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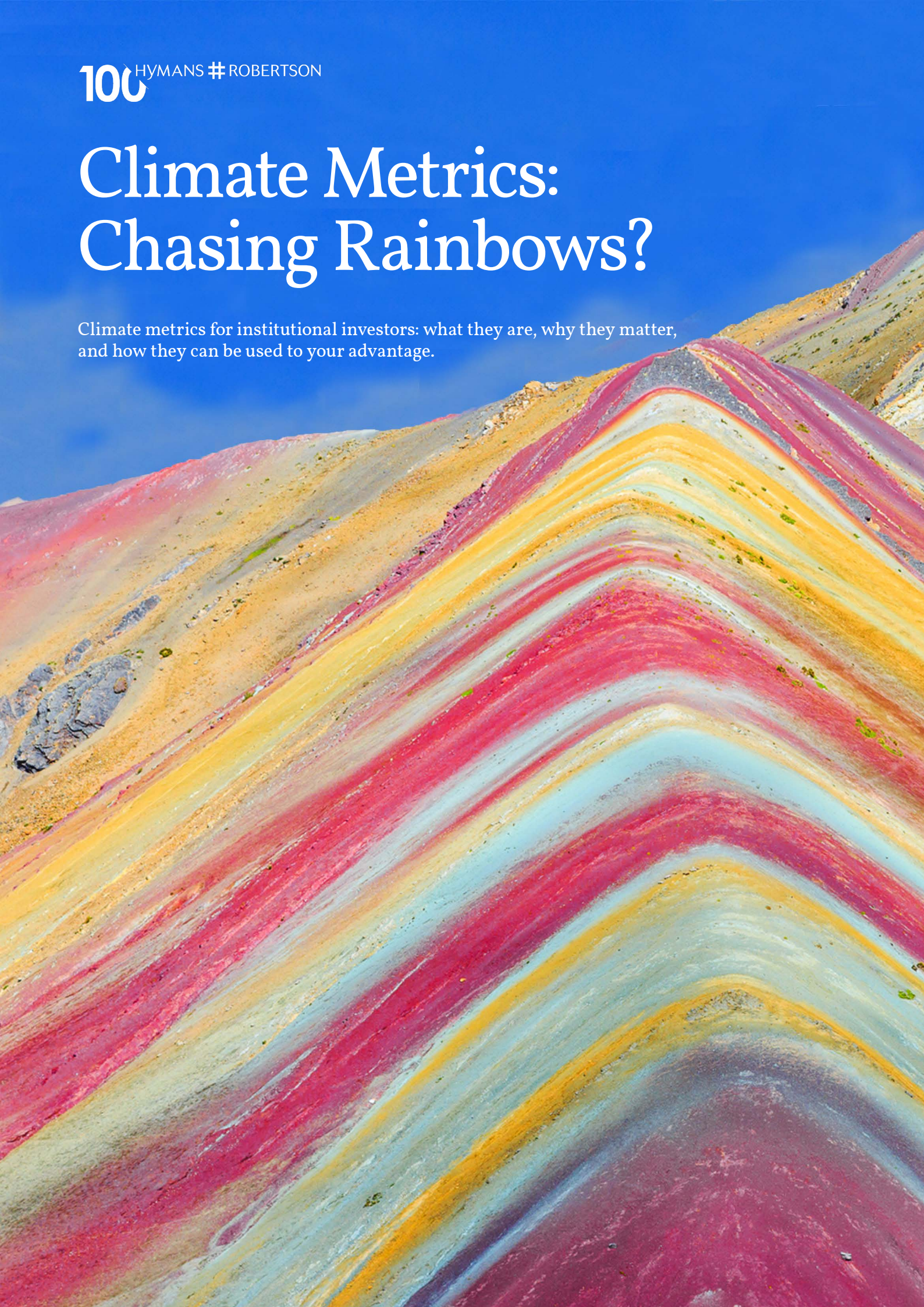
Climate Metrics: Chasing Rainbows?

Climate metrics for institutional investors: what they are, why they matter, and how they can be used to your advantage.



Introduction

Anyone involved in the management of pension schemes is usually well-versed in the traditional metrics used to understand the performance and risks of an investment. These include investment returns, volatility, alpha and beta, correlations, perhaps a ratio or two for the particularly keen.

However, these traditional metrics fail to adequately support decision-makers when considering the climate-related risks and opportunities their portfolios face, and it can often seem like accessing robust climate metrics is an unrealistic ambition. The good news is that there is an ever-increasing array of climate-related data and metrics to which we can now turn.

This paper looks at some of these metrics, examines why they matter, highlights some of their limitations, and asks how we might benefit from using them.

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Why consider climate-specific metrics?

A straightforward one to start with. Investors often go to great lengths to consider a company's business plans and how they might impact its future prospects and profitability; they trawl through endless reports and accounts seeking to broaden their understanding of a company's trajectory, and they probe areas such as the sustainability of its debt profile.

Climate change is increasingly being recognised as a long-term, material, financial risk, which affects pretty much every investment and company to some extent. However, where there is risk there is also opportunity.

Many investors now specifically consider the potential impact of climate change, and how the world might respond to it, as one of the many factors that should be considered at each step of the investment decision-making process – research, strategic asset allocation, security selection. For this to be effective, there needs to be credible, reliable data and metrics to broaden our understanding of the risks and opportunities climate change brings to our current and future investments. As well as forming an integral part of any investment decision, regulation is increasingly playing a role in investors' approach to, and use of, climate metrics. For example, the Taskforce on Climate Related Financial Disclosures (TCFD), which we've written about previously here[1], will require pension schemes to start reporting portfolio-level climate risk metrics . While some investors are already choosing to integrate climate risk metrics within their overall risk management approach, TCFD will compel others to do so.

[1]Governance requirements for master trusts and private-sector schemes greater than £5bn commence from 1st October 2021, with TCFD reports (which include climate metrics) to be produced within 7 months of the next scheme year end, and by no later than 31st December 2022

A recap on Greenhouse Gases

Like other investment metrics, there is no shortage of climate-related metrics we might wish to consider as part of our investment analysis.

A sensible starting point is to understand the level of Green House Gas (GHG) emissions associated with our portfolios.

While there are numerous greenhouse gases, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) represent the vast majority of annual emissions. For ease of comparison of different gases through a common unit, GHG emissions are typically calculated in "CO_2 equivalent" terms (CO_2e) i.e. CO_2e signifies the amount of CO_2 which would have the equivalent global warming impact, or global warming potential, "GWP"[2].

The "GWP" of a gas indicates the relative amount of warming it causes over a given period of time (normally 100 years). CO_2 has a value of 1, and the value for all other gases is the number of times more or less warming they cause compared to CO_2. For example, 1kg of methane causes 25 times more warming over a 100-year period than 1kg of CO_2, and so methane has a GWP of 25.

Environmental science aside, let's consider how to make use of this within our investments.

How do we translate this into portfolio-level information?

The key to this is obtaining robust, credible data from investment managers or dedicated data providers.

These data managers and providers should be able to produce estimates of the level of emissions from each investee company. We can then calculate a portfolio level score, typically one such as the Weighted Average Carbon Intensity (WACI). WACI is defined as the greenhouse gas emissions per unit of sales for each portfolio company, weighted by the size of the allocation to each company in the portfolio. The key advantages of this metric are that it can be applied across all asset classes, allowing different portfolios and possible investments to be compared. This is one of the optional emissions metrics set out in the TCFD statutory guidance.

Unfortunately, no metric is perfect. WACI, for example, will vary year on year depending on each company's sales volume even if their carbon emissions remained constant. This makes it difficult to compare individual portfolios and investments over different time periods and to assess trends.

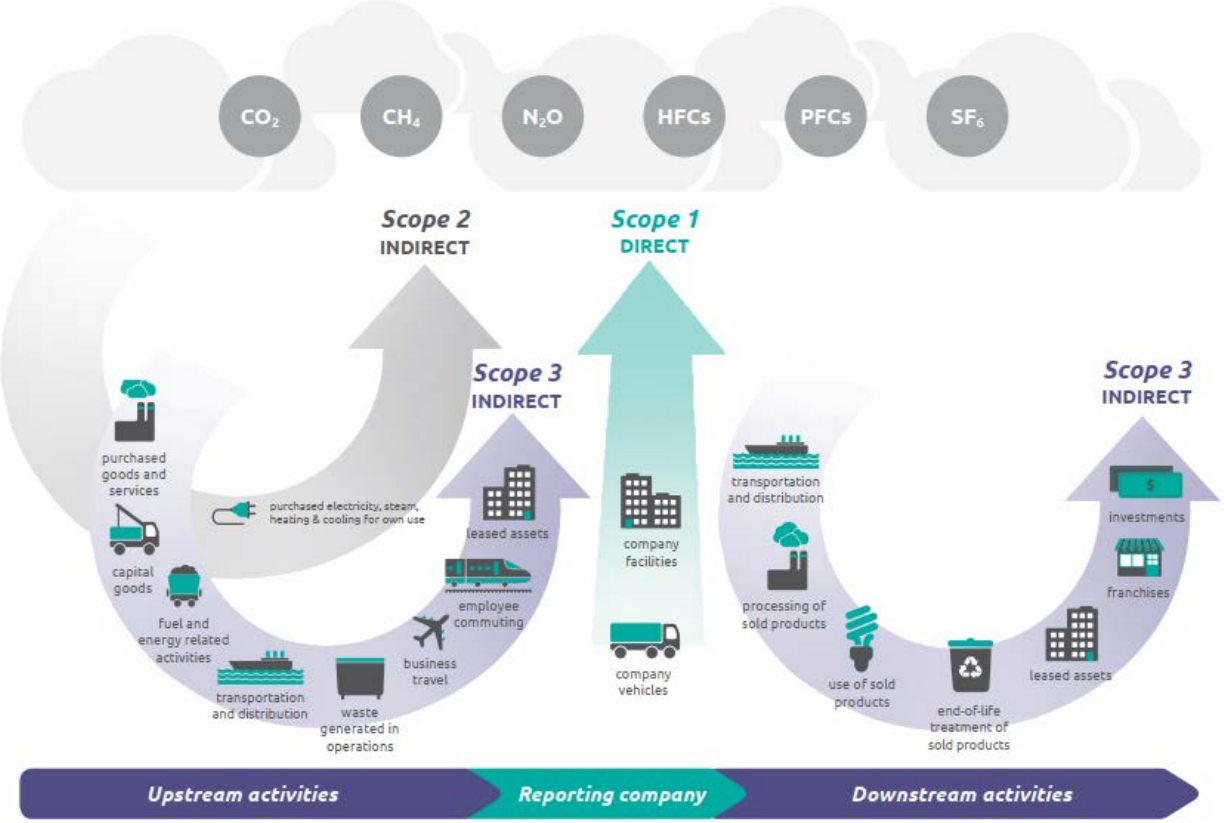
An alternative metric (and one recommended by the statutory guidance on TCFD reporting) is the portfolio's total emissions, expressed in tonnes of CO_2e. Generally, this is best suited to equities, as the method essentially says that if you own 5% of a company, then you also own 5% of its emissions (though it can be adapted to other asset classes). This is the most literal form of footprinting (and can be used, for example, to inform offsetting exercises) and gives a straightforward view of a portfolio's total emissions. However, it needs to be adapted before it can be used to compare different portfolios. Other metrics, such as WACI are designed to allow for this.

In addition to these considerations, there is a further layer of complexity we need to navigate before we make use of emission metrics, as they are stratified into 3 categories:

Green House Gases emitted directly by the company in the course of their operations.

Those emitted in the generation of energy purchased and used by the company.

Indirect emissions arising from supply chains and the use and disposal of their products.



Source: Greenhouse Gas Protocol[3]

Scope 1 and 2 are relatively straightforward to assess. Scope 3, however, is fiendishly tricky.

For example, a car manufacturer can readily estimate what volume of GHGs are emitted during its manufacturing process (scope 1). Their electricity and gas bills will tell them how much energy they've used (scope 2), but how do you estimate the emissions generated in transporting that car onto a lorry, to the ferry port, shipping it across the world, how often and far its owner will drive, how long they'll keep it for, and how sustainably it's disposed of years later?

It's reasonable to observe that this is extremely toilsome; and will always be, at best, an estimate. This is why the statutory TCFD guidance makes its "as far as they are able" provision – it recognises the challenges of scope 3 disclosures (and has deferred the need to obtain and disclose this by one year). Despite these challenges, our view is that consideration of scope 3 emissions is an essential part of understanding a portfolio's overall carbon footprint – indirect emissions from a company often materially outweigh scope 1 and 2 emissions. This is highly likely to be the case for our simple car manufacturing example above. Our case study in the final section also demonstrates this clearly.

Only when we understand the totality of a company's emissions do we get a sense of how exposed it is to the physical and transition risks climate change is imposing, as well as to regulatory risks, such as carbon taxation, which may not always be applied to the company directly. We expect the quality and transparency of scope 3 emissions data to improve over time as companies, and investment managers, recognise the importance of understanding their exposures and associated risks, and reporting them to investors.

Data limitations and health warnings

The most obvious problem with many climate metrics (and not unique to climate metrics) is that they only represent the situation at a particular point in time, i.e. they are backward-looking.

Management action, adoption of more efficient technology, external influences such as regulatory change, and many other factors will influence the evolution of a company's emissions and exposure to risk. Therefore, while there is a need to understand a company's past emissions, it is essential to pair this up with an assessment of its likely future emissions. It's important to maintain a degree of curiosity about a company's declared intentions on climate change - and indeed wider Environmental, Social and Governance (ESG) matters. Stated intentions to improve ESG credentials should be welcomed, monitored, and challenged (where required).

There have been countless examples of "greenwashing" – the practice of over-stating (wittingly or otherwise) a company's ESG credentials. Perhaps the most notorious example of this is the Volkswagen emissions scandal of 2008. Direct costs (fines, legal fees, rectification and compensation) topped €30bn, the share price fell 70% in the aftermath of the scandal, and the company's reputation was damaged for years afterwards as legal proceedings dragged on through the courts. Few examples better illustrate the real and potentially material cost of climate related risks and greenwashing.

Even the United Nations-supported Principles for Responsible Investment (PRI), a network widely considered to be in the vanguard of responsible investment, has identified issues with greenwashing amongst its own signatories. A 2018 Financial Times article[4] revealed that around 10% of its 2000 signatories were chastised by the PRI for failing to adequately demonstrate adherence to its six Principles[5].

The fact that companies within this signatory list are being challenged and held to account is ultimately to the benefit of all investors - and should foster the maintenance and improvement of company sustainability over the longer term. However, inclusion in such a list does not (as suggested above) automatically confer permanence of the rosiest ESG credentials; nor, conversely, should a company not on the PRI signatory list necessarily be labelled an ESG miscreant. Healthy scepticism, regular monitoring and challenge is key to avoiding greenwashing.

Now, let's imagine we've successfully obtained credible, verifiable and reliable climate-related data for our portfolio which allows us to understand the scope 1, 2 and 3 emissions (as far as possible) associated with our investments. The real question is, what now?

Applications of climate metrics

A key function of climate metrics (as with all other investment metrics) is one of governance – truly understanding what is under the bonnet of your investment portfolio helps shape future decisions you take on it. It will therefore underpin your investment strategy.

For pension schemes (and in future, companies more widely) that are obliged to adhere to the TCFD framework, having this climate data is essential. Trustees will be required to select a minimum of two emissions-based metrics, one of which must be an absolute measure of emissions, and one which must be an intensity-based measure of emissions.

Regardless of a pension scheme's TCFD compliance status, having climate data will also help with target-setting; perhaps instead driven by trustees' investment beliefs.

For example, imagine that a scheme has conducted a benchmarking exercise of its carbon footprint, and discovered it is significantly higher than that implied by a Paris-aligned[2] portfolio. Empowered with this data, a scheme can engage with its investment manager to understand the drivers of this, then develop a plan to reduce its carbon footprint over time to a level consistent with its objectives. It may be that the trustees are willing to support and retain certain companies with higher emissions at present, provided there is a compelling rationale for doing so. Or, perhaps their preferred approach is to seek transition leaders; those with low or rapidly reducing emissions. Only with such data can this be assessed and acted upon.

[2]The 2015 UN-led international agreement to substantially reduce GHG emissions in order to limit the global temperature increase in this century to 2 degrees Celsius above pre-industrial levels, while pursuing means to limit the increase to 1.5 degrees.

Case Study: Climate metrics used by an investment manager

How might an investment manager use climate metrics within their investment processes?

We decided to find out, by speaking with Storebrand Asset Management's Head of UK Institutional and Climate Specialist, Lauren Juliff, who talked us through some of the climate metrics they use – and disclose – within the management of their Global ESG Plus fund. Let's start by looking at the following table:

Portfolio construction mechanism	Measurement metrics	Used in portfolio construction/ optimisation?	Storebrand Global ESG Plus Fund	MSCI World Index
Carbon emissions – Scope 1 and Scope 2	Absolute (tCO_2e/£m invested)[6]	No	21.5	62.3
	Intensity (WACI)[7]	Yes	72.7	194.9
Carbon emissions – Scope 3	% invested in fossil fuels and associated value chain[8]	Yes	0	8.4
	% invested in value chain of identified high emission sectors[9]	Yes	0	3.1
Climate solutions	% total portfolio green revenues[10]	Yes	18.1	7.7
	% invested in pure-play climate solutions companies (revenues of ›50% driven by green activities)[11]	Yes	9.8	1.7
	% invested in renewable energy[12]	No	3.5	1.2
Corporate net zero targets	% invested in companies with externally verified Science Based Targets (SBTi)[13]	Yes	34	24

Source: Storebrand Asset Management , as at 31 March 2021

We can broadly split this into 3 key uses of climate metrics.

First: emissions. The managers of this fund source scopes 1 and 2 emissions data, but, crucially, incorporate analysis of scope 3, or lifecycle emissions, based on proprietary climate research at a product and industry level – which, as discussed earlier, often dwarf scope 1 and 2 emissions for a particular company or sector.

They use this emissions data at the portfolio construction stage: this allows them to avoid companies that are the obvious heavy-emitters, as well as those that might have relatively low scope 1 and 2 emissions, but significant scope 3 emissions (via supply chains or the use of their products). Storebrand provide a prime example of this in the following chart:

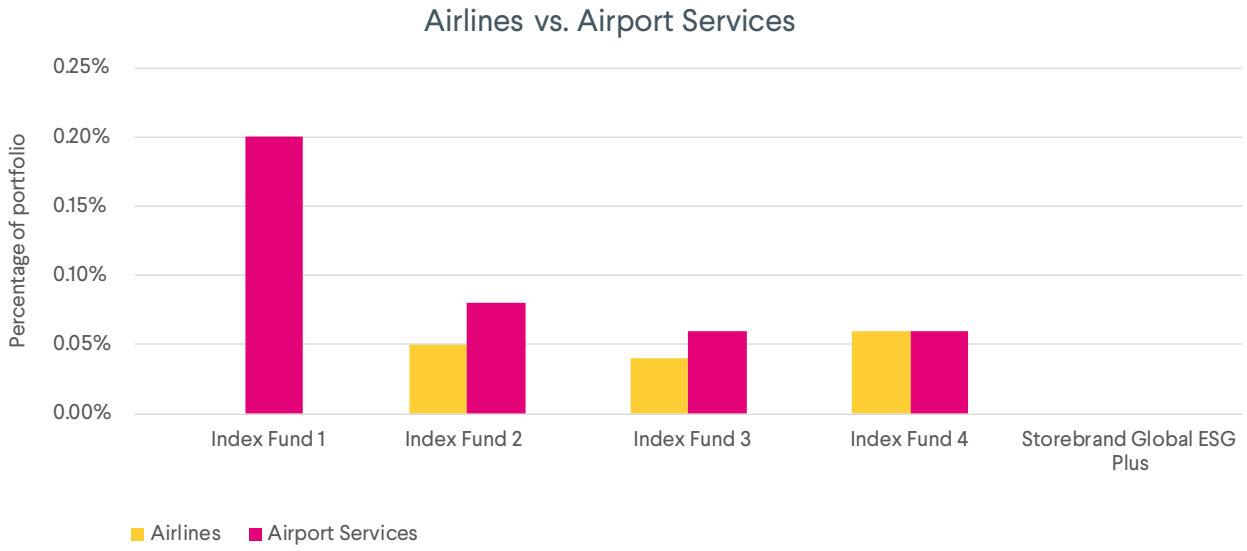


Chart is for illustration only and is based on Storebrand analysis. MSCI index funds Global Industry Classification Standard sub industry allocations, including Climate Change and Low Carbon Target indices, are all based on ETF trackers in Bloomberg, as at 29 September 2020.

What this shows is that Index Fund 1 may seek to improve its scope 1 emissions (relative to its parent index, MSCI All Country World Index) by excluding airlines; however, in doing so, it substantially increases its allocation to Airport Services (relative to that of the parent index). If that includes, for example, a catering company providing in-flight meals to airlines, scope 3 emissions could be enormous – yet the company may look attractive from the perspective of scopes 1 and 2. Despite the lack of available, robust scope 3 data, Storebrand avoids the fund investing in such companies due to climate specialist research.

Lauren comments further on this: "Our managers are climate specialists, following the latest climate science and policy, and researching the implications of the low carbon transition for different industries and sectors. This example illustrates what happens when portfolio optimisation is used to manage climate risk, without specialist oversight. Climate risk will be reallocated along the value chain, rather than eliminated. We use the optimisation process to identify these loopholes, based on our understanding of where scope 3 emissions are largest, relative to the scope 1 and 2 emissions..."

The second key use of climate metric data is in the search

for investment opportunities. Storebrand looks to invest in companies that are, or (in their view) will be, at the centre of providing longer-term solutions to climate change. This might be in the form of "pure-play" climate solutions, or companies generating significant "green" revenues.

Lauren went on to describe how they integrate this within the portfolio. "The transition to a Paris-aligned future requires a broad range of climate solutions from renewable energy to energy efficiency, low carbon transport, recycling, carbon dioxide removal and more. The exposure to these types of companies and industries in some indices is limited; there is green revenues exposure from conglomerates, but little in the way of pure-play climate solutions or transition technologies. Although low carbon index funds will increase climate solutions exposure, on the basis of EU taxonomy green activities, this exposure is largely technology-based, such as Oracle and Intel, plus Tesla. We research the types of industries and technologies that will benefit from the low carbon transition, for example, by looking at committed governments' investment plans for net zero policy, and then find as many investible companies as possible. Often these are outside of the market capitalisation range for MSCI World as they are smaller companies. We make them part of the investment universe for portfolio optimisation to create a diversified, index-like exposure to climate solutions so that clients can access high green revenues at low cost and with low risk. This also fits with the IIGCC Net Zero investment framework, which calls for increased exposure to climate solutions, as well as reductions in CO_2 emissions..."

Storebrand's third key use of climate metrics is to identify companies that operate with a clearly-defined path to reducing emissions in line with the Paris Agreement goals, specifically those that do so in a manner consistent with the Science-Based Targets initiative (SBTi).

Lauren describes why this is critical: "Barely a day goes by without a new company 'net zero' emissions announcement and, although this is a positive development, it is absolutely crucial that we understand the integrity of those plans. Net zero promises for 2050 need to be matched with real and dramatic emissions reductions in the next decade, if we are to meet the goals of the Paris agreement.

"The chosen pathway is more important than the goal. We want to incorporate a forward-looking view on Paris alignment and reward companies for setting net zero targets, but will only do so if the plans are aligned with scientific pathways, without over-reliance on negative emissions or other unrealistic offsets".

"We like the SBTi as their methodology involves assessing the full spectrum of Intergovernmental Panel on Climate Change (IPCC) pathways and creating an envelope of realistic, Paris-aligned pathways for companies to align their emissions trajectories with. We optimise the portfolio using data from SBTi, increasing weights in companies that have set goals of 2°C or lower..."

As well as Storebrand's investment manager using this data within their investment decision-making, disclosing this data allows the fund's investors to truly understand the extent to which the fund supports their own climate objectives.

Lauren finished by summarising how she envisages investors benefitting from these climate metrics: "We provide a set of metrics that trustees can use to judge and report on the climate credentials of their portfolios. These metrics go beyond the standard, minimum industry recommendations to provide a more holistic insight to climate risk and opportunity – helping trustees to avoid greenwashing, meet the increasing regulatory requirements for climate risk reporting, deal effectively with climate risk, and target long-term alignment with the goals of the Paris agreement. Finally, we think it is important that pension fund governors and fund managers have the flexibility to adjust these metrics over time, ensuring they reflect the latest climate science, policy and data, rather than sticking rigidly to static portfolio or index construction developed on imperfect but rapidly improving data and information."

Conclusions

Climate-focused metrics empower investors by providing a greater understanding of the potential risks their portfolio faces, a platform for decision-making, and support for a robust governance framework. They can also be used as a tool for identifying engagement priorities and investment opportunities.

As the availability and credibility of data and resultant metrics improves, investors – even those that are not compelled to monitor and disclose climate metrics under TCFD – will increasingly turn to such metrics within their decision-making processes. Individually, this will allow schemes to better position themselves vis-à-vis climate change; collectively, it is an essential component of any international net-zero ambition.

Contact us:

We can help you by undertaking a "climate footprint", which focuses on climate-related metrics, or through scenario analysis which considers the resilience of strategies to different future climate pathways. If you would like to discuss in more detail, please get in touch.

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2. Ecometrica: Greenhouse Gases - What do all these terms mean?
https://ecometrica.com/greenhouse-gases-co2-co2e-and-carbon-what-do-all-these-terms-mean/

3. Green House Gas Protocol: Corporate Value Chain Accounting and Reporting Standard
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4. Financial Times: UN responsible investing body threatens to kick out laggards (subscription required)
https://on.ft.com/3oLLGMH

5. Principles for Responsible Investment: The Six Principles
https://www.unpri.org/pri/about-the-pri

Storebrand comments on their data table in the Case Study Data as at 31 March 2021. Sources and notes:

6. Source: Trucost. For reporting only. Calculated using TCFD methodology = sum (current value of investment/ enterprise value incl. cash) * issuer's scope 1 and 2 GHG emissions). Presented here as CO_2e per £m invested (footprint) so client can calculate their 'total / absolute' emissions based on amount allocated to this strategy.

7. Source: Trucost. The Storebrand Group applies the Weighted Average Carbon Intensity as recommended by the TCFD (methodology). Provided in GBP.

8. Source: Storebrand, MSCI, Trucost. Defined as companies with ›5% of revenues from the production or distribution of fossil fuels, companies with ›100m tons of potential CO_2 emissions from reserves, GICS 10 / energy sector and utilities ex. water and renewables.

9. Source: Storebrand, own research. Portfolio manager definition based on climate research Includes: airport stocks, rail companies transporting coal and shale oil / gas, engineering companies building new coal power plants, trading companies that trade / import fossil fuels, intense meat production, pure play plastic companies.

10. Source: FTSE Green Revenues and Storebrand own research. Incorporates both green revenues from conglomorates and pure play climate solutions companies. Note, FTSE Green Revenues does not have data for all pure play smaller climate solutions companies so we have to supplement this to achieve complete climate solutions reporting.

11. Source: FTSE Green Revenues and Storebrand company research. Pure play is Storebrand PM definition.

12. Source: FTSE Green Revenues and Storebrand company research. Includes energy equipment and energy generation.

13. SBTi verified targets of 2C or lower.

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