

## 2018 GREENHOUSE GAS EMISSIONS SUPPORTING INFORMATION

---

### REPORTING BOUNDARIES

#### Annual Report 2018

Reported emissions within the Directors' Report of the Berkeley Group Holdings plc ("Berkeley") Annual Report 2018 include 50% of those resulting from Berkeley's joint ventures on the basis of its equity share.

The emissions disclosed are aligned to Berkeley's financial reporting year (1 May 2017 to 30 April 2018), are considered material to its business and have the following parameters:

- Scope 1: direct emissions from natural gas consumed for office, sales and development site activities; gas oil, petrol, liquefied petroleum gas (LPG) and diesel purchased for development site activities; and travel (business and other travel where expensed) in company owned vehicles;
- Scope 2: indirect emissions from electricity and heat consumed for office, sales and development site activities; and,
- Scope 3: other indirect emissions from gas oil, petrol, LPG and diesel purchased by contractors for development site activities; travel (business and other travel where expensed) in company leased and employee owned vehicles; business air travel; transmission and distribution losses of purchased electricity and heat; and upstream emissions.

Emissions from pre-development sites with existing buildings in-situ that are to be demolished or refurbished as part of Berkeley's development works are not included as part of the figures presented until works (e.g. demolition, excavation or construction) begins. Pre-development emissions have been excluded as they are either deemed insignificant (e.g. minimal energy consumed for security and/or health and safety purposes only in unoccupied buildings) or Berkeley is not responsible for the energy consumed (e.g. buildings occupied by tenants).

Emissions from post-development sites where Berkeley has retained the freehold are not included within the scope of reporting as the purchasers or tenants are the consumers of the energy in this instance. During development works, emissions from the commissioning of gas-fuelled plant to be retained on the development have not been included as these emissions are considered to relate to the end use of the development rather than its construction.

#### Other Berkeley disclosures

Emissions reported outside of the Directors' Report of the Annual Report 2018 (for example, as part of performance reporting under 'Our Vision') are based on Berkeley's operational boundary. This differs to the reporting boundary of the Annual Report 2018 (see above) as follows:

- Reported emissions include 100% of those resulting from the Berkeley's joint ventures; and,
- Travel (business and other travel where expensed) in company leased vehicles is reported as part of Scope 1 emissions as Berkeley has operational control over these vehicles. This is in line with Greenhouse Gas (GHG) Protocol guidance.

Where outlined, emissions from Berkeley's Southall Waterside development have been excluded from operational boundary emissions reporting as the one-off works on this site are not typical of activities undertaken by Berkeley. This includes the operation of an on-site soil remediation facility and concrete batching plant.



## REPORTING METHODOLOGY

UK Government GHG Conversion Factors for Company Reporting 2017 have been applied to 2018 data (covering 1 May 2017 to 30 April 2018), as 2017 is the calendar year in which the greatest portion of our data falls. UK Government GHG Conversion Factors for Company Reporting 2016 have been applied to 2017 data (covering 1 May 2016 to 30 April 2017). International Energy Agency 2017 factors have been applied to overseas electricity figures for 2018 and for restated 2017 emissions.

All emissions factors are measured in CO<sub>2</sub>e with the exception of overseas electricity factors which are only available on a CO<sub>2</sub> basis. In addition to carbon dioxide, the CO<sub>2</sub> equivalents used include the global warming potential from methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). Remaining gases (HFC-134a, HFC-143a and sulphur hexafluoride (SF<sub>6</sub>)) are believed to be relatively insignificant for reporting on emissions arising from our activities.

## ENERGY DATA SOURCES

Raw energy data for permanent offices, sites, sales and marketing suites and show homes has been collected on a monthly basis as follows:

### Scope 1 (directly purchased)

- Gas oil, diesel and petrol purchased in litres based on delivery notes received from the fuel supplier, or where unavailable, based on informed estimations by site personnel;
- Liquefied petroleum gas (LPG) purchased in litres or kilogrammes based on delivery notes received from the fuel supplier, or where unavailable, based on informed estimations by site personnel;
- Natural gas consumed in cubic metres or hundreds of cubic feet based on monthly meter readings.

### Scope 2

- Purchased electricity measured in kilowatt hours based on meter readings, or where unavailable, estimates based on energy costs or pro-rated calculations of periods with actual consumption;
- Purchased heat measured in kilowatt hours based on meter readings.

### Scope 3 (contractor purchased)

- Gas oil, diesel and petrol measured in litres based on declarations from contractors on the amount purchased, supported by delivery notes received by the contractor from the fuel supplier where available;
- Liquefied petroleum gas (LPG) measured in litres or kilogrammes based on declarations from contractors on the amount purchased, supported by delivery notes received by the contractor from the fuel supplier where available.

## ENERGY DATA COVERAGE

Data coverage by activity area for 2018 is as follows:

- Permanent offices: annual emissions from 92% of permanent offices reported. Energy data has not been captured for two permanent offices; one newly occupied from December 2017 due to a complex metering strategy and one shared office space for the full year due to sub-metering not being in place;
- Sites: annual emissions from 97% of development sites reported. Energy data has not been captured for two development sites; one involving remedial works on a completed development for a period of six months in the year and one where Berkeley has been client only during early demolition and

groundworks for a period of four months. An additional development site where Berkeley has been client only reported partial data for the year, missing energy consumed during early demolition and groundworks for a period of five months;

- Sales and marketing suites: annual emissions from 92% of sales and marketing suites reported. Two sales and marketing suites have not reported energy consumption data due to a lack of sub-metering. Two additional sales and marketing suites only reported partial data for the year, one missing energy consumed via a heat meter and one missing energy consumed in the latter months of the year due to incomplete meter reading records.

## TRAVEL DATA

### Business road mileage

Business road mileage has been collected on an annual basis from employees in receipt of a company vehicle (owned or leased) or a cash allowance to support the use of a private vehicle as at 30 April 2018.

In 2018, one of our operating companies collated this information on behalf of their employees using monthly expense details. Information for employees from all other operating companies has been collected via a survey. Within this survey, employees were requested to declare business road mileage (which includes other road mileage where expensed), along with basic details for each vehicle used, on a voluntary basis. Vehicle emissions have been calculated using the declared engine size, fuel type and mileage information.

Where the vehicle engine size or fuel type information has not been provided, the 'average' or 'unknown' emissions factors as outlined in the UK Government's GHG Conversion Factors for Company Reporting have been used.

Emissions reported cover business road mileage in 88% of company owned vehicles, 93% of company leased vehicles and 87% of private vehicles used by employees receiving a cash allowance. Where mileage data has not been provided, no assumptions have been made to complete the data set.

### Air travel

Air travel data is collected on an annual basis via a Business Air Travel Capture Form. Emissions have been calculated using the declared departure and arrival airports to calculate the distance travelled on each flight, multiplied by the average passenger emission factors for domestic, short-haul, long-haul and international flights as applicable. The conversion factors used include an uplift factor of 8% to compensate for planes not flying the most direct route. No aviation radiative forcing factor has been applied.

## SCOPE 3

### Transmission and distribution losses

Emissions associated with the transmission and distribution of purchased electricity and heat have been included. For every kilowatt hour of electricity and heat purchased, the energy losses are calculated using the relevant transmission and distribution factor as contained within the UK Government's GHG Conversion Factors for Company Reporting.

### Upstream emissions

Upstream emissions from the extraction and production of fuels related to business road mileage, air travel, purchased fuels and production of electricity and heat have been calculated using the relevant well-to-tank conversion factors as contained within the UK Government's GHG Conversion Factors for Company Reporting.



## INTENSITY RATIO

The intensity ratio (tCO<sub>2</sub>e/person<sup>1</sup>) has been calculated using the number of Berkeley employees and the number of contractors working on our sites (2018: 11,305; 2017: 13,443). This is the average figure for the year (covering 1 May 2017 to 30 April 2018) and only includes 50% of direct employees and contractors working in offices or on development sites of Berkeley's joint ventures.

## DATA REVISIONS

2017 data has been restated in the Annual Report 2018 following a detailed review of meter data against billing information collected as part of Berkeley's reporting under the CRC Energy Efficiency Scheme. In addition, International Energy Agency 2017 factors have been applied to overseas electricity figures within restated 2017 emissions. Revisions have resulted in a 0.01% decrease in total reported emissions for 2017.

---

<sup>1</sup> The tCO<sub>2</sub>e/person intensity metric has not been subject to PwC assurance for the 2018 or prior financial reporting years.