



BARRATT
DEVELOPMENTS PLC

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GREENHOUSE GAS REPORTING METHODOLOGY 2023

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1 Introduction

Reporting period	1 st July 2022 to 30 th June 2023
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This document summarises the reporting methodology for Barratt Developments PLC's (The Group's) consolidated greenhouse gas (GHG) reporting for the above reporting period. This methodology is aligned with the GHG Protocol, and compliant with the GHG emissions and energy consumption reporting requirements of the Companies Act 2006 (Strategic and Directors' Reports) Regulations 2013, and with Streamlined Energy and Carbon Reporting Regulations (SECR) 2019.

1.1 Reporting boundaries

The Group reports within its Annual Report and Accounts, Regulatory News Service (RNS) announcement and PLC website on scope 1 and 2 GHG emissions and underlying energy use under the operational control approach. As with previous years, scope 1 and 2 data is sourced from all of the Group's operations, which together extend across England, Scotland and Wales. The Group also reports on its relevant scope 3 emissions.

1.2 Reporting framework

The Group has developed and tailored its list of energy and GHG key performance indicators (KPIs) in line with its material issues, business reporting requirements, Corporate Sustainability indexes/surveys and the latest UK guidelines, including:

- The Companies Act 2006
- The Greenhouse Gas (GHG) Protocol (WRI, WBCSD)
- Streamlined Energy and Carbon Reporting (SECR)
- Energy Savings Opportunities Scheme (ESOS)
- Task Force on Climate-related Financial Disclosure (TCFD)
- The Group's KPIs and core sustainability metrics

1.3 Greenhouse gases

In accordance with the Kyoto Protocol the Group measures and reports emissions arising from the seven main greenhouse gases that contribute to climate change, namely carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

The effect of these emissions is reported as a single figure, carbon dioxide equivalent (CO₂e), which represents their combined global warming potential.

1.4 Emission factors

Greenhouse gas emissions are reported in line with the UK Government's 'Environmental Reporting Guidelines: including Streamlined Energy and Carbon Reporting (SECR)', March 2019 and the Group has used the GHG emission factors outlined in the version of the DEFRA/BEIS 'UK Government conversion factors for Company Reporting' described below.¹

¹ The range of emission sources have a number of greenhouse gas emissions associated with them, and each have different levels of impact on global warming (referred to as Global Warming Potential, GWP). As such, to get a meaningful comparison between the GHG emissions, conversion factors are used to convert the quantities consumed into tCO₂e. CO₂e is a measure for describing the impact of each different GHG in terms of the amount of carbon dioxide that would create the same amount of global warming.

Company reporting period	DEFRA/BEIS UK Government Conversion Factors
Reporting year: Financial Year 1 st July to 30 th June 2023 ('FY23')	UK Government conversion factors for company reporting 2022 v1.00
Comparative year: Financial Year 1 st July to 30 th June 2022 ('FY22')	UK Government conversion factors for company reporting 2021 v2.00
Base year: Financial Year 1 st July to 30 th June 2018 ('FY18')	UK Government conversion factors for company reporting 2017 v1.00

All diesel used on sites is reported using a 'gas oil' emission factor.

1.5 Intensity metrics

To allow for ready comparison, the Group reports both absolute and intensity metrics.

The scope 1 and 2 intensity metric is greenhouse gas emissions normalised by floor area - tCO₂e per 100m² legally completed floor area². This metric is used in mainstream housebuilding financial reporting, and therefore encouraged by industry benchmarks such as NextGeneration, with uptake across the industry.

Plot floor area is recorded in square feet at the design stage of each plot. Total plot floor area for legally completed properties in the period is extracted from the Group's financial system, which is then converted to square metres by multiplying by 0.092903.

Legally completed build area **includes** all habitable areas of a building and multiple floors where applicable. On certain contracts for which title to land is transferred to the customer before construction is complete, build area is recognised as completed in proportion to the construction work completed. It **excludes** outside areas such as patios, garden areas, parking and garages, sheds and other external storage areas. It **excludes** communal area such as landings and shared hallways. It **excludes** the floor area of commercial premises including those constructed by Wilson Bowden Developments.

1.6 Energy consumption

Energy consumption associated with scope 1 and 2 greenhouse gas emissions is measured and reported in line with SECR reporting requirements. Where available, energy use is captured directly (e.g. MWh of electricity/gas used) or otherwise it is converted from available units to energy units using UK Government conversion factors (e.g. for diesel and LPG).

2 Scope 1 and 2 GHG emissions measurement

2.1 Context

Scope 1 comprises direct emissions from sources controlled by the Group, including all joint ventures. These include use of diesel, hydrotreated vegetable oil (HVO), natural gas, liquid petroleum gas and biomass on construction sites; as well as natural gas, biomass fuel and refrigerant losses in our offices and other administrative activities. Scope 1 also includes mileage from the Group's owned and leased van and car fleet.

Scope 2 comprises indirect emissions associated with the consumption of energy from purchased electricity and district heat & steam on construction sites (including all joint ventures), in offices and

² Floor area is measured based on block to block measurements from architectural drawings.

in other administrative activities. Electricity from the Group's owned and leased electric and hybrid vehicles is also included in scope 2.

The Group does not have any emissions attributable to its own generation of electricity, heat or steam that is sold/transferred to another organisation.

2.2 Excluded activities

Peripheral or incidental activities, such as the sale of part-exchanged properties, property management and the letting of premises to third parties, have been excluded on the basis of materiality due to very few transactions of these types.

2.3 Data collection

Data is collected via quarterly returns from local business divisions, which record utility usages, fuel usage and refrigerant losses. Data is derived from meter readings, invoices and employee expense claims.

A list of construction sites is obtained from the Group's finance database, which includes legally completed floor areas that are used to calculate intensity figures.

2.3.1 On-site metered utilities

Metered utilities such as natural gas and electricity used on site in the period are reported based on actual meter readings.

Legally completed plots (not including any show homes) report all usage in the quarter of completion based on the meter readings taken on handover as agreed with the purchaser and recorded in our sales system.

Meter readings for show homes, site offices and any other meters, which will be in our control for a longer period of time (e.g. pumping stations), are taken as close as is practicable to the end of the period. The difference between this reading and the previous quarter's reading is the reported usage.

Natural gas meters record usage in m³, and therefore require conversion into kWh using the formula provided by the supplier³.

2.3.2 Treatment of combined heat and power (CHP) / district heating systems

On a small number of sites, the Group utilises energy arising from shared energy centres, district heating or combined heat & power (CHP) systems. Typically, these systems are operated by the Group until they are adopted by an operating company, such as a utility provider or management company. In this intervening period, the Group accounts for the associated energy as follows:

- Where the Group is responsible for the operation of the energy centre prior to adoption it is responsible for the input fuel supply, such as natural gas, electricity or wood chips. The output heat from the energy centre feeds into both handed over and under-construction plots. The Group is billed separately by the utility provider for the under-construction plots that the Group is responsible for via developer supply heat bills; and it receives financial recompense from the utility provider for plots handed over. Therefore, to avoid double counting, the Group only reports its consumption via the developer supply heat bills as purchased district heat & steam.

³ For the majority of developments, British Gas is the utility supplier. The conversion formula for British Gas can be found [here](#).

- On completed sites where the Group no longer has any construction activity, but the energy centre has not yet been adopted by the operating company, the Group excludes all emissions on the basis that it receives financial recompense for all plots.
- Where the Group is responsible for the operation and input fuel supply of the energy centre, but does not receive financial recompense for handed over plots, then the input fuel supply is recorded under the usual reporting terms. However, any outputted heat to properties under construction is excluded to avoid double counting.
- Where energy is outputted by an energy centre adopted by an operating company, the Group receives developer supply heat bills from the operating company (i.e. utility provider), which are recorded as purchased district heat & steam.

2.3.3 On-site non-metered utilities

Fuels such as diesel, HVO, LPG and biomass are not metered. These fuels are reported based on quantities invoiced in the period. The associated volumes and costs are extracted from the Group's finance system via invoices processed in the period. This is also the case for small quantities of unmetered site electricity in street lighting, which is reported based on invoiced amounts.

2.3.4 Office metered utilities

For office buildings where Barratt has control over the utility supplier, electricity is supplied from the Group's REGO-backed renewable electricity tariff. Automated meters take half hourly readings, which are extracted from the suppliers' online portals.

2.3.5 Office non-metered utilities

For offices/facilities on other tariffs (e.g. in leased offices where we are not in control of the supply), or in the event of smart meter malfunction, invoices, manual meter readings or landlord supplied data are used to determine usage in the period.

2.3.6 Business travel in company vehicles

2.3.7 Company cars

Business travel mileage in company leased or owned cars is extracted from the Group's online expenses system, based on expense claim approval date.

Only journeys for which an expense claim has been made and approved will be included. Where an employee chooses not to expense business travel (e.g. if the journey is less than the employee's usual commute to the office), the travel will be excluded.

2.3.8 Company vans

All company owned and leased vans are fitted with location trackers that record distance travelled. All travel in vans is assumed to be for business use. Mileage reports are run via third party online portals to provide total distances for each vehicle.

In the event a van does not have a tracker fitted (e.g. a courtesy van provided during maintenance), the operative is expected to record odometer readings on collection and return. These distances are then recorded in the quarterly divisional returns.

2.3.9 Estimations

In a minor number of instances where actual energy usages for all of the individual periods that make up the financial year are not available by the reporting date, the daily average usage based on relevant existing data is calculated and applied pro-rata against the number of missing days within the period, ensuring the full financial year period is disclosed.

2.4 Calculations relating to scope 2 GHG emissions

The Group's scope 2 GHG emissions are calculated and reported using both the location and market-based methods.

2.4.1 Location-based method:⁴

All electricity consumption by the Group occurring in the UK is multiplied by the UK average grid electricity emission factor for the reporting year to calculate the emissions.

2.4.2 Market-based method⁵:

Purchased renewable electricity: For purchased electricity to be considered as being generated by a renewable source under the market-based method (e.g., wind, solar, hydro), this electricity must be matched to the latest available Renewable Energy Guarantee of Origin (REGO) certificates. REGOs must be recognised by Ofgem. One REGO is matched to 1 MWh of electricity, and a REGO is only valid for the reporting year (1st April to 31st March) during which it was issued.

If the Group purchases an electricity tariff that is 100% renewable, all electricity purchased within the REGO reporting period must be backed by REGOs. Renewable Origin Certificates (ROCs) and Levy Exemption Certificates (LECs) serve different roles and cannot be used as evidence that a tariff is from renewable sources. Certain suppliers may provide the ID numbers of REGOs allocated to each client's supply, while others do not. For the Group, there is a period for which electricity purchased on a renewable tariff cannot be evidenced as REGO-backed (April, May and June), because the REGO and company reporting periods do not align; therefore, REGO certificates allocated in a given year may not cover all electricity consumption within that reporting period. In this instance, a reasonable assumption is made that the final three months of electricity on renewable tariffs can also be counted at a zero greenhouse gas emission factor on the proviso of sufficient evidence provided for the July to March period. Where REGO certificates are unavailable at the date of reporting, but the corresponding supplier contractual commitment is for 100% of the supply to be REGO backed, the relevant usage is reported as REGO-backed.

Renewable electricity in landlord-supplied offices: In a number of our leased offices, electricity tariffs are determined by the landlord, which recharge Barratt for electricity consumption through a lease service charge. We have engaged with these landlords to identify supplies that are on REGO-backed renewable tariffs. Where landlords are able to supply evidence of REGO certification, under the market-based approach we account for this consumption at a zero greenhouse gas emissions factor.

Self-generated renewable electricity: When calculating emissions from self-generated electricity, the emission factor used will depend on whether Feed-In tariffs are received for the electricity generation. If Feed-In tariffs are applied, the residual grid emission factor for the corresponding country should be

⁴ The location-based method reflects the average emissions intensity of macro scale (regional/national) electricity grids where energy consumption occurs. Companies should use the regional/national grid-average emission factor. In the UK, this would be sourced from the BEIS UK Government conversion factors for Company Reporting.

⁵ The market-based method reflects the emissions from the electricity that a company is purchasing. Energy suppliers in the EU are already required, by law, to disclose to consumers the fuel mix and GHG emissions associated with their portfolio or tariffs. As such, companies intending to report a market-based Scope 2 electricity emissions figure should:

- Request the emission factor for their tariff(s) from their energy supplier(s).
- Request the source of this data (e.g. generator declarations in the UK).
- Request the energy generation technologies and mix specific to the supplier / tariff(s).

used in calculations and emissions added to Scope 2. If Feed-In tariffs are not received for the electricity generation then the emission factor applied would be 0.

Non-renewable electricity: A hierarchy approach is used to determine which emissions factor is used for non-renewable electricity under the market-based method:

1. Where the Group is aware of the supplier tariff purchased, and the tariff emission factor is available, this is used. Where the supplier is known, but the tariff emission factor cannot be identified, an average factor of the supplier's tariffs can be used, but only where this tariff excludes renewable products (the supplier residual mix).
2. Where a supplier residual mix emission factor cannot be obtained, the UK residual grid mix emission factor (which is the UK mix minus the renewables) will be used.

3 Scope 3 carbon emissions

Data from financial year 2018 (1st July 2017 to 30th June 2018) was used as the baseline for assessing the materiality and relevance of the Group's (including JVs) scope 3 greenhouse gas emissions.

We review the scope of reporting on an annual basis to ensure that all material categories are reported. In accordance with the Greenhouse Gas Protocol, in FY23 9 categories were found to be relevant as follows:

3.1 Category 1 - Purchased goods and services

3.1.1 Definition

Extraction, production, and transportation of goods and services purchased or acquired.

3.1.2 Methodology:

Estimated through a spend-based method whereby cost turnover with suppliers and subcontractors is categorised based on industry and applied against industry-specific Environmental Extended Input-Output (EEIO) factors, arising from the OPEN IO database. These factors are adjusted annually based on movements in various macroeconomic indicators such as inflation and gross domestic product (GDP).

The spend-based methodology does not take into consideration supplier-specific emissions, or steps taking by individual suppliers and sub-contractors to consciously reduce their carbon emissions. The spend-based factors are also susceptible to the impacts of inflation and exchange rates (the factors are denominated by US dollars). We are investigating moving towards a quantity-based methodology in the future to improve the accuracy of these emissions, more reflective of the materials we procure.

3.2 Category 2 - Capital goods

3.2.1 Definition

Extraction, production, and transportation of capital goods purchased.

3.2.2 Methodology

Estimated through a spend-based method whereby cost turnover with suppliers and subcontractors is categorised based on industry and applied against industry-specific Environmental Extended Input-Output (EEIO) factors, arising from the OPEN IO database. These factors are adjusted annually based on movements in various macroeconomic indicators such as inflation and gross domestic product (GDP).

As the majority of spend comes from within the Divisions, we allocate to category 2 spend from specific categories and suppliers that are usually capital purchases. This includes for example, purchases of new site cabins.

3.3 Category 3 - Fuel and energy related activities

3.3.1 Definition

Extraction, production, and transportation of fuels and energy purchased or acquired and not already accounted for in scope 1 or scope 2.

3.3.2 Methodology

Obtained via divisional returns as outlined in section 2.3. DEFRA/BEIS scope 3 emission factors for transmission & distribution (T&D) of electricity and well-to-tank (WTT) are then applied to those quantities to calculate the associated scope 3 emissions.

3.4 Category 4 - Upstream transportation and distribution

3.4.1 Definition

Transportation and distribution of products from tier 1 suppliers to our operations.

3.4.2 Methodology

Estimated through a spend-based method whereby cost turnover with suppliers and subcontractors is categorised based on industry and applied against industry-specific Environmental Extended Input-Output (EEIO) factors, arising from the OPEN IO database. These factors are adjusted annually based on movements in various macroeconomic indicators such as inflation and gross domestic product (GDP).

A set proportion of total supplier and subcontractor spend, agreed with third-party advisers, is assumed to be attributable to category 4, to which the relevant EEIO factor is applied. The remaining spend is included within category 1.

3.5 Category 5 - Waste generated in operations

3.5.1 Definition

Disposal and treatment of waste generated in our operations.

3.5.2 Methodology

Calculated on the basis of average emissions for disposal by tonnage broken down by waste categories and disposal routes supplied by the Group's waste contractors, sub-contractors and divisions. Office waste is excluded on the basis of materiality.

3.6 Category 6 - Business travel

3.6.1 Definition

Transportation of employees for business-related activities.

3.6.2 Methodology

Business travel mileage by the Group's employees in private vehicles and public transport is extracted from the Group's online expenses system, based on expense claim approval date. These expenses are then converted into scope 3 emissions by applying the DEFRA/BEIS business travel emission factors relevant to the vehicle's fuel type and engine size.

Only journeys for which an expense claim has been made and approved will be included. Where an employee chooses not to expense business travel, the journey will not be included in the total.

Sub-contractor business travel to and from our sites is included within the category 4 data, and therefore excluded from category 6.

3.7 Category 7 - Employee commuting

3.7.1 Definition

Transportation of employees between their homes and their worksites.

3.7.2 Methodology

3.7.2.1 *Employee Commuting*

Obtained via a self-selecting survey sample of employee commuting habits across all of our housebuilding and non-housebuilding divisions. This data was then extrapolated based on proportion of employees who are office based, site based (construction) and site based (sales).

3.7.2.2 *Employee Working from Home*

Estimated additional emissions arising from heating, lighting and computing equipment based on information on hybrid working included in the above survey.

3.8 Category 11 - Use of sold products

3.8.1 Definition

End use of goods and services sold in the reporting year.

3.8.2 Methodology

A Standard Assessment Procedure (SAP) certificate is issued for all homes for which handover has completed in the period. SAP is the calculation methodology for energy use in dwellings, which is carried out using Elmhurst software, approved for SAP calculations by the Building Research Establishment (BRE) on behalf of the UK government.

Dwelling emissions rate (DER) based on SAP designed performance (kgCO₂e per m² per year) is extracted for properties with SAP certificates lodged in the reporting year. This is then cross referenced against the Group's sales system to extract floor area, date of legal completion and property type (i.e. private, social or apartment) per plot. From this, an average DER for each property type is calculated, filtering the data to only include plots which have both legally completed and had a certificate lodged within the financial year.

To estimate the total emissions associated with properties not included on the SAP report, for each property type, emissions are grossed up pro-rata based on total floor area completed of that property type in the year across the Group.

The equivalent energy use is split by gas and electricity based on the typical energy use of a UK home and applied over the 60-year design life, with the electricity component taking into account the estimated UK energy fuel mix based on BEIS' 2019 energy and emissions projections.

Legally completed plots in the period comprises all residential units for which rights of ownership have transferred to the customer in the period from a direct or indirect subsidiary of Barratt Developments PLC or a joint venture under the operational control of Barratt Developments PLC or one of its subsidiaries. Emissions from commercial properties are excluded on the basis of materiality.

3.9 Category 12 - End of life treatment of sold products

3.9.1 Definition

Waste disposal and treatment of products sold in the reporting year at the end of their life.

3.9.2 Methodology

An industry average for home end of life emissions was multiplied by the number of homes completed in the reporting year. End of life emissions from an average home were determined by third party experts using data from construction clients.

3.10 Scope 3 categories not reported

The following scope 3 categories have not been reported since they are either not material or not applicable as follows:

Category	Definition	Rationale
8) Upstream leased assets	Operation of assets leased by the reporting company.	<i>Not material:</i> The Group's upstream leased assets include company vehicles, plant & machinery and leased show homes. However, all of the associated emissions are already accounted for within our scope 1 and 2 footprint on the basis that we have operational control over these assets. There are few other upstream leased assets so any emissions not already included within scope 1 or 2 are immaterial.
9) Downstream transportation and distribution	Transportation and distribution of products sold.	<i>Not applicable:</i> The homes constructed by the Group are built in situ and not moved after construction, therefore this category is not applicable, so there are nil associated emissions.
10) Processing of sold products	Processing of intermediate products sold.	<i>Not applicable:</i> The Group's operations do not currently include any processing of sold products. Therefore, this category is not applicable so there are nil emissions associated with it.
13) Downstream leased assets	Operation of assets owned by the reporting company and leased to other entities in the reporting year.	<i>Not material:</i> The Group has very few downstream leased assets. The emissions from the majority of these items, such as leased land for site compounds, is already accounted for under scope 1 and 2, in line with our operational boundary. However, while the Group does sublease a handful of commercial properties prior to completion, total commercial revenue makes up less than 1% of the Group's total revenue, and of this, lease income makes up only a very small proportion, so this is deemed immaterial.
14) Franchises	Operation of franchises.	<i>Not applicable:</i> Barratt does not have any franchises. Therefore, this category is not applicable so there are nil emissions associated with it.

Category	Definition	Rationale
15) Investments	Operation of investments (including equity and debt investments and project finance).	<i>Not material:</i> All of the Group's subsidiaries and joint operations are included within its scope 1 and 2 footprint on the basis that Barratt is the principal contractor on site, so is deemed to have operational control. On the Group's consolidated balance sheet there are no other investments not already accounted for within scope 1 and 2, so there are nil emissions associated with this category.

4 Restatement policy

Whilst the Group's methodology is aligned with the GHG Protocol, guidance regarding the implementation of the Protocol continues to evolve in order to promote consistent and comparable reporting across all entities. The Group may therefore refine its approach in future periods.

In instances where retrospective applications of such refinements exceed the materiality thresholds defined below, the Group will update relevant comparative period information where available to reflect best practice. This includes periods used as the baseline for emissions reduction targets. Barratt define this threshold both quantitatively and qualitatively.

For both scope 1 & 2 and scope 3, the Group considers any variances that would significantly alter stakeholders' interpretations of information presented (i.e. if that variance could be reasonably expected to influence decisions that would be made on the basis of the information presented) to be considered qualitatively material.

Though a quantitative threshold is not defined for scope 1 and 2 in the Greenhouse Gas Protocol, Barratt considers 2% of total scope 1 and 2 in the reporting period to be quantitatively material. In line with the WRI/WBSCD GHG Protocol Corporate Value Chain (Scope 3) Standard, Barratt defines the scope 3 quantitative materiality threshold at 10% of total scope 3 in the reporting period. These materiality thresholds are subject to annual review.

The Group's Science Based Targets are also subject to quinquennial (every 5-years) review, which will include a review of baseline scope 1, 2 and 3 GHG emissions. The Group considers its baseline to assess performance against as FY18, being the period 1st July 2017 to 30th June 2018.

4.1 FY23 mergers, acquisitions and divestments

There were no mergers, acquisitions, or divestments during the year.

In the event of a merger, acquisition or divestment within a period, the decision to re-baseline will be taken in accordance with the restatement policy outlined above.

5 Assurance

Deloitte LLP was engaged to provide independent limited assurance over direct energy consumption, scope 1, scope 2 and selected scope 3 GHG emissions (category 6: business travel; category 3: fuel & energy related activities; and category 11: use of sold products) under the assurance standard ISAE (UK) 3000 and 3410.

Our Assurance Statement and basis of reporting is publicly available on the PLC [website](#).