

## **CARBON FOOTPRINT**

### **Report of the County Treasurer**

Please note that the following recommendations are subject to consideration and determination by the Committee before taking effect.

- Recommendations: (1) that the Committee notes the report, and the reduction in the Fund's carbon footprint between March 2019 and December 2019.**
- (2) that the Devon Fund continues to work with Brunel to further reduce the Fund's carbon footprint by at least 7% per year.**

#### **1. Introduction**

- 1.1 Climate change continues to be a significant concern nationally and internationally. Locally, Devon County Council has declared a climate emergency and continues to be lobbied to do more. The lobbying includes regular questions about the Devon Pension Fund's investments.
- 1.2 In September 2019, the Investment and Pension Fund Committee agreed to commission an analysis of the Fund's carbon footprint as at 31 March 2019, and thereafter on an annual basis. Carbon footprints and other carbon metrics can be used as measures of potential investment risk arising from changes in regulation that increase costs to the companies invested in, linked to actual or potential emissions.
- 1.3 This report outlines the position as at 31 March 2019, and then the updated position as at 31 December 2019. Future analyses will be undertaken as at 31 December each year. The carbon footprint analysis has been undertaken by the Brunel Pension Partnership working with Trucost, a leader in carbon and environmental data and risk analysis.

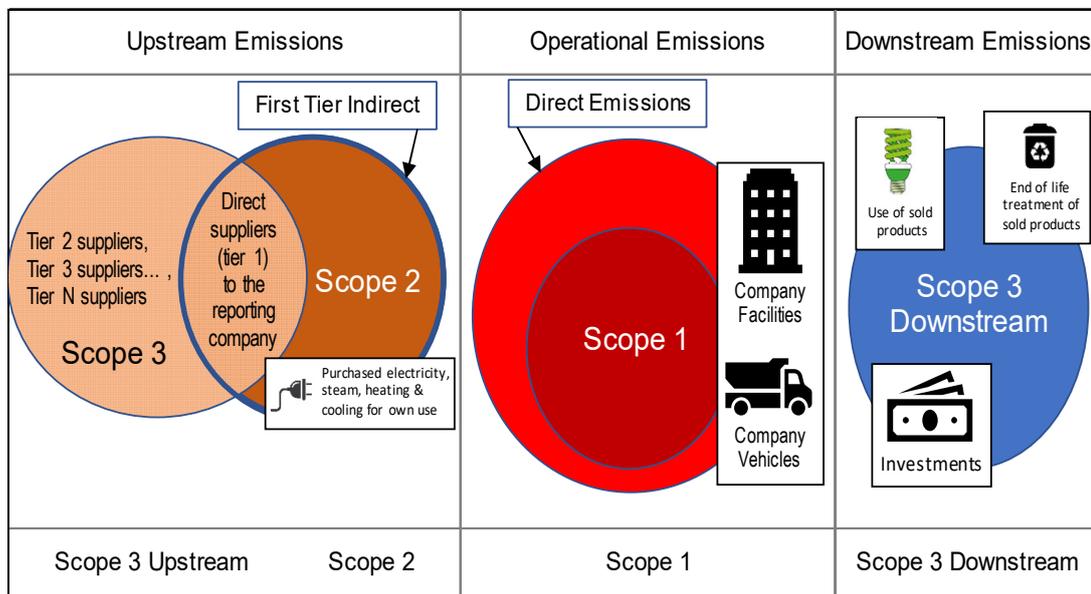
#### **2. Calculating the Carbon Footprint**

- 2.1 Calculating the impact of a company's emissions involves looking not only at the operations of the company itself, but also looking at the impact of the products that it sells and the impact of its supply chain. Emissions are therefore split into scope 1, scope 2 and scope 3 emissions:
- Scope 1 – The direct emissions of the company's own operations.
  - Scope 2 – The emissions related to the purchase of electricity, steam, heating and cooling for the company's use.

- Scope 3 Upstream – The emissions of the company’s supply chain.
- Scope 3 Downstream – The emissions associated with the companies’ products as they are consumed by customers.

These are illustrated in the following diagram.

### Greenhouse Gases – Scopes



2.2 In analysing a portfolio of investment companies, there is the danger of double counting, where the scope 1 direct emissions of one company are the scope 3 downstream emissions of another company in the portfolio. However, from an investment risk perspective it is useful to know both the attribution of carbon risk (what is in the company’s direct control) and also the aggregate risk, from carbon risk within the supply chain. The Brunel/Trucost analysis of the Devon Pension Fund’s equity investments therefore takes into account Scope 1 direct emissions, Scope 2 (e.g. purchased power) and the first tier Scope 3 (immediate supply chain) emissions of investee companies, as shown in the diagram above. Downstream Scope 3 emissions based on product in use (or disposal) are not widely calculated by companies or reported. However, downstream Scope 3 are critical when looking impact/ investment risk of car manufacturers and fossil fuel companies.

2.3 The analysis undertaken quantifies greenhouse gas emissions (GHG) embedded within a portfolio, presenting these as tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e). Comparing the total GHG emissions of each holding relative to either revenues generated or capital invested, gives a measure of carbon exposure that enables comparison between companies, irrespective of size or geography. The weighted average carbon intensity (WACI) of each portfolio is measured by summing the product of each holding's weight in the portfolio with the company level carbon/ environmental revenue intensity.

2.4 The disclosure of emissions varies across portfolio companies. The carbon intensity results will comprise a total of:

- Full Disclosure - exact figures have been extracted from annual reports, financial account disclosures, other regulatory disclosures, environmental/corporate social responsibility reports, or from personal communication with a company.

- Partial Disclosure - Trucost has needed to derive, adjust, or scale any of the data acquired from the sources described above.
- Modelled - Trucost has calculated estimates using its proprietary environmentally enhanced input-output model, due to the unavailability or unreliability of up-to-date disclosures.

### 3. Other Environmental Metrics

#### Fossil Fuels and Stranded Assets

- 3.1 The report also looks at the Fund's exposure to extractive industries, or "fossil fuel companies". Industry experts refer to assets that may suffer from unanticipated or premature write-downs, devaluations or conversion to liabilities as 'stranded assets'. Trucost assesses exposure to such assets by highlighting holdings with business activities in extractive industries, as well as holdings in companies that have disclosed proven and probable fossil fuel reserves in the portfolio. This helps to identify potentially stranded assets that would become apparent as economies move towards a 2 degree alignment.
- 3.2 Each portfolio's exposure to potentially stranded assets has been assessed on both a value of holdings (VOH) basis and a revenue basis. The value of holdings basis looks at the proportion of the Fund's assets where the investee companies are engaged in extractive industries. However, many of these companies will have diversified businesses and may obtain a large proportion of their revenue from non-extractive activities, which in some cases may include renewable energy. Therefore, the revenue exposure metric looks at the exposure based on the proportion of revenue the investee companies derive from extractive industries. This is presented using a weighted average approach.

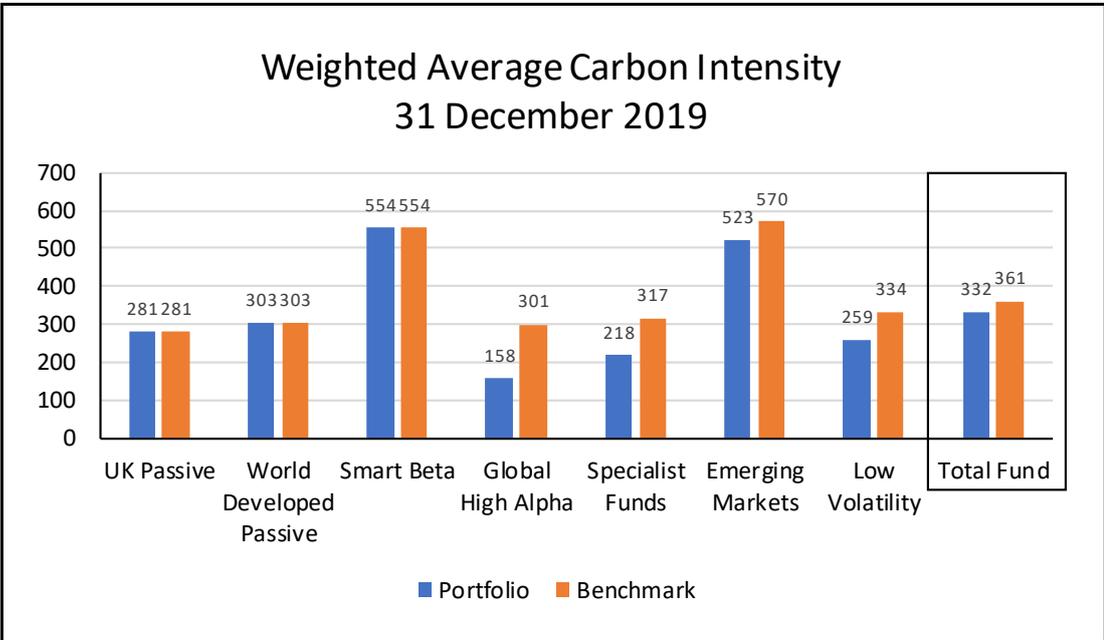
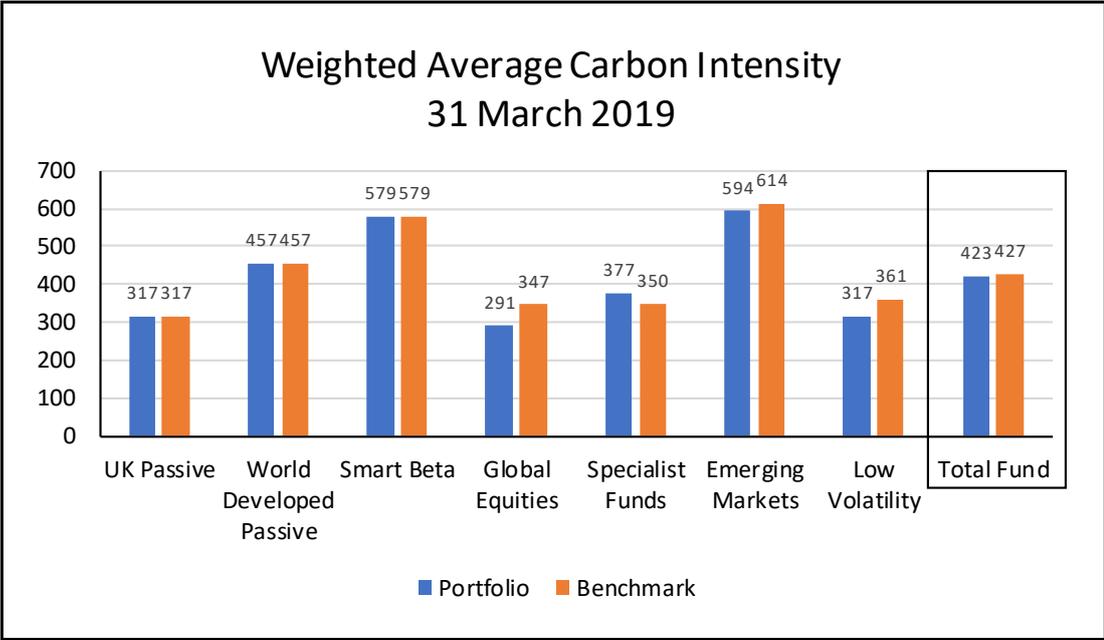
#### Energy Transition

- 3.3 While carbon footprints can help to identify the most carbon efficient companies within a portfolio, they do not recognise those companies that are contributing positively to the low carbon economy by offering climate-mitigation or adaptation solutions. As the energy generating sectors are critical to this transition, Trucost has analysed physical units of power production embedded within each portfolio to highlight aggravators (fossil fuels) vs. mitigators (renewables). The generation types within each category are as follows:
- Renewable Energy Generation: solar, wind, wave & tidal, geothermal, hydroelectric, biomass.
  - Fossil Fuel Energy Generation: coal, petroleum, natural gas.
  - Other Energy Generation: nuclear, landfill gas, any other unclassified power generation.

**4. Results**

Weighted Average Carbon Intensity (WACI)

4.1 The WACI for each portfolio and for the Fund’s total equity holdings as at 31 March 2019 and as at 31 December 2019 is shown in the graphs below. It should be noted that in March 2019, the Global Equities and Emerging Markets allocations were managed by Aberdeen Standard Investments. By December these allocations had transitioned to be managed by Brunel.



4.2 The total Fund WACI has fallen from 423 tCO<sub>2</sub>e/mGBP in March 2019 to 332 tCO<sub>2</sub>e/mGBP in December 2019, an improvement of 21.5%. The WACI in March 2019 was below the benchmark and in December 2019 is further below the benchmark of 361 tCO<sub>2</sub>e/mGBP.

- 4.3 The reduced WACI represented an improved position across all portfolios, including passive, which shows that action is being taken within individual companies. However, the biggest improvement in a single portfolio (45.6%) was on global equities, where the portfolio transitioned from Aberdeen Standard Investments to Brunel's Global High Alpha portfolio.
- 4.4 The highest absolute WACI in March 2019, and second highest in December 2019, was for the emerging markets portfolio. This would be expected, given that the emerging markets have less stringent regulations on both emissions and also disclosure requirements. The WACI for the Smart Beta portfolio is currently (31 December 2019) the highest and this is an area Brunel are working to address. The passive portfolio's WACI is in line with the index as would be expected.
- 4.5 In March 2019 the only portfolio where the WACI was higher than the benchmark was the specialist funds, but as at 31 December this has now fallen to well below the benchmark. The improvement is likely to be in part due to the termination of the FPP Emerging Markets investment which was previously within the portfolio. The nature of the specialist funds, which include allocations to smaller companies, means that there is a higher degree of modelling involved, due to lower disclosure by the companies held, and this may have impacted the results. The degree of modelling in December was lower, with a higher proportion of companies disclosing their emissions.
- 4.6 The top five largest contributors to the Devon Fund's carbon intensity in both March 2019 and December 2019 are shown below. The 'WACI Contribution' is the percentage change in the Fund's intensity that would be caused by excluding the holding referenced. In other words, it is a measurement of how much a specific holding effects the carbon performance of the portfolio.

#### **Largest Contributors – Weighted Average Carbon Intensity – 31 March 2019**

Company	Holding £'000	Company C/R Intensity tCO2e/£m	WACI Contribution %	Data Source
PT Indocement Tunggul Prakarsa	2,576	17,270	-4.27	Partial Disclosure
Royal Dutch Shell	61,456	792	-2.29	Full Disclosure
UltraTech Cement Ltd	1,684	10,742	-1.71	Full Disclosure
Linde plc	8,033	2,553	-1.69	Full Disclosure
American Electric Power	2,140	8,139	-1.63	Full Disclosure

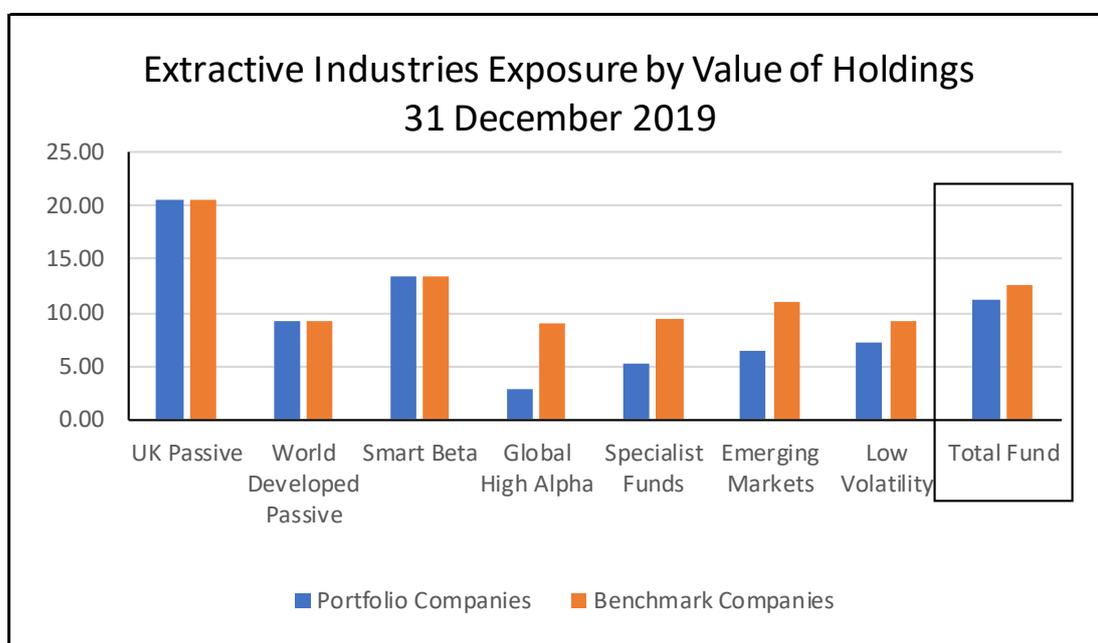
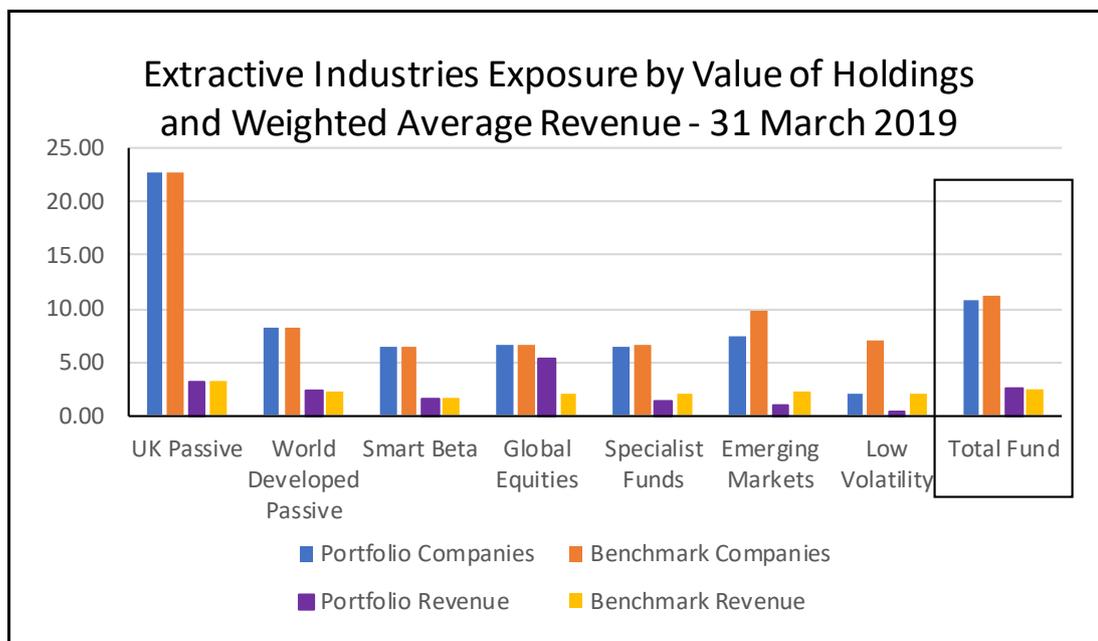
#### **Largest Contributors – Weighted Average Carbon Intensity – 31 December 2019**

Company	Holding £'000	Company C/R Intensity tCO2e/£m	WACI Contribution %	Data Source
PT Semen Indonesia (Persero)	1,411	15,818	-2.57	Full Disclosure
Royal Dutch Shell	58,978	668	-2.16	Full Disclosure
American Electric Power	2,540	7,986	-2.16	Full Disclosure
The Southern Company	3,386	6,329	-2.13	Full Disclosure
Duke Energy Corporation	3,104	5,644	-1.72	Full Disclosure

- 4.7 Of the top ten contributors Royal Dutch Shell has the lowest company carbon intensity, but the size of the holding means that it makes the second largest contribution to the Devon Fund's carbon intensity.

## Fossil Fuels and Stranded Assets

- 4.8 The Fund's exposure to extractive industries as at 31 March 2019 and 31 December 2019 is shown in the following graphs. The chart for March 2019 shows both the proportion of the Fund's assets where the investee companies are engaged in extractive industries, and then the proportion of investee companies' revenues derived from extraction. The chart for December 2019 only shows the first of those metrics.



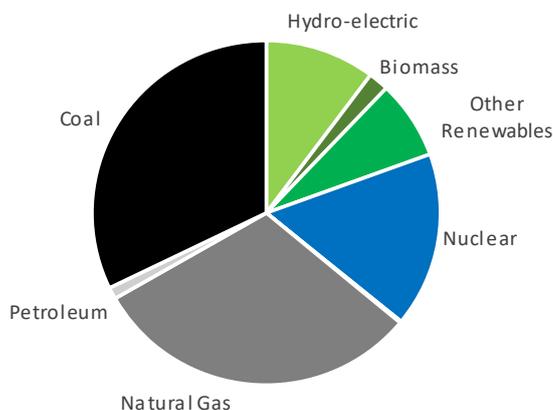
- 4.9 The Devon Aggregate is less exposed to fossil fuel revenues (11.2% vs 12.7%) than its benchmark. However, this is a slight increase from March 2019, when 10.9% of the total Fund equity portfolio by value of holding was exposed to extractive industries, compared with 11.1% for the benchmark. Both footprints are heavily impacted by the UK Passive portfolio, which was 20.5% exposed in December 2019.

- 4.10 However, when exposure to the revenue derived from extraction was analysed for March 2019, the exposure was reduced to 2.6%, compared with 2.5% for the benchmark. The global equities mandate managed by Aberdeen Standard Investments had the highest exposure on that basis, at 5.34%.
- 4.11 One point to note is that the UK passive portfolio has a significantly higher exposure to “fossil fuel companies” compared to other portfolios, but its carbon footprint, in terms of its WACI is lower. This goes to the heart of issues with fossil fuel companies. The UK index has a high proportion of resource companies (fossil fuels companies) e.g. oil and gas and diversified miners. The fossil fuel exposure in terms of value of the holdings and revenue exposure are high. However, only a small proportion (say on average 20% as a rough guide) of emissions relate to the operations of the company the remainder being the impact of the product in use (downstream Scope 3). As outlined earlier this information is not readily captured as companies have claimed that is not their ‘responsibility’. The full economic cost of the product is not incurred by the company. This directly links to the policy engagement calling for a price on carbon.
- 4.12 Through engagement work lead by Climate Action 100+ supported by Transition Pathway Initiative things are changing with leading European oil and gas companies now setting emission reduction targets that do take account of these emissions as part of their long term transition plans. Further information is available in the briefing paper published by the TPI published in May 2020 at <https://www.transitionpathwayinitiative.org/tpi/publications/58.pdf?type=Publication>.

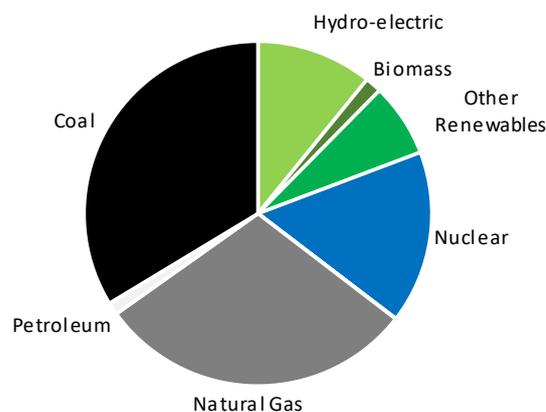
### Energy Transition

- 4.13 The charts below show the exposure to power generation for the total Fund equities allocation as at 31 March 2019 and 31 December 2019, together with the benchmark exposure.
- 4.14 The energy mix of the Devon Fund was broadly in line with its custom benchmark, but the December 2019 figures show a slightly lower share from fossil fuels (61% vs 64%), and a slightly higher share from renewables (20% vs 17%).

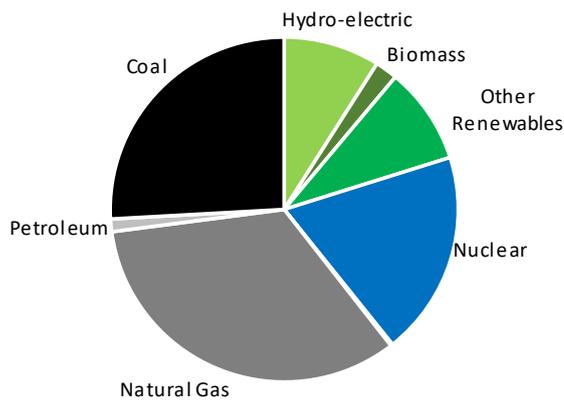
Devon Fund - March 2019



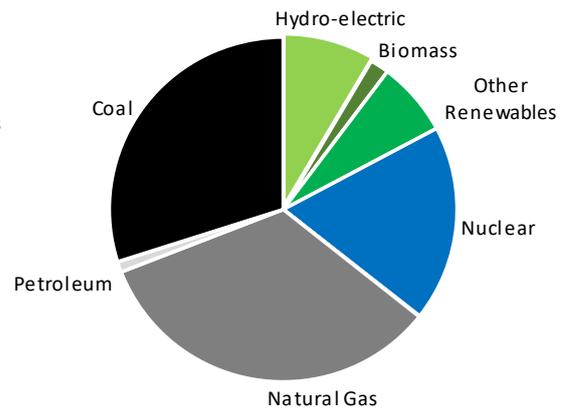
Benchmark - March 2019



Devon Fund - December 2019

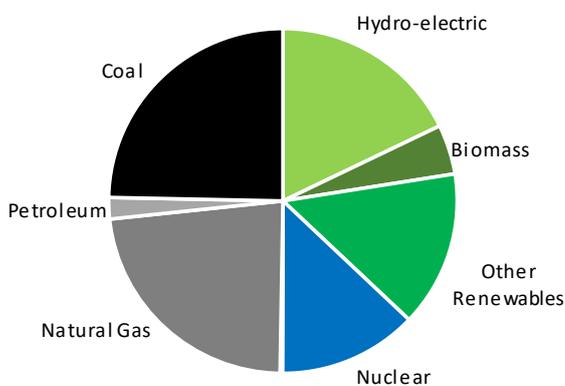


Benchmark - December 2019

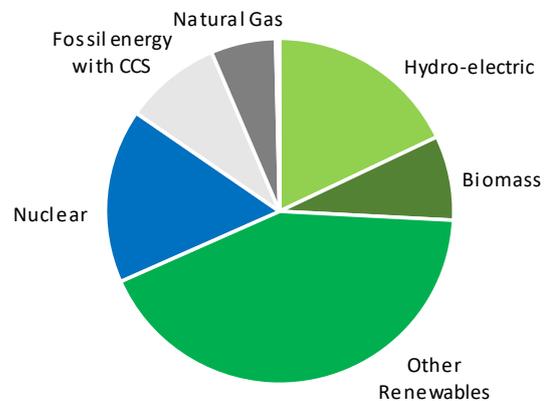


- 4.15 The energy mix of the Devon Fund was broadly in line with its custom benchmark, but the December 2019 figures show a slightly lower share from fossil fuels (61% vs 64%), and a slightly higher share from renewables (20% vs 17%). The December figures show a decrease in the exposure to coal power generation as compared with March 2019.
- 4.16 However, the exposure to renewables will need to increase significantly and that to coal and natural gas will need to reduce significantly to meet the 2 degree aligned scenario. The two charts below demonstrate the progress that would need to be made by 2025 and 2050 respectively.

2% Aligned 2025



2% Aligned 2050



## 5. Conclusions

### 5.1 In summary:

- The Devon Aggregate Portfolio was 21.5% less carbon intense in December 2019 than in March 2019.
- The Devon Aggregate portfolio was less carbon intensive than its custom benchmark when measured using the Weighted Average Carbon Intensity (WACI) method, with a relative efficiency of +8%.
- The Devon Aggregate is less exposed to both fossil fuel revenues (11.2% vs 12.7%) than its benchmark.

- The rate of companies in the Devon Aggregate for which fully disclosed carbon data was available was 63% (carbon weighted method) and 64% (investment weighted method), indicating scope for improved reporting among investees.
- The energy mix of the Devon Aggregate was broadly in line with its custom benchmark, but with a slightly lower share from fossil fuels (61% vs 64%), and a slightly higher share from renewables (20% vs 17%).
- Of the Devon Aggregate's sub-portfolios, the highest intensity was the Passive Smart Beta (554 tCO<sub>2</sub>e/mGBP), while the lowest was the Active Global High Alpha (158 tCO<sub>2</sub>e/mGBP).

5.2 The Fund will continue to work with Brunel to seek further reductions in its carbon footprint, with the aim of seeking a further 7% improvement over each of the next two years, before Brunel conducts a further review of the position. The Fund's carbon footprint will be measured as at 31 December each year in order to review progress.

Mary Davis

Electoral Divisions: All

Local Government Act 1972

List of Background Papers – Nil

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