MINERVA ANALYTICS

East Sussex Pension Fund

Climate Risk Report

Draft v1.0

30th October 2023

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1 Introduction

This report contains the results of a Climate Risk Assessment undertaken on behalf of the East Sussex Pension Fund ('the Fund') by Minerva Analytics ('Minerva').

Whilst the Department for Levelling Up, Housing and Communities ('DLUHC') considers the responses it received to the consultation on Governance and Reporting of Climate Change Risks undertaken in late 2022, the Fund decided to move forward and follow up its previous work on assessing Greenhouse Gas ('GHG') emissions associated with the Fund's investments by commissioning some more up-to-date analysis.

Working with Minerva, Officers of the Fund agreed that the primary results of the analysis should be the 4 key climate 'Metrics' that were set out in the DLUHC consultation that Administering Authorities ('AAs') should use, with the rationale being that these Metrics are likely to feature in any final guidance or regulations.

These four metrics were defined[1] by DLUHC as follows:

1) ***Absolute Emissions Metric*** *- Under this metric, AAs must, as far as able, report Scope 1, 2 and 3 greenhouse gas (GHG) emissions;*

2) ***Emissions Intensity Metric*** *- AAs should report the Carbon Footprint of their assets as far as they are able to;*

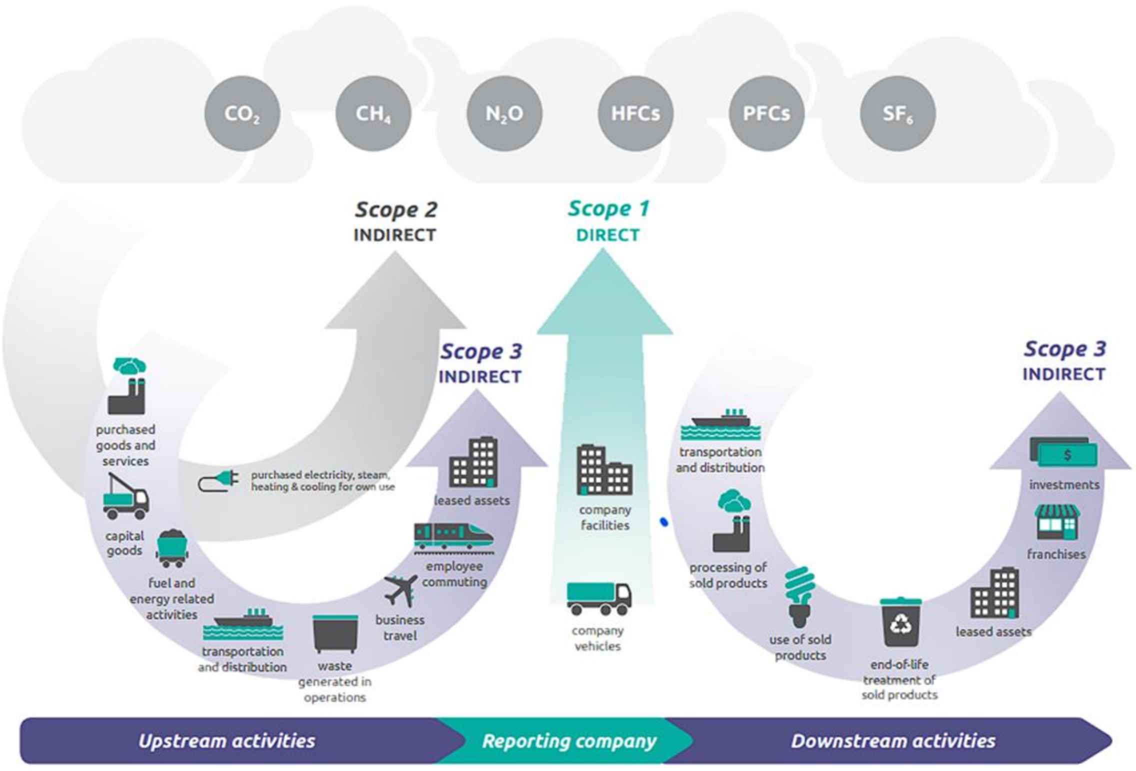
3) ***Data Quality Metric*** *- AAs will report the proportion of the value of its assets for which its total reported emissions were Verified, Reported, Estimated or Unavailable; and*

4) ***Paris Alignment Metric*** *- Under the Paris Alignment Metric, AAs will report the percentage of the value of their assets for which there is a public net zero commitment by 2050 or sooner.*




[1] *11. Summary of Proposals -* https://www.gov.uk/government/consultations/local-government-pension-scheme-england-and-wales-governance-and-reporting-of-climate-change-risks/local-government-pension-scheme-england-and-wales-governance-and-reporting-of-climate-change-risks

GHG Emissions - Scope 1, 2 and 3



Scope 1	▪ Fuel combustion ▪ Company vehicles ▪ Company facilities ▪ Fugitive emissions (emissions from unintentional or intentional release of GHGs to the atmosphere)
Scope 2	▪ Purchased electricity, heat and steam
Scope 3	▪ Purchased goods and services ▪ Business travel ▪ Employee commuting ▪ Waste disposal ▪ Use of sold products ▪ Transportation and distribution (up- and downstream) ▪ Investments ▪ Leased assets and franchises

Source: Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard

The Greenhouse Gas Protocol – which provides the most widely recognised accounting standards for greenhouse gas emissions – categorises GHG emissions into three ‘scopes’. Scope 1 covers direct emissions from owned or controlled sources. Scope 2 covers indirect emissions from the purchase and use of electricity, steam, heating and cooling. By using the energy, an organisation is indirectly responsible for the release of these GHG emissions. Scope 3 includes all other indirect emissions that occur in the upstream and downstream activities of an organisation.

Not all companies publish their GHG emissions. Of those companies that do, some only currently publish Scope 1 and Scope 2 emissions data. It is clear from the DLUHC consultation that the Government expects LGPS Funds to also publish Scope 3 information ‘as far as they are able’[2].

[2] Point 69 at https://www.gov.uk/government/consultations/local-government-pension-scheme-england-and-wales-governance-and-reporting-of-climate-change-risks/local-government-pension-scheme-england-and-wales-governance-and-reporting-of-climate-change-risks

Summary of Approach Taken

For this exercise, we sought to capture all available GHG disclosures for the Fund's investee companies. Importantly, we also sought to note instances where there were no Scope 1, 2 or 3 disclosures – since this 'lack of data' is valuable data in itself, as it can be used to identify prioritised targets for stewardship activity such as voting and engagement.

Minerva was provided with a list of Fund assets and values as at 31st March 2023. This list contained 3,329 investments managed by 11 different investment managers and had a value of £3,420.6 million. Upon receipt of the asset list, we carried out some data cleansing activity to remove items for which it was not possible to gather any issuer GHG emissions data – e.g., cash balances, derivatives, pooled funds, private assets and Government bonds.

We also attempted to match the investments held in the two bond portfolios managed by M&G. Unfortunately, we were only able to match approximately a third of the investments in these funds back to parent issuers who also had listed equities, and so were likely to have disclosed publicly any information relating to their GHG emissions. Given this low level of matching, we did not include these two portfolios in our analysis.

After these data checking steps were completed, we were left with **1,591 investments** in **1,078 unique companies** that had a value of **£2,332.6 million** – which represents **68% of the Fund's total value** at 31st March 2023.

It was these remaining assets that formed the basis of the analysis undertaken, and for which the rest of this report sets out the results of the Climate Risk Assessment exercise.

TCFD Aligned Reporting

We believe that the approach taken by Minerva in preparing this report complies as far as possible with the 'Fundamental Principles for Effective Disclosure' as set out in Appendix 3 of the Recommendations of the Task Force on Climate-related Financial Disclosures:

1. Disclosure should represent relevant information;
2. Disclosure should be specific and complete;
3. Disclosure should be clear, balanced and understandable;
4. Disclosure should be consistent over time;
5. Disclosure should be comparable among companies within a sector industry or portfolio;
6. Disclosure should be reliable, verifiable and objective; and
7. Disclosure should be provided on a timely basis.

There are a number of challenges that asset owners like the Fund face when trying to undertake any GHG emissions analysis – with most relating to the nature, availability and timeliness of emissions data. The following pages represent our efforts to identify, collect, standardize and analyse the GHG emissions data as disclosed by the investee companies held by the Fund.

2 Summary of Findings

Metric	Analysis Results	Comments
1. Absolute Emissions	Scope 1 & 2 = 1,708 Million tonnes CO_2e	This is the combined absolute emissions of the Fund's investee companies that disclosed either Scope 1 emissions, Scope 2 emissions or both, taking account of any disclosed Emissions Offsetting.
	Scope 1, 2 & 3 = 17,026 Million tonnes CO_2e	This is the combined absolute emissions of the Fund's investee companies that disclosed Scope 1, Scope 2 and Scope 3 emissions, taking account of any disclosed Emissions Offsetting.
2.Emissions Intensity	**72,027** Tonnes of CO_2 e	The Fund's share of Scope 1 & 2 GHG emissions from its investee companies equates to 72,027 tonnes of CO2 equivalent.
3. Data Quality	48% Verified 26% Reported 4% Estimated 22% Unavailable	For this exercise, we sought to capture available GHG disclosures for the Fund's investee companies. Importantly, we also noted instances where there were no Scope 1, 2 or 3 disclosures – since this 'lack of data' is valuable data in itself, as it can be used to identify prioritised targets for stewardship activity such as voting and engagement.
4. Paris Alignment	22% Excellent 25% Good 11% Moderate 15% Poor 27% No Disclosure	47% of the Fund's investee companies have: - made an 'Excellent' public net zero commitment by 2050 or sooner relating to all scope 1, 2 & 3 emissions, covering all company activities - made a 'Good' public net zero commitment by 2050 or sooner relating to all scope 1, 2 & 3 emissions, but only covering some company activities / relating to all scope 1 & 2 emissions only (covering either all or some company activities) However, 42% of the Fund's investee companies have either Poor Net Zero plans or have not made any disclosure regarding their intentions.

3 Metric 1 – Absolute Emissions

Table 1: Disclosed GHG Emissions (Millions tCO2e)*

Manager	Fund	Value £m @ 31/03/23	Scope 1	Scope 2 Location-based	Scope 2 Market-based	Scope 2 (Unspecified)	Emissions Offsets	Total Scope 1 + 2 –Offsets	Scope 3	Total Scope 1 + 2 + 3 - Offsets
All	Total Fund[3]	**£2,322.6**	**1,115.5**	**242.4**	**180.4**	**179.6**	**(10.5)**	**1,707.5**	**15,318.4**	**17,025.8**
Atlas	Infrastructure Fund	£98.2	77.8	12.8	15.2	3.1	-	108.9	251.1	360.0
Baillie Gifford	GAPA Fund	£181.2	78.7	27.6	22.6	13.2	(2.7)	139.5	1,287.3	1,426.8
Longview	Global Equity Fund	£541.2	3.0	16.6	4.4	1.5	(1.6)	24.0	55.3	79.4
Newton	Real Return Fund	£136.1	183.1	20.6	34.7	24.4	(1.5)	261.3	2,314.0	2,575.3
Osmosis	Resource Efficient Core Equity (ex-Fossil Fuels) Fund	£235.0	551.1	165.6	100.0	121.4	(4.1)	934.0	8,435.0	9,369.0
Ruffer	Absolute Return Fund	£66.4	287.6	42.0	45.8	20.8	(5.9)	390.4	2,648.9	3,039.3
Storebrand	Global ESG Plus Fund	£613.2	313.2	169.0	99.9	81.1	(4.4)	658.8	8,167.0	8,825.8
Wellington	Global Impact Fund	£235.9	7.1	5.5	2.9	2.4	-	17.8	611.4	629.2
Wheb	Sustainability Fund	£213.5	24.2	3.0	23.7	2.4	-	53.2	742.5	795.7

** Greenhouse Gas (GHG) Emissions in Millions of Tonnes of Carbon Dioxide equivalent (tCO_2e)*

[3] Figures shown reflect the emissions of the Fund's unique investee companies. The figures shown for the individual funds reflect the position where one unique holding (e.g., Amazon) is held by more than one fund, and so its disclosed emissions are reflected in each portfolio to provide an accurate picture of portfolio level emissions.

Description

Table 1 shows a summarised position of the greenhouse gas (GHG) emissions disclosures made by the investee companies. The disclosures have been categorised as follows:

Categorisation	Description
Scope 1	GHG emissions from owned or controlled sources
Scope 2 (Location-based)	Emissions based on the emissions intensity of the local grid area where the electricity usage occurs
Scope 2 (Market-based)	Emissions based on the electricity that organisations have chosen to purchase
Scope 2 (Unspecified)	Any Scope 2 emissions that have not been explicitly stated as being either Market-based or Location-based
Emissions Offsets	Reflects emissions offsets that the company has disclosed
Scope 3	All indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions

Commentary

The figures shown in Table 1 reflect the actual disclosures made by the Fund's investee companies that we have been able to identify and collect. Where a company has made no disclosure, we simply acknowledge that fact. We have not created or estimated any GHG data or disclosures, since the lack of disclosure is an important data point, telling us that the issuer needs to be encouraged to make future disclosures.

Since Table 1 reflects the actual GHG emissions disclosure position as far as we can determine, the total amount of GHG emissions is clearly connected to the size of the portfolio, in terms of the number of companies held. This explains why the figures for, say, Osmosis are larger than the figures for Wheb – since the Osmosis portfolio holds 549 individual assets, versus the 40 assets in the Wheb portfolio.

Given that many companies do not currently disclose some or all of their Scope 1,2 and 3 GHG emissions, we would caution against drawing too many conclusions from the data as presented.

The information in Table 1 shows the absolute GHG emissions of the Fund's underlying investee companies, broken down into Scopes and shown by portfolio, and at total Fund level.

4 Metric 2 - Emissions Intensity

Table 2: Carbon Footprint (tCO2e)

Manager	Fund	Current Carbon Footprint Scope 1 & 2 tCO_2e	Previous Carbon Footprint Scope 1 & 2 tCO_2e	% Change	Current Carbon Footprint Scope 1, 2 & 3 tCO_2e	Previous Carbon Footprint Scope 1, 2 & 3 tCO_2e	% Change
All	Total Fund	72,027	78,062	**-8%**	814,405	794,490	**+3%**
Atlas	Infrastructure Fund	11,141	9,047	**+23%**	36,757	39,872	**-8%**
Baillie Gifford	GAPA Fund	4,203	4,066	**+3%**	68,103	78,144	**-13%**
Longview	Global Equity Fund	2,243	2,884	**-22%**	8,015	20,406	**-61%**
Newton	Real Return Fund	8,514	8,532	**-**	81,376	91,148	**-11**
Osmosis	Resource Efficient Core Equity (ex-Fossil Fuels) Fund	5,313	5,468	**-3%**	72,519	59,245	**+25**
Ruffer	Absolute Return Fund	13,153	14,247	**-8%**	57,747	53,163	**+9**
Storebrand	Global ESG Plus Fund	16,739	23,130	**-28%**	265,211	225,903	**+17**
Wellington	Global Impact Fund	4,966	4,817	**-3%**	94,902	92,346	**+1**
Wheb	Sustainability Fund	5,749	5,849	**-2%**	127,887	131,791	**-3**

Description

Table 2 shows our calculation of the Fund's 'carbon footprint', combining the investment information provided by the Fund with the GHG emissions data we have gathered on the Fund's investee companies. This is essentially the Fund's 'share' of any disclosed emissions of each company. The calculation has been done using the following formula:

Sum of Scope 1 & Scope 2 GHG disclosures – Any Emissions Offsets X (**Fund's £ invested in the company** / **Company's EVIC (Enterprise Value Including Cash)**)

Each investee company's EVIC is used to determine the Fund's share of any given company. Simply put, the EVIC is itself a sum of each company's market capitalisation (listed equities), debt (e.g., any issued bonds or loans) and any cash balance held.

We have calculated four carbon footprints covering Scope 1 & 2, and Scope 1, 2 & 3 for the 'current' and 'previous' years. We have used the term 'current' to reflect the latest available disclosures from the underlying companies (which may not necessarily be emissions in 2023), and 'previous' to reflect any disclosures made in the year before 'current'.

Also, it is worth noting that the 'previous' calculations in this exercise simply use the disclosed GHG emissions for each investee company from the previous year. They do not reflect the actual investments held by the Fund at 31/03/22, since Minerva has not undertaken this exercise before. They are merely shown to allow for a very high level indication of the state of disclosures made by companies between previous and current years

Commentary

The Fund's current carbon footprint equates to c. 72,027 tonnes of CO_2e emissions. Again, the figures shown are clearly connected to the size of the portfolio, and also the size of investment held in each investee company.

The decrease of 8% from the 'previous' year's carbon footprint could be attributed to a number of things including:

- Companies actually reducing their GHG emissions between the years;
- Changes in the total value of individual companies (i.e. the EVIC); and
- Exchange rate effects, since EVICs are calculated in the local currency of each investee company, and then converted to GBP to facilitate the carbon footprinting calculation.

As a result, we would again caution against drawing too many conclusions from the data as presented. From our long experience of gathering data on listed companies, we are well aware of the challenges contained therein.

We believe that it will take a number of years for GHG emissions to be disclosed using consistent methodology and units of emissions. If indeed DLUHC do proceed with legislation that requires the Fund to prepare an annual Climate Risk Report such as this, we suggest that Officers and Elected Members focus their (and the external investment managers') stewardship efforts on eliminating GHG emission disclosure gaps and improving the quality of any disclosures made than on the actual carbon footprint numbers generated.

The information in Table 2 shows that the Fund's Scope 1 & 2 carbon footprint for the current year has fallen by 8% - although this could be attributed to a number of different factors. When Scope 3 GHG emissions disclosures are included, the carbon footprint goes up by 3%, but again this could be due to a number of factors.

5 Metric 3 – Data Quality

Table 3: Results of Data Quality Assessment

Manger	Fund	Verified	Reported	Estimated	Unavailable
All	**Total Fund**	**48.3%**	**26.2%**	**4.2%**	**21.3%**
Atlas	Infrastructure Fund	0.6%	0.3%	0.1%	0.3%
Baillie Gifford	GAPA Fund	2.3%	1.3%	0.4%	1.6%
Longview	Global Equity Fund	0.9%	0.6%	0.1%	0.3%
Newton	Real Return Fund	2.5%	0.9%	0.1%	0.4%
Osmosis	Resource Efficient Core Equity (ex-Fossil Fuels) Fund	19.0%	8.2%	1.5%	5.8%
Ruffer	Absolute Return Fund	1.4%	0.2%	0.0%	0.3%
Storebrand	Global ESG Plus Fund	22.3%	12.3%	1.7%	8.4%
Wellington	Global Impact Fund	1.6%	0.9%	0.1%	1.3%
Wheb	Sustainability Fund	1.1%	0.5%	0.0%	0.9%

Description

Table 3 shows our assessment of the GHG emissions disclosures made by the Fund's investee companies. In undertaking this assessment, we have used the criteria specified by the DHLUC in the consultation on Governance and Reporting of Climate Change Risks as shown in the following table:

Categorization	Description
Verified	Reported GHG emissions calculated in line with the GHG Protocol and verified by a third-party
Reported	Reported GHG emissions calculated in line with the GHG Protocol without verification by a third-party
Estimated	Reported GHG emissions where the company has explicitly stated that they are 'estimated'
Unavailable	Used when the company has not disclosed any GHG emissions on any basis

When assessing the Fund's underlying investee companies, analysts were asked to note the provenance of any GHG emissions data, in addition to noting the specific values of any Scope 1, 2 and 3 disclosures.

Commentary

The results show that almost 50% of the Fund's investee companies are disclosing GHG emissions that have been verified by a third party. In our view this is a good starting point, since all investee companies need to disclose their GHG emissions on an annual basis to allow investors such as the Fund to monitor the absolute levels of emission, and also track progress in reducing emissions towards achieving Net Zero.

We believe that this analysis is particularly helpful from a stewardship perspective, in that it allows Officers and Elected Members to engage with the Fund's external investment managers with a specific measurable data point in mind. Given that approximately 25% of the Fund's investee companies are either estimating their GHG emissions - or not disclosing them at all – these companies could be prioritised for engagement on this issue by the investment manager. Progress on this topic can now also be monitored on an ongoing basis, with the expectation that the level of 'laggards' should fall on an ongoing basis.

Another stewardship option may be to ask the Fund's investment managers to ask investee companies to 'comply or explain' why they are not seeking external audit of their GHG emissions data.

We think that having almost 50% of investee companies who have their GHG emissions externally verified is a good starting point. The limited option nature of the data quality metric is also helpful, in providing a small number of results that can be objectively assessed and monitored on an ongoing basis.

6 Metric 4 – Paris Alignment

Table 4: Results of Paris Alignment Assessment

Manger	Fund	Excellent	Good	Moderate	Poor	No Disclosure
All	**Total Fund**	**22.0%**	**25.5%**	**11.3%**	**14.8%**	**26.4%**
Atlas	Infrastructure Fund	0.3%	0.4%	0.3%	0.1%	0.3%
Baillie Gifford	GAPA Fund	0.9%	0.9%	0.5%	0.8%	2.4%
Longview	Global Equity Fund	0.8%	0.4%	0.3%	0.3%	0.3%
Newton	Real Return Fund	1.0%	1.4%	0.4%	0.4%	0.6%
Osmosis	Resource Efficient Core Equity (ex-Fossil Fuels) Fund	8.6%	9.4%	3.3%	5.5%	7.7%
Ruffer	Absolute Return Fund	0.5%	0.9%	0.0%	0.1%	0.3%
Storebrand	Global ESG Plus Fund	10.8%	11.9%	5.2%	6.4%	10.4%
Wellington	Global Impact Fund	0.6%	0.9%	0.3%	0.6%	1.4%
Wheb	Sustainability Fund	0.3%	0.7%	0.1%	0.4%	1.1%

Description

Table 4 shows our assessment of any disclosures made by the Fund's investee companies regarding their alignment with the Paris Agreement and whether they are aiming to be 'Net Zero' by 2050 or sooner. In undertaking this assessment, we have used our own assessment criteria as shown in the following table:

Categorization	Description
Excellent	Issuer has made a public Net Zero commitment by 2050 or sooner relating to all scope 1, 2 & 3 emissions, covering all company activities
Good	Issuer has made a public Net Zero commitment by 2050 or sooner relating to: all scope 1, 2 & 3 emissions, but only covering some company activities; or all scope 1 & 2 emissions only (all company activities); or all scope 1 & 2 emissions only (some company activities)
Moderate	Issuer has made a public Net Zero commitment by 2050 or sooner relating to carbon (CO2) emissions only (any extent of company activities)
Poor	Issuer has made some public disclosure relating to its efforts towards Net Zero but specifics are unclear/'coming soon'/don't otherwise meet criteria of options above
No Disclosure	Issuer has made no disclosure or reference to achieving Net Zero by 2050 or sooner

When assessing the Fund's underlying investee companies, analysts were asked to look for any Net Zero disclosures, and to rank them using the criteria in the table.

Commentary

The findings are again encouraging, in that almost 50% of the Fund's investee companies have been assessed as either 'Excellent' or 'Good' – which means that they have disclosed their plans to achieve Net Zero by 2050 or sooner, covering at least Scope 1 and 2 emissions on some of their company activities.

Again, we believe that this analysis is particularly helpful from a stewardship perspective, in that it allows Officers and Elected Members to engage with the Fund's external investment managers with a specific measurable data point in mind. Given that just over 40% of the Fund's investee companies have either 'Poor' or undisclosed plans towards their alignment with the Paris Agreement and of achieving Net Zero by 2050 or sooner, this data point could be prioritised for engagement by the Fund's investment managers. Progress on this topic can now also be monitored on an ongoing basis, with the expectation that the level of 'laggards' should fall on an ongoing basis.

Whilst having almost 50% of investee companies publicly declaring their alignment with the Paris Agreement and looking to achieve Net Zero by 2050 or sooner, having just over 40% of investee companies in the 'Poor' and 'No Disclosure' categories shows the extent of effort needed to bring these companies up to a better standard in terms of them addressing the climate crisis.

7 Fund Level Analysis

Officers provided Minerva with information on the Fund's investments as at 31st March 2023. The file provided covered a range of assets including listed equities, corporate bonds and Government Bonds. Our first step in our analysis process was to identify which assets could be included in the carbon footprinting exercise. This meant matching individual assets to a 'parent' issuer. More information on the results of that matching process can be found in Appendix X at the end of this report.

The result of the initial asset filtering process was that we identified 1,621 individual issuers worth £2,354.4 million to include in the GHG emissions analysis work. Of these investments, 1,591 worth £2,322.6 million were covered in our research process, which represents a match of over 98% in terms of both individual investments and by market value.

As part of Minerva's issuer research process, we typically gather over 2,000 data points per company, including information relating to their GHG emissions. It was this information in particular that we used in the project

Table 5: Asset Coverage

Analysis Details	
Date of Holdings	31/03/23
No. of Unique Companies	1,078
No. of Investments	1,621
£m Value	£2,354.4
No. Investments Covered in Analysis	1,591 / 98.1%
£m Value of Assets Analysed	£2,322.6 / 98.7%

Chart 1: Regional Allocation

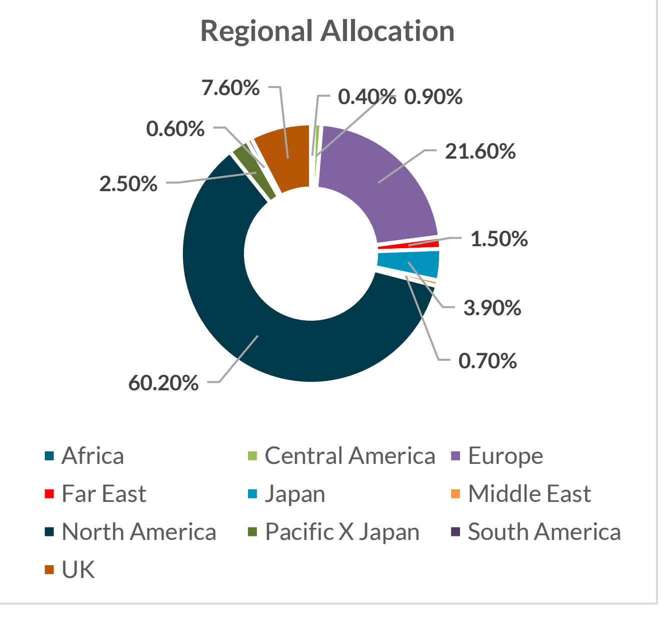


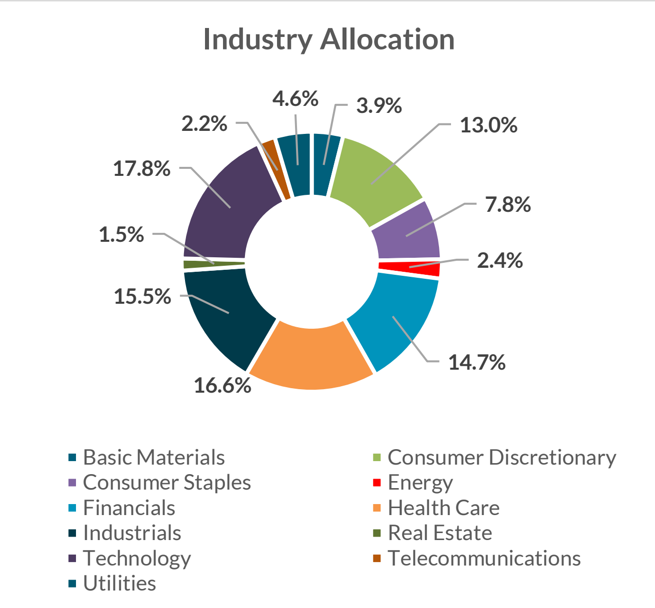
Chart 1 shows the regional allocation of the Fund's in-scope investments. This has been created using the country of domicile for each of the individual 1,591 investments covered in the carbon footprinting exercise. This is defined as the location where the business has been incorporated.

A regional approach has been used to display this allocation information as it is simpler to display than showing the 40 different countries in which the Fund's investments are domiciled.

As can been seen from the chart, North America (covering the US and Canada) is where the majority of the Fund's investments are domiciled. This represents almost £1.4 billion or just over 60% of all in-scope investments. The next largest exposure is for Europe (excluding the UK), which represents £500 million or 21.6%. The UK has the third largest exposure in the Fund's investments, at £177 million or 7.6%.

It is worth mentioning that the country of domicile is not necessarily the same as the region where the company predominantly operates. For example, the Fund held just over £6 million in the Chinese 'Consumer Products' company Alibaba, which is a multinational technology company. Whilst this company operates predominantly in China, its country of domicile is the Cayman Islands, and so in this analysis it is represented in 'Central America'.

Chart 2: Industry Allocation



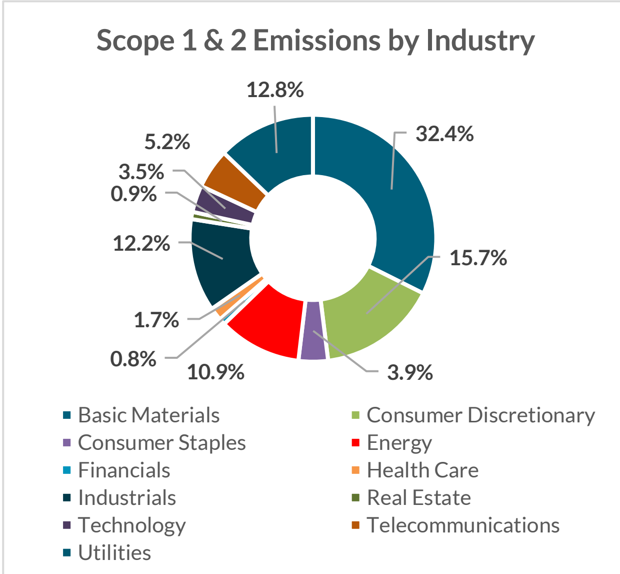
Looking at the 1,591 'in scope' assets, we were able to categorise them into sectors, using the total value of the investments per sector. Chart 2 shows the breakdown of that analysis in Industry Classification Benchmark (ICB) industries.

The Fund's largest industry exposures are:

1) Technology – 17.8%
2) Health Care – 16.6%
3) Industrials – 15.5%
4) Financials – 14.7%
5) Consumer Discretionary – 13.0%

The top 5 industries account for 77.6% of the total value of the in scope investments. The in scope assets have a relatively small exposure to the Energy industry at 2.3%, which is typically one of the largest GHG emitters, given the large number of oil and gas companies operating in that industry.

Chart 3: Breakdown of Scope 1 & 2 GHG Emissions



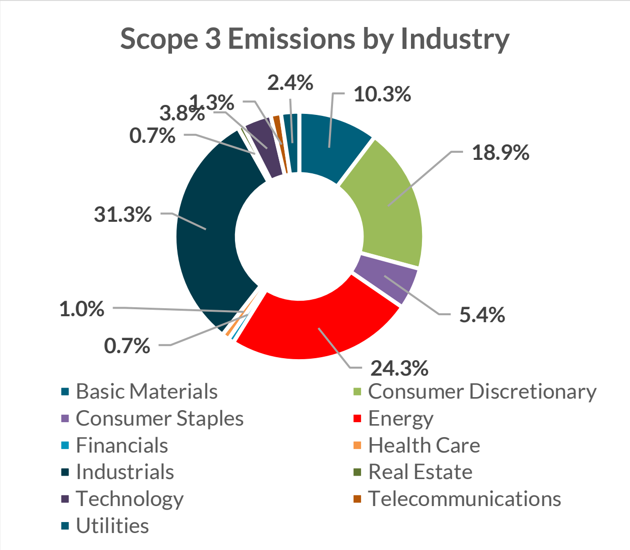
The next Chart shows the breakdown of GHG emissions by sector. This chart has been created simply by adding together all of the absolute emissions data we collected for the unique 1,078 companies in the data set. There were a range of outcomes for each company, in terms of their GHG disclosures:

- Some disclosed Scope 1, 2 and 3 emissions, with Scope 2 split into Location and Market based emissions
- Some disclosed Scope 1, 2 and 3 without breaking down Scope 2
- Some disclosed only Scope 1 and 2 emissions
- Some did not disclose any emissions information

The varied approaches taken by the Fund's investee companies is what makes us cautious about how the results of the Climate Risk Report are used. We firmly believe in undertaking analysis on information as it is – or isn't – disclosed. This means that we do not use estimations of GHG emissions for companies for which analysts did not locate any GHG emissions disclosures.

Perhaps the most interesting piece of information shown by this chart is the emissions generated by the 'Basic Materials' industry. The previous chart shows that the Fund has a 3.9% allocation to the industry, but it is responsible for a third of all Scope 1 & 2 GHG emissions generated by the Fund's investee companies. Another noteworthy (although perhaps obvious) point is that the Fund's small exposure to the Energy industry generates just over 10% of total Scope 1 and 2 GHG emissions.

Chart 4: Breakdown of Scope 3 Emissions



Scope 3 emissions are perhaps the most challenging to understand, since they relate to the indirect emissions generated 'upstream' and 'downstream' from the company or organisation concerned, and so they have little direct control over them.

In addition, there is an element of 'double counting' associated with Scope 3 emissions – for example, a goods manufacturer and a retailer may both account for and disclose Scope 3 emissions associated with the transportation of goods between them.

Nevertheless, calculating Scope 3 can be helpful for organisations in understanding the wider impact of their products and services are having in terms of climate change.

From the Scope 3 emissions data that we were able to gather, the emphasis changes yet again in the pie chart. Chart 3 shows that 'Industrials' have the largest Scope 3 footprint, representing 31% of disclosed Scope 3 emissions, followed by 'Energy' with just over 24%.

Table 6: Breakdown of Year of Disclosures

Year of Reported Disclosures	%
2023	16.9
2022	77.7
2021	5.4

The final two pieces of high level analysis relate to the year of disclosed GHG emissions and the breakdown of the companies different Scope 1,2 and 3 disclosures. From the data gathered by Minerva, Table 6 shows that almost 80% of disclosed GHG emissions data came from annual reports and accounts, sustainability reports or other similar sources that were dated 2022. The GHG emissions data reported in these publications could relate to emissions made in 2022, 2021 or indeed include emissions at the end of 2020. This is another reason as to why we encourage the exercise of caution when looking at GHG emissions data.

Table 7: Assessment of Paris Alignment

Paris Alignment	%
Excellent	22.0
Good	25.5
Moderate	11.3
Poor	14.8
No Disclosure	26.4

Table 7 shows, in our view, the most important piece of analysis that has come out of this Climate Risk Reporting exercise. Given the urgency around the issue of climate change, it is essential that the Fund's investee companies have considered the risks of climate change on their businesses, and also the impact of their businesses on the climate.

The information we have gathered shows that just over 50% of the in-scope investee companies have devoted some thought to the issue of climate change and have published Paris Agreement-aligned plans where they have made a public commitment to achieving Net Zero by 2050 or sooner.

However, almost 40% of the Fund's investee companies have, in our view, either poor or no disclosures in relation to the critical issue of addressing climate change. We think this is a key outcome of this exercise that Officers and Elected Members should consider discussing further with their investment managers.

8 'Green' Investments

The Fund's previous work on assessing climate risk and attempting to quantify GHG emissions was undertaken by Vigeo Eiris (Moody's), using a slightly different approach and methodology. One of the things contained in the previous climate risk analysis work was an assessment of '…energy transition metrics (the shift from a carbon-based economic model to a green and sustainable one).' Vigeo Eiris defined the energy transition score as '…a combination of the Moody's scores for each company in a portfolio's energy transition strategy based on specific criteria tied to climate change such as commitments made, information being disclosed and the meeting of commitments. This is a subjective score of issuers' energy transition strategy based on Moody's Research'.

Minerva does not use Moody's data, and so we are unable to replicate this specific analysis. However, our analysis of the GHG emissions data across the 4 Metrics that form the core of this analysis provides an insight into the nature of the managers employed and investments held by the Fund, in terms of their transition to a 'Net Zero' world:

Metric	Observations
1. Absolute Emissions	▪ Significant exposure to the US, which as a developed market, has a long history of innovation and so has significant potential in terms of developing solutions to the climate crisis. ▪ Largest Fund investment exposure is to the 'Technology' sector – which again has potential to assist in the move away from a carbon-intensive economy.
2.Emissions Intensity	▪ External investment managers have discretion in how they choose to invest the Fund's money. ▪ Also, they are entirely responsible for how they incorporate ESG risks such as climate change into their investment process. As a result, they are key to helping ensure investee companies disclose their GHG emissions in a timely and as accurately as possible manner.
3. Data Quality	▪ Direct link between the quality of the GHG emissions disclosed and the assessment as to whether an investee company could be described as 'green'. ▪ Disclosed GHG emissions data by all investee companies helps build a fuller picture as to the current state of play in any given industry in terms of its potential impact on the climate, and allows for consideration of the likelihood of that industry being able to transition to a Net Zero world.
4. Paris Alignment	▪ The analysis undertaken by Minerva has also sought to assess Net Zero commitments made and information disclosed. ▪ Whether these commitments made can/will be met is an ongoing piece of stewardship work, and is something that the DLUHCG has indicated it will ask LGPS Funds to report on annually.

In addition, we can also look for specific investments in the data generated by the analysis for companies that could meet a general definition of 'green'. Two suggested definitions could be:

1) Companies that operate in the Alternative/Renewable Energy subsectors (supporting low carbon energy generation sources such as wind or solar);

Table 8: Fund Listed Equity Investments in Alternative Energy

Manager	Fund	Number of Alternative / Renewable Energy Companies	£m invested
Atlas	Infrastructure Fund	3	24,543,882
Newton	Real Return Fund	5	7,096,812
Osmosis	Resource Efficient Core Equity (ex-Fossil Fuels) Fund	12	3,617,506
Storebrand	Global ESG Plus Fund	26	10,823,733
Wellington	Wellington Global Impact Fund	2	7,583,215
Wheb	Wheb Sustainability Fund	2	8,628,013
	Totals	50	62,293,161

2) Companies that have 'low' Scope 1 & 2 GHG emissions

Set out below are some examples of such companies in which the Fund was invested at 31/03/23:

Table 9: Examples of Lower Than Industry Average GHG Emitting Investee Companies

Manager	Fund	Company	£m invested	Industry	Ave. Industry Scope 1 & 2 GHG Emissions	Company Scope 1 & 2 GHG Emissions
Ruffer	Absolute Return Fund	Agnico-Eagle Mines	£1,766.6	Basic Materials	8,495,554	1,065,681
Newton	Real Return Fund	Universal Music Group	£2,350.3	Consumer Discretionary	1,404,519	16,137
Wheb	Sustainability Fund	HelloFresh SE	£3,948.1	Consumer Staples	1,057,567	86,277
Storebrand	Global ESG Plus Fund	Vestas Wind Systems	£880.9	Energy	6,554,044	100,000

Wellington	Global Impact Fund	Globe Life Inc	£6,973.1	Financials	89,831	14,913
Baillie Gifford	GAPA Fund	Genmab	£1,553.8	Health Care	361,194	448
Atlas	Infrastructure Fund	Getlink SE	£3,416.1	Industrials	916,684	44,487
Osmosis	Resource Efficient Core Equity Fund	Prologis Inc	£0.4	Real Estate	293,319	3,898
Newton	Real Return Fund	Amadeus IT Group	£0.7	Technology	983,221	1,692
Wellington	Global Impact Fund	Telefonica Brasil SA	£3,507.8	Telecommunications	3,144,172	96,953
Wheb	Sustainability Fund	Xylem Inc	£5,337.3	Utilities	4,211,081	95,226

We should point out that the information contained in Tables 8 and 9 is just a snapshot taken from the analysis we undertook. The Fund may well have other 'green' investments in the two M&G funds that we could not include in the exercise due to challenges linking the investments to disclosed GHG emissions information.

The Fund already has exposure to 'green' investments. Each of the Fund's external investment managers either invests in the alternative energy generation industry or invests some of the Fund's money into companies that produce fewer GHG emissions than the average of the sector in which they operate. However, it is important to remember that the level of GHG emissions is one of many factors taken into account by the Fund's investment managers when deciding which assets to hold.

9 Next Steps

One of the key challenges of undertaking an exercise such as this one relates to the end product – what should be done with the findings?

As part of the consultation on the Governance and Reporting of Climate Change Risks, the DLUHC set out the following 'Summary of Proposals', which sit behind the Climate Risk Reporting. These may be useful in terms of understanding how this specific report has met the draft climate risk reporting expectations, and also suggesting what actions the Fund might consider with the findings. We have also added a column to the table to highlight the extent to which this Climate Risk Report supports the delivery or completion of each of the proposal:

Area	Proposal	Supported Via This Report?
Overall	Each LGPS Administering Authority (AA) must complete the actions listed below and summarise their work in an annual Climate Risk Report.	✓
Scope and Timing	The proposed regulations will apply to all LGPS AAs. The first reporting year will be the financial year 2023/24, and the regulations are expected to be in force by April 2023. The first reports will be required by December 2024.	**REGS NOT YET IMPLEMENTED**
Governance	AAs will be expected to establish and maintain, on an ongoing basis, oversight of climate related risks and opportunities. They must also maintain a process or processes by which they can satisfy themselves that officers and advisors are assessing and managing climate-related risks and opportunities.	✓
Strategy	AAs will be expected to identify climate-related risks and opportunities on an ongoing basis and assess their impact on their funding and investment strategies.	✓
Scenario Analysis	AAs will be required to carry out two sets of scenario analysis. This must involve an assessment of their investment and funding strategies. One scenario must be **Paris-Aligned** (meaning it assumes a 1.5 to 2 degree temperature rise above pre-industrial levels) and one scenario will be at the choice of the AA. Scenario analysis must be conducted at least once in each valuation period.	–
Risk Management	AAs will be expected to establish and maintain a process to identify and manage climate-related risks and opportunities related to their assets. They will have to integrate this process into their overall risk management process.	✓
Targets	AAs will be expected to set a target in relation to one metric, chosen by the AA. The target will not be binding. Progress against the target must be assessed once a year, and the target revised if appropriate. The chosen metric may be one of the four mandatory metrics listed above, or any other climate related metric recommended by the **Task Force on Climate-related Financial Disclosures (TCFD).**	✓

Disclosure	AAs will be expected to publish an annual Climate Risk Report. This may be a stand-alone report, or a section in the AA's annual report The deadline for publishing the Climate Risk Report will be 1 December, as for the AA's Annual Report, with the first Climate Risk Report due in December 2024. We propose that scheme members must be informed that the Climate Risk Report is available in an appropriate way.	✓

As our assessment shows, we believe that the analysis and information contained within this report supports almost all of the key proposals identified by DLUHC in relation to the identification and monitoring of climate-related risks.

Using the Analysis

Given the current stated of GHG emissions disclosures – i.e., not fully embraced by all investee companies – we believe that the focus of asset owners such as the Fund should be to encourage 'laggard' investee companies to publish GHG emissions data, and to create Paris-Aligned decarbonisation plans.

Set out below are some high level stewardship actions that the Fund might consider taking in response to the findings of this carbon footprinting exercise:

Suggested Stewardship Actions
▪ **Engage** with the Fund's investment managers to understand how they are approaching the subject of patchy Scope 1, 2 and 3 emissions disclosures from their investee companies; ▪ **Discuss** with the Fund's investment managers how closing the GHG emissions disclosure gap can form part of their stewardship actions, in terms of voting and engagement; ▪ **Consider** using either Metric 3 or Metric 4 as the 'Target' set out in the DLUHC proposals. Given the current state of Scope 1,2 and 3 emissions disclosures, we believe it makes more sense to concentrate efforts on improving Scope 1, 2 and 3 disclosures from investee companies than necessarily focussing on the Carbon Footprint number and level at this moment in time; ▪ **Share** the high level results of this Climate Risk Report with stakeholders, including Scheme Members.

Whilst the analysis of the Fund's investments from a GHG emissions perspective has facilitated the reporting of information that meets the Metric 1, 2, 3 and 4 expectations set out in the DLUHC climate risk reporting consultation, we believe that the key take away action is that more of the Fund's investee companies should be encouraged to disclose their GHG emissions and approaches to aligning their decarbonisation journeys with the Paris Agreement.

10 Appendix 1: Glossary

AA	Administering Authority – responsible for the management and oversight of an LGPS Fund
DLUHC	Department for Levelling Up, Housing and Communities – responsible for setting legislation relating to the LGPS.
Engagement	The process through which asset stewards (such as East Sussex or its asset managers) communicate any issues or concerns they have identified relating to any specific investment they hold, to the appropriate management body.
ESG	Environmental, Social and Governance – usually used in reference to ESG 'factors' or 'characteristics', in the content of a Fund's, portfolio's or investee company's approach to sustainability issues or risks.
GHG	Greenhouse Gas - Greenhouse gases are the gases in the atmosphere that raise the surface temperature of the planet. What distinguishes them from other gases is that they absorb the wavelengths of radiation that a planet emits, resulting in the greenhouse effect.
ICB	Industry Classification Benchmark - an industry classification taxonomy launched by Dow Jones and FTSE in 2005. It is used to segregate markets into sectors within the macroeconomy.
LGPS	Local Government Pension Scheme - the LGPS is a statutory pension scheme for employees of local authorities.
Stewardship	Stewardship is the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society.
Scope 1	Reflects '***direct emissions***' of GHG from sources that are owned or controlled by the company.
Scope 2	Reflect GHGs released into the atmosphere from the use of purchased energy. These are called ***'indirect emissions'*** because the actual emissions are generated at another facility such as a power station.
Scope 2 Location-based	A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data).
Scope 2 Market-based	A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice).
Scope 3	Emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

TCFD	**Task Force on Climate-related Financial Disclosures -** created by the Financial Stability Board in 2015 to improve and increase reporting of climate-related financial information. For further information see: https://www.fsb-tcfd.org/
tCO_2e	**Tonnes of Carbon Dioxide (CO_2) Equivalent** - “Carbon dioxide equivalent” is a standard unit for counting greenhouse gas (GHG) emissions regardless of whether they are from carbon dioxide or another gas, such as methane.
Voting	The process through which asset stewards (such as East Sussex or its asset managers) undertake stewardship by voting on resolutions at investee company meetings. This is the primary annual method through which asset stewards communicate their views of the effectiveness of the management of their investee listed companies.

11 Appendix 2: Data Cleansing Information

At the start of the project, we looked at the data provided by Officers, to determine what we would be able to include in the Climate Risk analysis. Shown below is the breakdown of the Fund's investment data as at 31/03/23:

Portfolio Info @ 31/03/23	Cash	Fixed Interest	Derivatives	Equities	Funds	Govt Bonds	Private Asset	Total
Total Fund	**166,378,106**	**354,892,600**	**633,569**	**2,354,378,578**	**224,860,380**	**319,323,627**	**119,734**	**3,420,586,594**
Atlas Infrastructure Fund	2,691,476			98,239,411				100,930,886
Baillie Gifford GAPA Fund	3,915,346			183,158,879				187,074,226
Longview Global Equity Fund	14,025,064			541,201,492				555,226,556
M&G Alpha Opportunities Fund	14,245,747	197,909,222					119,734	212,274,703
M&G Sterling Corporate Bond Fund	1,025,866	105,443,441				14,053,541		120,522,848
Newton Real Return Fund	40,275,233	51,539,937	633,569	147,297,039	36,658,580	63,167,649		339,572,007
Osmosis Resource Efficient Core Equity (ex-Fossil Fuels) Fund	657,362			235,731,024				236,388,386
Ruffer Absolute Return Fund	75,422,520			66,419,464	188,201,800	148,488,397		478,532,181
Storebrand Global ESG Plus Fund	1,650,820			617,840,631				619,491,451
UBS Index Linked Gilt Tracker Fund	139,511					93,614,041		93,753,552
Wellington Global Impact Fund	10,824,997			246,226,133				257,051,130
Wheb Sustainability Fund	1,504,165			218,264,503				219,768,668

From this initial assessment of all of the available information, we were able to determine two things:

1) We would not be able to collect any GHG emissions information on assets beyond listed equities (e.g. Cash, certain Fixed Interest investments, Derivatives, Pooled Funds, Government Bonds and one Private Asset), as this information did not exist.

2) We were unable to match a meaningful amount of corporate bond investments in the M&G Funds with equity issuer parents (only approximately 1/3 could be matched), and so made the decision not to include them in this analysis. We understand that Officers have contacted M&G to ask them how an assessment of GHG emissions associated with the investments held in these Funds might best be undertaken.

The following table shows the number of assets held in each portfolio, again broken down into asset type:

Portfolio Info @ 31/03/23	Cash	Fixed Interest	Derivatives	Equities	Funds	Govt Bonds	Private Asset	Total
Total Fund	**562**	**1,005**	**58**	**1,621**	**20**	**62**	**1**	**3,329**
Atlas Infrastructure Fund	4			21				25
Baillie Gifford GAPA Fund	18			89				107
Longview Global Equity Fund	9			30				39
M&G Alpha Opportunities Fund	234	549	11			5	1	800
M&G Sterling Corporate Bond Fund	12	418	10			8		448
Newton Real Return Fund	198	38	31	68	9	10		354
Osmosis Resource Efficient Core Equity (ex-Fossil Fuels) Fund	17		6	557				580
Ruffer Absolute Return Fund	15			29	11	12		67
Storebrand Global ESG Plus Fund	33			721				754
UBS Index Linked Gilt Tracker Fund	1					27		28
Wellington Global Impact Fund	20			65				85
Wheb Sustainability Fund	1			41				42

These two tables explain how we arrived at 1,621 'in-scope' individual assets worth £2,354.4 million. From this figure, 1, 591 individual assets were covered by Minerva from a research perspective, and the total asset value of these investments was £2,322.6 million.

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