TfL Pension Fund

Foundation Report on Sustainable Investing 2018

MAYOR OF LONDON

Transport for London

From the Chair

On behalf of the Trustees of the TfL Pension Fund, I would like to present our first Annual Report on Sustainable Investing. This report provides a summary of our activities to date and how this forms part of our long-term strategy.

The Trustees take a holistic view in aligning their Sustainable Investing Beliefs towards the Fund's investment activities. There is a clear recognition that each of the three factors: Environmental, Social and Governance ("ESG") play an important role in driving the long-term value of the Fund's investment portfolio. The Trustees believe that as a long-term provider of responsible capital, the Fund should be an agent of positive change, engaging with the companies to help them adopt and transition to best business practices and sustainable business models.

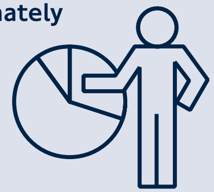
I hope you will gain a greater understanding of the Trustees' approach from this report and learn more about some of the Fund's investment activities.

Maria Antoniou
Chair, TfL Pension Fund

TfL Pension Fund
The Fund – key facts

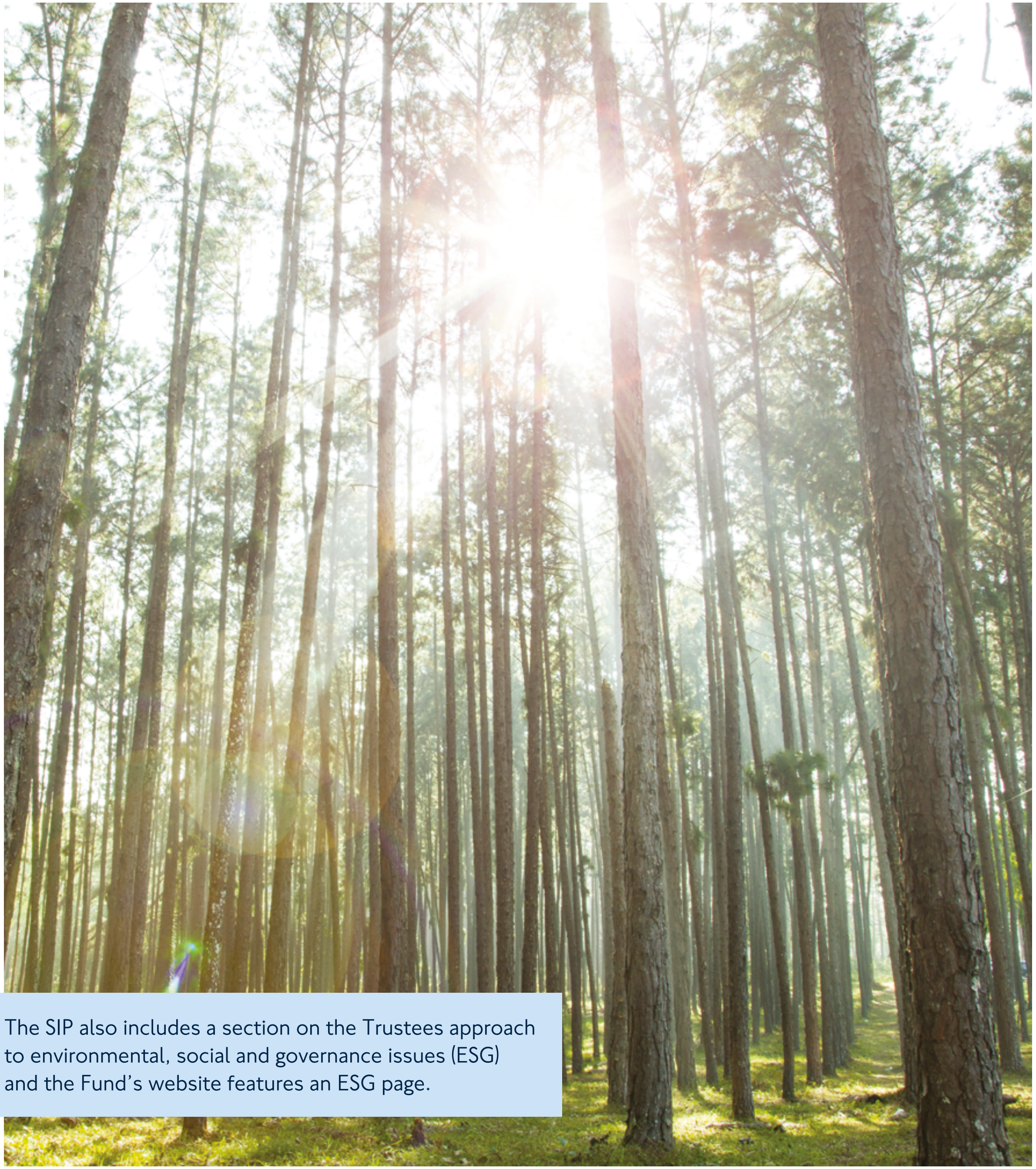
1. The Fund is responsible for the safekeeping and investment of around **£11 billion** on behalf of its **86,000 members**.
2. In the year to 31 March 2018, the Fund paid out £358 million in pensions and associated retirement benefits.
3. The Trustees are responsible for setting the Fund's investment strategy supported by their investment advisers and after consultation with TfL, the Principal Employer.
4. The Fund is open to new joiners and even taking into account only those who have joined to date, it needs to make provision for continuing to make payments into the next century.
5. This means that when setting investment strategy the Trustees are looking to generate the required investment returns over the long term which will ensure it will be able to pay the benefits due to members.

Fund value £11.0 billion
approximately



86,000 members

£358 million paid out
in pensions and associated retirement benefits



The SIP also includes a section on the Trustees approach to environmental, social and governance issues (ESG) and the Fund's website features an ESG page.

TfL Pension Fund's **Investment Beliefs**

The Trustees investment beliefs which support its investment strategy and are approved by the Trustee Board are summarised below:

- Risk and return are related but risk does not guarantee return
- Diversification reduces volatility
- Behavioural issues are important
- Knowledge and skill are important
- Cost of implementation is important
- To focus on long-term investment and funding outcomes, fully recognising results may be volatile or even inferior in the short to medium term
- **Return and sustainability are not conflicting objectives and the main objective of the Fund is to deliver superior investment returns and sustainability is a part of this, not some standalone objective**
- **An active corporate governance programme can add value**

More detail on these investment beliefs and the Trustees overall approach to investment can be found in its Statement of Investment Principles (SIP) on the Fund's website **www.tfl.gov.uk/pensions** in the Fund Management investment and accounts section.

TfL Pension Fund's
ESG in Practice

In this report we show how the Trustees are approaching ESG by reference to the following six areas:

1 **Background**
Understanding the Fund's obligations following the Department for Work and Pensions publication of its update to the Investment Regulations.

2 **Measurement & Reporting**
Measuring the ESG footprint of the Fund in an objective and consistent way establishes a clear baseline to measure the progress.

3 **Investment Approach**
Recognising how ESG issues are affecting long-term risk and returns and integrating these insights to the Fund's investment activities.

4 **Activism**
Engaging with our investment managers and the companies in which they invest on sustainability related issues that impact long-term performance.

5 **Collaboration**
Achieving long-term change through collaboration on improving disclosure and policy advocacy.

6 **Case Studies**
These showcase the initiatives taken by the Fund in the form of actual investments in both the public and private markets.

SANTANDER CYCLES

GREEN WALL AT EDGWARE ROAD UNDERGROUND STATION IMPROVING AIR QUALITY

1 Background

Changes to the Investment Regulations will require greater consideration and disclosure of information about the investment activities in respect of ESG. The Trustees are in the process of updating the Fund's SIP with a policy on how ESG issues, including climate change, are being addressed over its long-term investment horizon.

Government amendment to the Investment Regulations

In September 2018 the Department for Work and Pensions published its update to the Investment Regulations which will improve the disclosure that pension schemes are required to make about their investment activities, in particular in respect of ESG.

By 1 October 2019, trustees will be required to have updated their Statement of Investment Principles ("SIP") with a policy on how they take account of financially material ESG issues, specifically including climate change "over the appropriate time horizon of the scheme". This will replace the current requirement to merely state the extent to which ESG factors are taken into account (if at all).

On stewardship, scheme trustees will also need to outline, in their SIP, their policy in relation to the exercising of their voting rights and their engagement activities by 1 October 2019.

After 1 October 2019, trustees will need to outline the extent (if at all) to which non-financial matters are taken into account in the selection, retention and realisation of investments, the next time they update their SIP.

The Trustees will be reviewing what changes are needed to the SIP following the change in regulations. Following consultation with TfL as Principal Employer, these are expected to be approved at the Trustee Board meeting at the end of March 2019 and published on the Fund website soon afterwards.

2 Measurement & Reporting

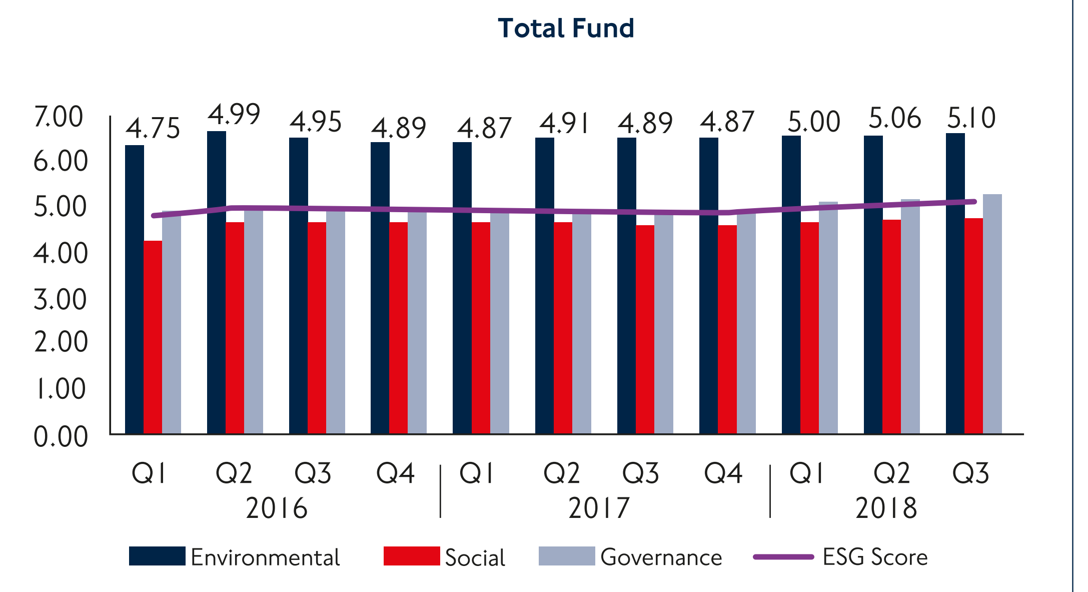
ESG is an increasingly important area for the Trustees to consider and get right in its investment activities.

The first step for it to be done effectively is to establish a clear baseline from where the progress on all aspects of ESG can be measured and reported. The Trustees continue to commit significant resources to this area and by mapping its investment portfolio on Aladdin (a leading risk management IT platform) it now has the capability to track various ESG metrics using data supplied by Morgan Stanley Capital International (MSCI).

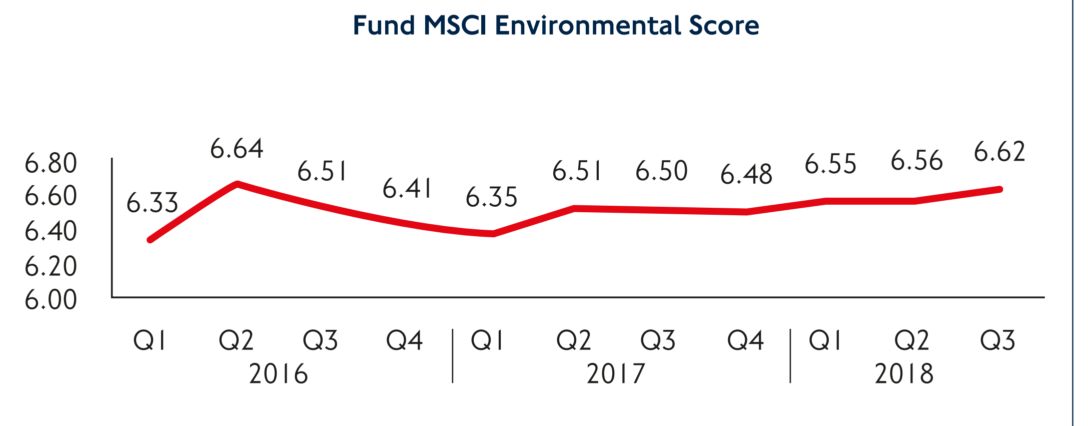
The MSCI ESG Indexes used are designed to support common approaches to environmental, social and governance (ESG) investing, and help institutional investors more effectively benchmark to ESG investment performance as well as manage, measure and report on ESG mandates. MSCI's ESG Indexes also provide institutional investors with transparency into ESG sustainability and values alignment, together with the ability to compare holdings.

2.1 Measurement and Reporting

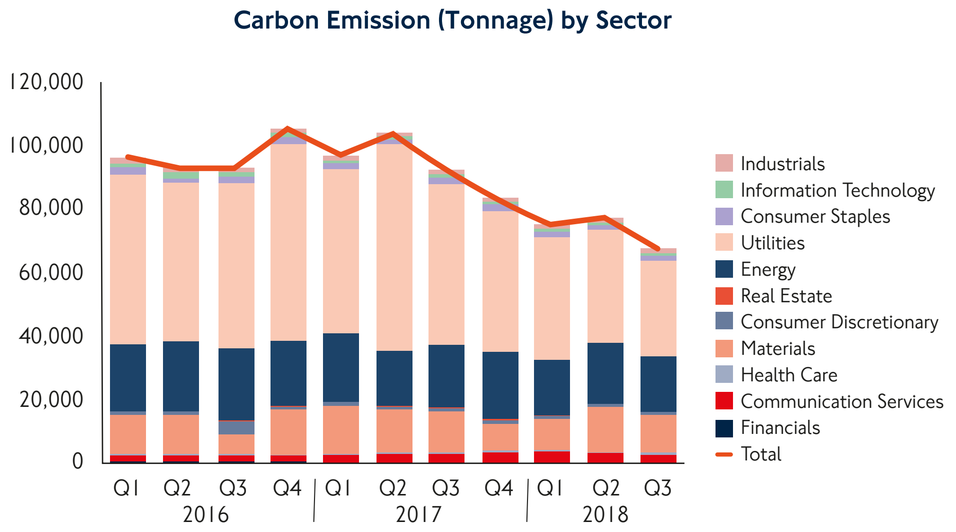
- The Trustees make use of the Aladdin tool which provides ESG score and carbon emissions data to better capture and understand the Fund's overall ESG footprint over time. It also enables the Trustees to take up any stock specific concerns that the tool flags up as part of a more meaningful conversation with its investment managers.
- Clearly there are challenges, as the information sources available to the Trustees are evolving and at times conflicting. The Trustees are attempting to capture all the relevant information, but to use it in their proper context to take decisions that are financially right for the Fund.
- The Trustees have continued to see the ESG metrics improve for its active equity and bond mandates since early 2016, when it started measuring the score.



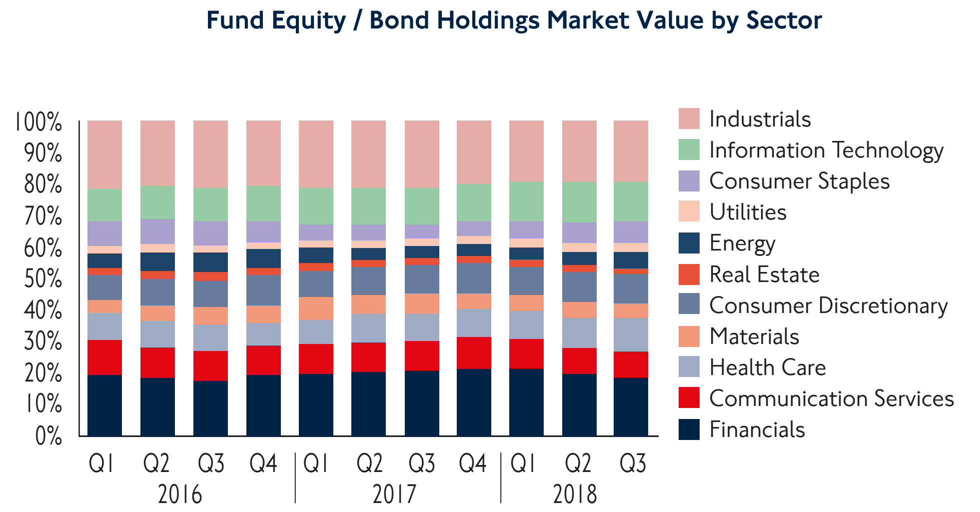
The Fund's MSCI ESG score has increased from 4.75 to 5.1 over the past 3 years.



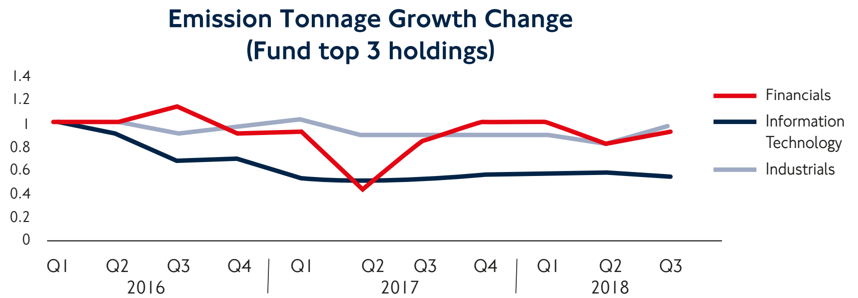
The Fund's MSCI environmental score has improved from 6.33 to 6.62 from 2016 to date, an improvement of around 5% in 2 years.

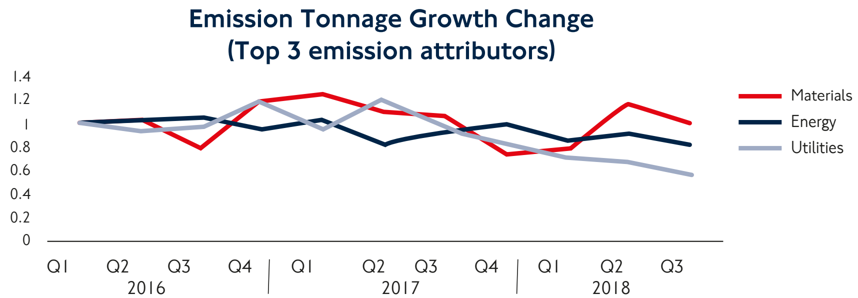


The Fund's carbon emission (t) of the active portfolio fell by 30%. Utilities, Energy and Materials are the top 3 emission (t) attributors, accounting for 90% of carbon emission, but only 12% of the market value, which itself has fallen from a peak of 15% in late 2016.
It is important that the Fund holds these sectors as part of a balanced portfolio, where materials and energy provide much needed cushion in an inflationary environment and utilities is a classic defensive sector that holds up well when some of the more growth friendly sectors struggle.



The Fund holds a diversified active portfolio of equities and bonds invested in a range of sectors, with Financials, Information Technology and Industrials being the largest three (combined over 50% of the portfolio) and Energy, Utility and Real Estate being the smallest (under10% combined). Please note the Fund separately holds a large £340m private real estate portfolio.





Carbon intensity of all the sectors continues to fall, with the greatest improvements seen in the Financial and Utilities Sector where it is down on an average by around 40% since 2016 and for Energy where it is down by around 20%.

From the carbon emissions data the Trustees have established a measure of the Fund's "carbon footprint" based upon scope 1 and 2 greenhouse gas emissions. The results at 31 December 2017 were published in the Fund's 2018 Annual Report and Accounts and March 2018 newsletter.

This gave a figure of 170 metric tonnes per million USD sales and compared with an average figure of 220 for the representative global equity index.

The Trustees have found that private companies are better engaged on the ESG issue as there is sharper focus and incentive to deliver long-term value creation. Here better resource efficiency is not just seen as good for the environment but also good for long-term profits. The underlying companies are being encouraged to publish, where relevant, the impact of their activities in terms of the UN Sustainable Development Goal or an equivalent sector specific framework.

The Trustees have embarked upon an important ESG journey and, like everything new, expect to learn, adapt and improve as it goes along. There will be a greater focus on not just doing the right thing as the Trustees discharge their important fiduciary duty but also being more transparent and communicative about such activities with members of the Fund.

AVERAGE CARBON FOOTPRINT

Data collected from year ending 31 December 2017

220 metric tonnes

Source: Representative global equity index

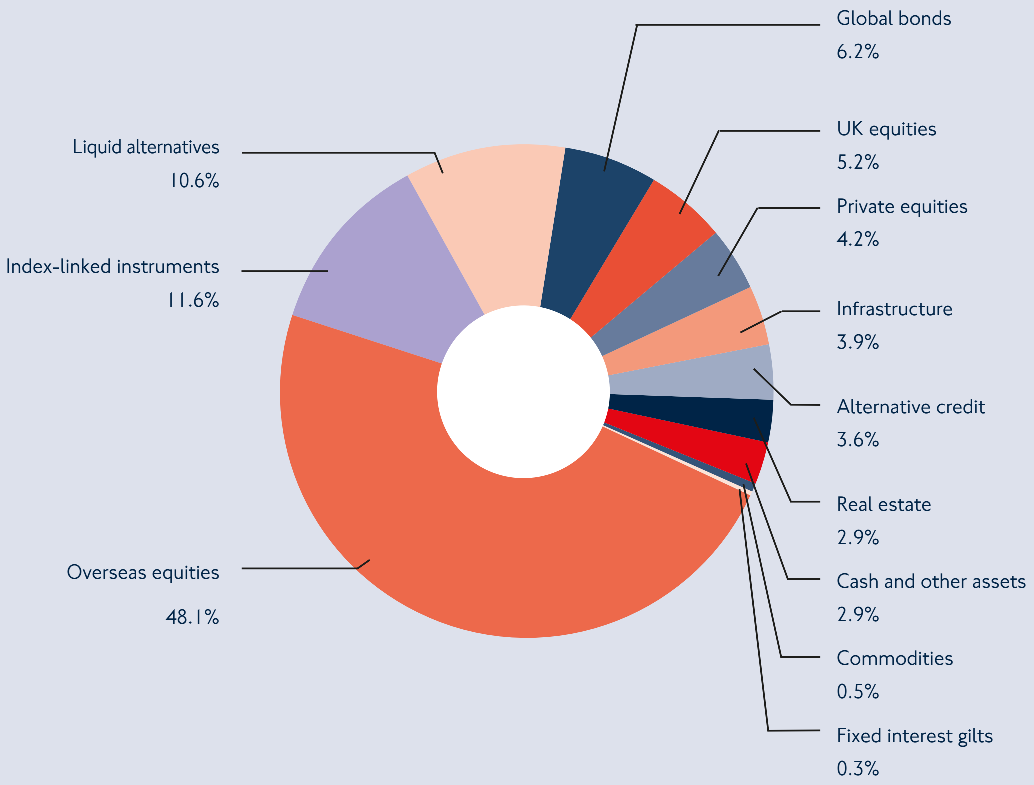
TFL CARBON FOOTPRINT

Data collected from year ending 31 December 2017

170 metric tonnes

Source: Fund's 2018 Annual Report and Accounts

The Fund is held in a range of different investments (assets) in the UK and overseas.



3 Investment Approach

The Trustees' primary focus is to invest the assets which will bring the necessary returns (with appropriate risk) to safeguard its members' pensions.

In seeking that return the Trustees consider all areas of potential investment and manager skill sets which consequently produce a diverse investment portfolio covering a very broad range of asset classes.

The Fund currently uses 30 external managers with 44 separate mandates covering all the asset classes from equities and bonds to alternatives covering private and hedge fund investments.

The nature and scope of ESG activities vary by the type of asset holding, whether they are public or private and whether the mandate is active or passive. The aim in all the cases is to maximise the long-term value of the holdings by adopting a clear position of "engagement and monitoring" of ESG issues.

3.1 Principles

Integrating the ESG principles in the Trustees' core investment activities covering investments both in public (covering equities and bonds) and private markets (private equity, infrastructure, real estate and private credit).

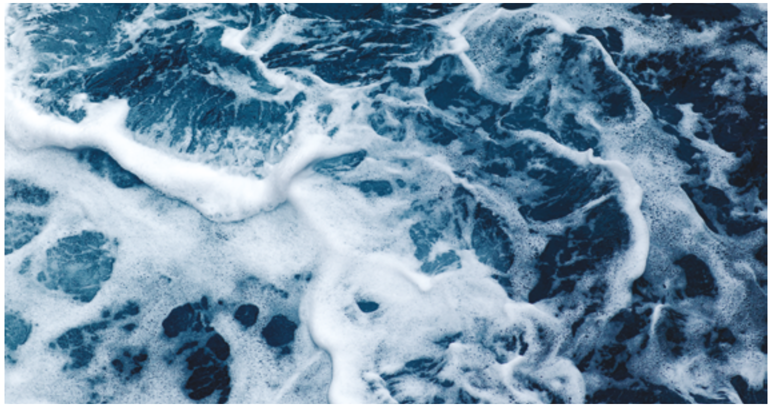
Recognising that companies which fail to recognise and handle their social and environmental impacts with care, or ones that do not adopt ethical and responsible governance practices are poor long-term investments because they will be prone to financial losses and loss of reputation.

Seeing ESG factors not in isolation but as part and parcel of the investment process with a view to making ESG integration less of a labelling exercise and more of a push towards real and positive long-term changes in the underlying companies the Fund has invested in.

Engaging with investment managers both during the selection process and their ongoing monitoring to understand how ESG is taken into account from a long-term risk management and valuation perspective.

Nudging investment managers to consider in more detail the impact of the activities of companies in which they invest have on the environment, particularly when they operate in countries with less sophisticated and demanding regulatory requirements. This is to ensure companies are fairly treating all stakeholders (shareholders, customers and employees) and conforming to standard business principles of transparency, integrity and fair and reasonable dealing.

Improving its ESG Approach and Practices from ongoing learning and doing, recognising that this is a new area for the Trustees and clearly more can and will be done as the collective knowledge improves over time.



TWO STUDENTS TAKE A RIDE THROUGH BOROUGH MARKET ON THEIR SANTANDER CYCLE HIRE BIKES

3.2 Engagement and Influence

In adopting an approach of engagement and monitoring on ESG, the Trustees are seeking to influence the ongoing performance of companies on these issues, rather than opting for shorter term disinvestment. This should lead to an overall improvement in performance of companies over time, with consequential ESG benefits.

There is a strong belief that as a long-term investor the Fund is providing critical "patient" capital to companies transitioning and pivoting towards more sustainable business models.

While the current overall approach of the Trustees is one of engagement and monitoring, there are areas that the Trustees are beginning to take a more directive approach. For example, this includes the exclusion of investment in companies with material tilt of business activities (more than 30%) to thermal coal in power generation and/or mineral extraction from all of the Fund's Active Mandates.

The decision to exclude coal taken for non-financial reasons reflects engagement by the Trustees with investment managers, many of whom are signatories to the UN Principles for Responsible Investments (UNPRI) and who see no sustainable future for this environmentally damaging sector.

The exclusion of coal has already been implemented by the Trustees in the more recently awarded Private Market mandates and discussions are well advanced with all the Fund's active investment managers about the most efficient implementation route.

No investment will be permitted in coal in the Fund's Private Markets Portfolio of Direct and Co-investments, except where a company is making or explicitly committing to make a transition towards a non-coal future.

SOURCE LONDON ELECTRIC VEHICLE (EV) CHARGING POINT AT WESTFIELD STRATFORD CITY CAR PARK

3.3 Investing in carefully selected “Impact Themes” aligns financial returns with strong ESG outcomes

ESG is not just a way to manage long-term risks through integration but also as a source of exciting long-term growth opportunity, in many cases uncorrelated to the Fund’s other financial assets, and providing valuable risk and inflation adjusted returns to the overall portfolio.

The Fund was and remains an early adopter and innovator in areas of impact investments* that are sufficiently de-risked and provide attractive returns with strong ESG footprints. Examples include investments in clean energy, waste, education and banking – both domestically and globally – where such investments continue to deliver on many of the World Bank’s Sustainable Development Goals, as illustrated in the case study section later in this report.

The Trustees are aiming to invest up to 5% of the Fund’s portfolio, by value, in investments that have a strong “ESG tilt” with an ambition to increase this proportion over time.

* Impact investments are investments made in companies, organisations and funds with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return.

4 Activism

Corporate engagement

The Trustees standard investment manager agreement requires the appointed manager to exercise its voting and other rights as shareholders in a manner they believe to be consistent with best practice in relation to Corporate Governance and in accordance with the Institutional Shareholders' Committee's ("ISC") Statement of Principles on the Responsibilities of Institutional Shareholders and Agents.

These Principles have been carried forward and adopted by the Financial Reporting Council ("FRC") in the UK Stewardship Code for institutional investors.

4.1 The Fund's Investment Managers are pushing for positive long-term changes

The Trustees would like to have exposure to companies that share their long-term horizon and are prepared to adapt to make their business models sustainable.

As an active steward of its assets, the Trustees track and engage with both its active and passive managers on a range of ESG matters. Of the Fund's 30 managers, 22 are already signatories to the UNPRI and of the remaining 8, 2 are currently evaluating the decision to join. For 2 it is less relevant (because they trade mainly in derivatives and not physical securities). Just 4 managers have decided not to sign at this time and the Trustees are actively engaged with them.

For companies in the Fund's actively managed £3 billion equity portfolios there were 576 annual general meetings or extraordinary general meetings held in the year to 31 March 2018 and at 185 of these there were votes for the Fund's portfolio cast against management.

For the Fund's £2.6 billion passive equity portfolio, its manager BlackRock has a strong track record of activism both at meetings with and in their engagement with management. During the year BlackRock voted at 17,165 shareholder meetings and at 6,369 of these they cast votes against management. BlackRock produces quarterly reports on its governance and voting which are reviewed by the Trustees. These are publicly available at: **www.blackrock.com/corporate/about-us/investment-stewardship**

Information taken from www.blackrock.com/corporate/about-us/investment-stewardship

ACTIVISM ON ACTIVE FUNDS

Data collected from year ending 31 March 2018

576 meetings

185 votes against management

ACTIVISM ON PASSIVE FUNDS

Data collected from year ending 31 March 2018

17,165 meetings

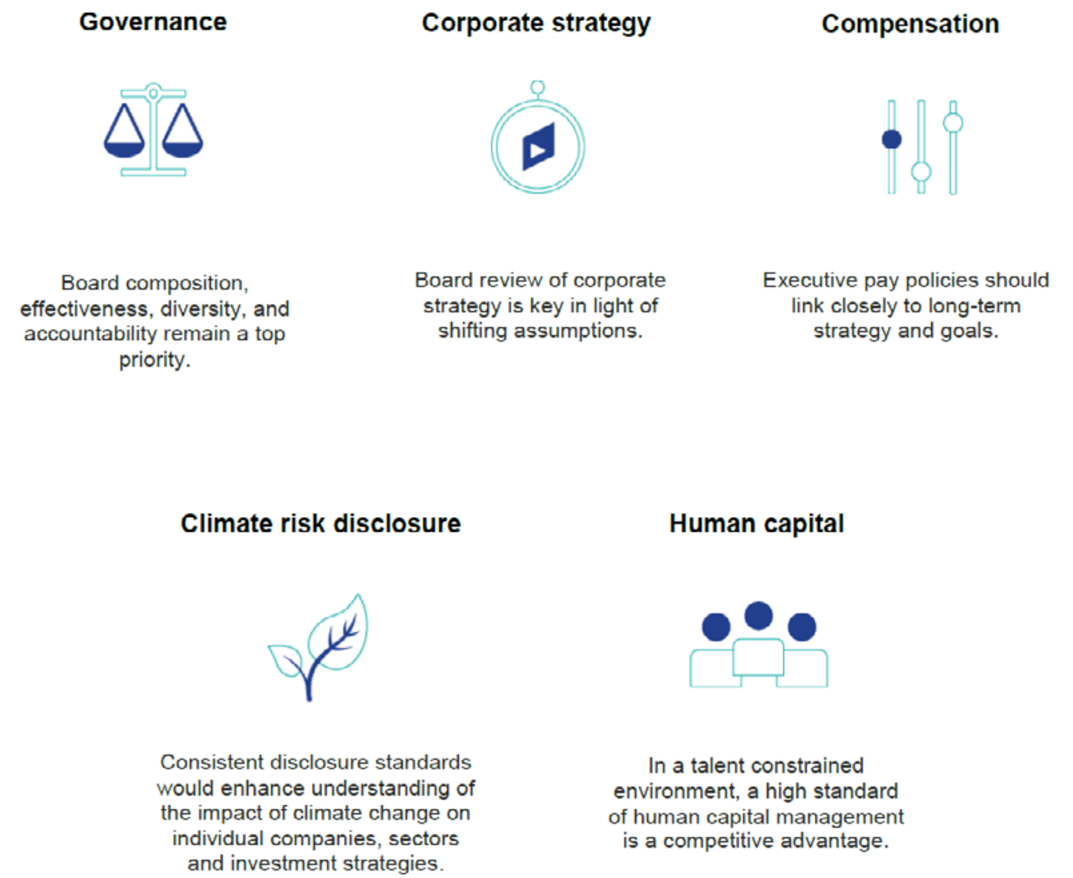
6,369 votes against management

More specifically –

- “Diversity” – In 2018, BlackRock wrote to the CEO’s of nearly 300 companies in the Russell 1000 (represents the top 1000 companies by market capitalization of all listed U.S stocks or 90% of the US stock market) who had two or less women on their boards explaining their view that board diversity is an important factor in board effectiveness.
- “Climate Risk” – In 2018, BlackRock also sent letters to over 100 of the most carbon intensive companies asking them to engage with them on their assessment of climate risk reporting and how it aligns with the recommendations of the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD). To date, over 21% of companies have responded in a substantive fashion and others have sent letters acknowledging receipt.

Experience to date in the votes cast against management is that they have rarely been sufficient to overturn management proposals. But votes against may still have a role in influencing management behaviour going forward together with ongoing engagement with companies by the investment managers.

Blackrock’s Priorities on Governance & Voting Matters



4.2 Shareholder Resolution is another way to make yourself heard

As well as assessing whether or not to support management resolutions, there may also be resolutions submitted by shareholders to consider.

For example at the Twitter and Facebook annual general meetings there were shareholder resolutions regarding a report on the efficacy of enforcement of content policies. Additional disclosure of financial and reputational risks on account of recent content management controversies was considered warranted and our voting was in favour of these shareholder resolutions, although in both cases the resolutions failed.

There can be a range of issues in assessing when to give support to shareholder resolutions. For example the Fund currently invests in Shell through one of its active managers.

This year's shareholder resolution on setting and publishing greenhouse gas reduction targets attracted only 5% votes in favour. Many organisations including those supportive of the transition away from carbon did not support an approach which sought to bind Shell to self-imposed targets impacting the long-term value of their holdings. For the time being they have confidence in Shell's approach to leading the organisation through the energy transition. There is also recognition that a company's ability to align themselves and their initiatives will necessarily depend upon the overall progress society as a whole makes towards achieving the reduction targets.

In December 2018 Shell announced plans to set short-term targets as part of a long-term ambition to reduce the Net Carbon Footprint of its energy products. The company plans to link these targets to executive remuneration, subject to shareholder approval.

The announcement formed part of a joint statement between institutional investors on behalf of Climate Action 100+ and the company.

LAMBETH BRIDGE AND INDUSTRIAL BUILDINGS

4.3 Future direction of a company is an important climate change consideration

Climate change science and the development of a low carbon economy is well established, leading to a range of views about timing investments in fossil fuel assets and decisions on the appropriate timing to divest in companies with significant fossil fuel assets.

- The Trustees appoint active investment managers who they believe have the skills and knowledge to both select stocks and sector weightings, and to determine when they should be bought and sold.
- The Trustees expect the managers to engage with companies on all the issues including ESG and not to jeopardise financial return through simply taking a divestment route.
- Total SA, an oil and gas sector company, features in the ten largest quoted equity holdings as at 31 March 2018.
  - Alongside any proposition to divest from a "fossil fuel" company such as this is the argument that it may well be well placed to deliver the financial return the Fund needs.
  - With respect to the climate change issue, alongside 38 French companies, Total has pledged Euro45 billion over 5 years towards renewable energy and low-carbon technologies.
  - Total supports the Paris Pledge for Action of 16 December 2015 and efforts to keep the world on a trajectory that limits the average temperature rise to 2 degrees Celsius.
  - Total is one of eight oil and gas companies worldwide out of a total of 45 that is ranked Level 4 (highest possible rank, up from 3 in 2017) by Transition Pathway Initiative (TPI), an independent global initiative aimed at investors to assess companies' preparedness to address climate change. It improved its ranking after agreeing to undertake Climate Scenario Planning.

5 Collaboration

There are limits to the influence the Trustees can achieve as a single investor and the resources it can reasonably commit. Hence we recognise that progress can be best achieved on ESG issues through collaboration with other investors and organisations. This is especially true in the area of climate change where there is a need to press governments as much as companies.

On the following pages we give information on the organisations and initiatives that we are supporting.

5.1 The Fund is an active member of a number of Global and Industry ESG Initiatives

PRI Principles for Responsible Investment

We are a signatory to the United Nations Principles of Responsible Investment through which the Fund has gained support in developing its engagement with ESG issues and through its reporting framework which has provided a means of assessing its progress. Our first public report covering activities for the calendar year 2018 will be issued by PRI in 2019.

For more information see:
www.unpri.org

CDP DRIVING SUSTAINABLE ECONOMIES

We are a signatory of the Carbon Disclosure Project, now known as CDP, which works with shareholders and corporations to disclose environmental matters such as the greenhouse gas emissions of major corporations.

The Fund was a signatory to the 2018 global investor statement to governments on climate change.

For the full statement and signatories see:
globalinvestorcoalition.org/global-investor-statement-climate-change/

A4S ACCOUNTING FOR SUSTAINABILITY

We are a member of A4S which aims to inspire action by finance leaders to drive a fundamental shift towards resilient business models and a sustainable economy. To do this, A4S has three core aims:

- Inspire finance leaders to adopt sustainable and resilient business models
- Transform financial decision making to enable an integrated approach, reflective of the opportunities and risks posed by environmental and social issues
- Scale up action across the global finance and accounting community

Through A4S the Trustee has formally affirmed its support for the voluntary recommendations of the industry led Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD).

www.accountingforsustainability.org/en/activities/tcfd.html

5.2 Working with like-minded investors on Climate Change is more effective than working alone

The Fund supports the TCFD which is a disclosure framework, published in 2017 which asks companies to disclose their governance, strategy, risk management, and metrics and targets relating to climate risk.

www.fsb-tcfd.org

A new development for 2018 is Climate Action 100+ which is a joint initiative between the PRI organisation and regional investor groups on climate change. It is a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Investors are calling on companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures.

The Trustees are a supporting investor and collectively these investors have committed to engage with 161 companies which include the world's largest greenhouse gas emitters. This support includes attendance and questioning company boards at annual general meetings and at private meetings.

For further information see:
www.climateaction100.org

BIO-DIESEL LOGO ON BUS

6 Case Studies

The case studies provide examples where the Trustees have made investments in "ESG Themes". These fall in six broad themes namely Clean Energy, Waste, Core Infrastructure Platforms in Emerging and Poor Countries, Education, Real Estate and Financial Inclusion that help to deliver a number of United Nations Sustainable Development Goals ("SDGs").

Case studies 1 to 7 are examples of investments providing attractive market returns while case study 8 is an example of where integrating ESG in the investment process has improved the decision making process.

Example 1: Clean Energy

Case Study 1.1: **Long-term commitment and support to UK Renewable Sector**

The Trustees grasped the ESG impacts and financial attractiveness of renewable quite early on and seeded an evergreen BlackRock UK Renewable Fund in 2015, committing £100m. It is now fully invested in a diversified portfolio of solar, onshore and offshore wind projects spread across the country with significant climate and local area impacts.

Impact Metric	**Increase renewable energy produced**	**Displace Greenhouse gases (GHG) emissions**	**Reduce Water Usage**	**Improve energy mix**	**Support local communities**
Impact Outcome	**75,876** MWhs produced	**27,012** Tons of GHG emissions avoided	**63,356** Cubic Water Meters Reduction	**25,810** Tonnes of coal burning avoided	**£936,608** of lifetime community benefits
Impact Equivalent	**>18,439** homes powered for a full year	**>10,660** cars off the road for a full year	**25** Olympic swimming pools of water saved a year	**1,890,244** incandescent lamps switched to LEDs	Village hall renovation Installation of solar panels Training program for young people with mental health disorders

Case Study 1.2: **Hero and Azure**

Two of the fastest growing Renewable Businesses in India

Azure's solar portfolio (current and committed) of 3GW is spread across 23 states through 37 projects in India. Azure has strong development impact through the following: Bridging India's power demand-supply gap and providing electricity to underserved regions. Azure has also recently initiated projects on rural electrification through development of micro and mini grids. Over 500 households have been electrified to date. This also enables replacement of kerosene with cleaner energy for cooking and heating. In 2017, Azure issued a US$500 million Solar Green Bond and it is ISO 14001 certified for environmental management systems. Over the course of the investment, its employee base has more than doubled and its installed generation capacity which has increased by a factor of ten, cutting GHG emissions by over 1.2 million tons.

Likewise Hero's current and committed portfolio spans 18 projects (11 wind and 7 solar) in 6 states with operating capacity of over 2GW with GHG emissions reduction of over 1.3 million tons.

Example 2: Sustainable Waste Handling

Case Study 2.1: **Cory**

£125m investment in UK's largest Energy-from-Waste Facility

The Trustees have invested over £125m in the Cory Riverside Energy from Waste (EfW) plant on the river Thames in Southeast London. The Trustees got involved to directly participate in the investment due to its ESG credentials.

It is the UK's largest Energy from Waste facility ("EfW") that processes 17% of London's 4.4 million tonnes of residual waste, which otherwise would be diverted to landfill sites. Also by sourcing c.90% of its waste by river, it saves the equivalent of approximately 100,000 truck journeys per annum, reducing traffic congestion and improving air quality. It generates a reliable baseload of renewable energy, which can power the equivalent of c.160,000 homes and recycles its waste for use in the general and highway construction industries.

With river transport, Riverside is a net carbon positive business saving c.200kg of carbon per tonne of waste processed, when compared to an equivalent landfill gas operation. Finally, Riverside operates comfortably within all regulatory emission limits, which are set out by the EU Industrial Emissions Directive. The asset emissions are consistently and significantly below current and currently planned emission limits. As a commitment to environmental sustainability, it publishes its emissions data on its website every month.

Case Study 2.2: **Green For Life Environmental**

Largest environmental services company in Canada

This is the leading environmental services company in Canada offering solid waste, soil remediation and liquid / hazardous waste services.

Its network includes 50 waste collection operations that serve over 2.3 million households with more than 250+ municipalities, and 60,000+ commercial customers. It sorts 1.6 million tonnes of waste annually through its 27 owned or managed Materials Recovery Facilities (MRFs) and organic waste processing facilities with ability to service increasing rates of waste diversion (i.e. recycling).

GEOGRAPHIC COVERAGE

The Fund has invested over **£125m** in the Riverside Energy from Waste (EfW)

17% of London's **4.4. million tonnes** of residual waste is processed by EfW

EfW saves the equivalent of approximately **100,000** truck journeys per annum

EfW generates renewable energy which could power **160,000** homes approximately

Riverside saves approximately **200kg** of carbon per tonne of waste

Example 3: Essential Greenfield Infrastructure

IFC Global Infrastructure Fund

Helping to roll out critical infrastructure and renewable platforms in Emerging Economies.

The Trustees were a seed investor in the IFC Global Infrastructure Fund (GIF) committing $100m. GIF makes much required investments in areas and countries that have a huge gap in the provision of essential services such as water and sewerage, telecom and power. Its investment includes stakes in two large renewables firms in India, the largest water and sewerage private company in Brazil, telecom tower business in Africa and one of the fastest growing Compressed Natural Gas (CNG) providers in China that is helping to displace coal and fossil fuel usage in heating and transport.

Case Study 3.1: **Tian Lun's**

China Gas Business

Its business is premised on replacement of coal and oil with natural gas. The company builds and operates gas pipelines and distributes natural gas to commercial, industrial and residential users in Tier 3 and 4 cities in China. It also sells CNG and Liquefied Natural Gas to vehicle users. In June 2018, it announced a coal-to-gas conversion project in partnership with the Henan government targeting 10 million rural household connections in 5 years. Natural gas combustion results in virtually no atmospheric emission of sulfur dioxide and particulates, and far lower emissions of nitrogen dioxide (which contributes to urban smog) and CO_2 (the main contributor to global warming) than coal or oil.

TIAN LUN

Case Study 3.2: **Aegea**

Brazilian Water Company

Aegea has increased water and sewerage service coverage in its service areas, and the company continues to expand throughout Brazil, including frontier regions. This increased coverage leads to positive health impact for the population, especially the poor. Diseases associated with poor sanitation decreased by 34% between 2005 and 2009 in Campo Grande, after Aegea increased sewage collection and treatment there. This reduction of diseases results in lower absenteeism of students and workers, as well as reduced health expenditures, with substantial positive impact in the economy.

Example 4: Sustainable Real Estate

Real Estate

The Fund is leading the way on Sustainable Benchmarking and Reporting

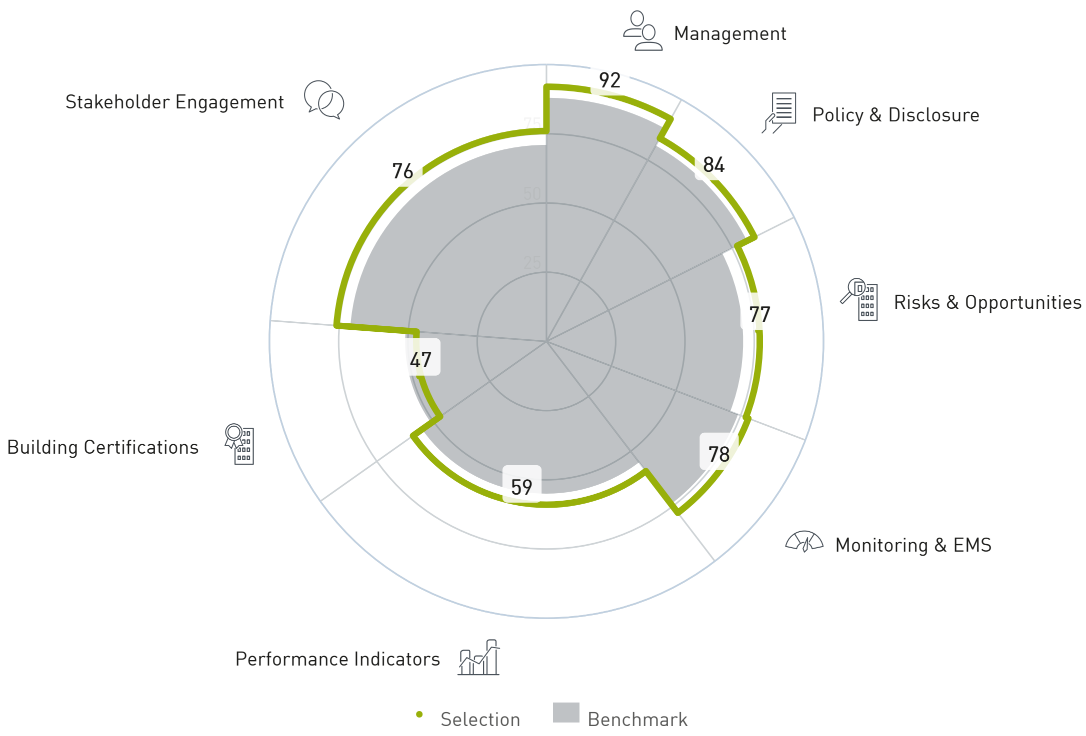
GRESB Real Estate Assessment provides the basis for systematic reporting, objective scoring and peer benchmarking of ESG management and performance of property companies and funds around the world. It focuses upon:

- Resource Efficiency (energy and water)
- Waste and Emissions Management
- Use of environmentally responsible materials
- Health and Safety
- Regulatory Compliance
- Bribery and Corruption
- Socially irresponsible activities (e.g. weapons, tobacco, gambling)
- Tenant well-being

The Trustee has a £340m portfolio of private assets invested and managed by CBRE. ESG is fundamental to their approach to business strategy, investors, key stakeholders, tenants and communities. It leads to outperformance due to lower operating costs and higher occupancy and over the long term helps to mitigate risk by anticipating legal and regulatory requirements, climate change issues, and early recognition of changing tenant demands.

The manager shares the Trustees approach and commitment to ESG by not just being a signatory to several world leading alliances and initiatives in this area but also implementing the principles in its investment process and providing transparent and actionable reporting. CBRE adopted GRESB as its key ESG monitoring tool.

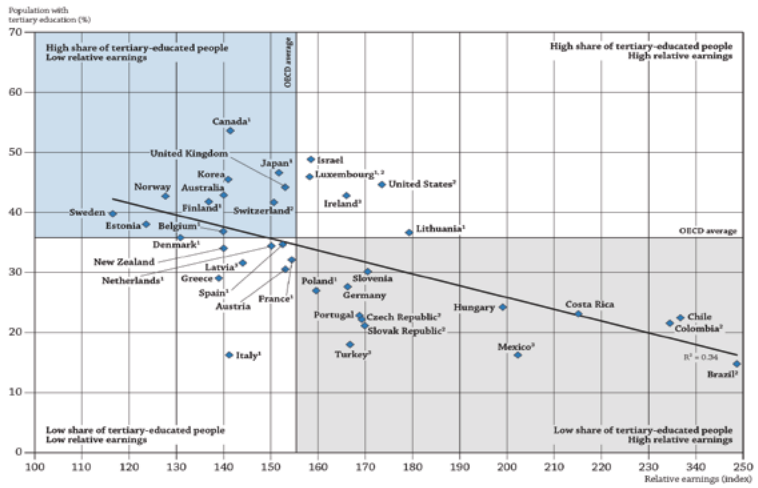
Breakdown of the portfolio's ESG rating



Example 5: Education in Developing Countries

Relative earnings of tertiary-educated workers and their share of the population (2015)

25-64 year-olds with income from employment; upper secondary education = 100

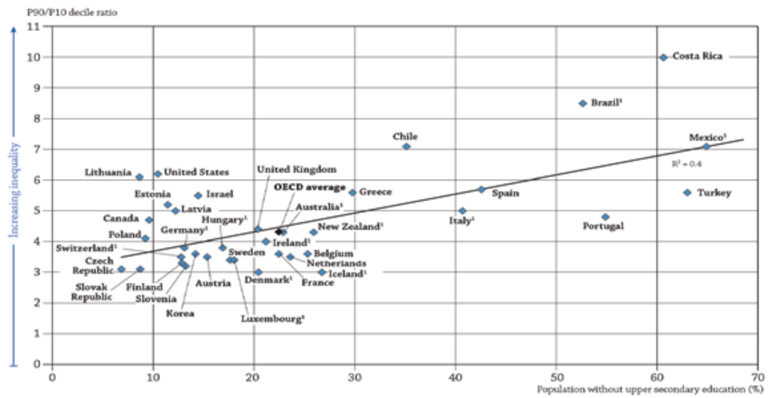


Note: Tertiary education includes short-cycle tertiary, bachelor's, master's, doctoral or equivalent degrees.
1. Year of reference differs from 2015. Refer to the source table for details.
2. Index 100 refers to the combined ISCED levels 3 and 4 of the educational attainment levels in the ISCED 2011 classification.
3. Earnings net of income tax.

Source: OECD (2017), Table A6.1. *See Source* section for more information and Annex 3 for notes (www.oecd.org/education/education-at-a-glance-19991487.htm).

Percentage of 25-64 year-olds without upper secondary education and income inequality (2015)

Income inequality measured as the P90/P10 decile ratio



Note: The P90/P10 decile ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of people with highest income) to that of the upper bound value of the first decile. The income distribution is measured with regard to the disposable income of the population aged 18-65.
1. Year of reference 2014.

Source: OECD (2018), Education at a Glance Database and OECD Income Distribution database (IDD), http://stats.oecd.org/. *See Source* section for more information and Annex 3 for notes (http://dx.doi.org/10.1787/eag-2018-36-en).

source: OECD

Case Study: **Kroton and Estacio**

Education Providers in Brazil

Brazil's education sector suffers from shortcomings and there is an important role for private companies to play here. Only 69% of 15 to 19 year olds are enrolled in any form of education despite almost universal enrolment from ages 5 to 14. More than half of adult Brazilians have not completed upper secondary education and the proportion of students that made it into university was very low due to severe capacity constraints at public universities.

For these reasons education is a big driver of social mobility due to the increase in lifetime earnings that it brings. Brazil has one of the highest payoff ratios in the OECD for completing tertiary education and the high payoff is a big driver of why people choose to attend private universities that charge between $150 and $500 a month depending on the course taken.

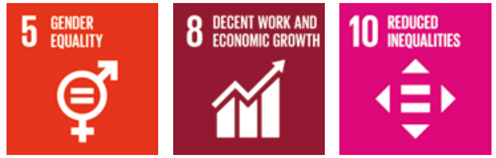
The Fund holds two listed Brazilian education providers, Kroton and Estacio, the two largest private tertiary education providers in the country with approximately 16% and 7% market shares. Both offer a variety of education options to cater for students. In Kroton, students predominantly attend formal campus with lecturers, whilst Estacio offers mainly distance education sites. Most students are in the middle income classes of Brazil or lower and, very importantly, most work during the day and study at night. Without this flexibility, most students would not be able to study further after leaving school.

Example 6: Healthcare

Case Study: **Alloheim**

Leading nursing home operator in Germany

It is one of the largest nursing home operators in Germany with a long history since 1973. It provides high quality stationary and ambulatory care as well as assisted living facilities throughout Germany. Its portfolio consists of 168 homes with c.19k beds with locations in 15 of the 16 federal states in Germany.



Example 7: Financial Inclusion in Developing Countries

Case Study 7.1: **Bandhan**

Helping Financial Inclusion and Women Empowerment in India

The Trustees have invested in Bandhan through one of its emerging market equity mandates.

Bandhan started as a microfinance institution before getting its banking licence last year. It has helped millions of rural customers, including some of India's lowest income segments, secure access to finance.

Given that women represent nearly all of Bandhan's base of borrowers, the company has also played a key role in supporting women's entrepreneurship by allowing these women to take a more active part in their households through the establishment and scaling of their businesses.

Bandhan has always placed high emphasis on responsible financing, and the company has been a key driver in promoting financial literacy across the country. As a result, its programs have historically had a positive impact on the lives of its clients who suffer less from food insecurity and have seen improvements in their overall physical health thanks to increased assets that have translated to higher household incomes.

Good financial returns and positive social impact can exist together as this example proves.


BANDHAN


BANDHAN

Example 8: Engagement with management provides better perspective and change

The Fund invests in this cement manufacturer in Indonesia through one of its small cap equity managers due to its attractive valuation, strong capital return policy, conservative balance sheet and leading market share in Indonesia. From an ESG perspective, the manager is, as part of its engagement with the company management, looking to prioritize the path to improvement on ESG metrics, not just where the business is today or has been. This is just one of many examples where the MSCI ESG Tool is used to flag portfolio companies with below average ESG scores, which then forms the basis for a more comprehensive discussion with the Fund managers.

Case Study: **PT Semen Indonesia (Persero)**

How Engagement Powers Change

Environmental

The manager believes that the metrics used by MSCI (tCO_2/USD sales) to rate the company has some obvious limitations such as not taking into account the price differences between different types of cement products, and in different regions each producer having a different product mix. When measured on a more standardised kg-per-ton of cementitious product (a more common industry definition), the company compares favourably with its western counterparts. Not just that, the company has also implemented industry leading waste heat recovery initiative with a capacity of 30.6 MW, delivering 122,000 tons of CO_2 emission savings per annum. This was the largest JCM project (Joint Crediting Mechanism) of its kind in the country.

Social

MSCI rates Persero as in the second quartile globally vs its peers for Health & Safety. The Fund completely understands that the risk of accidents can lead to production disruptions, litigation, and liabilities, but this is a case where a poor score needs to be understood in the context of the generally more risky industry within which the company operates. Even more important here is to understand what a company is doing to improve its health & safety record as a result of engagement. On both these counts the company has made positive steps and whilst there have been fatalities in last 7 years the company has implemented a comprehensive accredited Occupational Health and Safety (OHS) to minimise the future instances of any fatalities and the manager continues to maintain a close review.

Governance

According to MSCI, Persero (a State owned enterprise of Indonesia) falls into the lowest scoring range, indicating the presence of significant governance risk. At least four of the seven directors are independent (non-government representatives). Also, over the past ten years, Persero has paid 38% of the cash from operating activities as dividends and 45% of the net income as dividends, while continuing to invest in its business, which is a sign of sound capital allocation and a company that is growing and providing valuable local jobs.

TfL Pension Fund's
Investment Managers

Anchorage Capital Partners Offshore Limited

AQR Capital Management LLC

Ardevora Asset Management LLP

BlackRock Investment Management (UK) Limited

Blue Mountain Credit Alternatives Fund Limited

Brevan Howard Asset Management LLP

Bridgewater Associates, Inc

Burgundy Asset Management Limited

CBRE Global Collective Investors UK Limited

Colonial First State Global Asset Management

Coronation International Limited

Credit Suisse IRIS ALHC Fund Limited

Goldman Sachs Asset Management

IFC Asset Management Company LLC

Industry Funds Management Pty Limited

JO Hambro Capital Management Ltd

JP Morgan Asset Management

Man Risk Premia SPC

Neuberger Berman Alternatives Advisers LLC

Nomura Asset Management UK Ltd

Oak Hill Advisors LP

Paradice Investment Management Pty Limited

Partners Group (UK) Limited

Pzena Investment Management LLC

Russell Implementation Services Limited

Semperian PPP Investment Partners Holdings Ltd

Siguler Guff & Company LP

Stonepeak Infrastructure Fund LP

Veritas Asset Management LLP

Wellington Management Company LLP

Additional help or information

Whether you are a contributing member, a pensioner or have a deferred pension, you can use the website **www.tfl.gov.uk/pensions** to find out more information about the Fund as well as accessing our self service website through our Pension Web Portal **www.pensions.tfl.gov.uk**

If you have not already registered to use the Pension Web Portal, why not sign up today.

We take great care to ensure that our website is helpful and easy to use and hope that you will take the opportunity to visit the site. We always welcome your comments and ideas, which you can email to us via our website.

Please contact the Fund Office if you have any questions about this document.
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December 2018

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