

## City of Westminster Pension Fund

### Carbon exposure through the investment portfolio

#### Introduction

This paper has been prepared for the Pension Fund Committee (“the Committee”) of the City of Westminster Pension Fund (“the Fund”). The purpose of this paper is to provide the Committee with a measure of the Fund’s investment exposure to carbon emissions and reserves.

Although it should be noted that this information can be challenging to obtain and measure, we asked all of the Fund’s managers to provide any data and any format that was available. We asked Trucost, part of S&P Global and a specialist in measuring the carbon exposure of equity portfolios, to analyse each of the Fund’s equity strategies, as well as a Low Carbon passive index. We were also able to obtain information from both of the Fund’s property managers, Hermes and ASI, although both managers are currently developing their carbon measurement and reporting.

At present, despite increasing demand for carbon and fossil fuel measurement to take place, the remaining managers in the Fund’s investment portfolio (Insight, CQS and Pantheon) are still looking to develop what they feel is the most suitable approach to measuring their exposure to carbon and are proactively engaging with management regarding this.

#### Equity portfolio

The portfolio analysis provided by Trucost appraises each fund in the Fund’s equity portfolio. It analyses each underlying company the respective funds invest in for potential exposures to carbon. There are a number of terms Trucost uses which are worth defining.

**Carbon pricing**, via a “carbon tax” and a “cap-and-trade” approach where emitters have to buy permits to be able to produce emissions, is considered to be one of the most cost-effective ways to reduce global greenhouse gas emissions as it provides an economic incentive to reduce emissions when this can be done at a cost below the carbon price. Understanding the Fund’s exposure to carbon will therefore help to understand the additional costs these potential changes would have on the performance of the portfolio.

A **carbon intensive company** is a company which has high levels of carbon emissions in relation to its economic importance.

**Apportioning** is an essential technique which Trucost uses to calculate some of its key exposure metrics. Trucost apportions the resources and pollutants of an investor’s holding in a company on the principle of ownership i.e. if an investor holds 1% of the shares of a company, that investor therefore also owns 1% of that company’s resources and pollutants.

For each equity fund analysed in the reports provided by Trucost, the **apportioning factor** is obtained by dividing the absolute value of the equity fund’s holding in a company by that company’s market capitalisation (total value of a company’s shares) on the date of analysis. The resources and pollutants of each individual company are then multiplied by that company’s specific apportioning factor to calculate the resource and pollutant quantities specific to each company held in that fund. These figures are then summed to determine the individual equity fund’s overall level of resources and pollutants.

Carbon measurement throughout the reports provided by Trucost are based on a combination of **Direct Emissions** and **First Tier Indirect Emissions**.

- Direct emissions represent the amount of carbon dioxide emissions sourced from greenhouse gases generated directly from company operations. This includes on-site fuel combustion such as gas boilers and fleet vehicles, the carbon dioxide emissions from biomass (for example burning wood) and a number of select harmful chemicals.

- First tier indirect emissions reflect the carbon dioxide emissions generated by purchased electricity, heat or steam, and the emissions generated by a company's non-electricity supply chain.

The table below summarises some of the key metrics presented in the four reports provided by Trucost. The LCIV UK Equity Fund has been compared against its FTSE All-Share benchmark, whereas the LCIV Global Alpha Fund is measured against the S&P Global Large-Mid-Cap Index for the purpose of this exercise. We also compare the Legal & General World Equity Index Fund – GBP Currency Hedged, which the Fund invests in, and the Legal & General MSCI World Low Carbon Target Index. The metrics used to analyse the portfolios are described in more detail below the table.

		LCIV UK Equity Fund		LCIV Global Alpha Fund		Legal & General	
		Fund	Benchmark	Fund	Benchmark	World Equity	Low Carbon
<b>Carbon and environmental intensity (tCO<sub>2</sub>e/mGBP)</b>	Carbon to value invested	371	315	109	259	214	91
	Carbon to revenue intensity	266	358	257	432	378	167
	Weighted average carbon intensity	319	314	192	360	329	157
<b>Fossil fuels and stranded assets</b>	Fossil fuel reserves (VoH)	22.1%	22.6%	4.4%	5.7%	5.7%	1.2%
	Embedded emissions (tCO <sub>2</sub> )	2.8m	3.6m	0.5m	1.3m	0.9m	0.1m
<b>Energy transition (GWh)</b>	Fossil fuel	7.6	5.3	0.0	24.2	23.8	1.0
	Renewable	0.2	3.1	0.0	6.2	5.3	1.7
	Other	12.9	2.0	0.0	7.3	8.2	2.3

## Carbon and environmental intensity

Each of the carbon and environmental intensity metrics are measured in terms of tonnes of carbon dioxide emissions per pound amount, with carbon dioxide emissions measures based on direct emissions and first tier indirect emissions, as described earlier in this report. The first two metrics indicate an investor's contribution to climate change, whilst the weighted average carbon intensity method reflects an investor's exposure to carbon intensive companies.

- **Carbon to value invested** divides the apportioned emissions of each company by the amount the fund has invested in that company. This reflects how efficient the companies in a portfolio are at creating shareholder value, relative to the levels of carbon emissions produced. As an example, if valuations rise for all companies held in the fund and all else remains equal, then the carbon to value invested would be expected to fall. The LCIV Global Alpha Fund has a lower Carbon to Value invested than its benchmark due to a relative under-allocation to the Utilities sector, whereas the LCIV UK Equity Fund has a higher measure than its benchmark as a result of its Industrials and Basic Materials sector holdings.
- **Carbon to revenue intensity** divides the apportioned emissions of each company by the apportioned annual revenues of that company. This metric indicates how operationally efficient the portfolios are in terms of the amount of revenue created which can be attributed to the portfolio, relative to the levels of carbon emissions apportioned to the fund. If, all else being equal, revenues rise, then the carbon to revenue intensity would expect to fall. By this measure the LCIV Global Alpha Fund has a higher value than its benchmark and the LCIV UK Equity Fund has a lower value. This tells us that while the LCIV UK

Equity Fund invests in carbon intensive companies, these companies are high revenue generating companies.

- **Weighted average carbon intensity** is calculated by multiplying each company's weight in the portfolio (current value of investment divided by current overall portfolio value) by the emissions of the company as a proportion of the entire company's revenue. This metric represents a portfolio's exposure to carbon intensive companies, under the assumption that carbon intensive companies are likely to be more exposed to carbon pricing mechanisms or other carbon regulatory risks. As would be expected, as is the case for all carbon intensity measures, the MSCI Low Carbon Target Index has a considerably lower value than the other strategies and benchmarks.

### Fossil fuels and stranded assets

Future emissions from fossil fuel reserves currently far outweigh the allowable carbon budget (the cumulative amount of CO<sub>2</sub> emissions tolerable over a period of time according to the Paris Agreement). Trucost assesses the exposure to fossil fuel reserves and stranded assets by analysing the companies held within portfolios with business activities in extractive industries such as oil and gas extraction, mining, dredging and quarrying, and holdings in companies that have disclosed proven and possible fossil fuel reserves in the portfolio. A stranded asset is defined as an asset that may suffer from unanticipated or premature write-downs, devaluations or conversion to liabilities due to changing regulations. The two metrics included in the table above are described below:

- **Fossil fuel reserves** measured by Value of Holdings ("VoH") exposure, represents the exposure of the portfolio to companies with fossil fuel reserves, where VoH represents the sum of the weights of companies in a portfolio that have revenues dependent on fossil fuel reserves above a threshold. The threshold allows Trucost to exclude companies whose revenue from fossil fuel reserves is not considered material.
- **Embedded emissions** represents the carbon emissions attributed to the fossil fuel reserves which have been disclosed by companies in the portfolio. This metric is measured in tonnes of carbon dioxide emissions from the fossil fuel reserves, apportioned to each respective portfolio using the apportioning method described previously. When assigning embedded emissions to a company, Trucost takes into account those fossil fuel reserves that are held by a company with 90% confidence (proven reserves) and with 50% confidence (probable reserves), based on company operating conditions such as regulatory and contractual approvals.

### Energy transition

Whilst the previous measures consider the carbon footprints of the funds in question, the energy transition metrics consider how energy is generated from the companies within the relevant portfolios. Energy generated from the burning of fossil fuels (coal, petroleum and natural gas) releases carbon dioxide into the atmosphere, with coal producing the most carbon dioxide per amount of energy generated. Whereas energy generated from renewable sources (solar, wind, wave and tidal, geothermal, hydroelectric and biomass) acts as a mitigation against carbon emissions.

Trucost measures the amount of energy generated by each generation type within each company in Gigawatt hours (GWh) and apportions these figures as per the apportioning method described earlier, where the three generation types are via fossil fuels, renewables and "other" methods such as nuclear, landfill gas and other power generation techniques which are not classified as fossil fuels or renewables. These figures are represented in the table above, however it must be noted that only two companies within the LCIV UK Equity Fund portfolio are deemed to be generators of energy (Centrica and BP) and no funds are classified as energy generating within the LCIV Global Alpha Fund portfolio, as only energy production data disclosed by companies could be included in the analysis. This highlights the lack of transparent and reliable reporting that is available in the industry currently with regards to the production of 'green' or 'clean' energy and emissions.

### Property portfolio

The Fund's property allocation reflects investments in the Hermes Property Unit Trust Fund ("the HPUT") and the Aberdeen Standard Investments Long Lease Property Fund. We have relied on information provided to us by both managers when completing this section.

## Hermes

Hermes' real estate investment process seeks to deliver risk-adjusted financial returns for clients whilst providing a defined positive environmental and social outcome through its Responsible Property Investment (RPI) programme which is embedded into its asset management process.

As part of the RPI, the HPUT uses active operational management to improve its assets with the aim of reducing carbon emissions on a year-by-year basis by 9%. Decisions are supported by a detailed programme based on granular data collected on an on-going basis by the installation of smart meters. The data is collected by a third party sustainability expert and shared with Hermes each month. Each quarter, Hermes compares the data collected from each asset to a pre-specified minimum strategic and operational sustainability benchmark and considers any issues and outliers which are required to be addressed.

Over 2018, the HPUT achieved a 16% decrease in carbon dioxide emissions compared with 2017, where carbon emissions are the total of the direct and 'Indirect Scope 2' carbon emissions. Indirect Scope 2 emissions occur as a consequence of the electricity purchased and used by the organisation. This reduction is calculated on a like-for-like basis, meaning that only assets that were held in the HPUT over a full two-year period to the end of 2018 were included in the analysis and hence the impact of any acquisitions and sales over the period is ignored. Therefore this difference can be fully attributed to the implementation and development of active operational management.

Hermes has highlighted several examples of energy intensive assets which have seen considerable improvements in terms of efficiency measures over 2018. Since 2014, these properties have collectively achieved a 44% reduction in emissions (1,720 tonnes of CO<sub>2</sub> across the entire Hermes platform) through active operational management. The active property management decisions taken by Hermes relating to these examples include:

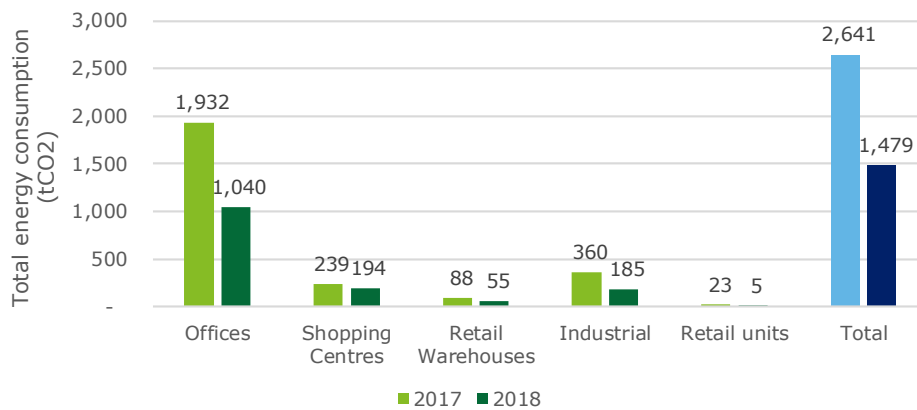
- Lighting upgrades, implementing the use of energy efficient LED lighting systems;
- Actively managing plant operational times;
- Implementing the Collaborative Asset Performance Programme (CAPP+) which establishes intelligent control of building performance by collecting and analysing data from a building management system and half-hourly energy meters;
- Effective and proactive building management, including adding passive infrared sensors;
- Ongoing technical improvements; and
- Running multiple tenant and community engagement programmes.

In addition to active operational management, as part of the RPI, Hermes completes rigorous sustainability due diligence of any opportunity before completing an acquisition.

The HPUT saw a 22% reduction in carbon emissions over 2018 when measured at an absolute level against 2017 i.e. when accounting for sales and acquisitions of assets. A large proportion of the difference between this figure and the figure calculated on a like-for-like basis above is attributed to the sale of the Cavendish Square property over 2018. This high-profile property was a large source of carbon consumption and the sale of this asset contributed significantly to the decrease in emissions.

Over 2018, the HPUT produced a total of 1,921 tonnes of carbon dioxide from the portfolio's £1,612m gross asset value. This equates to c. 78 tonnes of carbon dioxide emissions attributable to the Fund's £65.6m investment in the HPUT. These figures are based on c. 80% of the HPUT portfolio's assets, with a number of assets' greenhouse gas emissions not disclosed to Hermes.

The chart overleaf represents the change in total energy consumption from the HPUT, attributed to the different industries within the HPUT fund's holdings over 2017 and 2018, measured by tonnes of carbon dioxide. The figures in 2018 are based on the assets that were held in the fund throughout the whole of 2017 and 2018 where emissions data is available, and the figures in 2017 are based on available data on the assets that were held in the fund throughout the whole of 2016 and 2017.



Based on this data, it can be seen that total energy consumption has decreased over the year on a like-for-like basis throughout all industries that the HPUT has exposure to. The Offices sector appears accountable for a large proportion of HPUT energy consumption and this can be attributed to Offices representing c. 35% of the HPUT portfolio by asset value as at the end of 2018. The implementation of CAPP+, as mentioned earlier in this report, has significantly improved the monitoring and data coverage of the majority of assets in the portfolio. It has led to improved management of operation times and engagement with clients and has had a considerable effect on the offices within the portfolio, with as an example, the Great George Street central London office building producing 36% fewer emissions since entering the HPUT portfolio.

The Industrials sector in general is a high contributor to carbon emissions, with the use and combustion of fossil fuels essential to the various steps of the manufacturing and industry processes. Over the year, the energy consumption from the Industrials sector within the HPUT portfolio has almost halved in value, despite the allocation to this sector increasing from c. 26% to c. 31% over 2018, with Hermes actively working to improve building management, in addition to pressure on the wider industry to reduce its levels of carbon emissions.

In addition, during 2018, Hermes’ operational carbon emissions were offset by working with Trees for Cities. For every tonne of greenhouse-gas emissions that Hermes generates from day-to-day operations and business travel, Hermes purchases “carbon offset” from Trees for Cities who plant trees in various city locations across the UK. Carbon emissions are offset in this way via the absorption of carbon dioxide and other harmful gases by the trees planted, with additional oxygen levels also released into the atmosphere during the process. The level of carbon offset is verified by an independent third party company, whose approach is aligned with ISO principles. This guarantees that an equivalent amount of greenhouse-gas emissions are reduced in the atmosphere based on the number of trees planted in this way. In order to offset 834.5 tonnes of carbon dioxide emissions over 2018, Hermes were responsible for planting 2,229 through Trees for Cities. It must be noted that this relates to a combination of all of Hermes’ portfolios, as opposed to directly relating to the HPUT.

### Aberdeen Standard Investments

ASI aims to achieve positive returns for clients by aligning investment strategy, client appetite and asset opportunities with a unique environmental, social and governance (ESG) policy which includes progressing solutions to environmental and climate related issues.

The Long Lease Property Fund implements a firm-wide “impact dial” which assesses each asset based on issues such as the environmental condition and the efficiency of the asset, and the willingness of the occupier to implement necessary changes and provide regular communications with ASI. These guidelines apply to every single asset within the portfolio. Detailed questionnaires are completed by individual portfolio managers in order to collect the relevant information for each asset. Each asset is assessed against each of the factors in the impact dial and is assigned a score, with the lowest scoring assets not applying the relevant factor at all and the highest scoring assets making significant improvements and providing advanced solutions specific to that factor.

These scores are compared with the house standard (benchmark) ratings, the potential of each asset, and the tailored fund target. If the house standard is not met then improvements are sought. Once the “impact dial” has been fully implemented throughout the Long Lease Property Fund, ASI will detail the respective findings and developments into a regular report.

The long-term target may change as specific regulations change. ASI is not responsible for the day-to-day management of assets but looks to minimise the level of carbon emissions from the Long Lease Property Fund portfolio by the following means:

- **High quality development projects;** implementing “future-proofing” refurbishment of the assets, for example by using sustainable materials and fabric throughout the development of assets. 25% of the portfolio is BREEAM certified: BREEAM is a world leading sustainability assessment method for projects, infrastructure and buildings which recognises and reflects the value in higher performing assets via assessments of the asset’s economic sustainability, environmental performance and climate resilience amongst other ESG factors. Where climate resilience considers the mitigation of the contribution to, and preparing for the impacts of a changing climate;
- **Renewable energy generation;** ASI is currently reviewing the feasibility of implementing solar panels across the full portfolio. This opportunity has arisen due to reduced panel prices and government incentives and will result in ASI becoming a generator of energy, as well as a property portfolio manager; and
- **Occupier engagement;** engagement with tenants on energy and water consumption. ASI’s lease agreements for these assets have clauses stating that the tenant must ensure that the building is compliant with all relevant environmental, health & safety legislations.

If targets can’t be met by refurbishment or engagement then ASI may choose to change the portfolio through the removal of assets. ASI states it is happy to accept a potential negative impact to short-term performance in return for long-term stable returns through more attractive, enhanced assets.

Throughout 2018, ASI has actively tried to improve energy efficiency in the Long Lease Property Fund profile through the installation of LED lighting and high-efficiency equipment and appliances such as water heater timers for up to 50% of the portfolio. In addition, ASI has built energy management system upgrades/replacements, installed wall and roof insulation, and actively engaged with tenants on energy efficiency for up to 25% of the portfolio over the year.

The majority of assets held within the Long Lease Property Fund are let to single tenants, where the responsibility for the operation and upkeep of the premises lies with the tenants as part of the tenancy agreement. Due to the nature of these leases, tenants are under no obligation to share the environmental performance of the assets with the manager. While ASI encourages tenants in the Long Lease Property Fund to do so, and are happy to advise tenants on how best to improve environmental performance, it is difficult to obtain enough data to achieve the level of analysis that more traditional balanced funds receive.

The Long Lease Property Fund had a gross asset value of £2,990m as at 31 December 2018 and produced a total of 5,386 tonnes of carbon dioxide over 2018 based on direct and Scope 2 indirect emissions. Given the lack of environmental performance information available to ASI, the level of emissions only reflects c. 12% of the portfolio and is therefore not an accurate representation of the portfolio.

The Long Lease Property Fund achieved a 14.1% decrease in greenhouse gas emissions on a like-for-like basis over the year of 2018, compared with 2017. This figure represents the difference in the amount of greenhouse gas emissions each year from assets held for the time period covering the whole of 2017 and 2018 and excludes the impacts of sales and acquisitions over this time period.

As well as using the “impact dial” assessment, ASI also submits its assets to a global benchmark, GRESB, which provides an in-depth analysis of the sustainability performance of ASI against its peers. The Long Lease Property Fund ranks slightly below that of the peer average. ASI questions the suitability of the GRESB benchmark as the GRESB scoring system holds a high weighting towards the levels of data coverage provided. Given the single-let nature of the Long Lease Property Fund’s assets, data is difficult to collect so ASI scores low in this category. Despite this, the Long Lease Property Fund’s GRESB score has improved year on year, with the improvement over 2018 attributed to the increased data coverage surrounding the conversations between tenants and property managers surrounding the implementation of Solar panels.

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- Past performance is not necessarily a guide to the future.
- The value of investments may fall as well as rise and you may not get back the amount invested.
- Income from investments may fluctuate in value.
- Where charges are deducted from capital, the capital may be eroded or future growth constrained.
- Investors should be aware that changing investment strategy would incur some costs.

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