



QUINTAIN

BRINGING PROPERTY AND
PLACES TO LIFE

2023 Greenhouse Gas Report

INTRODUCTION

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Alongside our 2023 Sustainability Report, our 2023 GHG Greenhouse Gas Report sets out 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 2023 reviewed and updated our procedures to incorporate the additional requirements of the Science-based Target Initiative (SBTi) in preparation for a submission of short- and long-term targets to the scheme. As part of this process, we 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 continue to be reported by implementing the guidance set out in ISO 14064:1 (2018) and in accordance with our *GHG Policy and Data Management Procedures*. In 2023, we re-categorized some of our emissions to better align with SBTi, and in accordance with recently published guidance from the Greenhouse Gas Protocol and SBTi in relation to the treatment of life cycle emissions in GHG inventories, have made some amendments to our approach that take immediate effect and are discussed further in the following sections. Other changes will take place once our targets are submitted and approved, and SBTi becomes a material consideration in the preparation of our inventory; this will be reported on in due course.

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

The 2023 emissions reported in our GHG Inventory 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.

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 2023 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 adopt 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 entities we use are:

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

¹ and removals.

INTRODUCTION

REPORTING SCOPE



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?*

We periodically assess the materiality of each emissions category, and in 2023, the contributions of each emission source were reviewed again in preparation of our baseline SBTi baseline GHG Inventory.

As a result of this exercise, we have included an additional source of emissions – the emissions associated with the operation of assets sold – that were previously scoped out. Where present, and on the basis of a three-year rolling average approach, these emissions exceed our threshold for significance based on their scale, and a procedure has been developed to assess the quantity of these emissions for historic and future assets sold prior to first occupation.

There are additional emission categories that do not currently meet our significance criteria, but due to the requirement to included them as part of SBTi, once our targets are approved, will then become material; these will be addressed in due course.

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 in 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 only account for 4% of total emissions but are 33% of total Scope 1 and Scope 2 emissions in 2023 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 2023, there was a 0.21% increase in this emission factor compared with 2022.

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. Since 2021 when we switched to

all-electric vehicles across the Wembley Park estate, our fuel use has been minimal; a small quantity of petrol was purchased in the reporting year for use in ride-on equipment to support our landscaping needs; no diesel was consumed.

SIGNIFICANCE

Mobile combustion emissions accounted for 0.0002% of total Scope 1 and Scope 2 emissions in 2023, 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, and 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 2023, there was a 2.43% decrease in emissions associated with petrol.

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.

Multiple new buildings have been constructed since 2015, including a high-rise office block, and 11 new residential assets, as well as three major car parks. At the same time, a large number of assets have been sold and are no longer in the portfolio. An estimate of these emissions in 2023 resulted in 118 tCO₂e, equating to 3% of Scope 1 and 2 emissions in our 2022 GHG Inventory.

INTRODUCTION

REPORTING SCOPE



In accordance with section C4 of the *SBTi Buildings Guidance Draft for Pilot Testing*, fugitive emission relating to refrigeration equipment in buildings must be included as part of our SBT GHG Inventory and target boundaries; once those targets are submitted and accepted, this emission source will then become material and will also transfer to our ISO 14064 GHG Inventory; they are not however currently considered material and are not included in our 2023 GHG Inventory.

QUANTIFICATION MODEL

Service records were not available when the assessment was undertaken, so for existing equipment, the Screening Method was applied based on the equipment known to be installed, the refrigerant type and the refrigerant charge.

Some data regarding refrigerant equipment installed in new assets has been made available, but not all. This sets out a variety of information, sometimes including the model and type of equipment and installation records. Using manufacturers data, the types of refrigerants and the refrigerant charge can be determined. With this information, the screening method was applied to determine the likely refrigerant loss in the reporting year.

Where refrigerant equipment is known to be installed, but the type is unknown, assumptions were made regarding the likely equipment installed, based on similar asset types across the inventory. For Quintain Living assets, the average refrigerant loss calculated for assets where refrigeration equipment is known was applied to all other assets.

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 across the public realm (including vacant units), as well as landlord-supplied electricity in offices we lease.

SIGNIFICANCE

These emissions account for 8% of total and 65% of Scope 1 and Scope 2 emissions in 2023 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 2023, for the first time in since 2014, there was increase in emissions associated with grid electricity. It is thought that this is likely to be due to the reduced contribution of onshore and offshore wind during 2021 (the year to which the emission factor data relates), due to unusually calm weather. This resulted in an increased contribution of electricity from gas fired power stations to meet demand. 2023 emissions related to electricity are 7.1% higher than in 2022, but still 2.5% lower than the emissions factors applied in 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 supplied and/ or consumed. This is currently a small number of office units with corporate uses and a multi-occupier office building, where Quintain (via its agent) is responsible for the delivery of heat to occupiers.

SIGNIFICANCE

These emissions are equivalent to 0.3% of total and 2.5% of 2023 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 to the Quintain Living Hub and The Yellow in the Northwest Lands by EOn, 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 2023, 2022 emission factors were recalculated based on updated input data made available by Eon, resulting in an 11% increase; 2023 emissions associated with the EOn network are 28% higher than the restated 2022 factors. Heat to our multi-tenant office building, The Hive, 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 2023, 2022 emission factors were recalculated and restated; 2023 emissions associated with the Metropolitan network are 0.8% lower than the restated 2022 factors.

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

Emissions from employee commuting were estimated in 2023 and were found to be equivalent to 0.00165% of 2022 Scope 1 and 2 emissions and 0.00006% of total emissions. They are therefore below

INTRODUCTION

REPORTING SCOPE



the threshold for inclusion in the ISO 14064 GHG inventory.

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 total emissions, this GHG Inventory Category is outside the scope of our ISO 14064 GHG Inventory and reporting.

SCOPE 3: CATEGORY 4 INDIRECT GHG EMISSIONS FROM USED PRODUCTS & SERVICES

4.1 EMISSIONS FROM PURCHASED GOODS²

Previously, goods supplied to the organisation included those used in the construction of assets (i.e. 'Embodied Carbon'). In accordance with updated guidance on the treatment of embodied emissions from GHG Protocol and SBTi, these emissions will from the 2023 GHG Inventory, be included under Category 4.2 Capital Goods (and historic emissions will be restated for this category).

4.1a Purchased Goods & Services (spend-based)

EMISSION SOURCES

Emissions include those related to the goods and services purchased by the organization.

SIGNIFICANCE

Estimated in 2023 based on 2020 spend data, purchased goods and services totalled 2,473 tCO₂e and accounted for 1.97% of total 2022 emissions; below the threshold for inclusion in the ISO 14064 GHG Inventory.

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

In the 2023 GHG Inventory, these emissions are equivalent to 27% of total Scope 1 and Scope 2 emissions and are therefore considered to be material. Overall, they accounted for 4% of Scope 3 emissions and 3.5% of total emissions.

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 2023, there were the following changes in emission factor associated with well-to-tank and transmission & distribution for fuels used in our GHG Inventory:

- Gas: 2.86% reduction
- Electricity: 0.56%
- Petrol: 4.4% reduction
- Metropolitan Heat Network: 4.45% reduction
- EOn Heat Network: 31% reduction

4.2 EMISSIONS FROM CAPITAL GOODS

4.2a 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.

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. A single asset – Repton Gardens – was completed and handed over at the beginning of 2023, resulting in 17,030 tCO₂e. This is equivalent to 407% of Scope 1 and 2 emissions, 60% of Scope 3 emissions, and 53% of total emissions, making it the single largest source of emissions in the 2023 GHG Inventory.

This follows the zero contribution of this emission source in 2022, as there were no construction completions in the 2022 reporting year. The three-year rolling-average emissions associated with this category are 36,089 tCO₂e, which would equate to 837% of Scope 1 and 2 emissions, 45% of Scope 3 emissions and 43% of total emissions.

QUANTIFICATION MODEL

An emission factor of 570kgCO₂e/m² has been applied to the residential asset based on the life cycle assessment carried out by Buro Happold at RIBA Stage 3 for this asset. Whilst not updated during construction, there were no major changes to the materials identified during the construction of the project.

For the retail element, no estimate of emissions is provided in the ISO GHG Inventory, so data coverage is recorded as 0%.

4.2b Capital Goods (spend-based)

EMISSION SOURCES

Emissions relate to goods used to furnish buildings, which are not included in the LCA A1 – A5 embodied emissions in Category 4.2a

SIGNIFICANCE

Estimated in 2023 based on 2020 spend data, capital goods totalled 4,193 tCO₂e and accounted for 3% of total emissions. This is below the threshold for inclusion in the ISO 14064 GHG Inventory.

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.

² this category previously included Embodied Emissions (Life Cycle Stages A1 – A5, which are now reported under Category 4.2, Capital Goods).

INTRODUCTION

REPORTING SCOPE



SIGNIFICANCE

In the 2023 GHG Inventory, these emissions are equivalent to 0.3% of total Scope 1 and Scope 2 emissions, accounting for 0.04% of Scope 3 and total emissions.

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 2023, there was a 10.2% reduction in these emission factors compared with 2022.

4.3b Waste

EMISSION SOURCES

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

SIGNIFICANCE

These emissions equate to 0.1% of total Scope 1 and Scope 2 emissions, accounting for 0.02% of Scope 3 and total emissions in 2023. Whilst below the threshold for significance based on scale, this data is material because it is required for by the GRESB survey and 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 2023, there was a small reduction of 0.02% associated with emissions from organic waste; there were no changes to other waste streams.

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

Emissions from services procured are now included in Category 4.1a; no additional services have been identified.

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

5.1 EMISSIONS FROM THE USE STAGE OF SOLD 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 buildings constructed by Quintain, but sold to third-parties prior to first occupation (ongoing maintenance-related emissions would be recorded under Categories 4.1a Purchased Goods & Services and 4.2b Capital Goods).

SIGNIFICANCE

Embodied emissions for sold assets 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. No assets were constructed and sold to third parties in 2023.

In 2023, and in line with guidance from the GHG Protocol and SBTi on the treatment of embodied emissions in GHG Inventories, emissions averaged over three years are also reported. In 2023, three-year average emissions were calculated at 2,490 tCO₂e, which are equivalent to 59% of Scope 1 and 2, 3.2% of Scope 3 and 2.5% of total emissions in 2023.

QUANTIFICATION MODEL

There were no assets constructed and sold prior to first occupation during the 2023 reporting year. The emissions related to assets

constructed and sold in 2021 were calculated using an emission factor of 247.6 kgCO₂e/m² based on the baseline emissions calculated for Quintain residential assets using the embodied carbon report produced for NW07/08 in 2019.

5.1b Embodied Emissions (Life Cycle Stages B6 – B7)

EMISSION SOURCES

Emissions include those from the energy and water consumed during the operational phase (Life Cycle Stages B6 – B7) of buildings sold (ongoing retained building emissions will be reported under Category 5.2).

Previously these emissions were considered out of scope on the basis that 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 to report them for a 60-year period at the point of completion, when for retained assets, these emissions are reported under Category 5.2 Emissions from downstream Leased Assets on an annual basis and it would be within the organisational boundary of the building owner to report these emissions under their Category 1, 2 and 5.2 emissions. However, under recent guidance from the GHG Protocol and SBTi, it is noted that the developer of an asset that is sold prior to first occupation should allocate these emissions to their GHG Inventory.

SIGNIFICANCE

No assets were completed and sold in the reporting year, but as with other life cycle emissions, a three-year average figure has been calculated and is used to determine significance.

In 2023, three-year average emissions were calculated at 28,147 tCO₂e, which are equivalent to 664% of Scope 1 and 2, 36% of Scope 3 and 28% of total emissions in 2023.

QUANTIFICATION MODEL

Emissions related to assets constructed and sold in 2021 were retrospectively calculated and restated for residential assets based on average Quintain Living energy consumption and using future projected emission factors from the UK Government Green Book. Calculated annually, these were then summed over a 60-year period to provide an estimate of 'lifetime operational emissions'. These are of

INTRODUCTION

REPORTING SCOPE



course highly uncertain and dependent on future energy scenarios that are outside Quintain control.

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 food and beverage tenants.

SIGNIFICANCE

These emissions are equivalent to 13% of total Scope 1 and Scope 2, 1.9% of Scope 3, and 1.7% of total emissions in 2023; they 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 4.1a.

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 105% of total Scope 1 and Scope 2, 16% of Scope 3 and 14% of total emissions in 2023 and are therefore considered to be material.

QUANTIFICATION MODEL

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

Across the Northwest 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 Northwest Lands and Eastern Lands, operated by EOn and Metropolitan respectively.

SIGNIFICANCE

These emissions are equivalent to 117% of total Scope 1 and Scope 2 emissions, 17% of Scope 3 and 15% of total emissions in 2023 and are therefore considered to be material.

QUANTIFICATION MODEL

Heat is supplied to Quintain Living apartments in the Northwest 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, 2.1, 4.1a 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. The total reported delivered heat output at the end of 2022 was 1,444,748 kWh greater than the updated total based on actualised data. As a result, the 2022 emission factors have been restated, resulting in a 28% increase in emissions.

For the Metropolitan heat network, an additional supply that was originally not recorded in the 2022 data provided to Quintain was added to the heat total, resulting in greater heat output, and a slightly improved emission factor.

These data issues are factored into our uncertainty calculations.

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 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 account for 2.5% of total Scope 1 and Scope 2, 0.4% of Scope 3 and 0.3% of total emissions in 2023. Whilst this places them below the threshold for inclusion based on scale, they are an important component of the GRESB assessment for individual asset performance, and an indicator of our performance against our Resource Efficiency objectives, so 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, so they are excluded from our inventory.

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

INTRODUCTION

REPORTING SCOPE

remains the same. Veolia provide a breakdown of waste by end route, based on weighed waste at the collection facility. 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

No assets were completed and sold in the reporting year, but as with other life cycle emissions, a three-year average figure has been calculated and is used to determine significance.

In 2023, three-year average emissions were calculated at 827 tCO₂e, which are equivalent to 664% of Scope 1 and 2, 1.1% of Scope 3 and 0.8% of total emissions in 2023.

QUANTIFICATION MODEL

There were no assets constructed and sold prior to first occupation during the 2023 reporting year. The emissions related to assets constructed and sold in 2021 were calculated using an emission factor of 82.32 kgCO₂e/m² based on the baseline emissions calculated for Quintain residential assets using the embodied carbon report produced for NVW07/08 in 2019.

5.4 EMISSIONS FROM INVESTMENTS

EMISSION SOURCES

Emissions from assets owned, or partially owned by the organisation, but over which no operational control is exerted.

SIGNIFICANCE

Previously no emission sources were identified, but the 50% investment in Boxpark, over which Quintain has no operational role,

is now recorded here.

No data is available on the emissions of this asset, but an estimate of 91.5 tCO₂e per annum was made in preparation of the SBTi base-year emissions. This was equivalent to 0.0001% of total 2022 emissions and is therefore below the threshold for inclusion in our ISO 14064 GHG Inventory.

DATA RESTATEMENTS

Data restatements generally result from the availability of more up to date data that was not available at the time of initial reporting.

Updating this information is important when comparing consumption and emissions between years – there would be little rationale in comparing with data that we know to be inaccurate.

Our reporting includes data for previous years for comparison, and we have always used our restated figures. This year we are also reporting the % change between the original and restated inventories to provide additional transparency and confidence in our data.

- Scope 1: 0.0%
 - Scope 2: 0.5%
 - Scope 3: 3.2%
- } TOTAL: 2.38%

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 reporting 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. Whilst we have previously achieved this by scope, 2023 is the first year we have achieved this in every main emission category, and we now have only one sub-category where we do not meet this target – emissions associated with water use and treatment in downstream leased assets. Whilst coverage increased from 77% to 88%, we have not quite met this target.



We do not currently make an estimate of our missing emissions, but this data will be included in future SBTi GHG Inventories.

DATA COVERAGE PERFORMANCE

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

Scope 1

100%

[2022: 100%]

Scope 2

99.4%

[2022: 99.5%]

Scope 3

93.5%

[2022: 88.9%]

TARGET SETTING WORKSTREAM

In January 2024, we formally committed to developing both near- and long-term science-based targets in line with the Science Based Target Initiative (SBTi) criteria and validations, and to submit for validation within the next 24 months.

In 2023, we prepared our baseline SBT Inventory and developed draft near- and long-term targets, which are currently being reviewed internally prior to submission.

Once submitted and approved, we will include both our ISO 14064 GHG Inventory and our SBT GHG Inventory in our future Greenhouse Gas Reports.



SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

2023 GHG INVENTORY

ABSOLUTE EMISSIONS

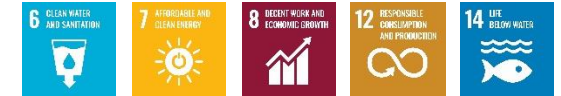


B. Absolute Emissions

	2021 (Restated)				2022 (Restated)				2023			
	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 %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area
TOTAL GHG EMISSIONS	-	139,456,605	-	-	-	14,908,497	-	-	-	32,350,776	-	-
TOTAL SCOPE 1 & SCOPE 2 EMISSIONS	21,444,762	4,328,816	-	99.7%	22,055,261	4,203,145	-	99.6%	20,976,729	4,184,023	-	99.5%
SCOPE 1 (CATEGORY 1)	8,997,384	1,649,194	58,467	100.0%	8,650,805	1,579,176	-	100.0%	7,514,575	1,374,644	-	100.0%
1.1 Direct Emissions from Stationary Combustion [kWh]	8,970,977	1,643,124	58,467	100.0%	8,649,560	1,578,891	57,961	100.0%	7,514,290	1,374,581	57,961	100.0%
■ Corporate	27,984	5,126	506	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Wembley Park Estate	8,942,993	1,637,999	57,961	100.0%	8,649,560	1,578,891	57,961	100.0%	7,514,290	1,374,581	57,961	100.0%
1.2 Direct Emissions from Mobile Combustion [kWh]	26,407	6,070	-	100.0%	1,244	286	-	100.0%	286	63	-	100.0%
■ Wembley Park Estate	26,407	6,070	-	100.0%	1,244	286	-	100.0%	286	63	-	100.0%
SCOPE 2 (CATEGORY 2)	12,447,378	2,679,621	290,735	99.6%	13,404,456	2,623,968	-	99.6%	13,462,153	2,809,378	-	99.4%
2.1 Indirect Emissions from Imported Electricity [kWh]	12,050,101	2,558,598	274,358	99.6%	13,010,848	2,515,478	279,589	99.5%	13,076,778	2,706,551	282,862	99.4%
■ Corporate	373,849	79,379	2,900	79.6%	260,911	50,455	2,393	75.3%	146,020	30,237	2,193	48.2%
■ Wembley Park Estate	3,681,251	781,640	143,916	100.0%	4,068,183	786,705	136,752	100.0%	3,624,052	750,448	136,752	100.0%
■ Quintain Living	5,049,977	1,072,262	87,421	99.8%	5,857,791	1,132,220	101,528	99.9%	6,443,853	1,333,043	104,650	99.9%
■ Wembley Park Residential	951,816	202,099	14,451	100.0%	804,427	155,560	14,451	100.0%	681,416	141,104	13,864	97.0%
■ Wembley Park Retail	1,604,088	340,596	7,391	94.1%	1,518,492	293,646	5,866	89.1%	1,674,899	346,828	6,805	100.0%
■ Wembley Park Commercial	389,119	82,622	15,909	100.0%	501,044	96,892	15,814	100.0%	506,539	104,891	15,814	100.0%
■ Wembley Park Leisure	0	0	2,369	100.0%	0	0	2,784	100.0%	0	0	2,784	100.0%
2.2 Indirect Emissions from Imported Heat [kWh]	397,277	121,023	16,377	100.0%	393,608	108,490	16,377	100.0%	385,375	102,827	16,377	100.0%
■ Corporate	2,391	888	263	100.0%	2,934	1,532	263	100.0%	3,665	1,382	263	100.0%
■ Wembley Park Estate	36,664	13,618	300	100.0%	17,562	9,167	300	100.0%	18,874	7,115	300	100.0%
■ Wembley Park Commercial	358,222	106,517	15,814	100.0%	373,112	97,791	15,814	100.0%	362,837	94,330	15,814	100.0%
TOTAL SCOPE 3 EMISSIONS	-	193,275,646	-	78.9%	-	10,705,352	-	89.3%	-	28,166,753	-	93.5%
SCOPE 3 (CATEGORY 4)	-	90,655,830	-	83.3%	-	1,206,104	-	99.6%	-	18,182,375	-	93.6%
4.1 Emissions from Purchased Goods & Services	21,441,624	1,259,657	274,294	96.8%	22,052,367	1,178,707	279,589	99.6%	20,969,903	1,133,928	282,499	99.5%
4.1a Fuel and Energy Related Activities	21,441,624	1,259,657	274,294	96.8%	22,052,367	1,178,707	279,589	99.6%	20,969,903	1,133,928	282,499	99.5%
■ Corporate	404,224	30,589	2,900	79.6%	263,845	18,053	2,393	75.3%	149,685	10,129	1,829	57.8%
■ Wembley Park Estate	12,684,177	574,984	143,916	94.7%	12,736,550	548,006	136,752	100.0%	11,157,501	473,870	136,752	100.0%
■ Quintain Living	5,049,977	398,797	87,421	99.9%	5,854,896	399,128	101,528	99.9%	6,437,512	436,367	104,650	99.9%
■ Wembley Park Residential	951,816	75,165	14,451	100.0%	804,427	54,838	14,451	100.0%	681,416	46,190	13,864	97.0%
■ Wembley Park Retail	1,604,088	126,675	7,327	94.1%	1,518,492	103,516	5,866	92.8%	1,674,669	113,533	6,805	100.0%
■ Wembley Park Commercial	747,341	53,447	15,909	100.0%	874,156	55,166	15,814	100.0%	869,376	53,838	15,814	100.0%
■ Wembley Park Leisure	0	0	2,369	100.0%	0	0	2,784	100.0%	0	0	2,784	100.0%
4.2 Emissions from Capital Goods	132,164	89,384,481	132,164	83.1%	N/A	N/A	N/A	N/A	32,057	17,030,099	32,057	93.2%
4.2b Embodied Emissions (Life Cycle Stages A1 – A5) [m ²]	132,164	89,384,481	132,164	83.1%	N/A	N/A	N/A	N/A	32,057	17,030,099	32,057	93.2%
■ Wembley Park Estate	19,142	0	19,142	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Quintain Living	79,658	64,844,174	79,658	100.0%	N/A	N/A	N/A	N/A	29,879	17,030,99	29,879	100.0%
■ Wembley Park Residential	30,147	24,540,307	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Wembley Park Retail	267	0	267	0.0%	N/A	N/A	N/A	N/A	2,179	0	2,179	0.0%
■ Wembley Park Commercial	289	0	289	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Wembley Park Leisure	2,661	0	2,661	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2023 GHG INVENTORY

ABSOLUTE EMISSIONS

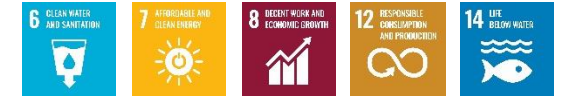


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	2021 (Restated)				2022 (Restated)				2021 (Restated)			
	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %
4.3 Emissions from the disposal of solid and liquid waste	-	13,235	-	97.5%	-	27,398	-	97.7%	-	18,348	-	99.1%
4.3a Water [litres]	16,604,139	6,990	132,106	96.3%	42,895,886	18,059	132,898	96.9%	32,264,416	12,196	131,145	98.9%
■ Corporate	340,072	143	2,156	49.1%	529,305	223	1,650	64.1%	402,20	152	1,650	64.1%
■ Wembley Park Estate	3,677,828	1,548	72,201	99.6%	19,445,451	8,187	72,201	99.6%	8,287,680	3,133	72,201	99.6%
■ Quintain Living	4,153,759	1,749	22,781	98.3%	6,474,814	2,726	25,169	98.2%	7,484,313	2,829	24,455	98.9%
■ Wembley Park Residential	2,541,523	1,070	9,300	64.0%	5,947,563	2,504	9,300	93.8%	5,718,991	2,162	8,404	96.8%
■ Wembley Park Retail	5,307,154	2,234	7,331	66.6%	9,524,926	4,010	5,981	64.0%	8,470,576	3,202	5,837	98.8%
■ Wembley Park Commercial	583,804	246	15,909	99.4%	973,826	410	15,814	100.0%	1,900,236	718	15,814	100.0%
■ Wembley Park Leisure	0	0	2,369	100.0%	0	0	2,784	100.0%	0	0	2,784	100.0%
4.3b Waste [kg]	299,032	6,245	96,724	99.2%	464,851	9,339	94,849	99.2%	293,613	6,152	142,086	99.5%
■ Corporate	15,914	302	2,900	74.4%	292	292	2,393	68.9%	16,645	335	2,393	68.9%
■ Wembley Park Estate	277,288	5,826	92,489	100.0%	438,148	8,804	91,068	100.0%	263,279	5,541	138,304	100.0%
■ Quintain Living	1,747	31	46	100.0%	6,453	129	214	100.0%	8,048	157	214	100.0%
■ Wembley Park Retail	4,082	86	1,289	100.0%	5,650	114	1,174	100.0%	5,641	119	1,174	100.0%
SCOPE 3 (CATEGORY 5)	-	102,619,751	-	75.2%	-	9,499,248	-	87.6%	-	9,984,378	-	93.2%
5.1 Emissions from the Use Stage of Sold Products	-	91,910,256	-	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.1a Embodied Emissions (Life-Cycle Stages B1 – B5) [m ²]	30,147	7,469,119	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Wembley Park Residential	30,147	7,469,119	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.1a Embodied Emissions (Life-Cycle Stages B1 – B5) [m ²]	30,147	84,441,138	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
■ Wembley Park Residential	30,147	84,441,138	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.2 Emissions from Downstream Leased Assets	-	8,227,887	-	89.4%	-	9,499,248	-	87.6%	-	9,984,378	-	93.2%
5.2a Tenant Gas [kWh]	2,701,522	579,503	11,944	59.1%	2,894,663	618,416	11,749	59.4%	2,562,560	546,181	7,104	98.3%
■ Wembley Park Retail	2,701,522	579,503	11,944	93.7%	2,894,663	618,416	11,749	59.4%	2,562,560	546,181	7,104	98.3%
5.2b Tenant Electricity [kWh]	12,143,044	3,537,334	227,919	93.7%	16,308,313	4,265,439	236,072	94.4%	15,994,880	4,396,343	258,744	94.6%
■ Wembley Park Estate	19,723	5,745	1,535	100.0%	22,991	6,013	654	100.0%	N/A	N/A	N/A	N/A
■ Quintain Living	4,431,232	1,290,818	179,771	100.0%	7,016,263	1,835,104	193,764	100.0%	8,007,567	2,200,955	220,568	100.0%
■ Wembley Park Retail	5,776,755	1,682,769	36,675	69.0%	7,843,542	2,051,478	193,33,859	68.9%	7,969,167	2,190,401	35,153	68.3%
■ Wembley Park Commercial	0	0	1,763	0.0%	12,036	3,148	1,815	16.3%	18,146	4,988	1,815	16.3%
■ Wembley Park Leisure	1,915,558	558,002	8,175	85.2%	1,413,482	369,696	5,980	79.8%	0	0	1,208	0.0%
5.2b Tenant Heat [kWh]	10,682,146	4,020,865	177,382	100.0%	12,474,168	4,466,789	194,866	99.7%	14,428,797	4,884,170	218,834	100.0%
■ Quintain Living	10,643,846	4,007,048	177,142	100.0%	12,379,973	4,435,902	193,764	100.0%	14,310,701	4,846,648	217,532	100.0%
■ Wembley Park Retail	22,143	7,988	76	100.0%	75,059	24,793	806	100.0%	86,980	27,760	1,006	100.0%
■ Wembley Park Commercial	16,158	5,829	163	100.0%	19,136	6,093	296	100.0%	31,117	9,762	293	100.0%
5.2d Tenant Water [litres]	146,990,880	61,883	286,581	86.4%	243,569,333	102,543	300,483	77.0%	282,011,033	106,601	321,981	88.1%
■ Wembley Park Estate	0	0	1,535	0.0%	0	0	654	0.0%	N/A	N/A	N/A	N/A
■ Quintain Living	135,112,379	56,882	235,929	100.0%	235,643,669	99,206	252,527	88.8%	276,123,287	104,375	280,176	100.0%
■ Wembley Park Retail	2,375,914	1,000	36,526	3.1%	3,625,716	1,526	39,426	3.8%	5,618,215	2,124	38,702	6.8%
■ Wembley Park Commercial	3,682,154	1,550	1,763	53.4%	311,394	131	1,895	49.7%	269,531	102	1,895	49.7%
■ Wembley Park Leisure	5,820,006	2,450	8,175	85.2%	3,988,554	1,679	5,980	79.8%	0	0	1,208	0.0%

2023 GHG INVENTORY

ABSOLUTE EMISSIONS



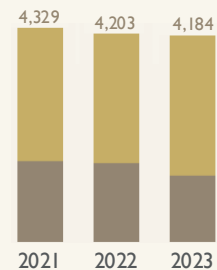
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	2021 (Restated)				2022 (Restated)				2021 (Restated)			
	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area m ²	Data Coverage % Area	Consumption [unit stated]	GHG Emissions [kgCO ₂ e]	Annualised Area [m ²]	Data Coverage %
5.2e Tenant Waste	1,364,712	28,301	318,359	84.1%	2,241,209	46,061	340,761	86.2%	2,432,198	51,083	319,019	92.3%
Quintain Living	1,081,059	22,534	232,158	100.0%	1,592,352	39,493	263,203	100.0%	2,073,583	43,595	263,203	100.0%
Wembley Park Retail	182,445	3,715	60,449	45.2%	305,529	6,305	54,526	53.5%	338,061	7,050	36,898	81.1%
Wembley Park Commercial	34,528	735	17,577	8.2%	12,418	264	17,052	7.3%	20,554	437	17,710	7.0%
Wembley Park Leisure	66,680	1,316	8,175	85.2%	0	0	5,980	0.0%	0	0	1,208	0.0%
5.3 Emissions from the end-of-life stage of the product	30,147	2,481,673	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.3a Embodied Emissions (Life Cycle Stages C1 – C4)	30,147	2,481,673	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wembley Park Residential	30,417	2,481,673	30,147	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.4 Emissions from Investments	0	0	4,645	0%	0	0	4,645	0%	0	0	4,645	0%

2023 GHG SUMMARY

Scopes 1 & 2

Absolute Emissions [tCO₂e]



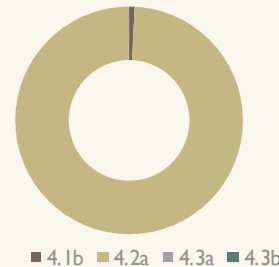
Scope 3 (excl. LCA Emissions)

Absolute Emissions [tCO₂e]

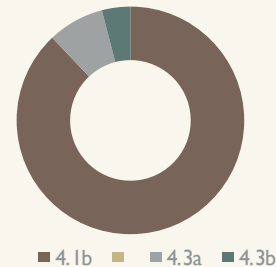


Category 4 Emissions Breakdown

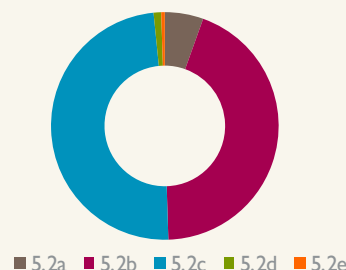
Including 4.2b LCA Emissions



Excluding 4.2b LCA Emissions



Category 5 Emissions Breakdown



Scope 1 Emissions

1,375 tCO₂e

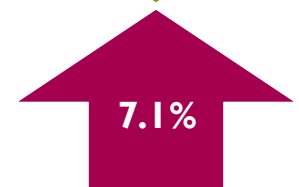
[2022: 1,579 tCO₂e]



Scope 2 Emissions

2,809 tCO₂e

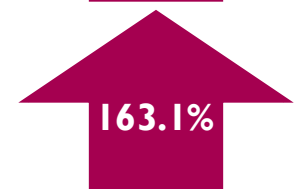
[2022: 2,624 tCO₂e]



Scope 3 Emissions

28,167 tCO₂e

[2022: 10,705 tCO₂e]



Scope 3 Emissions*

11,137 tCO₂e

[2022: 10,705 tCO₂e]



* Excluding LCA Emissions in Category 4.2b

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



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. In these instances, if the building operational period is the same, they are included in our like-for-like data.

In 2023, we saw an overall 2.86% reduction in GHG emissions within our operational control (Scopes 1 and 2) and a 1.09% increase in GHG emissions outside our control (Scope 3). However, greater reductions would have been achieved if emission factors had continued on the reduction trajectory that we have seen in recent years. Applying 2022 emission factors to gas and electricity consumption would have resulted in a reduction of 5.28% in Scope 1 and Scope 2 and a 9.31% reduction in Scope 3 GHG emissions compared with 2022. The electricity emissions factor for 2023 is as a result of specific weather conditions in 2021; given that we know that 2022 was the UK's highest year on record for zero carbon generation, and in 2023 was the greenest year on record, emission factors over the next two reporting cycles will be significantly lower, and we can expect greater emission reductions in our 2024 and 2025 GHG inventories. It is also worth noting again that these emissions lag by two years and these emission reductions were actually realized in 2023.

SCOPE 1: CATEGORY 1 DIRECT EMISSIONS

1.1 Direct Emissions from Stationary Combustion

Like-for-like consumption and emissions have seen a significant reduction of 13% compared with 2022. 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 reduction is in the context of a slight increase in heating degree days in 2023 (2.7%) compared with 2022. This is reviewed in further detail on page 14.

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

	Consumption			GHG Emissions		
	2023 Consumption [unit stated]	2022 Consumption [unit stated]	% Change	2023 GHG Emissions [kgCO ₂ e]	2022 GHG Emissions [kgCO ₂ e]	% Change
TOTAL SCOPE 1 & SCOPE 2	19,256,897	20,701,562	-6.98%	3,829,198	3,941,881	-2.86%
SCOPE 1 (CATEGORY 1)	7,514,290	8,649,560	-13.13%	1,374,581	1,578,891	-12.94%
1.1 Direct Emissions from Stationary Combustion [kWh]	7,514,290	8,649,560	-13.13%	1,374,581	1,578,891	-12.94%
Wembley Park Estate	7,514,290	8,649,560	-13.13%	1,374,581	1,578,891	-12.94%
SCOPE 2 (CATEGORY 2)	11,742,607	12,052,001	-2.57%	2,454,617	2,362,990	3.88%
2.1 Indirect emissions from imported electricity	11,357,232	11,658,393	-2.58%	2,351,791	2,254,502	4.32%
Corporate	146,020	161,182	-9.41%	30,237	31,169	-2.99%
Wembley Park Estate	3,605,985	4,055,870	-11.09%	746,707	784,324	-4.80%
Quintain Living	5,414,418	5,379,487	0.65%	1,121,187	1,040,285	7.78%
Wembley Park Residential	118,039	140,273	-15.85%	24,443	27,126	-9.28%
Wembley Park Retail	1,566,230	1,420,548	10.26%	324,326	274,704	18.06%
Wembley Park Commercial	506,539	501,044	1.10%	104,891	96,892	8.26%
2.2 Indirect emissions from imported energy (heat)	385,375	393,608	-2.09%	102,827	108,490	-5.22%
Corporate	3,665	2,934	24.91%	1,382	1,532	-9.78%
Wembley Park Estate	18,874	17,562	7.47%	7,115	9,167	-22.38%
Wembley Park Commercial	362,837	373,112	-2.57%	94,330	97,791	-3.54%

SCOPE 2: CATEGORY 2 INDIRECT EMISSIONS

2.1 Indirect Emissions from Imported Electricity

There has been a small overall reduction in consumption related to electricity in 2023 compared with 2022, but because of increased grid electricity emission factors, this has resulted in a 4% increase in emissions. Whilst reductions have been made across the majority of assets, a small number of supplies at some of our larger assets have seen significant increases.

2.2 Indirect Emissions from Imported Heat

Like-for-like consumption has reduced by 2.09% and emissions by 5.22%. Consumption of heat in Corporate and Wembley Park Estate assets relates to an office and community hub, and although both have increased, they are supplied by heat from the EOn energy center, where emissions per kWh of heat supplied have reduced significantly, resulting in an overall reduction in associated emissions. The greatest contributor to landlord heat consumption is an office building, The Hive, which has slightly lower consumption than in 2022, but is connected to the Metropolitan Network, where emissions have remained fairly constant.

LIKE-FOR-LIKE GHG EMISSIONS

Scopes 1 & 2

Scope 1 Emissions

1,375 tCO₂e
[2022: 1,579 tCO₂e]

12.9%

Scope 2 Emissions

2,455 tCO₂e
[2022: 2,363 tCO₂e]

3.9%

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



SCOPE 3: CATEGORY 4 INDIRECT GHG EMISSIONS FROM USED PRODUCTS & SERVICES

Whilst emissions are recorded across multiple Category 4 sub-categories, like-for-like emissions are only applicable to emissions relating to fuel and energy related activities (FERA) and to landlord water consumption.

FERA emissions associated with the upstream processes involved in energy generation and distribution related to our Scope 1 and 2 consumption are the most significant like-for-like emission source in this category, accounting for 98.5% of the total, with emissions from the processing of water account for the remaining 1.5%.

4.1 Emissions from Purchased Goods

4.1b Fuel and Energy Related Activities

The 6.34% reduction in Category 4.1b consumption relates directly to consumption reductions set out in relation to Category 1 and Category 2 emissions previously.

Well-to-tank and the upstream emissions associated with transport and distribution have reduced for gas and heat and remained the same for electricity. When combined, this results in an overall reduction in emissions of 5.14%.

Like-for-Like Emissions

	Consumption			GHG Emissions		
	2023 Consumption [unit stated]	2022 Consumption [unit stated]	% Change	2023 GHG Emissions [kgCO ₂ e]	2022 GHG Emissions [kgCO ₂ e]	% Change
TOTAL SCOPE 3	-	-	-	12,964,862	12,825,194	1.09%
SCOPE 3 (CATEGORY 4)	-	-	-	1,027,908	1,102,845	-6.79%
4.1 Emissions from purchased goods	19,256,897	20,701,562	-6.98%	1,017,780	1,086,629	-6.34%
4.1b Fuel and Energy Related Activities (FERA) [kWh]	19,256,897	20,701,562	-6.98%	1,017,780	1,086,629	-6.34%
■ Corporate	149,685	164,116	-8.79%	10,129	11,255	-10.0%
■ Wembley Park Estate	11,139,149	12,722,992	-12.45%	472,628	547,088	-13.61%
■ Quintain Living	5,414,418	5,379,487	0.65%	367,017	366,720	0.08%
■ Wembley Park Residential	118,039	140,273	-15.85%	8,001	9,562	-16.33%
■ Wembley Park Retail	1,566,230	1,420,538	10.26%	106,167	96,838	9.63%
■ Wembley Park Commercial	869,376	874,156	-0.55%	53,838	55,166	-2.41%
4.3 Emissions from the disposal of solid and liquid waste	-	-	-	10,127	16,217	-37.55%
4.3a Water [litres]	26,791,555	38,519,477	-30.45%	10,127	16,217	-37.55%
■ Corporate	402,620	529,305	-23.93%	152	223	-31.70%
■ Wembley Park Estate	8,287,680	19,445,451	-57.38%	3,133	8,187	-61.73%
■ Quintain Living	3,962,264	3,080,158	28.64%	1,498	1,297	15.50%
■ Wembley Park Residential	5,718,991	5,947,563	-3.84%	2,162	2,504	-13.66%
■ Wembley Park Retail	8,420,000	9,517,000	-11.53%	3,183	4,007	-20.56%

LIKE-FOR-LIKE GHG EMISSIONS

Scope 3 Category 4.1

Scope 3
Category 4.1 Emissions

1,018_{tCO₂e}

[2022: 1,087 tCO₂e]

6.34%

4.3 Emissions from the disposal of solid liquid and liquid waste

4.3a Water

With the exception of Quintain Living, where occupancy is thought to have a small influence on water use, substantial reductions have been made in water consumption in landlord supplies across the board, resulting in a 30.45% lower water use than in 2022 and translating to 37.55% fewer emissions.

There are no assets included in the like-for-like data owing to the fact that shared waste systems are in place which have in all cases included additionally occupied assets in the total waste generated, skewing apportionment figures.

LIKE-FOR-LIKE GHG EMISSIONS

Scope 3 Category 4.3

Scope 3
Category 4.1 Emissions

10_{tCO₂e}

[2022: 16 tCO₂e]

37.55%

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



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

The only like-for-like emissions in this category relate to the downstream emissions from leased assets, including tenant gas, electricity, heat, water and waste.

5.2 Emissions from Downstream Leased Assets

Emissions from downstream assets increased overall by 4.21% during the 2023 reporting year, which in part reflects increased occupancy levels across the Quintain Living portfolio; an increased return to office space by commercial tenants; and an increase in certain emission factors.

5.2a Tenant Gas

Tenant gas consumption is limited to use by food and beverage (F&B) tenants in our retail portfolio. In 2023, our like-for-like assets experienced an 11.47% reduction in consumption, which translated to an 11.68% reduction in GHG emissions. With the exception of one unit which saw a minimal increase in consumption, all of our F&B tenants achieved reductions in the reporting year.

5.2b Tenant Electricity

Like-for-like tenant electricity increased overall by 2.62% in 2023, translating to a 7.84% increase in emissions. Consumption occurs across the Quintain Living portfolio, as well as some of our retail and commercial assets. Whilst a small reduction in consumption was seen across the retail sector, this still resulted in increased emissions due to the emission factor increase for electricity. Increases in consumption across Quintain Living are in line with occupancy expectations and are discussed further on page 15, whereas the increase in commercial consumption relates to a single asset, which is a nursery that opened in the middle of 2021.

5.2c Tenant Heat

Like-for-like heat consumption increased by 8.47% in 2023, resulting in a 3.87% increase in emissions. The smaller increase in emissions is as a result of the improved overall efficiencies of both district heat networks in 2023. Like-for-like heat applies to a similar group of assets as tenant electricity, although fewer retail tenants have elected to procure heat via the heat network than have electricity supplies, and there is only one retail unit for which like-for-like data is available.

E. Scope 3 Category 5 Like-for-Like Emissions

	Consumption			GHG Emissions		
	2023 Consumption [unit stated]	2022 Consumption [unit stated]	% Change	2023 GHG Emissions [kgCO ₂ e]	2022 GHG Emissions [kgCO ₂ e]	% Change
SCOPE 3 (CATEGORY 5)	-	-	-	8,107,756	7,780,468	4.21%
5.2 Emissions from downstream leased assets	-	-	-	8,107,756	7,780,468	4.21%
5.2a Tenant Gas [kWh]	2,562,560	2,894,663	-11.47%	546,181	618,416	-11.68%
Wembley Park Retail	2,562,560	2,894,663	-11.47%	546,181	618,416	-11.68%
5.2b Tenant Electricity	12,449,494	12,131,382	2.62%	3,421,860	3,172,963	7.84%
Quintain Living	6,681,188	6,262,732	6.68%	1,836,387	1,638,017	12.11%
Wembley Park Retail	5,750,160	5,856,614	-1.82%	1,580,486	1,531,797	3.18%
Wembley Park Commercial	18,146	12,036	50.76%	4,988	3,148	58.43%
5.2c Tenant Heat [kWh]	12,514,550	11,537,312	8.47%	4,045,289	3,894,544	3.87%
Quintain Living	12,427,022	11,453,105	8.50%	4,017,829	3,867,732	3.88%
Wembley Park Retail	56,411	65,072	-13.31%	17,698	20,719	-14.58%
Wembley Park Commercial	31,117	19,136	62.61%	9,762	6,093	60.22%
5.2d Tenant Water [litres]	240,814,713	216,135,434	11.42%	91,029	90,993	0.04%
Quintain Living	235,236,908	212,319,144	10.79%	88,920	89,386	-0.52%
Wembley Park Retail	5,308,274	3,504,897	51.45%	2,007	1,476	35.99%
Wembley Park Commercial	269,531	311,394	-13.44%	102	131	-22.28%
5.2e Tenant Waste [kg]	160,389	169,180	-5.20%	3,397	3,552	-4.36%
Quintain Living	134,773	149,677	-9.96%	2,851	3,137	-9.09%
Wembley Park Retail	5,062	7,085	-28.55%	108	151	-28.55%
Wembley Park Commercial	20,554	12,418	65.52%	437	264	65.52%

5.2d Tenant Water

There was a 1.42% increase in water consumption across like-for-like assets, the vast majority of which resulted from occupancy changes at Quintain Living. This equated to just a 0.04% increase in emissions however due to a lower emission factor for the removal of wastewater.

It should be noted that tenant water consumption data that is available for Wembley Park Retail and Wembley Park Commercial relates to different assets to those reported for electricity and heat, which is why the levels of change are different to what would be expected if they were the same assets.

5.2e Tenant Waste

The overall quantity of like-for-like waste reduced by 5.23% in 2023, but due to communal collection arrangements for groups of assets, there are very few assets included within this sample.

LIKE-FOR-LIKE GHG EMISSIONS

Scope 3 Category 5

Scope 3 Category 4 Emissions

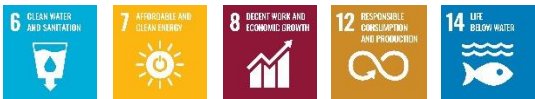
8,112_{tCO₂e}

[2022: 7,784 tCO₂e]

4.21%

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



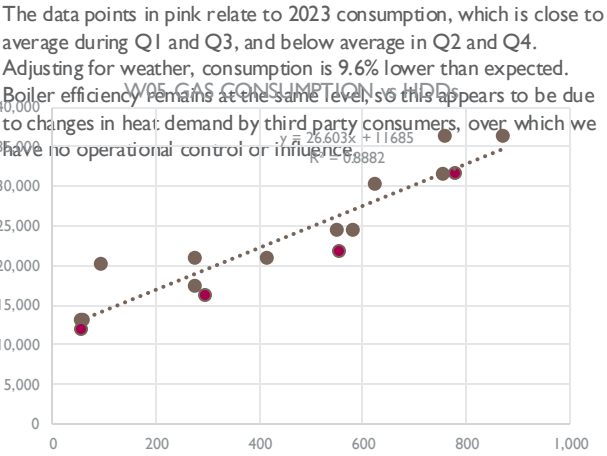
LIKE-FOR-LIKE PERFORMANCE BY ENTITY

Corporate

Overall consumption across our Corporate assets has reduced by 43% compared with 2022, and emissions have reduced by 39%. Absolute electricity consumption has reduced by 44% and emissions by 40%, but this excludes consumption from our Great Portland Street offices in 2023 where we were unable to obtain data. Like-for-like consumption has reduced by the lower figure of 9% and emissions by 3%. This is predominantly as a result of lower consumption at the Quintain Living Hub in our Landsby building. The Quintain Living Hub is also the only asset for which we take a heat supply, where consumption of heat has reduced by 25% in 2023, resulting in a 10% reduction in emissions. Overall water consumption has reduced by 24%, resulting in a 32% reduction in associated emissions; similar levels of reduction were achieved at The Habitat, our Quintain Living office in Marathon House; and at the Quintain Living Hub in Landsby. Whilst this reduction is positive and reflects emission saving measures by our staff, it does not explain the full extent of reduction so this will be monitored by our maintenance teams to compare month on month consumption and usage patterns.

Wembley Park Estate

Overall consumption of energy, including gas, fuels, electricity and heat across the Wembley Park Estate reduced by 12% in 2023, resulting in a 10% reduction in GHG emissions. As previously stated, the only gas consumption within our operational control occurs as a result of boiler plant providing heating to a number of third party assets. As a large portion of this supply is weather-dependent, consumption has been plotted against Heating Degree Days (HDDs) to understand the extent to which weather has an impact on fuel usage. The graph below sets out average daily consumption by quarter against the number of degree days in each quarter, going back to Q1 of 2020. The correlation between weather and consumption is good, but it is worth noting that all of the data points below the line (and therefore below average consumption) occur in the second and fourth quarters of each year. This is likely due to the reduced consumption of the student accommodation assets over those two periods where students are not present for each of those full quarters and demand is lower due to lower occupancy.



The consumption of other fuels and associated emissions have reduced by 78%; this follows a reduction in 2022 of 98% and is as a result of our switch to electric vehicles and bicycles for movement around the estate when our vehicle leasing contract came to an end in 2020. Fuel is now only used on an ad hoc basis to power large estate landscaping equipment. Electricity consumption across the estate has reduced by 11% and associated emissions by 5%. This is mostly due to the significant effort has been placed on reducing electricity consumption across the public realm, particularly in the latter part of 2022. Initiatives 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. Due to the timing of these initiatives, 2023 is the first full year of reduced demand and we have achieved a like-for-like reduction in consumption of 23%, taking into account the additional being added to our surrounding our newest as

An overall reduction in water consumption of 59% was achieved across the Wembley Park Estate in 2023. This is in large part due to leak on one of the supplies to Olympic Way that was repaired as a defect in the final quarter of 2022, inflating 2022 consumption. There continue to be issues with the Envac waste system and further water ingress was experienced in 2023, despite repairs to the system in 2022. This has the effect of rendering parts of the system unusable at certain periods, increasing the volume of waste that is collected by standard waste collections; increasing the tonnage of waste due to saturation; and increasing contamination of collected waste, resulting in lower recycling rates. Overall, waste via Envac has decreased by 2.5% compared with 2022, but this must be viewed alongside increases in standard collections of waste for assets connected to the Envac system. Due to the way waste is allocated to assets based on floor area, waste attributed to landlord areas has reduced because two of the major car parks on site now have separate waste collections.

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



Quintain Living & Wembley Park Residential

Absolute total energy across Quintain Living, including landlord and tenant electricity and heat has increased by 14% in 2023, resulting in a 13% increase in GHG emissions.

Like-for-like electricity consumption has increased by 6.7%, and due to the increase in grid electricity emission factor, electricity emissions have increased by 12%; Like-for-like heat has increased at a slightly higher rate of 8.5%, but with a smaller increase in emissions of 3.9% due to emission factor reductions.

The like-for-like data does not however take into account occupancy, which for the assets where there have been significant changes in consumption, there have also been significant changes in occupancy (greater than 10%).

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. Two of these assets (Emerald Gardens and Alto) were sold in 2023 and are excluded from our like-for-like emissions. Landsby remains within the portfolio, but due to the metering arrangements in this building, resident electricity and heat consumption is unreliable, so no comparison has been made.

The Madison was handed over part way through 2021, and was almost fully occupied by the end of 2022, but average occupancy for the year was 68%; this compares with the current average annual occupancy of 94%. Landlord and resident consumption have both increased in line

with increased occupancy, but as expected, occupancy had a greater impact on energy consumed directly by residents.

The Robinson and Ferrum have seen similar occupancy increases, slightly lower in scale to those at The Madison; as a result the consumption increases at these assets are lower, but in line with expectations given the increased occupancy and are similar in scale to one another.

Alameda experienced a small increase in occupancy, but this corresponded with a reduction in consumption across both landlord and tenant electricity and building heat supplies. These reductions are below our threshold for investigation, but we are currently working with our building managers to understand this performance better. At Beton, there was a negligible increase in occupancy, corresponding to a negligible increase in resident electricity consumption and a small reduction in heat demand. Neither of these consumption patterns warrant further investigation. Landlord consumption has increased by just over 10% however, and the reasons for this are currently being reviewed.

Absolute water consumption across the portfolio increased by 5%, but on a like-for-like basis increased by 10/8%. However, as before, the like-for-like comparison does not take into account occupancy. At The Madison, the 26% increase in occupancy resulted in a 38% increase in water consumption. When plotting occupancy against consumption, there is good correlation with the tenant supplies and actual consumption is within 1% of consumption projected based on the long-term occupancy-consumption trend.

At Canada Gardens, whilst occupancy has increased by just under 1%, water consumption has increased by just over 10%. The asset comprises of seven individual blocks, and consumption across five of these blocks is in line with expectations.

Of these two blocks, one experienced an 83% increase in consumption and the other a 43% increase in consumption. Plotting the long-term occupancy-consumption trends for these buildings and removing outliers where occupancy was below 80% gives consumption that was 79% and 7% higher than expected. This explains some of the consumption increase, but the remainder is currently being investigated. Removing these two blocks from the comparison would have resulted in a 0.1% reduction in consumption. We have experienced some metering issues relating to water consumption at the Robinson, and as such, do not have full confidence in the consumption data obtained for some of the blocks within the asset. Block I experienced a 22% increase in consumption, but when adjusting for occupancy using the long-term occupancy-consumption trend, this translated to a 2.7% increase, which does not warrant further investigation.

There was a 13% increase in consumption across the three buildings at Ferrum, but this corresponds to an 18% increase in occupancy, so is in line with expectations.

A small increase at Alameda and reduction at Beton are also in line with expectations.

D. Quintain Living Occupancy Data

	2023 Annual Occupancy	2022 Annual Occupancy	% Change in Landlord (2.1) Electricity Consumption	% Change in Resident (5.2b) Electricity Consumption	% Change in Resident (5.2c) Heat Consumption	% Change in Resident (5.2d) Water Consumption
The Madison	94.17%	68.40%	5.4%	26.8%	22.0%	38.3%
Canada Gardens	93.66%	92.75%	3.8%	-1.2%	0.7%	10.1%
The Robinson	91.80%	75.31%	2.5%	13.8%	10.4%	4.2%
Landsby	-	-	-13.6%	-	-	-
Ferrum	91.73%	73.50%	3.6%	12.7%	14.1%	13.4%
Alameda	91.83%	96.08%	-6.3%	-4.3%	-2.6%	1.5%
Beton	95.3%	96.38%	10.1%	0.5%	-3.7%	-3.0%

2023 GHG INVENTORY

LIKE-FOR-LIKE EMISSIONS



Wembley Park Retail

Including landlord and tenant gas, electricity and heat, there has been an overall 0% increase in energy consumption, but an increase in GHG emissions of 4%; this is as a result of emission factor changes already discussed.

Landlord electricity consumption has increased by 10%, both on an absolute and like-for-like basis; this resulted in an increase in emissions of 18%. Whilst a 16% reduction in consumption was achieved due to continuing lighting efficiencies in external areas at Stadium Retail Park, there was an overall 10% increase in consumption across London Designer Outlet landlord supplies, which are the majority of landlord retail consumption. The reason for this increase is unknown and is currently being investigated.

There are a small number of food and beverage retailers across Wembley Park who are the only tenants who consume gas. There was an 11.5% reduction in consumption and corresponding 11.7% reduction in GHG emissions in 2023, with all absolute consumption included in the like-for-like comparison. Reductions were achieved across the board, but the most significant was a 52% reduction at the bakery/ café in Landsby; this follows a 68% reduction in 2022 compared with 2021 for the same asset. It is currently unconfirmed as to the reason for this reduction, although the operating conditions for food outlets are increasingly difficult, and food businesses are generally identifying opportunities to reduce operating costs. Whilst there has been a 2% increase in tenant electricity consumption, there has been a 4% increase in tenanted area, weighted over the period and on a like-for-like basis, consumption has reduced by 3%. Only a small number of tenants have chosen to connect to one of the on-site district heat networks, most of which made these connections at some point in 2022, resulting in a weighted area increase of 25% in 2023. As a result, heat consumption has increased by 16%, which is lower than might be expected given the area now covered. Only one asset was operational for the whole of 2022 and 2023, a restaurant in Alameda. Like-for-like consumption relating to that asset saw a 13% reduction in heat consumed and a corresponding 15% reduction in GHG emissions.

We have very limited data available on the water consumption our retail tenants, with data coverage at only 6.8% relating to our Landsby and Repton Gardens assets where retail metering is located within

easy access of our Quintain Living teams who provide this data. There was a 55% increase in water consumption in 2023, corresponding to a 76% increase in area covered by consumption data. On a like-for-like basis, consumption still increased by 52%, mainly due to a single asset. It is notable that this asset is the same one in Landsby that has achieved a significant reduction in gas consumption, so it is possible that this could be related to changes in cooking methods, with an increased utilisation of steam.

There is no typical pattern for consumption changes, with some assets showing small changes and others showing larger changes, both positive and negative. In future we plan to engage further with our tenants and use this data to drive operational performance improvements, to help us and them to understand their consumption patterns, but this is not something we are currently in a position to do given the volume of retailers and current resources.

Wembley Park Commercial

This reporting entity consists of a small number of assets: the largest is our multi-tenant office building, The Hive. Due to the way this asset is managed, all energy consumption is under Quintain operation control and recorded in Scope 2. In addition to The Hive, there is also a nursery and several small units of low-cost employment space, however we only have consumption data for the nursery, which is recorded under Category 5.2. Overall energy consumption has increased by 1%, with an associated increase in emissions of 5%.

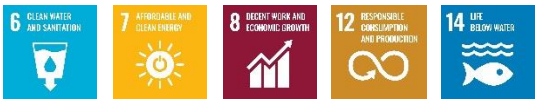
At The Hive, electricity consumption increased by 1%, but heat consumption reduced by 3%. Although there have been no tenancy changes, anecdotally, workers have continued to return to the office in 2023 and the occupied space is busier than in 2022. This does not explain the reduction in heat consumption, although fine-tuning of the commissioning process is thought to be responsible for this reduction in light of increased heating degree days and heating demand. At the nursery located in The Madison building, both electricity and heating have more than doubled in 2023. The Canopy Children's Nursery opened in 2021, where there are currently 33 staff and 72 of the 74 child places are now filled. This is an increase of X% since 2022 and explains the increases in consumption.

The only asset for which we have water consumption data is The Hive, and although included in the like-for-like total, consumption in

2023 is based on a supplier estimate, which does not appear to relate to historic usage, so we are unable to infer any performance differences from this data. Should new data become available, this will be updated in due course.

FURTHER ANALYSIS

BASE-YEAR COMPARISON & QUALITY METRICS



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 2023, mostly reflecting the movement of assets and data between scopes.

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 7 and has improved slightly in 2023.

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.

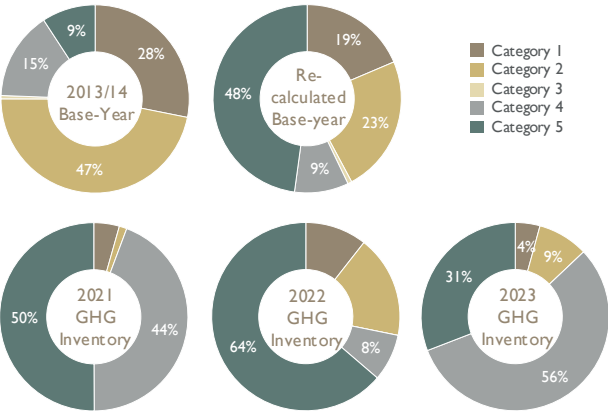
Vehicle emissions are based on fuel card consumption, which is deemed to be of good quality.

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 2022 and 2023 emissions is the addition of embodied emissions reported in 2023 owing to the completion of our Repton Gardens asset during the reporting year. These were our most significant source of emissions in 2023, 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 significantly higher than in 2013/14. Excluding embodied emissions, 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.

FURTHER ANALYSIS

BASE-YEAR COMPARISON & QUALITY METRICS



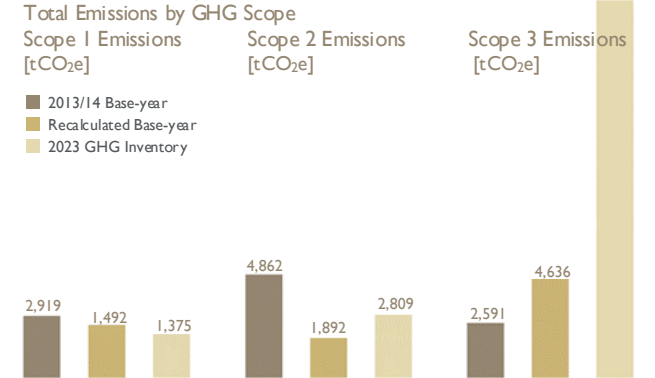
G. Comparison of 2023 GHG Inventory with Base-Year and Recalculated Base-Year by Scope and Entity

	2013/14 Base-Year			Recalculated Base-Year			2021 Comparison with Base-Year			2022 Comparison with Base-Year			2023 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^a	1,892	4,636	1,649	2,679	193,276	1,579	2,624	10,372	1,375	2,809	28,167
Corporate	40	166	109	21	120	89 ^b	5	80	31	0	52	19	N/A	32	11
Wembley Park Estate	2,078	1,953	863	1,468	1,139	534	1,644	795	588	1,579	796	571	1,375	758	483
Quintain Living	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,072	70,622	N/A	1,132	6,812	N/A	1,333	24,665
Wembley Park Residential	N/A	N/A	N/A	N/A	N/A	N/A	N/A	202	119,008	N/A	N/A	57	N/A	141	48
Wembley Park Retail	N/A	N/A	Not Available	N/A	632	588	N/A	341	2,404	N/A	294	2,810	N/A	347	2,890
Wembley Park Commercial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	189	62	N/A	195	65	N/A	199	70
Wembley Park Leisure	N/A	N/A	Not Available	N/A	N/A	1,422	N/A	N/A	562	N/A	N/A	371	N/A	N/A	N/A
iQ Property Partnership (50%)	547	1,311	233	Removed	Removed	Removed	N/A	N/A	N/A	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	2023 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
GHG INVENTORY	10,372	7,962	32,351	+/-23.1%	24,868	39,834	Fair
SCOPE 1 + SCOPE 2			4,184	+/-19.7%	3,360	5,008	Fair
CATEGORY 1: DIRECT GHG EMISSIONS	2,919	1,492	1,375	+/-11.2%	1,221	1,528	Good
1.1 Direct Emissions from Stationary Combustion	2,907	1,476	1,375	+/-11.2%	1,221	1,528	Good
1.2 Direct Emissions from Mobile Combustion	0	3	0.06	+/-15.8%	0.05	0.07	Fair
1.4 Direct Fugitive Emissions in Anthropogenic Systems	13	13	N				
CATEGORY 2: INDIRECT GHG EMISSIONS FROM IMPORTED ENERGY	4,862	1,890	2,809	+/-18.8%	2,000	3,619	Fair
2.1 Indirect Emissions from Imported Energy - Electricity	4,862	1,890	2,707	+/-29.9%	1,897	3,516	Fair
2.2 Indirect Emissions from Imported Energy - Heat	0	0	103	+/-29.1%	73	133	Fair
SCOPE 3	2,591	4,637	28,167	+/-26.4%	20,729	35,604	Fair
CATEGORY 3: INDIRECT GHG EMISSIONS FROM TRANSPORTATION	59	56	N/A	N/A	N/A	N/A	N/A
3.5 Emissions from Business Travel	59	56	N/A	N/A	N/A	N/A	N/A
CATEGORY 4: INDIRECT GHG EMISSIONS FROM PRODUCTS & SERVICES	1,578	745	18,182	+/-39.8%	10,952	25,413	Poor
4.1 Emissions from Purchased Goods & Services	1,290	712	1,134	+/-23.5%	868	1,400	Fair
4.2	N/A	N/A	17,030	+/-42.4%	9,805	24,255	Poor
4.3 Emissions from the Disposal of Solid and Liquid Waste	19	33	18	+/-20.9%	15	22	Fair
4.4 Emissions from the Use of Assets Leased by the Organisation	268	N/A	N/A	N/A	N/A	N/A	N/A
CATEGORY 5: INDIRECT EMISSIONS FROM THE USE OF PRODUCTS	954	3,836	9,984	+/-17.5%	8,241	11,728	Fair
5.1 Emissions from the Use Stage of the Product	954	0	N/A	N/A	N/A	N/A	N/A
5.2 Emissions from Downstream Leased Assets	N/A	3,836	9,984	+/-17.5%	8,241	11,728	Fair
5.3 Emissions from End-of-Life Stage of the Product	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Base-Year Comparison



Lower and Upper Limit Emissions

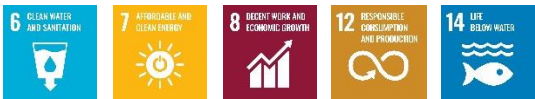


^a Base-year includes Category 1.4 Direct Fugitive Emissions in Anthropogenic Systems, which are not included in the 2022 GHG Inventory.

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

METHODOLOGY

UNCERTAINTY & ACTIVITY DATA BY SOURCE



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 M1.

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

METHODOLOGY

ACTIVITY DATA & EMISSION FACTORS BY SOURCE



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.

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 (E.ON)	
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%

2023 EMISSION FACTORS BY SOURCE

Uncertainty intervals for emission factors are summarized in Table M2 by GHG Inventory Category on page 22. These are calculated based on the assumptions that follow.

NATURAL GAS, PETROL & DIESEL (BEIS 2023)

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 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. 2021 DUKES data applies to 2023 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 Exergia.

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

For petrol, the Exergia 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 the transport of these oils

METHODOLOGY

EMISSION FACTORS BY SOURCE



- 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 as supplied at public and commercial refuelling stations based on Department for Transport Renewable Fuel Statistics (DfT, 2020b) and by factoring in: the bioethanol supplied in the UK as a proportion of the total supply of petrol and bioethanol (7.62% by unit volume, 5.03% by unit energy).

GRID ELECTRICITY (BEIS 2023)

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 2023 GHG Conversion Factors are based on emissions from sector 1A1a (power stations) and 1A2b (autogenerators) in the GHGI for 2021 according to the amount of CO₂, CH₄ and N₂O emitted per unit of electricity consumed (BEIS, 2022). The UK is a net importer of electricity from the interconnectors with France, the Netherlands and Ireland, and in 2023, net imports were calculated from DUKES (2021) 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 was improved on 2022 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').

NORTHWEST 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 2023)

There have been progressive methodological improvements since 2021: from the 2021 GHG Conversion Factors onwards, water supply and water treatment factors have been calculated based on 2020 data from UK water companies Carbon Accounting Workbooks (CAW). In 2023, the methodology was further improved and now uses a weighted average of the actual volume of wastewater treated and drinking water supplied by companies rather than using proxy data (for sewage sludge) as in previous years. These improvements have reduced the level of uncertainty from 'Poor' to 'Good' and an uncertainty interval of +/- 15% is now applied to this data.

WASTE (BEIS 2023)

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.

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 2023 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.

Due to the uncertainty in the inputs used for calculating the emission factors for waste, an uncertainty interval of +/-30% is applied.

METHODOLOGY

EMISSION FACTORS BY SOURCE

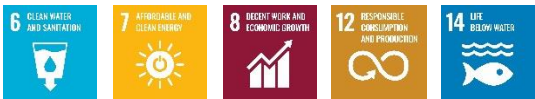


TABLE M2: EMISSION FACTORS & UNCERTAINTY INTERVALS FOR EMISSION FACTORS

GHG Emission Category	EF 2023	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)	0.222	+/- 15%	BEIS YEAR> Fuels> Petrol (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
1.2b Diesel (average biofuel blend)	0.239	+/- 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	0.207	+/- 30%	BEIS YEAR> UK Electricity> Electricity Generated> kgCO ₂ e
2.2 Indirect emissions from imported energy	-	-	-
2.2a Eastern Lands Energy Centre (Metropolitan)	0.260	+/- 30%	kgCO ₂ e/kWh > EL Energy Centre Heat Calculations
2.2b NW Lands Energy Centre (EON)	0.377	+/- 50%	kgCO ₂ e/kWh > NW Energy Centre Heat Calculations
4.1 Emissions from purchased goods and services	-	-	-
4.1b Fuel and Energy Related Activities	-	-	-
4.1ba Gas Supply	-	-	-
- Well-to-tank	0.030	+/- 10%	BEIS YEAR> WTT-Fuels> Natural Gas> kWh (Gross CV) > kgCO ₂ e/kWh
4.2 Emissions from capital goods	-	-	-
4.2a Embodied Emissions [LCA Stages A1 -]	-	-	-
4.2ad NW09/10 Embodied Carbon Report (RIBA Stage B)	570	+/- 50%	NW09/10 Embodied Carbon Report, Buro Happold > kgCO ₂ e/m ²
4.1bb Electricity Supply	0.068	-	-
- Well-to-tank (generation)	0.046	+/- 30%	BEIS YEAR> WTT-UK & Overseas elec> WTT - UK electricity (generation) > kgCO ₂ e/kWh
- Well-to-tank (transport & distribution)	0.004	+/- 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)	0.0537	+/- 30%	kgCO ₂ e/kWh > EL Energy Centre Heat Calculations
4.1bd North West Lands Energy Centre (EON)	0.063	+/- 50%	kgCO ₂ e/kWh > NW Energy Centre Heat Calculations
4.1be Petrol Supply	-	-	-
- Well-to-tank (extraction, refining, transport)	0.061	+/- 15%	BEIS YEAR> WTT-Fuels> Fuels> Petrol (average biofuel blend) > kgCO ₂ e/kWh (Gross CV)
4.3 Emissions from the disposal of solid and liquid waste	-	-	-
4.3a Water	0.378	-	-
- Mains Incoming Water Supply	0.177	+/- 30%	BEIS YEAR> Water Supply> cubic metres> kgCO ₂ e/ cubic metre
- Mains Incoming Water Removal	0.201	+/- 30%	BEIS YEAR> Water Treatment> cubic metres> kgCO ₂ e/ cubic metre
4.3b Waste	-	-	-
4.3aa Household/ Commercial EFW	21.281	+/- 30%	BEIS YEAR> Waste disposal> tonnes> kgCO ₂ e
4.3ab Open or closed loop recycling	21.281	+/- 30%	BEIS YEAR> Waste disposal> tonnes> kgCO ₂ e
4.3ac Organic (composting/ anaerobic digestion)	8.912	+/- 30%	BEIS YEAR> Waste disposal> tonnes> kgCO ₂ e
5.2 Emissions from downstream leased assets	-	-	-
5.2a Gas	0.213	+/- 10%	1.1a + 4.1ba above
5.2b Electricity	0.275	+/- 30%	2.1a + 4.1bb above
5.2c Heat	-	-	-
5.2ca Eastern Lands Energy Centre (Metropolitan)	0.314	+/- 30%	2.2a + 4.1bc above
5.2cb North West Lands Energy Centre (EON)	0.440	+/- 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

METHODOLOGY

OTHER PROCESSES



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 2023 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.

QUINTAIN LIVING OCCUPANCY

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.

WEATHER

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 by subtracting the average daily temperature from the base temperature. The total HDD over a period 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

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.

Precipitation

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

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, 2021, 2022 and 2023 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.

RESTATED DATA

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 2023 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 2023 emissions.

We have this year including an indication for each emission scope of the % difference between originally reported and restated emissions.