end as a proportion of the total number of

apartments in each asset. Note that there may be a small difference if this was calculated based on occupied floor area (there are different apartment sizes within each building), but this becomes less relevant as the Quintain Living assets achieve higher occupancy levels.

There may also be a small under/over-estimate in occupancy where apartments are let mid-way through the month, or a let but not yet occupied. Again, this becomes less relevant as occupancy becomes more stable.

Occupancy over each quarter is plotted against the average daily consumption for the corresponding quarter and the resulting straight-line equation is used to predict consumption at a given occupancy level. The 2022 projected consumption totals for landlord electricity, resident electricity and building water are based on the average occupancy rate for the year relative to each individual supply. These are summed and then used to calculate the difference between the projection based on historic occupancy trends and actual consumption.

WEATHER [p16]

The closest weather station is Northolt; this is located 9.6 km south-west of Wembley Park and has good quality data with no significant problems detected in the datasets.

Heating Degree Days (HDD)

HDD, are a measure of how much (in degrees), and for how long (in days), outside air temperature was lower than a specific "base temperature" (or "balance point"). They are used for calculations relating to the energy consumption required to heat a building. The selected base temperature for analysis here is 15.5°C; this relates to a reasonably well-insulated building and assumes that when the outdoor temperature falls below 15.5°C, there is a requirement for heat. For any given day, the HDD are calculated as per the example below:

*December 31st: Average daily temperature 6°C = (15.5° – 6°) * 1 day = 8.5 HDDs.*

Daily figures are then summed to match the periods for which we have data.

Cooling Degree Days (CDD)

Similarly, HCC are a measure of how much (in degrees), and for how long (in days), outside air temperature was lower than the set base temperature. They are used for calculations relating to the energy required to cool a building. As such, they are only useful where

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cooling is present, such as in our commercial spaces.

The selected base temperature here is 19.5°C; this doesn't assume that when the temperature outside rises above this temperature that cooling is required, because it also factors in additional heat gains inside the building from people and equipment.

CDD are calculated as per the HDD example above.

Precipitation

Precipitation is simply a measure of rainfall recorded at a particular location, summed over a defined period.

ELECTRIC VEHICLE CHARGING [p17]

We have applied various factors from the UK Government GHG Conversion Factors for Company Reporting to estimate the distance travelled using the EV charge from our charging points.

Whilst there are a variety of different vehicle and battery types, we have assumed the use of 100% battery vehicles when making these calculations as this provides a more conservative estimate.

This has then been compared with the emissions for an equivalent average-sized car with unknown fuel type (either petrol or diesel).

The distance travelled by EV is calculated using the inverse of the kWh (Net) per mile for an average-sized car from the SECR kWh UK electricity for EVs section. This estimates 0.39202 kWh (Net) per mile, which results in 2.55 miles per kWh. This is then multiplied by the kWh consumed by the EV charging points for which we have data to obtain a mileage figure that is then multiplied by the emission factor for grid electricity. We have not included the additional Scope 3 emissions in our assessment.

The same mileage figure is also multiplied by the emission factor for a comparable average-sized car using an unknown fuel to obtain the alternative emissions scenario, and the difference between the two figures is calculated to estimate the emissions saved.

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TABLES

TABLE M1: UNCERTAINTY INTERVALS FOR ACTIVITY DATA

Type of Activity Data	Uncertainty
1.1a & 5.2a Mains Gas, 2.1a & 5.2b Grid Electricity, 4.1b FERA, 4.3a & 5.2d Water	
Meter Read Data: Actual	+/- 5%
Meter Read Data: Apportioned	+/- 10%
Meter Read Data: Estimated Data	+/- 15%
1.2a Petrol, 1.2b Diesel	
Fuel card data	+/- 5%
2.1b & 5.2c Heat (Metropolitan)	
Actual Data	+/- 10%
Apportioned Data	+/- 15%
Estimated Data	+/- 20%
2.1b & 5.2c Heat (EOn)	
Actual Data	+/- 15%
Apportioned Data	+/- 20%
Estimated Data	+/- 30%
4.3b & 5.22 Waste	
Waste tonnage measured on removal	+/- 5%
Waste tonnage calculated based on measured volume	+/- 10%
Waste tonnage estimated	+/- 20%

TABLE M2: EMISSION FACTORS & UNCERTAINTY INTERVALS FOR EMISSION FACTORS

GHG Emission Category	EF 2022	Uncertainty	Emission Factor Sources
1.1 Direct emissions from stationary combustion		-	-
1.1a Mains Gas	0.183	+/- 10%	BEIS YEAR> Fuels> Natural Gas> > kgCO ₂ e/kWh (Gross CV)
1.2 Direct emissions from mobile combustion	-	-	-
1.2a Petrol (average biofuel blend)	0.227	+/- 15%	BEIS YEAR> Fuels> Petrol (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
1.2b Diesel (average biofuel blend)	0.241	+/- 15%	BEIS YEAR> Fuels> Diesel (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
2.1 Indirect emissions from imported electricity	-	-	-
2.1a Grid electricity	0.193	+/- 30%	BEIS YEAR> UK Electricity> Electricity Generated> kgCO ₂ e
2.2 Indirect emissions from imported energy	-	-	-
2.2a Eastern Lands Energy Centre (Metropolitan)	0.266	+/- 30%	kgCO ₂ e/kWh > EL Energy Centre Heat Calculations
2.2b NW Lands Energy Centre (EOn)	0.409	+/- 50%	kgCO ₂ e/kWh > NW Energy Centre Heat Calculations
4.1 Emissions from purchased goods	-	-	-
4.1b Fuel and Energy Related Activities	-	-	-
4.1ba Gas Supply	-	-	-
- Well-to-tank	0.031	+/- 10%	BEIS YEAR> WTT-Fuels> Natural Gas> kWh (Gross CV) > kgCO ₂ e/kWh
4.1bb Electricity Supply	0.068	-	-
- Well-to-tank (generation)	0.004	+/- 30%	BEIS YEAR> WTT-UK & Overseas elec> WTT - UK electricity (generation) > kgCO ₂ e/kWh
- Well-to-tank (transport & distribution)	0.018	+/- 30%	BEIS YEAR> WTT-UK & Overseas elec> WTT - UK electricity (T&D) > kgCO ₂ e/kWh
- Transmission & distribution	0.018	+/- 30%	BEIS YEAR> T&D> UK Electricity> kgCO ₂ e/kWh
4.1bc Eastern Lands Energy Centre (Metropolitan)	0.057	+/- 30%	kgCO ₂ e/kWh > EL Energy Centre Heat Calculations
4.1bd North West Lands Energy Centre (EOn)	0.071	+/- 50%	kgCO ₂ e/kWh > NW Energy Centre Heat Calculations
4.1be Petrol Supply	-	-	-
- Well-to-tank (extraction, refining, transport)	0.064	+/- 15%	BEIS YEAR> WTT-Fuels> Fuels> Petrol (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
4.1bf Diesel Supply	-	-	-
- Well-to-tank (extraction, refining, transport)	0.058	+/- 15%	BEIS YEAR> WTT-Fuels> Fuels> Diesel (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
4.3 Emissions from the disposal of solid and liquid waste	-	-	-
4.3a Water	0.421	-	-
- Mains Incoming Water Supply	0.149	+/- 30%	BEIS YEAR> Water Supply> cubic metres> kgCO ₂ e/ cubic metre
- Mains Incoming Water Removal	0.272	+/- 30%	BEIS YEAR> Water Treatment> cubic metres> kgCO ₂ e/ cubic metre
4.3b Waste	-	-	-
4.3aa Household/ Commercial EFW	21.280	+/- 30%	BEIS YEAR> Waste disposal> tonnes> kgCO ₂ e
4.3ab Open or closed loop recycling	21.280	+/- 30%	BEIS YEAR Waste disposal> tonnes> kgCO ₂ e
4.3ac Organic (composting/ anaerobic digestion)	8.911	+/- 30%	BEIS YEAR> Waste disposal> tonnes> kgCO ₂ e
5.2 Emissions from downstream leased assets	-	-	-
5.2a Gas	0.214	+/- 10%	1.1a + 4.1ba above
5.2b Electricity	0.262	+/- 30%	2.1a + 4.1bb above
5.2c Heat	-	-	-
5.2ca Eastern Lands Energy Centre (Metropolitan)	0.322	+/- 30%	2.2a + 4.1bc above
5.2cb North West Lands Energy Centre (EOn)	0.480	+/- 50%	2.2b + 4.1bc above
5.2d Water	4.3a above	+/- 30%	4.3a above
5.2e Waste	4.3b above	+/- 30%	4.3b above