
Insights
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Implementation Guide for Investors Seeking to Transition to Net Zero

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Net Zero – What Does it Mean?

Lower Emissions Net zero means that the total greenhouse gas (GHG) emissions being emitted should be lower than or equal to the total GHG emissions being removed or absorbed. On a net basis, no additional emissions should be released into the Earth's atmosphere.

Carbon Neutrality A related concept that means that an entity has offset its emissions by purchasing carbon credits or offsets equal to the amount of its emissions. This can be equivalent to net zero emissions, if and only if, the offsets are derived purely from removal of CO₂ emissions and not from avoided emissions. An additional nuance between the two concepts relates to the scope of emissions: carbon neutrality covers Scope 1 and Scope 2 emissions, with Scope 3 not required (but encouraged), while net zero covers Scope 1, 2 and 3 emissions.^{1,2}

Lower Temperature Scientific models that target a temperature rise of less than 1.5°C over and above pre-industrial levels indicate that net zero emissions need to be achieved by the year 2050 in order to reach this goal.³

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Introduction

Greater awareness of climate change means that net zero investing has taken centre stage for many investors.

Recent years have seen various investor and regulatory bodies propose investment frameworks towards reducing emissions.

The net zero journey is not for every investor but for those wishing to pursue it, this guide outlines some of the key concepts of net zero and details some of the considerations involved in the net zero journey.

What This Guide Covers

It is important to recognise that investors have diverse aims and may take many different paths to reach their objectives and the net zero journey may not be for every investor. For those investors seeking to begin the journey to a net zero objective our guide offers a toolkit of possible paths and considerations.

Our guide looks at the various ways a net zero strategy can be implemented and the key elements involved.

Broadly, we see four main areas of consideration. We look first at **Engagement** (dialogue with company boards and management to promote certain outcomes or objective), then we look at the role of **Exclusions** (investor-directed selective divestment from certain sectors or activities), go on to consider **Asset Allocation** (through the Public and Private markets). Finally we consider the importance of accurate **Reporting** in achieving key net zero.

Investors can consider each of these elements separately or combined in the portfolio implementation of their strategic views.

What Do Net Zero Frameworks Seek to Do?

An increasing number of net zero frameworks have been proposed by investor and regulatory bodies over recent years. Examples include the European Union's sustainability-related regulations, the Net Zero Asset Owner's Alliance, the Net Zero Asset Manager Initiative, the Institutional Investors Group on Climate Change's Paris-Aligned Investment Initiative and Science-based Targets Initiative for Financial Institutions.⁴

In general, most net zero initiatives and frameworks seek to align investor goals with the Paris Agreement and achieve net zero emissions by a combination of:

1. Decarbonising the portfolio
2. Increasing investment in climate solutions or green technologies
3. Improving reporting

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Engagement

- **Engagement involves working with portfolio companies to achieve climate-positive outcomes.**
- **Difficult for investors to achieve themselves so most rely on organisations or their asset managers.**



Encouraging Action

Investors must first decide on which companies they wish to engage with and then how to exert influence at those companies' board level. Do they ask the pertinent questions directly or should they support an initiative or organisation, perhaps more influential and more expert on the topic of climate change, to engage in the dialogue on their behalf?

Engaging directly with portfolio companies is difficult for all but the most amply resourced investors, meaning that, in practice, most engagement is conducted on the investors behalf by their asset manager.

Engagement at State Street

We use our Asset Stewardship program to engage with investee companies to seek long-term value and mitigate risk to our clients' portfolios. Climate risk has been a focus of our asset stewardship efforts since 2011, and we formalized the issue as a strategic priority in 2014. Companies across markets and industries are exposed to varying levels of physical, regulatory, and economic risks related to climate change.

As long-term investors, we are focused on value, and we continue to engage with investee companies to encourage boards to have oversight of climate change-related risks and opportunities and to disclose information regarding their approach to identifying and managing these risks and opportunities, which we believe can limit regulatory and legal risk as well.

1 Thought Leadership

To inform and provide guidance to our investee companies on the development of ESG practices.

2 Engagement

To encourage investee companies to develop transparent, accountable, high-performing boards and businesses.

3 Proxy Voting

To incorporate our investment objectives and to align with our long-term investment horizon.⁵

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Exclusions

- **Exclusions can be a way of removing companies with certain climate attributes.**
- **Exclusions are seen as a last resort and engagement is typically preferred as it can offer the route to continuing beneficial dialogue.**



Why Exclude?

In general, exclusion or divestment is the selling of all or part of a holding by an investor. Clients may choose to exclude certain investments based on their net zero/investment goals. Other custom divestments can be made based the volume of CO₂ emissions owned by a company, indirect ownership of companies involved with certain industries or other particular metrics. Determining appropriate thresholds for some of these metrics can prove complicated.

We generally prefer to engage with companies rather than divest.

Not a Simple Matter

Exclusions or screening may sound simple, but the process can involve a significant amount of judgment on the part of asset managers or the third-party data providers with whom they partner to conduct exclusionary screens.

Since climate change is a new and evolving topic, formulating exclusion criteria can be difficult and, indeed, the criteria may need to be revisited and reviewed on multiple occasions.

Reasons to Divest

There are several reasons why investors may want to divest or screen out particular investments in relation to climate change:

- Some investments may be deemed wholly unacceptable on climate grounds and are therefore systematically excluded.
- Investors may not believe in the ability or willingness of a company to adapt quickly enough to climate change.
- Certain regulatory frameworks, like the European Union's Climate Transition Benchmark and Paris-Aligned Benchmark regulation require divestment from certain areas to qualify.
- Increasing investor adoption of voluntary initiatives may also encourage investors to divest from companies that do not meet certain standards of climate disclosure and climate-related risk management.

Proponents of divestment argue it is a means to influence a company's climate-related activities by reducing its share price and increasing its cost of capital. Dordi and Weber⁶ find that divestment announcements decrease the share price of fossil fuel companies and that divestors can influence the share price of their target companies.

Reasons Not to Divest

Divestment blindly penalizes, and treats companies in the same business lines indiscriminately, despite their possibly different forward-looking aims and pathways. We believe that many of the Energy, Utility, and Material companies that are sometimes screened out are important for the transition to Net Zero.

We generally prefer an approach that incorporates forward-looking climate metrics without the use of blind divestment.

Additionally, optimisation strategies often reduce holdings below buying thresholds to achieve climate objectives, leading to de facto divestment. However, we believe optimisation is also a very efficient way of solving for multiple objectives simultaneously. By using forward-looking metrics within an optimisation, investment into current climate emitters with clear reduction goals is encouraged, resulting in more industry alignment compared to the benchmark, and hence a lower tracking error.

Engagement vs. Exclusion

The debate around engagement and divestment is nuanced. There is room for both approaches, depending on an investor's objectives. When evaluating the two approaches to address climate change, it is important to differentiate between immediate improvement in portfolio climate metrics and creating long-term environmental and societal investor impact.

To sell companies within the fossil fuel value chain with immediate effect would forego the opportunity to engage with these companies. However, we expect divestment to remain an option for certain activities whose ESG thesis will remain unconvincing for certain investors.

Case Study — Portfolio Impact from Divestment

As with many things, a practical example can provide insights into real world impacts on what it means to blindly 'divest' without the use of any optimization.




The figure below shows the MSCI World index compared to the same index that exclude fossil fuel categories that are considered carbon intensive, such as Thermal Coal or Oil Sands.






From a climate perspective, it does indeed improve the Carbon Intensity, Total Reserves, and Brown Revenue profiles, but the resultant index shows no improvement on metrics such as Green Revenues and Climate Adaptivity.

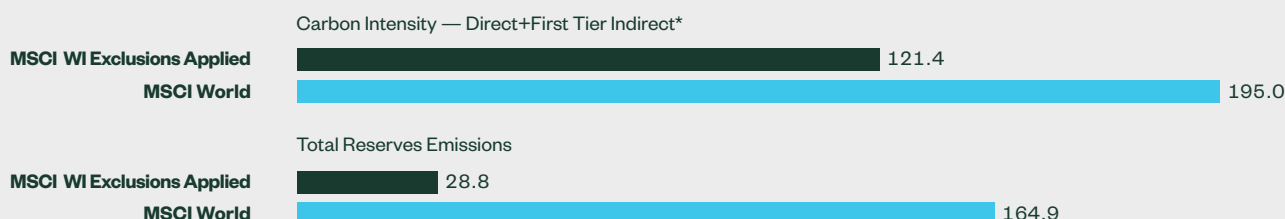
Figure 1

Fossil Fuel-Related Divestment vs. No Divestment Comparison

MCSI World Divestment Category Involvement

	MSCI World Exclusions Applied	MSCI World
 Brown Revenue	0.40	2.49
 Green Revenues	3.27	3.40
 Adaptation Score	0.71	0.70

	Exclusions Applied	MSCI World	
		# of Securities	% Weight
 Thermal Coal	0.00	17	0.85
 Oil Sands	0.00	4	0.26
 Arctic Drilling	0.00	0	0
 Oil & Gas	0.00	87	6.59
 Shale Energy	0.00	17	0.96



From a risk perspective, blindly divesting these categories leads to a predicted tracking error (Axioma) of:

0.86

Source: MSCI, FactSet, State Street Global Advisors, Axioma, as of 31 March 2023 **Brown Revenue** (0-100%) is the percentage of revenues from "brown" sectors, extractive sectors with high embedded carbon emissions, as classified by S&P Trucost. **Green Revenues** (0-100%) is the percentage of green products/business, as classified by FTSE LCE system. The **adaptation score** (0-1), sourced from ISS ESG, where each company receives a score between 0 (expected to be least adapted) and 1 (expected to be well adapted). **Total Reserves Emissions** (million tonnes) is the greenhouse gas emissions that could be generated if the proven and probable fossil fuel reserves owned by companies were burned.

Sector Profile

Looking deeper at the sector profile, the results show the shifts within sectors. There are two sides of the divestment coin. It's not simply only about what exposure is removed. Further understanding is needed to see what it's replaced with.

In the sector case, the exclusions bring a strong underexposure to Energy and Utilities and are replaced with overweights to IT and Financials. Incidentally, from a country perspective, the US exposure increases, from 68.0% to 68.5% as of 31 March 2023, adding to its concentration.

Figure 2
Sector Analysis

	MSCI World Exclusions Applied	MSCI World	Difference
Energy	0.30	4.98	-4.68
Utilities	1.30	2.97	-1.68
Real Estate	2.69	2.50	0.18
Materials	4.64	4.42	0.22
Industrials	11.50	11.02	0.48
Communication Services	7.42	6.92	0.50
Consumer Staples	8.48	7.90	0.58
Consumer Discretionary	11.28	10.51	0.78
Health Care	14.33	13.34	0.99
Financials	15.85	14.76	1.09
Information Technology	22.18	20.66	1.53

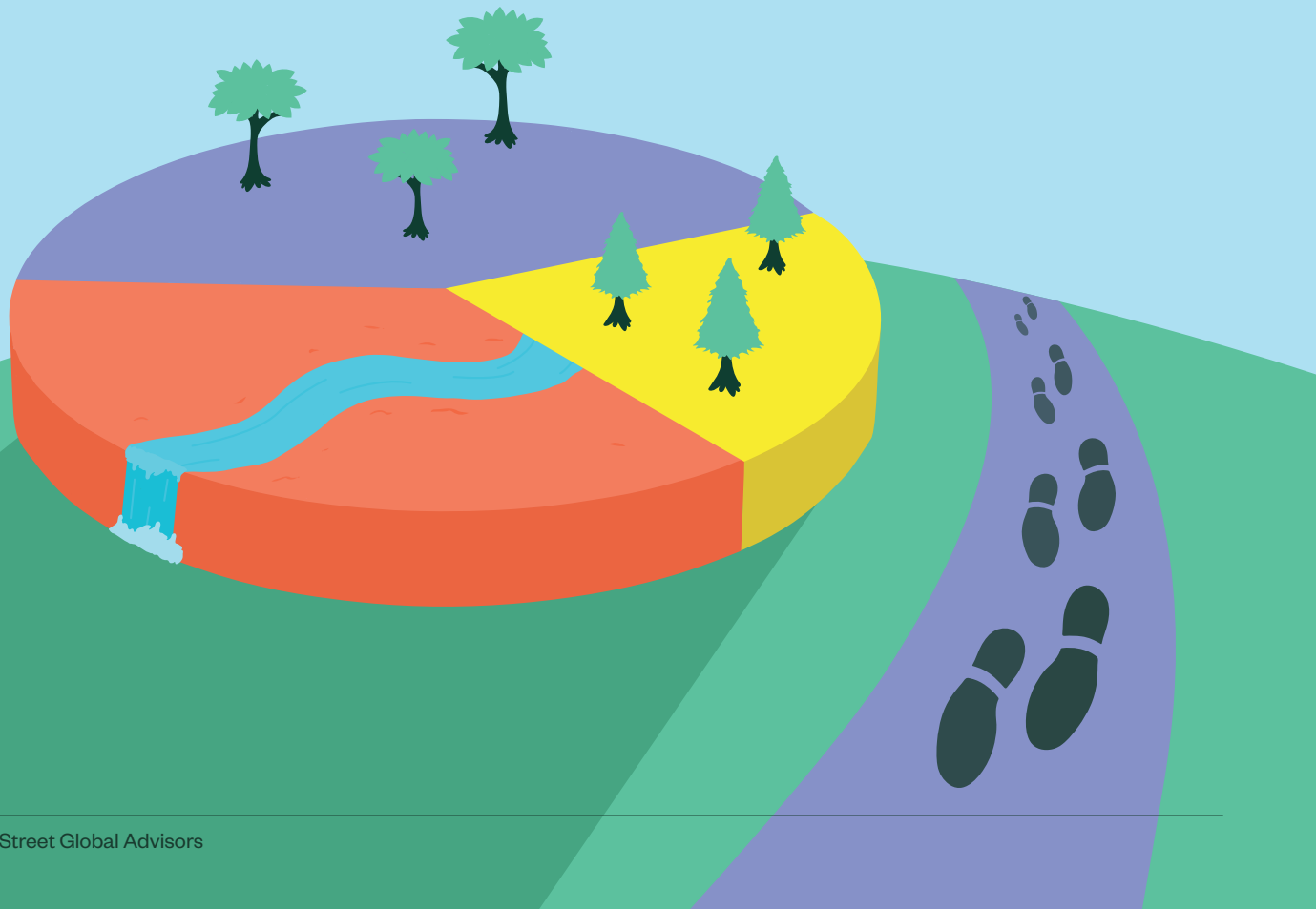
Source: MSCI, FactSet. Data as of 31 March 2023. For MSCI World Excluding Divestments weights are re-adjusted pro-rata, so that total weight is again 100%.

Reviewing the exclusion methodology combined with optimisation techniques can assist those investors looking to improve tracking error, sector/country exposures, or other metrics such as green revenues.

3

Asset Allocation

- **Asset allocation may have a fundamental impact on the climate effectiveness of the portfolio.**
- **The extent of public or private investment may have implications on reporting, implementation and portfolio risk.**



Liquid and Illiquid Considerations

A key decision that must be made at the strategic level is the selection of eligible asset classes within the liquid portfolio as well as the decision if (illiquid) private markets are part of the total portfolio. The liquid (public) and illiquid (private) asset categories are very distinct, not only in terms of reporting or investment horizon and commitment, but also with respect to implementation and monitoring of climate change views.

For an illiquid portfolio the climate change views and measurement criteria must be clearly identified at the onset of the investment, whereas for a liquid portfolio adjustments can be made continuously as new information becomes available.

Public Markets

The strategic asset allocation for a liquid portfolio encompasses the listed asset classes ranging from sovereign bonds to equity markets. The weighted allocation will typically be shaped by risk–return assumptions for a given horizon, where a given risk budget is provided to the overall liquid portfolio. In addition the asset owner’s Climate Change policy will need to be implemented which requires the definition of measurable parameters at the underlying company level that can be aggregated, evaluated and monitored at the total liquid portfolio level.

Climate Change parameters can be characterised as being linked to mitigation or adaptation, or alternatively as being historical or forward-looking.

Private Markets

Asset owners have increasingly carved out capital to private assets, such as Private Debt, Private Equity or Infrastructure. From a portfolio construction perspective, unique considerations are needed for private assets. For instance, tracking error analysis is not relied upon like it is for public markets.

Increasing allocations to private equity, along with their longer-term holding profile raises the importance of a clear plan and strategy for achieving net zero. Private equity deals often last up to 7 years, so to hit a 50% GHG reduction by 2030, consideration and clear goals for decarbonisation need to be understood and planned out in advance.

Without a clear plan, stranded assets may become a risk, and exit price volatility could dampen returns. Public equities afford more leeway to investors, allowing them to more easily ensure their portfolio is hitting proper targets.

The net zero disclosures for private equity lags behind that of public equity. We believe aligning and vetting Limited Partners (LPs) and General Partners (GPs) beliefs on net zero initiatives is important, especially in an area of less freely available information and disclosures. A GP with a process, the experience, and know-how of asking the right questions enables the LP to assess and ensure alignment of the Private Equity portfolio with the strategic investment beliefs.^{7,8}

Understanding Historical Parameters

Examples of historical parameters are a company's current carbon intensity, green assets or brown assets.⁹ In order to aggregate for example the carbon exposure for an equity portfolio it makes sense to work with GHG intensities, such as GHG per unit of revenue or per unit of Enterprise Value Including Cash (EVIC). Cash is added so that the number remains positive. This allows the emissions of a small company to be normalised versus those of a large company.

For a **corporate fixed income** portfolio or **high yield** portfolio these metrics still work as the bond issuance can always be linked to the parent company. For further discussion see the methodology described by the GHG Protocol.¹⁰

For **sovereign bonds** such definitions don't apply. In addition there is the issue of double-counting assuming that a country's carbon emissions is the sum of the carbon emissions produced by the country's companies. Still intensities can be calculated such as GHG per unit of GDP or capita. Here another double-counting issue arises, as GDP is the sum of Domestic, Imports and Exports.

Understanding Forward-Looking Parameters

In terms of a forward-looking metric this is typically associated with the transition path of greenhouse gas emissions between now and a net zero value targeted in the second-half of this century.

The choice of transition paths is endless, generated by many models. Initiatives, like the [sectorial TPI](#) or the [SBTi](#), provide the investor with transparency and support for the evaluation of the company's proposed transition pathway. In addition, there are models that allow for a forward-looking assessment at the aggregate level such as [an implied temperature rise model](#) model or [Climate Value at Risk model](#).

For **sovereign bonds** a country's current planned policies and its [Nationally Determined Contribution \(NDC\)](#) would all be part of a forward-looking evaluation. In its implementation guide the Paris Aligned Investment Initiative⁸ suggests a country-scoring methodology as developed by the CCPI index.¹¹

Green bonds are a fast-growing segment in the fixed income universe. They are instruments that invest in projects focused on the transition to clean energy generation and carbon-neutral processes. Companies that issue such green bonds display a commitment and effort to the transition. In the absence of a standardised framework at this time, we assume zero carbon emissions for green bonds even if issued by a high emitter. The aim is to reward projects that contribute to the transition, however we believe a very rigorous framework should be applied for a strategy to be categorised as a green bond. In this context we can mention the Climate Bond initiative¹², of which we are a partner.

Figure 3

Historical and Forward-Looking Climate Change KPI's for Different Liquid Asset Classes

Asset Class	Historical Carbon Intensity Measure (Non-exhaustive)	Forward Looking Metric or Model (Non-exhaustive)
Equity	<ul style="list-style-type: none"> Carbon data (scope 1, 2, 3) including emissions, footprint, intensity Green Revenue Brown Revenue Fossil Fuel Reserves 	<ul style="list-style-type: none"> Implied Temperature Rise Climate VAR Sectorial TPI SBTi Adaptation Scores
Liquid Alternatives		
Corporate Bonds		
High Yield Bonds		
Emerging Market Debt	<ul style="list-style-type: none"> GHG Emissions per GDP GHG Emissions per Capita 	<ul style="list-style-type: none"> Country Scoring Methodology
Sovereign Bonds		
Green Bonds	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> N/A

Source: At State Street Global Advisors, in the absence of a standardised framework at this time, zero carbon emissions are assumed for green bonds even if issued by a high emitter.

Aligning Portfolios to Transition Paths

Ultimately the investor may wish to align the portfolio to a transition path according to its Climate Change Policy. This can be done for example by favouring companies that have a (vetted) transition plan.

If the allocation is well chosen then the portfolio may have minimal exposure to potential stranded assets while at the same time decarbonisation occurs automatically. If not well chosen then the portfolio may need to be readjusted which is easily achieved for a liquid allocation but could potentially lead to significant turnover.

Simply allocating the portfolio to low-carbon emitters defeats the purpose of a smooth transition from a fossil fuel energy derived economy towards a clean energy economy, in our view.

The view of a smooth transition can be found as well as part of the EU PAB and CTB indexes characteristics such as decarbonisation rate of an annual 7% combined with the exposure to the high emitting sectors at least equal to that of the benchmark. Only broad corporate and equity indexes are eligible, sector benchmarks are not.¹³

Case study — A Comparison of Climate Change Strategies

In this case study we examine tracking error, current carbon intensity and implied temperature rise of the liquid investment fund relative to the market cap benchmarks for equity and corporate and high yield fixed income.

Tracking Error Measures the impact of the implemented climate change strategy, which encompasses exclusions as well as modified weighting relative to the benchmark.

Current Carbon Intensity Can be considered realised and thus a historical parameter.

Implied Temperature Rise Calculated using MSCI's model. It is an indicative measure of a consumed expected carbon budget, so a forward-looking parameter. It's highly indicative, and takes many assumptions and approximations, but nevertheless can provide interesting high level insight.

Figure 4
**Numerical Illustration of
Tracking Error, Historical
and Forward-Looking
Climate Change KPI's
for Different Liquid
Asset Class Investments**

	Index Investment	Tracking Error (Predicted)	Current Carbon Intensity	Implied Temperature Rise
Global Equity	MSCI World	N/A	195	2.66
	State Street Global Advisors Sustainable Climate	1%	75	2.02
	MSCI ACWI	N/A	218	2.74
	State Street Global Advisors Global Transition Strategy	4%–8%	165	1.98
Corporate Bonds EUR	BB Euro Agg Corporates (9.7% Green Bonds)	N/A	160	2.14
	State Street Global Advisors Sustainable Climate Euro Corporates (24.1% Green Bonds)	1%	37	1.92
US High Yield	Bloomberg US Corporate High Yield 2% Issuer capped index (1.4% green bonds)	N/A	358	3.38
	State Street Sustainable Climate US High Yield Bond Strategy (2.6% green bonds)	1.85%	85	2.70
Green Bonds	N/A	N/A	0	1.15

Source State Street Global Advisors, MSCI and Trucost as of 31 March 2023. For the corporate bonds, high yield bonds and equity the carbon intensity is measured as carbon direct plus first tier indirect divided by revenue per company in the portfolio. Values in parentheses assume zero carbon for the green bonds in the index and portfolio. The tracking error is calculated with respect to the full parent index universe. The carbon intensity and the implied temperature rise are calculated normalized to the data covered universe.

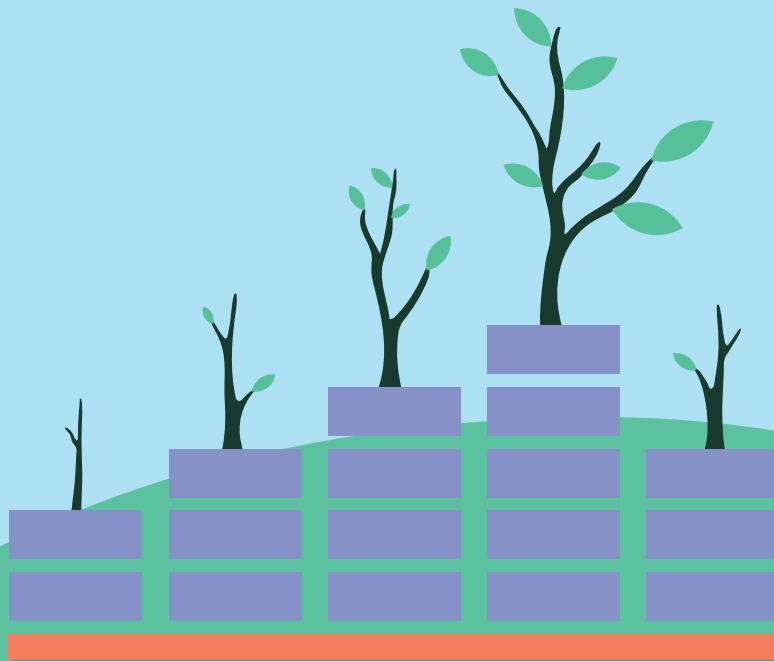
Some comments and interesting observations can be made:

- The current carbon intensity for the Sustainable Climate Strategy is much lower than for the Transition strategy (75 vs 165) however the implied temperature rise is equivalent (2.02 vs 1.98). This demonstrates the more forward backward looking strategy for the Sustainable Climate Strategy.
- The High Yield Asset Class has the highest carbon intensity as well as the highest implied temperature rise not surprising given its high allocation to energy and manufacturing sectors.
- For Green Bonds we assume that they do not consume any carbon budget, therefore the implied temperature rise is equal to today's level of 1.15 degrees.
- Green bonds feature as part of the corporate (and high yield) bond portfolios as the Green Bond universe is as yet relatively too small to be considered a separate asset class.

4

Reporting

- **Accurate reporting is key to ensuring strategy effectiveness.**
- **Various metrics such as TCFD and a wide range of climate profile statistics are available.**



Measuring Effectiveness

Accurate reporting, when combined with the right Key Performance Indicators, can give the investor insight and a quantitative understanding of how the climate change vision is translated and expressed in the portfolio.

An approach that we see increasingly being adopted is the use of bespoke third party indexing that incorporates all the climate change considerations. This allows for a separation of the measurement of the climate change strategy and the implementation effectiveness of the portfolio manager.

Reporting at State Street

We can provide reports and assessments of our clients' investment portfolios that include several ESG components as well as TCFD metrics and climate profiles such as carbon intensity and carbon emissions or total reserves of carbon emissions.

In the event that additional climate metrics such as green revenue and brown revenue share and/or climate adaptation scores are integrated, we can report on these as well. Lastly, we are also able to provide climate scenario analysis results via specialised third-party analytics tools. We are able to provide reports covering the following areas:

- Carbon Emissions related data (including TCFD aligned metrics)
- Climate data (including fossil fuels, brown/green revenues, adaptation score)
- General ESG scoring using our proprietary R-Factor framework
- Engagement highlights
- Climate scenario analysis via third-party reporting tools

Our Solutions

We offer ESG solutions across investment styles such as exclusionary screening, best-in-class investment selection, thematic investing, and integration, along with highly customised client mandates in the ESG/climate investing area. An overview is provided here.



**Sustainable Climate
Equity and Fixed
Income Strategies**

The State Street Sustainable Climate Strategies are long-only investment approaches that use a mitigation and adaptation methodology to build climate change thematically into equity and fixed income portfolios. Designed from the ground up to be flexible, the customisable framework allows us to create client portfolios that target reductions in current and future carbon emissions, increased exposure to green revenues and projects, and increased resiliency to the risks posed by climate change.

**Low Carbon Equity and
Fixed Income Solutions**

Our Low Carbon Equity and Fixed Income Solutions use advanced portfolio construction techniques to achieve the most efficient trade-off between carbon reduction and tracking error, while achieving long-term returns broadly in line with the underlying index benchmark. The Solutions allow clients to customise their portfolios to align with their specific carbon goals and risk budgets. In addition to setting the level of targeted carbon emission reduction or tracking error, investors can pre-select the benchmark that represents their chosen starting universe.

**Climate Integration
in Active
Quantitative Equity**

Climate Enhanced Equity Seeks to provide a return in excess of global developed equity markets, while targeting climate change considerations. It allows us to create client portfolios that target both a risk-adjusted return objective through our enhanced equity process and customisable climate objectives through reductions in current and future carbon emissions, increased exposures to green revenues, and increased resiliency to the risks posed by climate change.

Climate Defensive Equity Seeks to generate capital growth over the medium to long term through investment in global equity securities, while exhibiting lower volatility than standard market cap-weighted benchmarks and simultaneously targeting climate change considerations. The process allows us to create custom client portfolios that target both a return and a total volatility objective through our defensive equity process, and a climate objective through reductions in current and future carbon emissions, increased exposure to green revenues, and increased resiliency to the risks posed by climate change.

Climate Integration in Fundamental Equity

The team incorporates ESG considerations into the quality assessment of a company using a proprietary metric called the Confidence Quotient (CQ). This is based on our belief that companies that are strong on ESG are more likely to deliver the sustainable growth we seek. ESG considerations are therefore integral to our alpha thesis, and are not merely an overlay in the process.

The team's overall ESG analysis includes both the direct impact of climate change on a company's business prospects and indirect impact through regulation and changing customer preferences. This integrated ESG approach results in portfolios that have a natural tilt toward better ESG and lower carbon intensities.

Additionally, State Street's Fundamental Growth & Core Equity team has developed climate-related strategies which will aim to generate long-term capital growth through investment in equity securities which contribute directly towards climate change mitigation and/or are leaders in their respective industries regarding climate change preparedness with credible transition plans.

ETFs aligned with the EU Paris Aligned Benchmark Regulation

SPDR has launched a suite of four Climate Paris Aligned broad equity ETFs, which track leading MSCI indices. These ETFs are designed to help investors meet their climate objectives now and into the future by decarbonising their portfolios swiftly, effectively and cost-efficiently.

Investment Strategy and Research

In designing and managing multi-asset portfolios, we evaluate a client's ESG objectives as part of their broader investment objectives and constraints, and construct a portfolio aligned to these holistic objectives in as consistent and coherent a manner as possible.

Within our long-term asset class forecasts, we take explicit account of ESG considerations, including climate, in determining our outlook. We have found that changes in a company's R-Factor™ (State Street's proprietary ESG score), can, at an aggregate level, influence the future risk prospects of a given asset, and thus, the overall asset allocation. We also take into account scenario analyses and stress tests when developing our portfolio recommendations. For these, we use a wide variety of data inputs and hope to include forward-looking climate projections when available. We believe that using forward-looking data, rather than relying solely on historical data better equips us to deal with the rapidly changing investment and environmental landscape.

How We Can Help

For investors looking to implement or improve their sustainable investment policy, we can help.

Using our ESG frameworks and tools we are in a position to help our clients implementing their sustainable investment objectives, and be part of their journey to ESG investment.

Endnotes

- 1 ghgprotocol.org
- 2 <https://edie.net/68601/pr/What-is-the-difference-between-Net-Zero-and-carbon-neutral/41523>
- 3 <https://ipcc.ch/sr15/chapter/chapter-2/>
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- 11 [Climate Change Performance Index \(ccpi.org\)](https://www.ccpigroup.com/).
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- 13 TEG final report on EU climate benchmarks and benchmark ESG disclosures — 30 September 2019 ([europa.eu](https://www.europa.eu)).
- 14 https://msci.com/eqb/methodology/meth_docs/MSCI_ACWI_EU_PARIS_ALIGNED_REQUIREMENTS_INDEX_FINAL.pdf

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- 2 [Climate Action 100+ Net Zero Company Benchmark PDF](#).
- 3 For a comparison and discussion of Paris-aligned strategies see the paper "Understanding Paris-Aligned Indexes" from February 2022.
- 4 For portfolio implementation such as screening, tilting, optimisation : see "reducing carbon in equity portfolios by Jen Bender, Maya Beyhan, Rehan Mohamed, Xiaole Sun.
- 5 <https://transitionpathwayinitiative.org/methodology>
- 6 <https://www.ipcc.ch/sr15/chapter/chapter-2/>

About State Street Global Advisors

For four decades, State Street Global Advisors has served the world's governments, institutions and financial advisors. With a rigorous, risk-aware approach built on research, analysis and market-tested experience, we build from a breadth of index and active strategies to create cost-effective solutions. And, as pioneers in index, ETF, and ESG investing, we are always inventing new ways to invest. As a result, we have become the world's fourth-largest asset manager* with US \$3.62 trillion[†] under our care.

* Pensions & Investments Research Center, as of 31 December 2021.

[†] This figure is presented as of 31 March 2023 and includes approximately \$65.03 billion USD of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

ssga.com

Marketing Communication

State Street Global Advisors Worldwide Entities

https://www.ssga.com/uk/en_gb/institutional/ic/footer/state-street-global-advisors-worldwide-entities

Important Information

Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Diversification does not ensure a profit or guarantee against loss. Investing involves risk including the risk of loss of principal. The views expressed in this material are the views of Helene Veltman through the period July 2023 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

The targets and estimates are based on certain assumptions and there is no guarantee that the estimates will be achieved. Investing involves risk including the risk of loss of principal.

All information is from SSGA unless otherwise noted and has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such.

Responsible-Factor (R Factor) scoring is designed by State Street to reflect certain ESG characteristics and does not represent investment performance. Results generated out of the scoring model is based on sustainability and corporate governance dimensions of a scored entity.

The returns on a portfolio of securities which exclude companies that do not meet the portfolio's specified ESG criteria may trail the returns on a portfolio of securities which include such companies. A portfolio's ESG criteria may result in the portfolio investing in industry sectors or securities which underperform the market as a whole.

Equity securities may fluctuate in value and can decline significantly in response to the activities of individual companies and general market and economic conditions.

Asset Allocation is a method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss.

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