

# Brunel Pension Partnership 2020 Carbon Metrics Report



# Brunel Pension Partnership Carbon Metrics Report



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# Brunel Pension Partnership Carbon Metrics Report



Data as of 31 December 2019

Key Info: AUM in mGBP: 12,666 Coverage: 96%

## Carbon Metrics Report 2020

This report provides detail of Brunel's overall carbon metrics and those of its underlying Portfolios as of 31 December 2019. The report covers our **listed equity portfolios**.

This creates a baseline for reporting on the work we are undertaking to reduce the carbon footprint of our Portfolios and to meet the ambitions of our Clients. We launched our **Climate Change Policy** in January 2020 to address the risks and opportunities of climate change.

We worked extensively on reducing the carbon footprint of our Sub-Portfolios in 2019 alongside our appointed managers. Progress has already been seen across a number of Sub-Portfolios.

We extend our thanks to S&P Trucost who provided the footprinting data for this report.

## Executive Summary

The Brunel Aggregate Portfolio consists of the underlying Brunel Portfolios weighted by assets under management as of 31 December 2019.

Looking at the Weighted Average Carbon Intensity (WACI), the Brunel Aggregate Portfolio is **less carbon intensive** than its custom benchmark, **with a relative efficiency of 15.4%**.

**All Brunel Active Sub-Portfolios have a lower carbon intensity than their respective benchmarks.**

We worked extensively on reducing the carbon footprint of our Sub-Portfolios in 2019 alongside our appointed managers.

The Brunel Active UK Portfolio reduced its carbon intensity by 28.5% from March 2019 to December 2019. The Portfolio has a relative efficiency of 14.2% compared to its benchmark.

The Brunel Active Low Volatility Portfolio reduced its carbon intensity by 18.3% from March 2019 to December 2019, with a relative efficiency of 22.4% compared to its benchmark.

The Brunel Aggregate Portfolio has **lower exposure to both fossil fuel revenues** (9.4% vs 12.4%) and **disclosed reserves** (5.2% vs 7.4%)

Looking at the energy mix for the power generation companies, the Brunel Aggregate Portfolio:

has a **lower share from fossil fuels, in particularly coal** (25% vs 30%)

has a **higher share from renewables, mainly due to biomass** (9% vs 2%)

**Disclosure is a key focus area for our engagement programme.** Currently companies within the Brunel Aggregate Portfolio that fully disclose their carbon data is 56% as a carbon weighted measure – and 64% on an investment weighted basis.

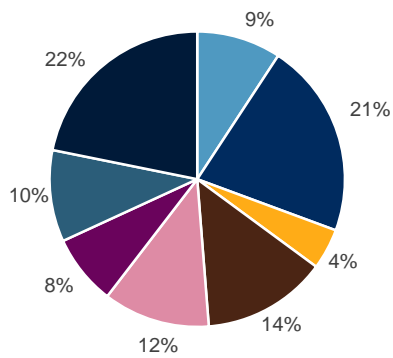
# Brunel Pension Partnership Carbon Metrics Report



## The Brunel Aggregate Portfolio and Custom Benchmark

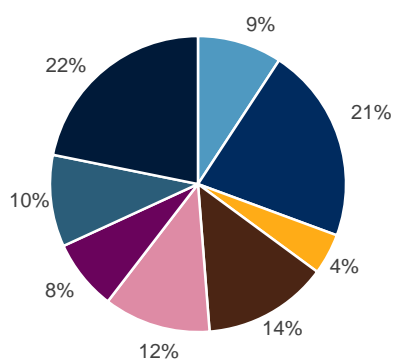
- This report includes a variety of carbon metrics, including the weighted average carbon intensity (WACI), energy mix and disclosure rates for each of the Brunel Active and Passive Portfolios, as well as the Brunel Aggregate Portfolio.
- The Brunel Aggregate Portfolio consists of each of the underlying Brunel Sub-Portfolios weighted by assets under management as of 31 December 2019. Details of this portfolio are illustrated below.
- We have also created a Custom Benchmark for the Brunel Aggregate Portfolio in order to make a meaningful comparison. The Custom Benchmark consists of the individual Brunel Sub-Portfolios weighted by assets under management as of 31 December 2019.

### Brunel Aggregate Portfolio



- Brunel Active Emerging Markets
- Brunel Active Global High Alpha
- Brunel Active Low Volatility
- Brunel Active UK
- Brunel Passive Low Carbon
- Brunel Passive Smart Beta
- Brunel Passive UK
- Brunel Passive World Developed

### Brunel Aggregate Portfolio Custom Benchmark

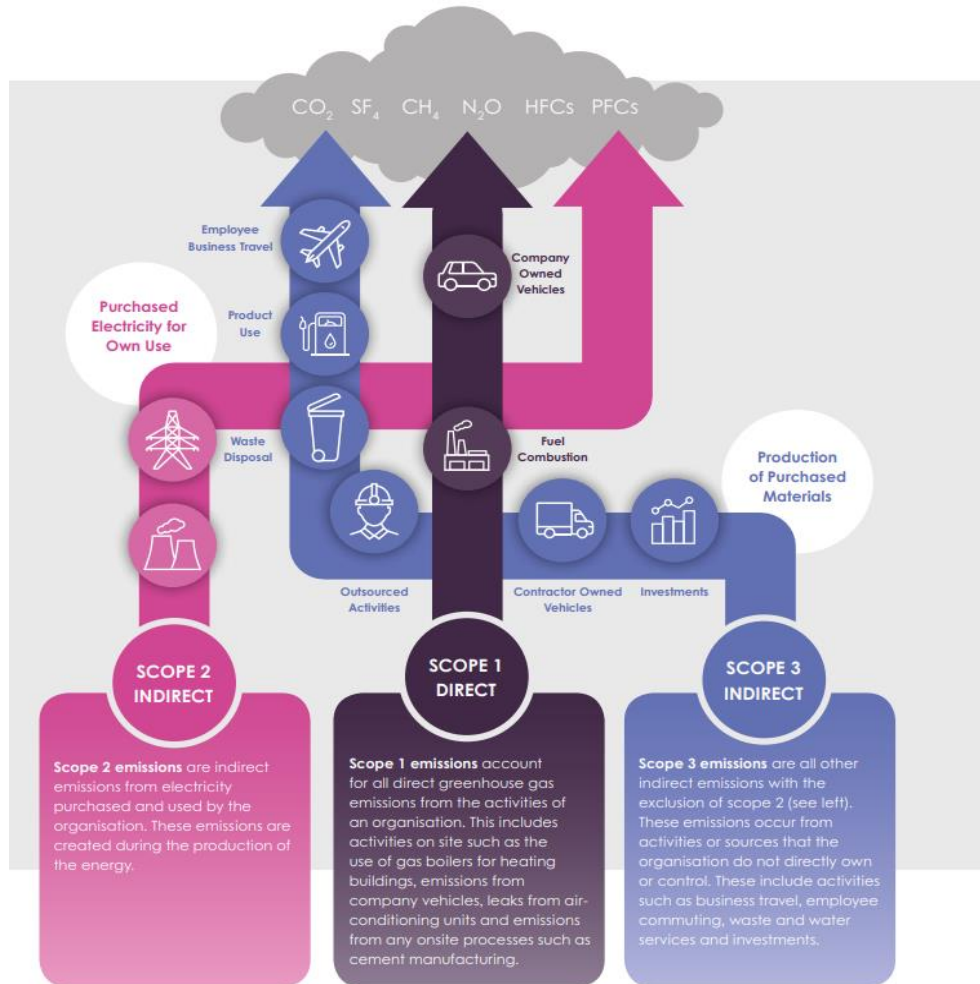


- MSCI Emerging Markets
- MSCI World
- MSCI ACWI
- FTSE AllShare
- MSCI World
- Brunel Passive Smart Beta
- Brunel Passive UK
- Brunel Passive World Developed

# Brunel Pension Partnership Carbon Metrics Report

## Scope 1, 2 and 3 Emissions

In this report we include scope 1, scope 2 and first tier scope 3 emissions in our calculations. The below graphic explains each of these.



## Weighted Average Carbon Intensity (WACI)

The WACI shows a portfolio's exposure to carbon intensive companies. This measure is determined by taking the carbon intensity of each company and weighting it based on its holding size within the Portfolio. The WACI is one of the measures recommended by the Task Force on Climate-related Financial Disclosures (TCFD).

Because carbon intensive companies are more likely to be exposed to potential carbon regulations and carbon pricing, this is a useful indicator of potential exposure to **transition risks** such as policy intervention and changing consumer behaviour.

In this report we illustrate the weighted average carbon intensity (WACI) of The Brunel Aggregate Portfolio and each of the underlying Brunel Sub-Portfolios, alongside their respective benchmarks.

**Each of the underlying Active Brunel Sub-Portfolios have a WACI below their respective benchmarks. The Brunel Passive Sub-Portfolios (Passive Smart Beta, Passive UK and Passive World Developed) track their respective benchmarks.**

# Brunel Pension Partnership Carbon Metrics Report



## Exposure to Extractives Industries

It is important to identify exposure to business activities in extractives industries in order to assess the potential risk of 'stranded assets'. Stranded assets are assets that may suffer premature write-downs and may even become obsolete due to changes in policy or consumer behaviour. We can identify the exposure to extraction-related activities by analysing the Reserves Exposure and Emissions from Reserves for each Portfolio. These metrics highlight companies with business activities in extractives industries, as well as companies that have disclosed proven and probable fossil fuel reserves in the portfolio.

In this report we illustrate exposure to extractives industries through emissions from reserves and reserves exposure for The Brunel Aggregate Portfolio and each of the underlying Brunel Sub-Portfolios, alongside their respective benchmarks.

**Each of the Active Brunel Sub-Portfolios have lower emissions from reserves and reserves exposures than their respective benchmarks. The Brunel Passive Portfolios (Smark Beta, Passive UK and Passive World Developed) track their benchmarks.**

The definition of extractive-related industries and fossil fuel reserves for the purpose of this report:

### Extraction-related activities:

- Crude petroleum and natural gas extraction
- Tar sands extraction
- Natural gas liquid extraction
- Bituminous coal underground mining
- Bituminous coal and lignite surface mining
- Drilling oil and gas wells
- Support activities for oil and gas operations

### Fossil fuel reserves:

- Coal (metallurgical, thermal or other)
- Oil (conventional or unconventional)
- Gas (natural and shale)
- Oil and/or gas (where no further information)

## Power Generation Mix

In this report we illustrate the power mix for energy generation companies for the Brunel Aggregate Portfolio and each of the underlying Sub-Portfolios against their respective benchmarks.

## Disclosure Rates

We also illustrate the level of company disclosures for the constituents of the Brunel Aggregate Portfolio and each of the underlying Sub-Portfolios. The definitions of these are below:

### Full Disclosure

Companies reporting their own carbon data (eg in financial reports, CDP disclosures etc)

### Partial Disclosure

The data disclosed by companies has been adjusted to match the reporting scope required by the research process. This may include using data from previous years' disclosures as well as changes in business activities and

### Modelled

In the absence of usable or up to date disclosures, the data has been estimated by Trucost models.

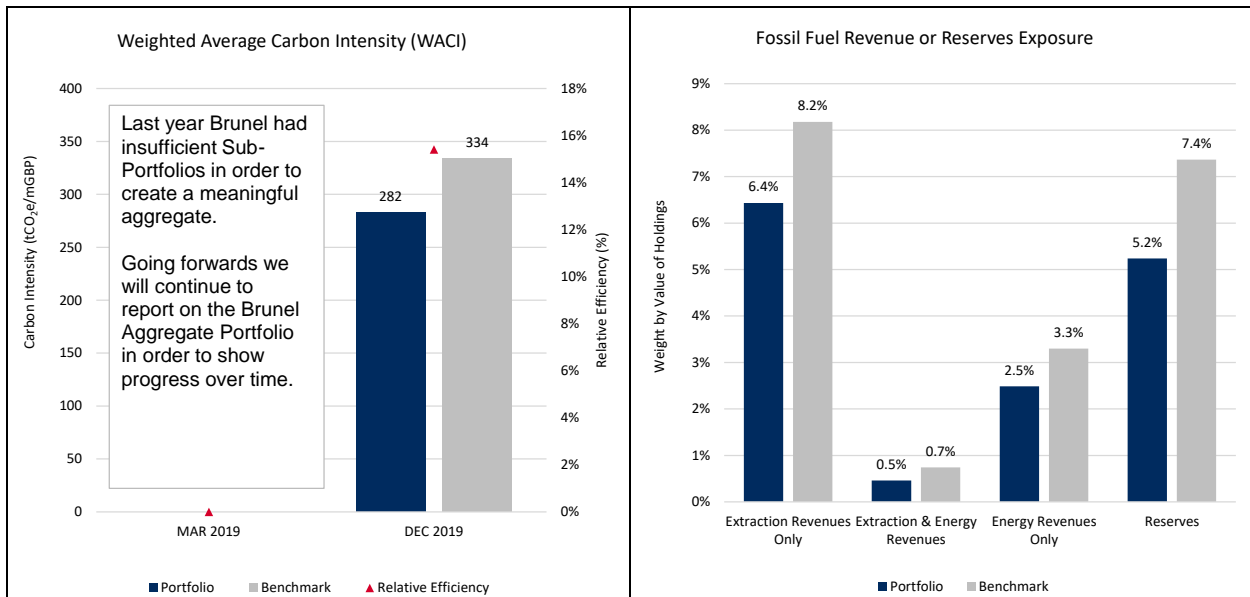
**The rate of companies in the Brunel Aggregate Portfolio for which fully disclosed carbon data was available was 56% (carbon weighted measure) and 64% (investment weighted measure). This indicates scope for improved reporting among investees.**

# Brunel Pension Partnership Carbon Metrics Report



## Brunel Aggregate vs. Brunel Custom BM

Data as of 31 December 2019



### Current Year Top Contributors to WACI

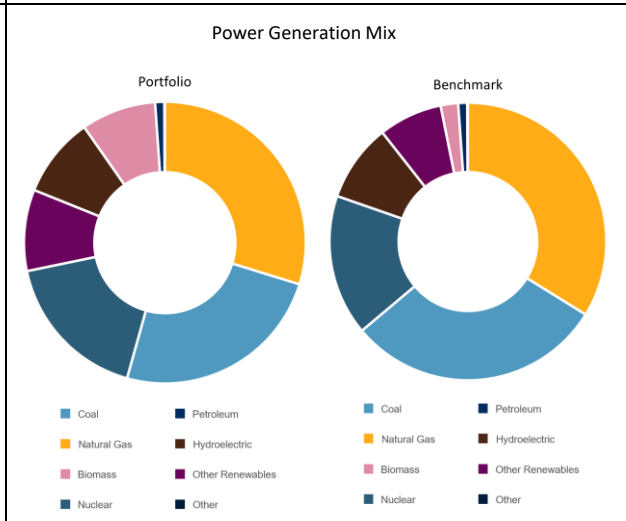
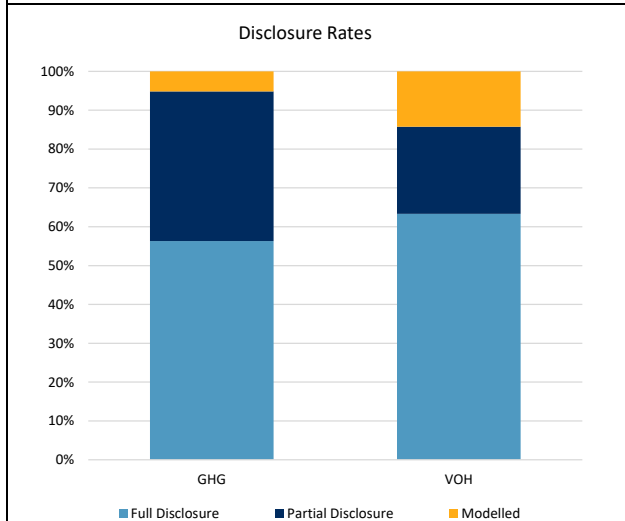
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
PT Semen Indonesia (Persero) Tbk	15,818	0.06%	-3.44%
Royal Dutch Shell PLC	668	1.76%	-2.44%
Rio Tinto Group	1,141	0.71%	-2.18%
Anhui Conch Cement Company Limited	13,817	0.04%	-1.84%
LafargeHolcim Ltd	7,633	0.07%	-1.73%

### Top Contributors to Emissions from Reserves

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Glencore Plc	6.94	0.29%
BP p.l.c.	5.44	0.84%
Royal Dutch Shell PLC	3.94	1.76%
Anglo American Plc	2.77	0.50%
Public Joint Stock Company Gazprom	2.73	0.04%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



### Portfolio Disclosure Rates by Method

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	56.33%	63.32%
Partial Disclosure	38.50%	22.43%
Modelled	5.17%	14.25%

### Energy Mix by Apportioned GWh

Source	Portfolio (%)	Benchmark (%)
Coal	24.54%	30.07%
Petroleum	1.06%	1.05%
Natural Gas	29.78%	33.81%
Hydroelectric	9.21%	9.08%
Biomass	8.59%	2.04%
Other Renewables	9.34%	7.44%
Nuclear	17.42%	16.43%
Other	0.06%	0.08%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.

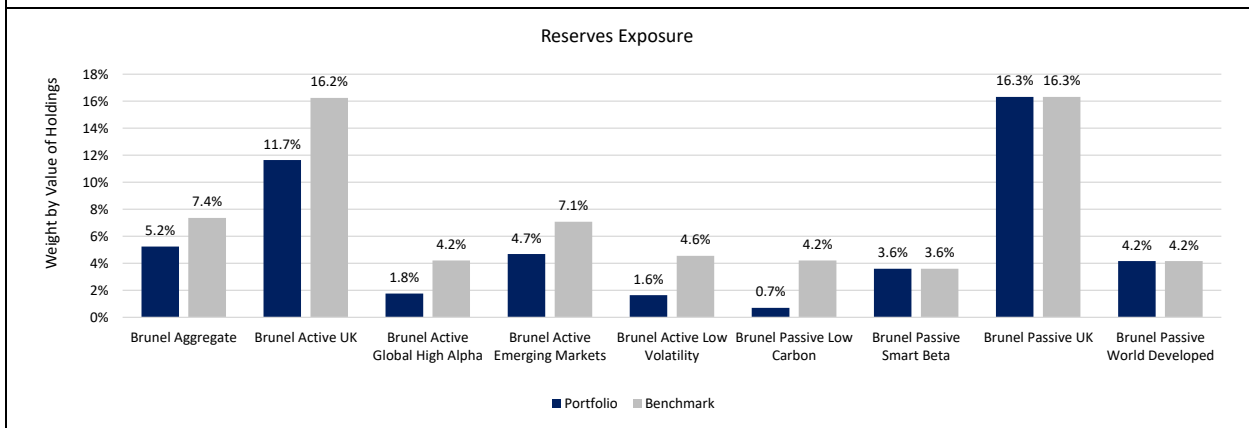
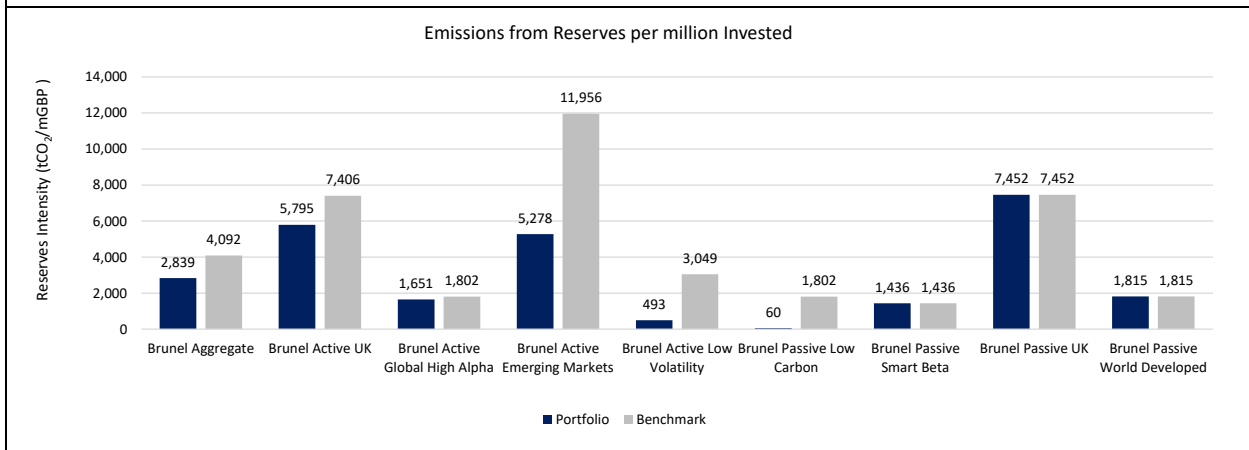
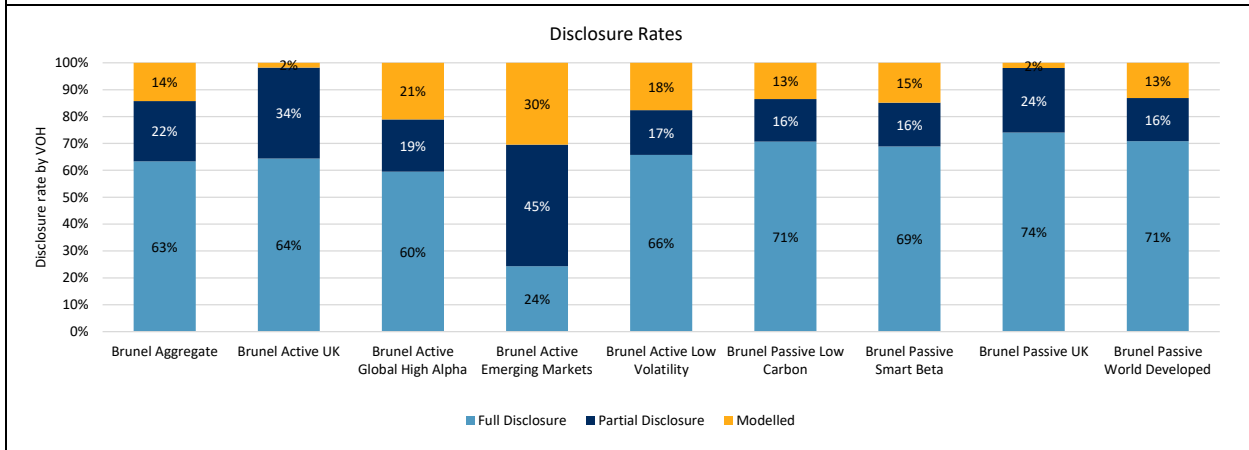
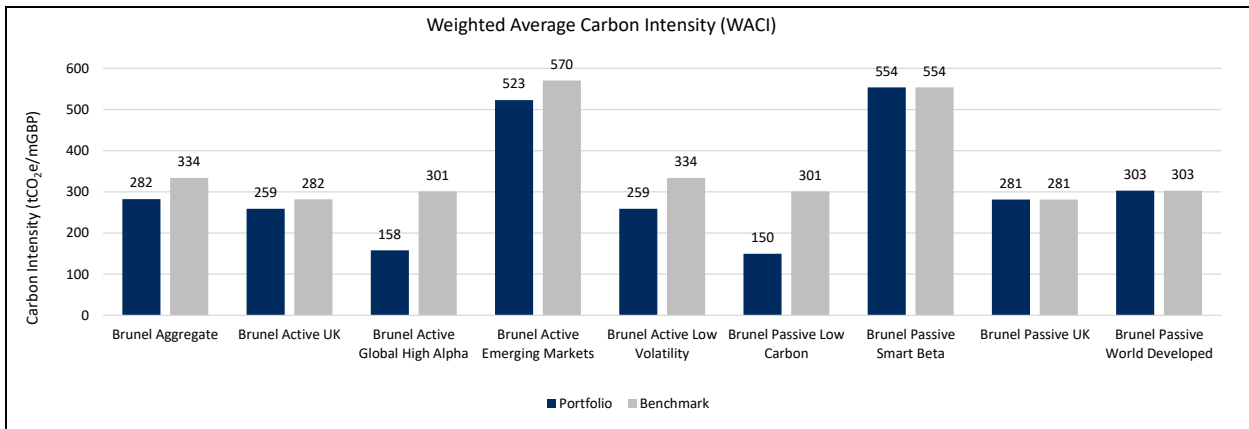
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



## Summary Sheet

Data as of 31 December 2019



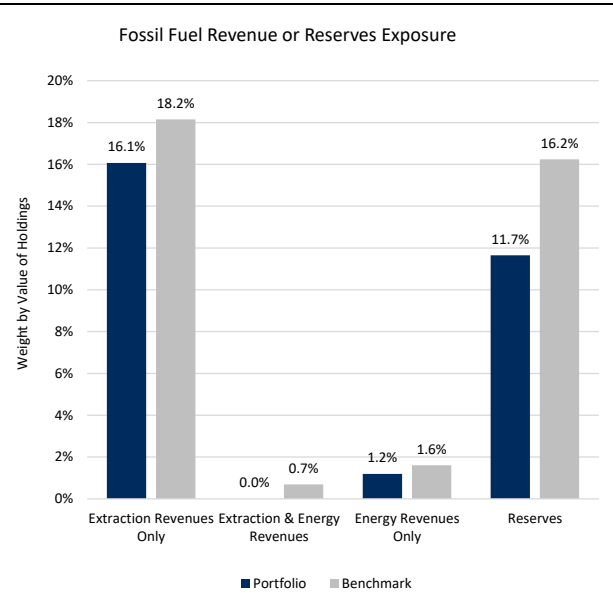
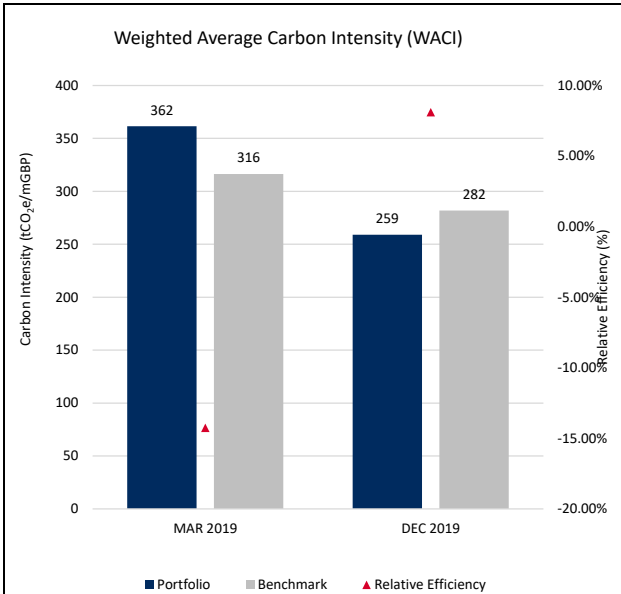


# Brunel Pension Partnership Carbon Metrics Report



Brunel Active UK vs. FTSE All Share

Data as of 31 December 2019



**Current Year Top Contributors to WACI**

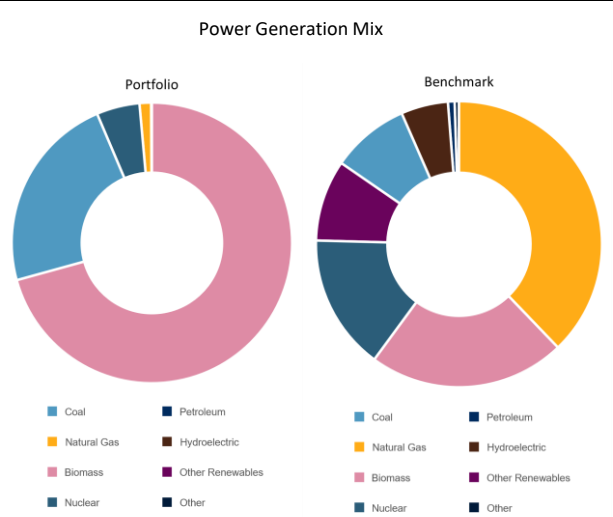
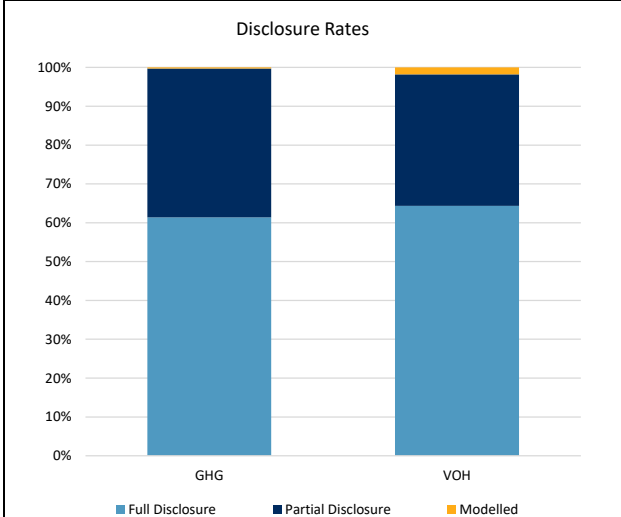
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
Rio Tinto Group	1,141	3.35%	-11.80%
Royal Dutch Shell PLC	668	6.40%	-10.80%
Tate & Lyle plc	2,420	0.86%	-7.22%
Drax Group plc	4,317	0.36%	-5.59%
International Consolidated Airlines Group, S.A.	1,472	1.05%	-4.96%

**Top Contributors to Emissions from Reserves**

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
BP p.l.c.	2.28	2.73%
EVRAZ plc	1.87	0.19%
Royal Dutch Shell PLC	1.85	6.40%
Glencore Plc	1.07	0.34%
Anglo American Plc	0.98	1.37%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



**Portfolio Disclosure Rates by Method**

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	61.39%	64.37%
Partial Disclosure	38.32%	33.81%
Modelled	0.29%	1.82%

**Energy Mix by Apportioned GWh**

Source	Portfolio (%)	Benchmark (%)
Coal	22.89%	8.82%
Petroleum	0.08%	0.75%
Natural Gas	1.33%	37.83%
Hydroelectric	0.00%	5.33%
Biomass	70.72%	22.25%
Other Renewables	0.01%	9.19%
Nuclear	4.97%	15.34%
Other	0.00%	0.49%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.

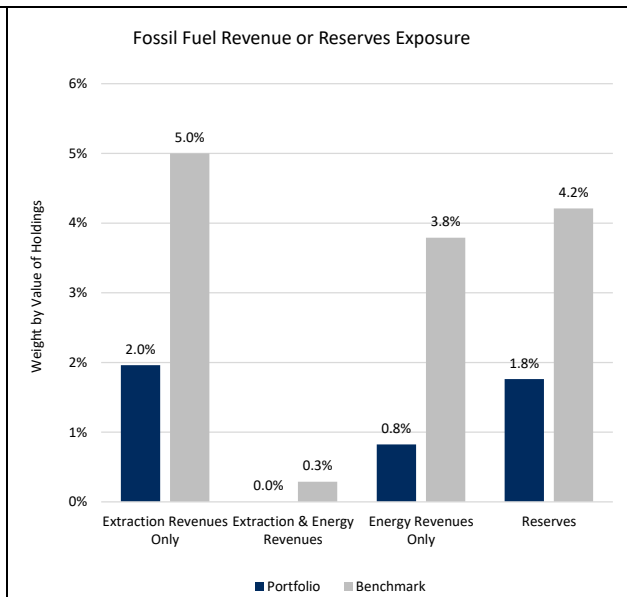
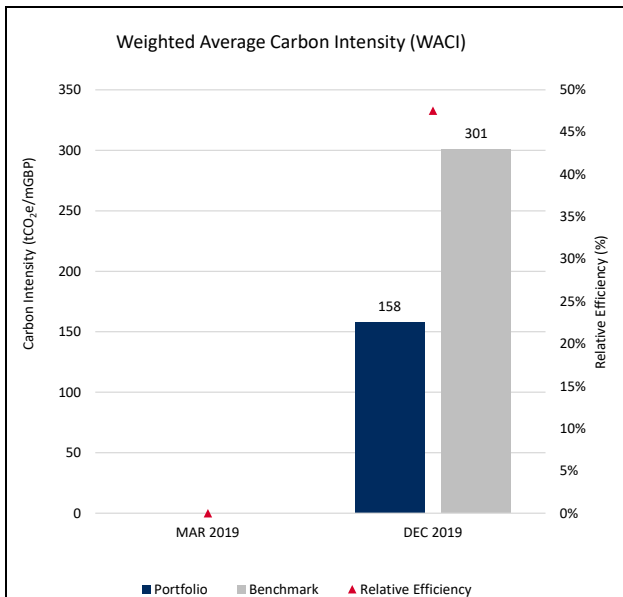
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



## Brunel Active Global High Alpha vs. MSCI World

Data as of 31 December 2019



### Current Year Top Contributors to WACI

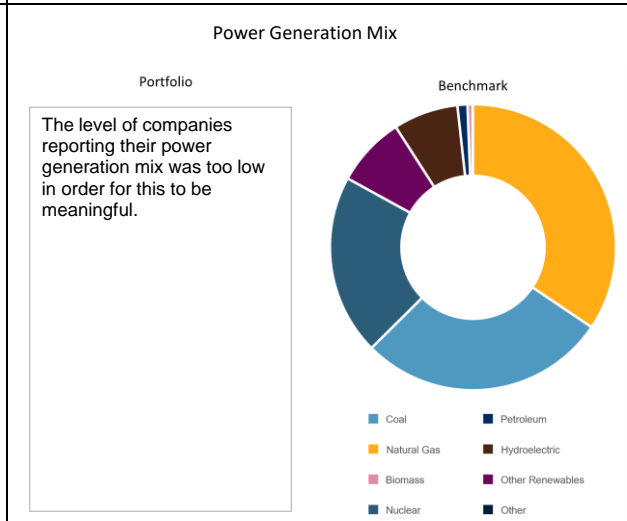
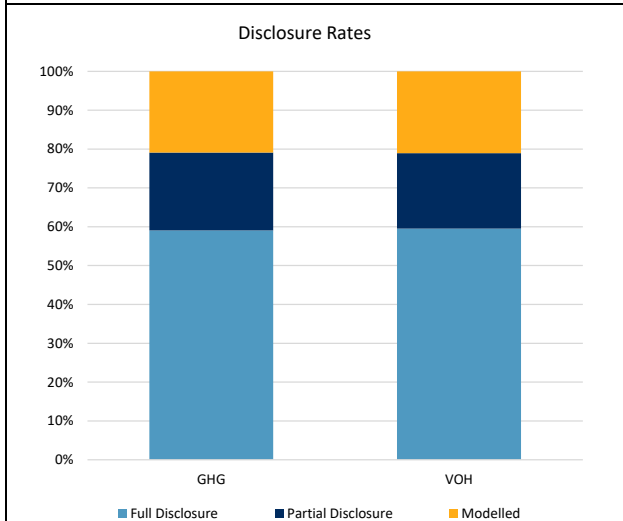
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
LafargeHolcim Ltd	7,633	0.18%	-8.57%
Nestle SA	615	1.90%	-5.62%
Suncor Energy Inc.	1,274	0.74%	-5.25%
InterContinental Hotels Group Plc	1,040	0.79%	-4.46%
Steel Dynamics, Inc.	1,047	0.51%	-2.89%

### Top Contributors to Emissions from Reserves

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Glencore Plc	2.69	0.51%
Suncor Energy Inc.	1.12	0.74%
Anglo American Plc	0.63	0.52%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



### Portfolio Disclosure Rates by Method

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	59.05%	59.51%
Partial Disclosure	20.04%	19.42%
Modelled	20.90%	21.07%

### Energy Mix by Apportioned GWh

Source	Portfolio (%)	Benchmark (%)
Coal	0.00%	28.12%
Petroleum	0.00%	1.13%
Natural Gas	0.00%	34.43%
Hydroelectric	0.00%	7.33%
Biomass	0.00%	0.57%
Other Renewables	100.00%	7.92%
Nuclear	0.00%	20.44%
Other	0.00%	0.05%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.

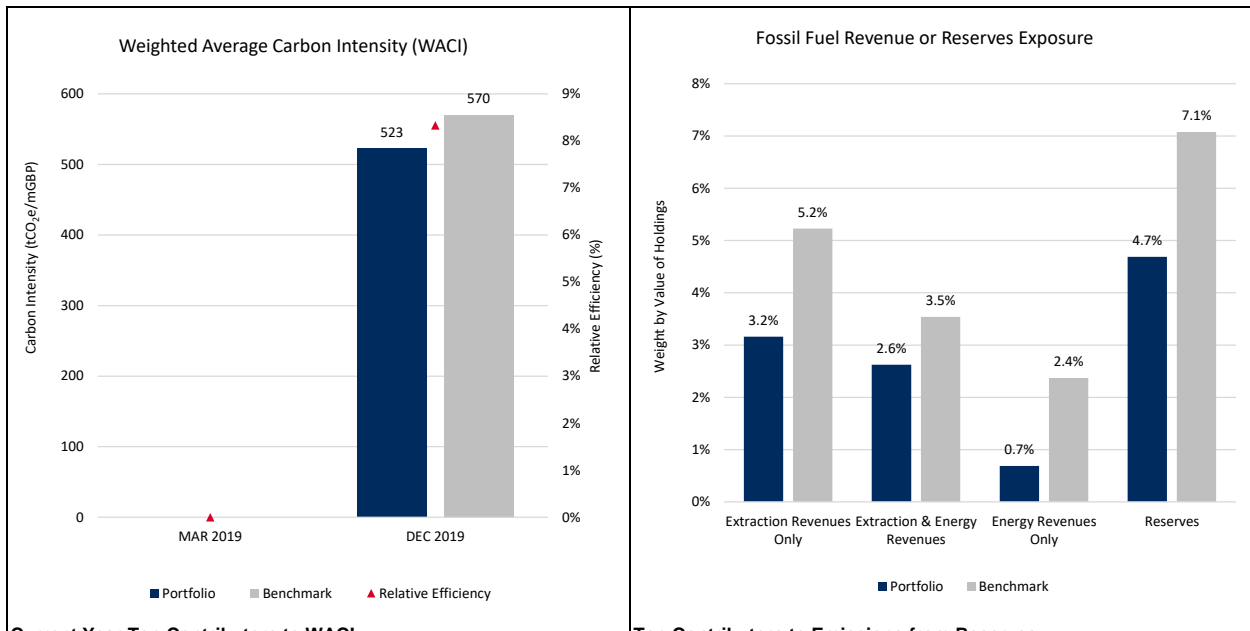
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



## Brunel Active Emerging Markets vs. MSCI Emerging Markets

Data as of 31 December 2019



### Current Year Top Contributors to WACI

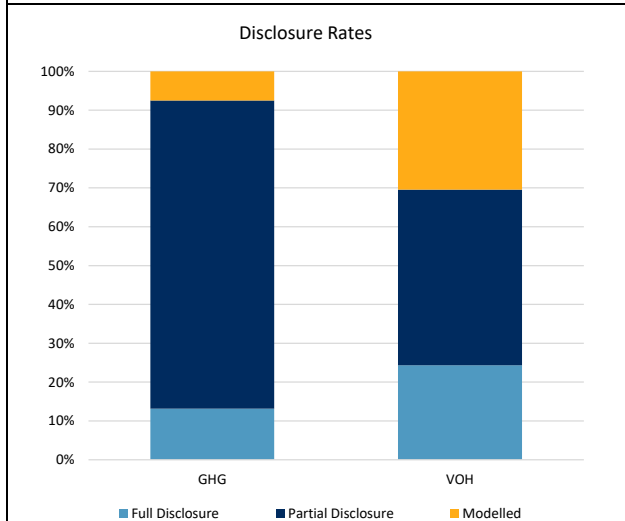
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
PT Semen Indonesia (Persero) Tbk	15,818	0.70%	-20.77%
Anhui Conch Cement Company Limited	13,817	0.43%	-11.03%
PT Indocement Tungal Prakarsa Tbk	17,270	0.15%	-4.66%
Sasol Limited	6,627	0.27%	-3.20%
Public Joint Stock Company Gazprom	3,125	0.49%	-2.46%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

### Top Contributors to Emissions from Reserves

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Public Joint Stock Company Gazprom	2.73	0.49%
PJSC LUKOIL	1.25	0.66%
Sasol Limited	0.62	0.27%
Anglo American Plc	0.35	0.71%
Petrobras SA	0.24	0.78%

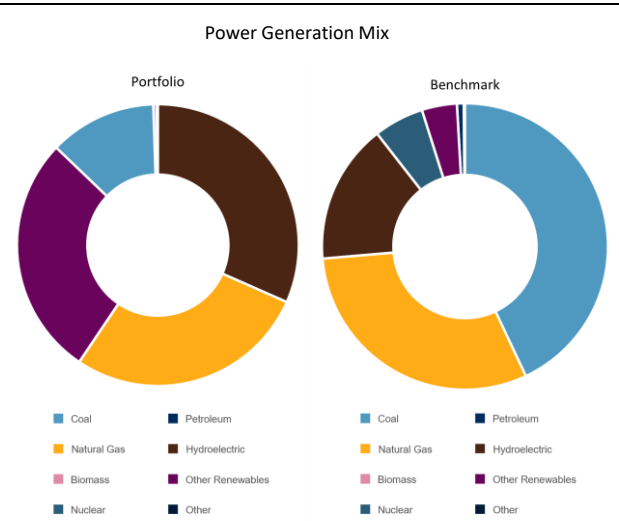
The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



### Portfolio Disclosure Rates by Method

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	13.18%	24.35%
Partial Disclosure	79.35%	45.23%
Modelled	7.48%	30.42%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.



### Energy Mix by Apportioned GWh

Source	Portfolio	Benchmark
Coal	12.31%	42.99%
Petroleum	0.13%	0.76%
Natural Gas	27.81%	30.65%
Hydroelectric	31.62%	15.81%
Biomass	0.39%	0.11%
Other Renewables	27.75%	3.97%
Nuclear	0.00%	5.67%
Other	0.00%	0.03%

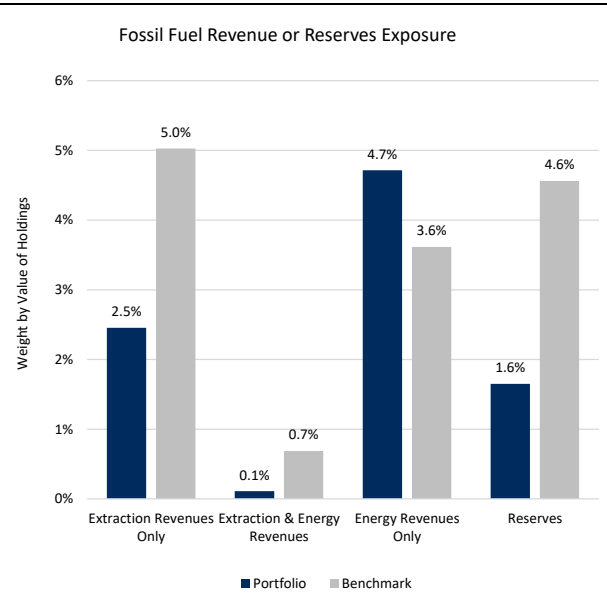
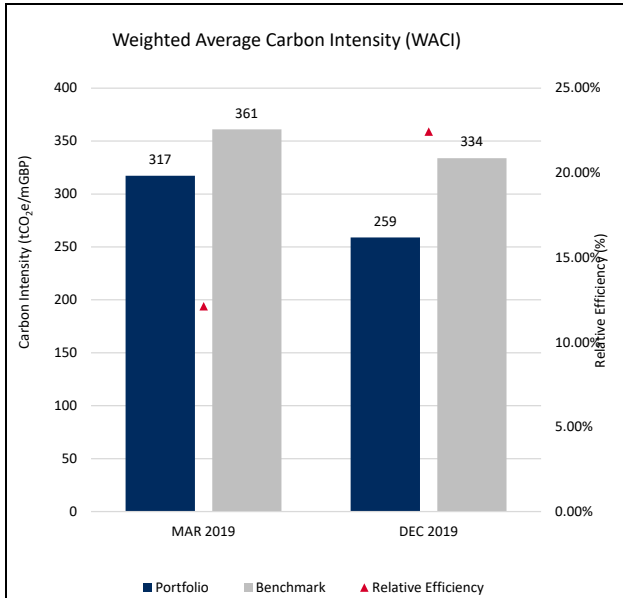
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



Brunel Active Low Volatility vs. MSCI ACWI

Data as of 31 December 2019



**Current Year Top Contributors to WACI**

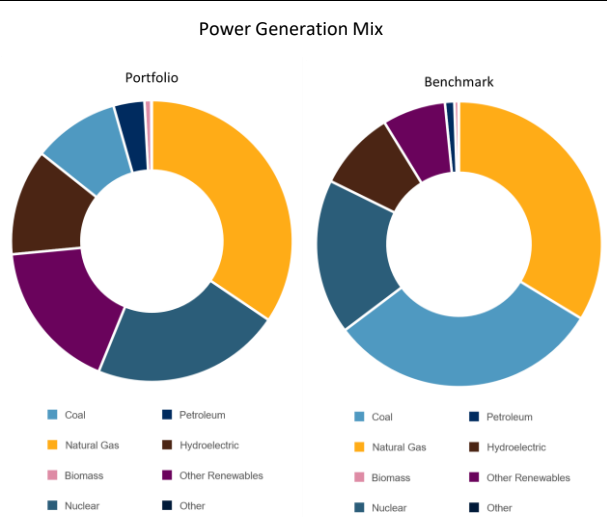
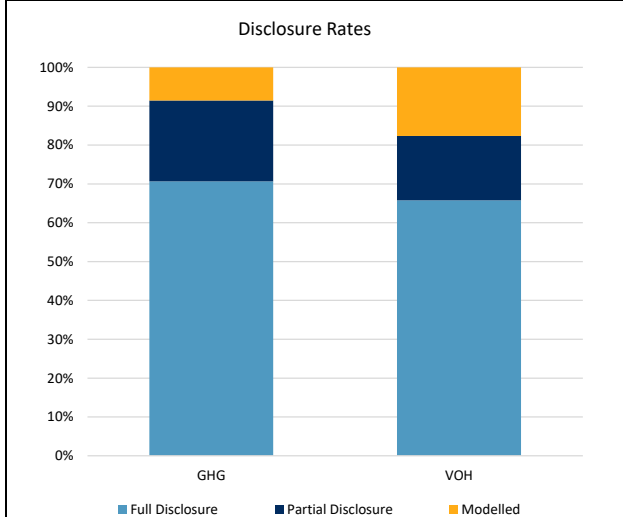
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
Dominion Energy, Inc.	3,200	0.61%	-6.98%
NextEra Energy, Inc.	3,203	0.41%	-4.64%
Iberdrola, S.A.	965	1.20%	-3.31%
Endesa, S.A.	2,195	0.36%	-2.73%
Fortum Oyj	4,810	0.15%	-2.66%

**Top Contributors to Emissions from Reserves**

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
ConocoPhillips	0.13	0.76%
Repsol, S.A.	0.04	0.26%
Total S.A.	0.04	0.22%
Imperial Oil Limited	0.03	0.08%
Mitsui & Co., Ltd.	0.01	0.23%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



**Portfolio Disclosure Rates by Method**

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	70.65%	65.76%
Partial Disclosure	20.83%	16.60%
Modelled	8.51%	17.64%

**Energy Mix by Apportioned GWh**

Source	Portfolio (%)	Benchmark (%)
Coal	9.92%	31.01%
Petroleum	3.56%	1.06%
Natural Gas	34.45%	33.70%
Hydroelectric	12.18%	8.98%
Biomass	0.77%	0.48%
Other Renewables	17.33%	7.16%
Nuclear	21.70%	17.57%
Other	0.08%	0.05%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE-IO model.

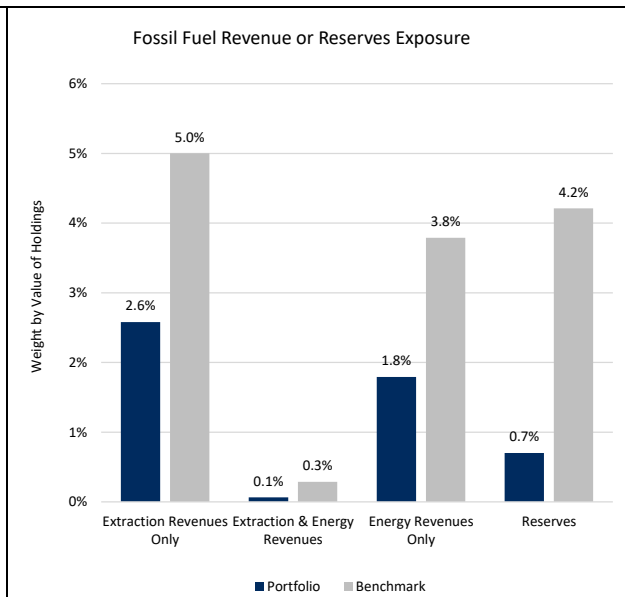
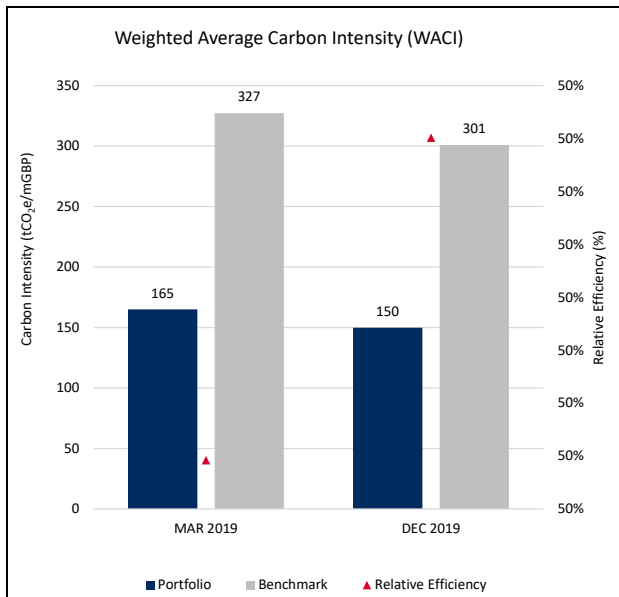
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



## Brunel Passive Low Carbon vs. MSCI World

Data as of 31 December 2019



### Current Year Top Contributors to WACI

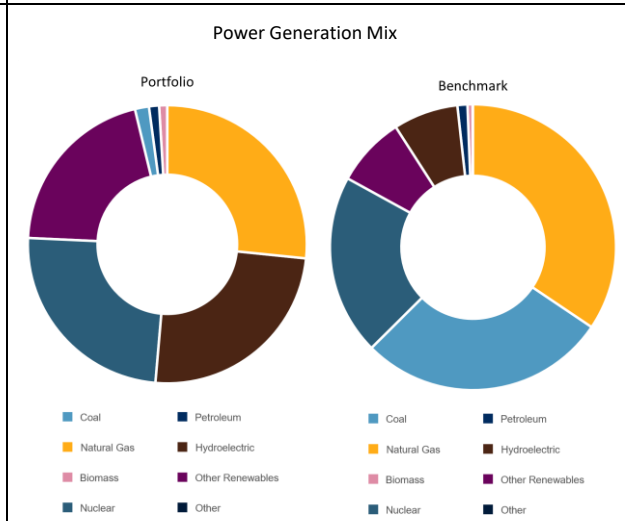
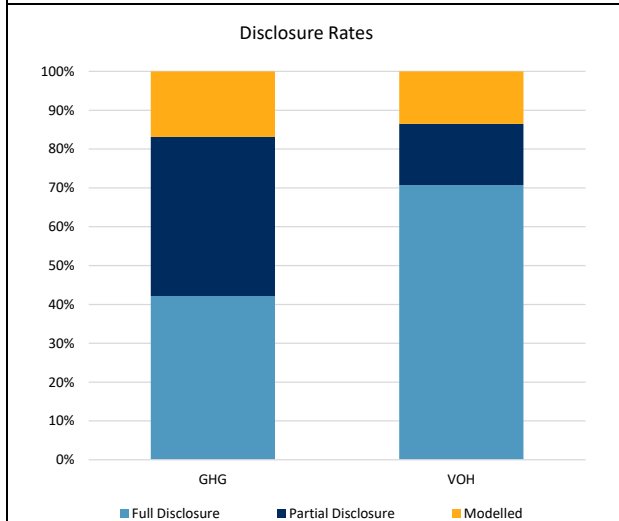
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
Linde plc	2,553	0.23%	-3.77%
NextEra Energy, Inc.	3,203	0.15%	-3.03%
Nestle SA	615	0.75%	-2.34%
ONEOK, Inc.	833	0.40%	-1.82%
Berkshire Hathaway Inc.	543	0.67%	-1.77%

### Top Contributors to Emissions from Reserves

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Mitsui & Co., Ltd.	0.04	0.44%
Mitsubishi Corporation	0.02	0.17%
Royal Dutch Shell PLC	0.02	0.06%
Galp Energia, SGPS, S.A.	0.00	0.02%
Chevron Corporation	0.00	0.01%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



### Portfolio Disclosure Rates by Method

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	42.18%	70.72%
Partial Disclosure	40.97%	15.78%
Modelled	16.85%	13.50%

### Energy Mix by Apportioned GWh

Source	Portfolio (%)	Benchmark (%)
Coal	1.63%	28.12%
Petroleum	1.17%	1.13%
Natural Gas	26.62%	34.43%
Hydroelectric	24.75%	7.33%
Biomass	0.93%	0.57%
Other Renewables	20.53%	7.92%
Nuclear	24.36%	20.44%
Other	0.01%	0.05%

**Full Disclosure** - Data disclosed by a company in an un-edited form.  
**Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process. Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.  
**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.

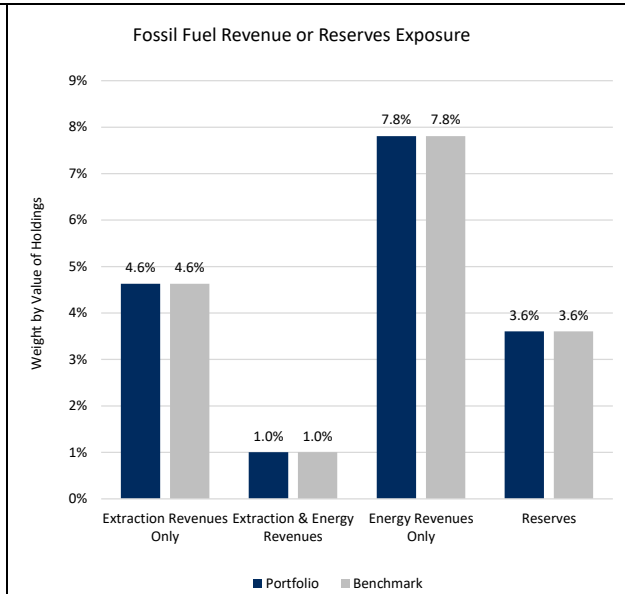
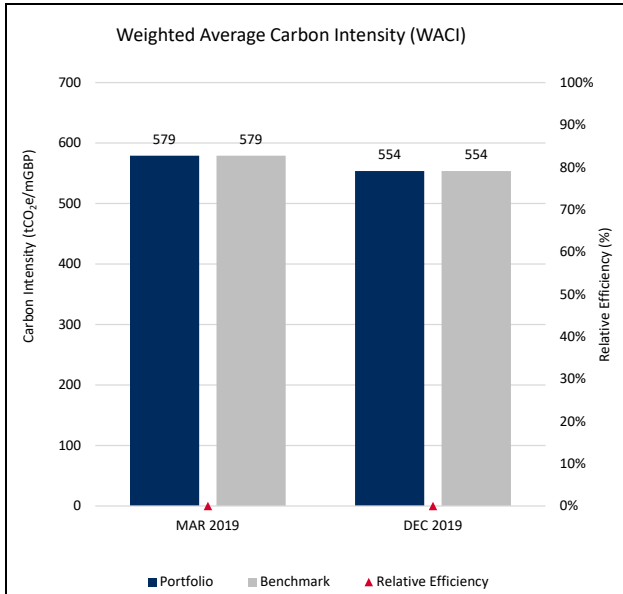
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



Brunel Passive Smart Beta

Data as of 31 December 2019



**Current Year Top Contributors to WACI**

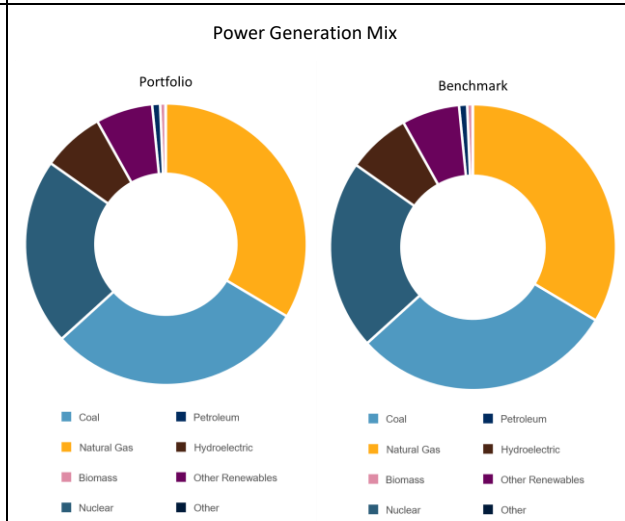
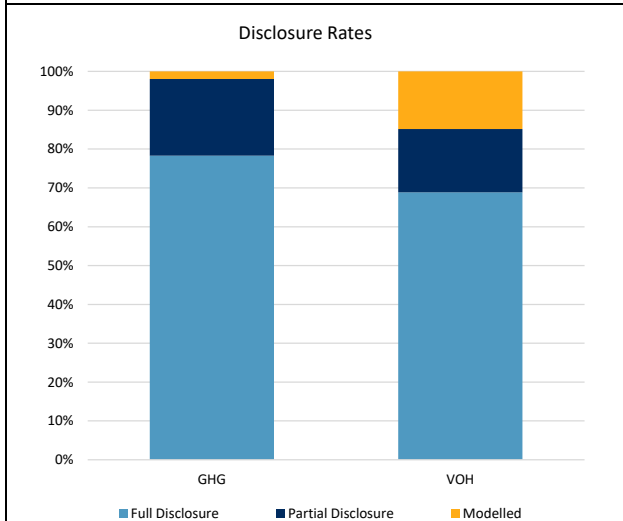
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
American Electric Power Company, Inc.	7,986	0.39%	-5.31%
The Southern Company	6,329	0.43%	-4.46%
Duke Energy Corporation	5,644	0.40%	-3.70%
Ameren Corporation	6,798	0.31%	-3.51%
Energy, Inc.	9,737	0.21%	-3.42%

**Top Contributors to Emissions from Reserves**

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
South32 Limited	0.14	0.04%
Exxon Mobil Corporation	0.13	0.37%
Teck Resources Limited	0.10	0.04%
BP p.l.c.	0.08	0.16%
Imperial Oil Limited	0.08	0.09%

The **WACI** shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The **Fossil Fuel Revenue Exposure** and **Fossil Fuel Reserves Exposure** metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



**Portfolio Disclosure Rates by Method**

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	78.31%	68.86%
Partial Disclosure	19.74%	16.32%
Modelled	1.95%	14.82%

**Energy Mix by Apportioned GWh**

Source	Portfolio (%)	Benchmark (%)
Coal	29.71%	29.71%
Petroleum	0.91%	0.91%
Natural Gas	33.55%	33.55%
Hydroelectric	7.15%	7.15%
Biomass	0.61%	0.61%
Other Renewables	6.52%	6.52%
Nuclear	21.50%	21.50%
Other	0.05%	0.05%

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**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE - IO model.

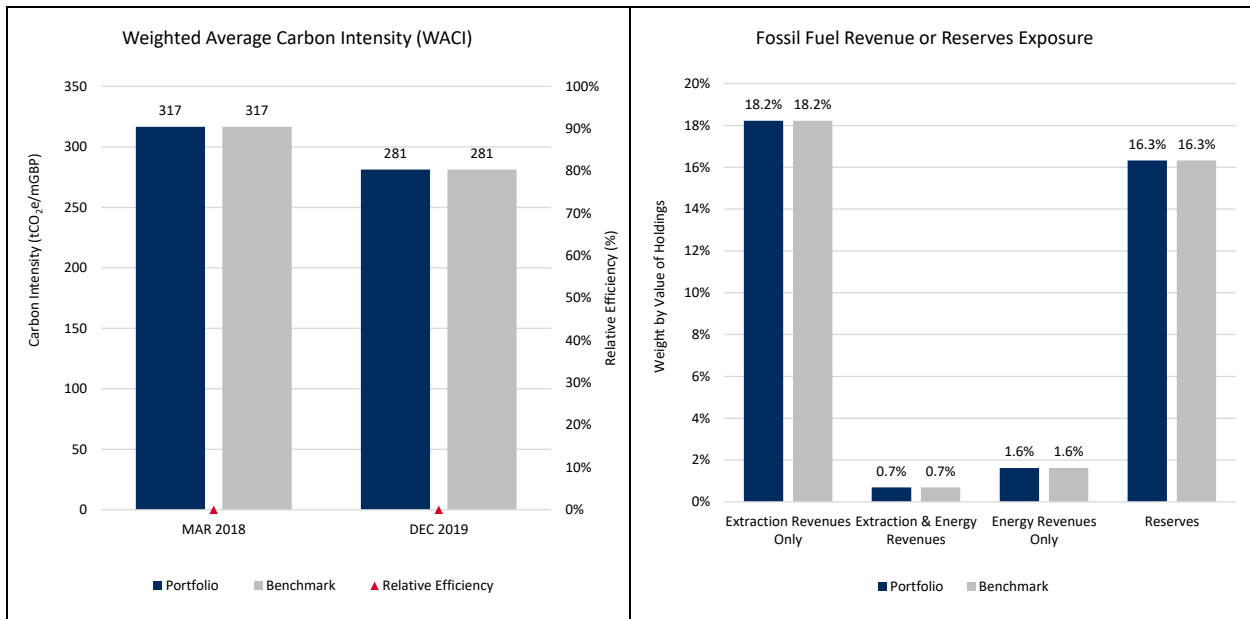
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



Brunel Passive UK

Data as of 31 December 2019



**Current Year Top Contributors to WACI**

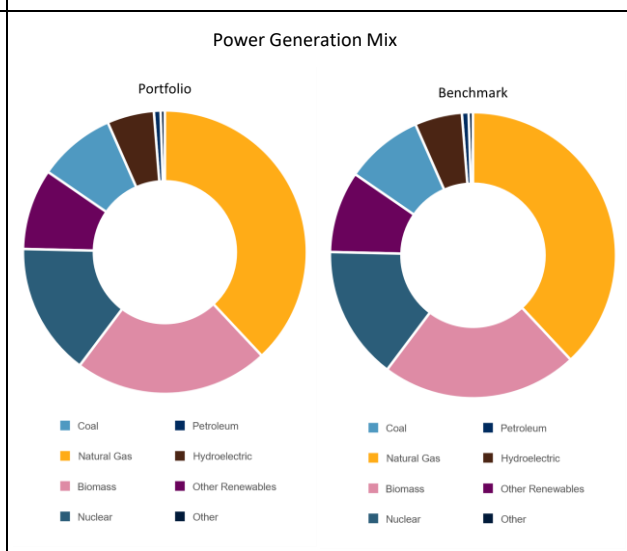
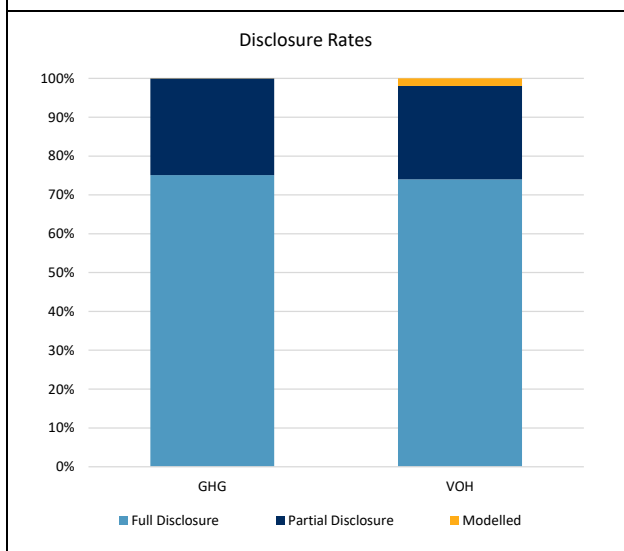
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
Royal Dutch Shell PLC	668	8.35%	-12.53%
Rio Tinto Group	1,141	2.29%	-7.17%
CRH Plc	1,911	1.10%	-6.45%
BP p.l.c.	572	4.37%	-4.72%
Mondi PLC	2,784	0.39%	-3.50%

**Top Contributors to Emissions from Reserves**

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Glencore Plc	2.76	1.21%
BP p.l.c.	2.67	4.37%
Royal Dutch Shell PLC	1.77	8.35%
EVRAZ plc	0.71	0.10%
Anglo American Plc	0.66	1.26%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



**Portfolio Disclosure Rates by Method**

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	75.11%	74.03%
Partial Disclosure	24.85%	24.02%
Modelled	0.04%	1.95%

**Energy Mix by Apportioned GWh**

Source	Portfolio (%)	Benchmark (%)
Coal	8.82%	8.82%
Petroleum	0.76%	0.76%
Natural Gas	38.03%	38.03%
Hydroelectric	5.35%	5.35%
Biomass	22.21%	22.21%
Other Renewables	9.23%	9.23%
Nuclear	15.12%	15.12%
Other	0.49%	0.49%

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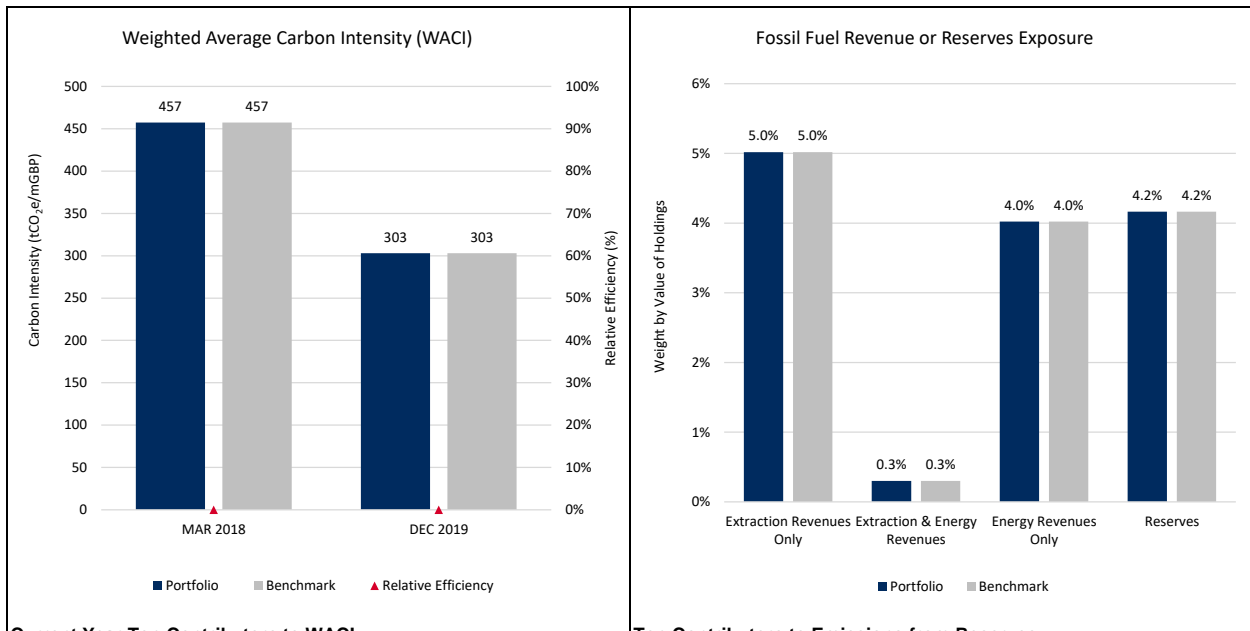
**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation

# Brunel Pension Partnership Carbon Metrics Report



Brunel Passive World Developed

Data as of 31 December 2019



**Current Year Top Contributors to WACI**

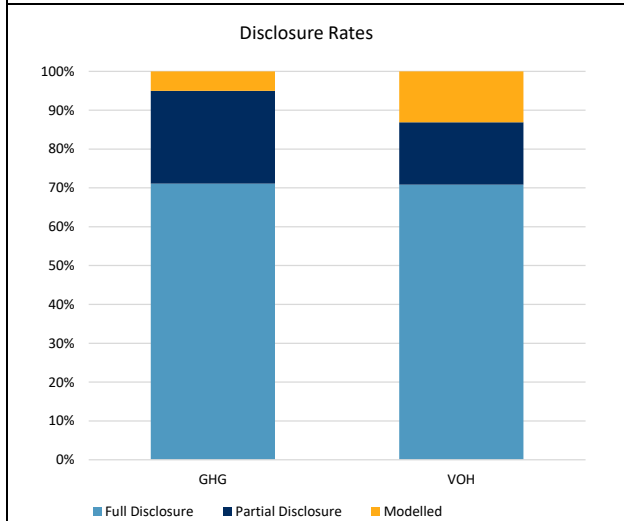
Name	Carbon-to-Revenue intensity (tCO <sub>2</sub> e/mGBP)	Weight (%)	Contr. (%)
The Southern Company	6,329	0.15%	-2.91%
American Electric Power Company, Inc.	7,986	0.10%	-2.62%
Duke Energy Corporation	5,644	0.15%	-2.59%
NextEra Energy, Inc.	3,203	0.26%	-2.45%
Linde plc	2,553	0.26%	-1.90%

**Top Contributors to Emissions from Reserves**

Name	Apportioned reserve emissions (MtCO <sub>2</sub> )	Weight (%)
Exxon Mobil Corporation	0.63	0.65%
Glencore Plc	0.41	0.08%
BP p.l.c.	0.40	0.27%
BHP Group	0.35	0.18%
Chevron Corporation	0.34	0.51%

The WACI shows the portfolio exposure to carbon intensive companies. This metric takes the carbon intensity (total carbon emissions divided by total revenue) of each investee and multiplies it by its weight in the portfolio.

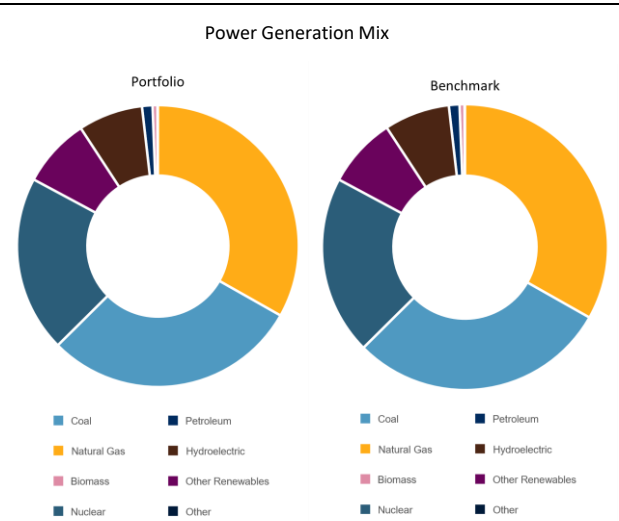
The Fossil Fuel Revenue Exposure and Fossil Fuel Reserves Exposure metrics show the share of the portfolio that is invested in companies exposed to revenue from fossil fuel related activities or have disclosed fossil fuel reserves.



**Portfolio Disclosure Rates by Method**

Carbon disclosure category	GHG-weighted disclosure	Value-weighted disclosure
Full Disclosure	71.09%	70.87%
Partial Disclosure	23.90%	16.00%
Modelled	5.01%	13.13%

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**Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE-IO model.



**Energy Mix by Apportioned GWh**

Source	Portfolio	Benchmark
Coal	29.37%	29.37%
Petroleum	1.20%	1.20%
Natural Gas	33.19%	33.19%
Hydroelectric	7.41%	7.41%
Biomass	0.55%	0.55%
Other Renewables	7.95%	7.95%
Nuclear	20.27%	20.27%
Other	0.06%	0.06%

**Other Renewables:** solar, wind, wave & tidal, geothermal  
**Other:** landfill gas, any other unclassified power generation





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