

Aligning Portfolios with the Paris Agreement

Climate Scenarios and the MSCI Climate Paris Aligned Index

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Executive Summary

The pressure on institutional investors to act on climate change and demonstrate its influence on their decision-making and portfolio construction continues to grow. Increasingly, the focus is on the alignment of client investment strategies with the decarbonization pathways required to deliver the global 1.5°C increase targeted by the Paris Agreement.

This alignment may be achieved by overweighting companies on a credible path to decarbonization or offering green solutions, while in contrast underweighting those poorly positioned for the transition to a lower-carbon economy and by limiting exposure to the growing physical risks. Investors tackling this investment challenge are now supported by the MSCI Climate Paris Aligned Indexes. These indexes combine control of Climate Value-at-Risk (Climate VaR) with a comprehensive reduction in emissions (whether arising from operations, products or the supply chain) and a tilt toward companies with stronger green revenue and credible climate targets. Additionally, and most critically, the index methodology enforces a 10% year-on-year decarbonization (“self-decarbonization”).

We can shock the MSCI Global Warming Potential model (our climate-scenario alignment model) to reflect this self-decarbonization and to show how the climate index then has a warming potential of 1.5°C and hence can serve as the basis for investment products that work to meet Paris Agreement targets.

Introduction

Climate change is the clearest illustration of how environmental, social and governance (ESG) considerations can impact long-term risks and opportunities in financial markets.¹ An extensive body of scientific evidence has established that man-made factors are dominant in driving climate change on our planet.²

Climate-related risks, whether physical or related to a transition to a lower carbon economy, are changing the risk-return profile of individual companies and entire industries, leading to new and increased risks in investors’ portfolios.³ In turn, institutional investors are under pressure to align their strategies with a maximum global temperature increase of 1.5°C as targeted by the Paris Agreement, raising questions about how to do so while respecting other investment constraints.

¹ [“MSCI Principles of Sustainable Investing.”](#)

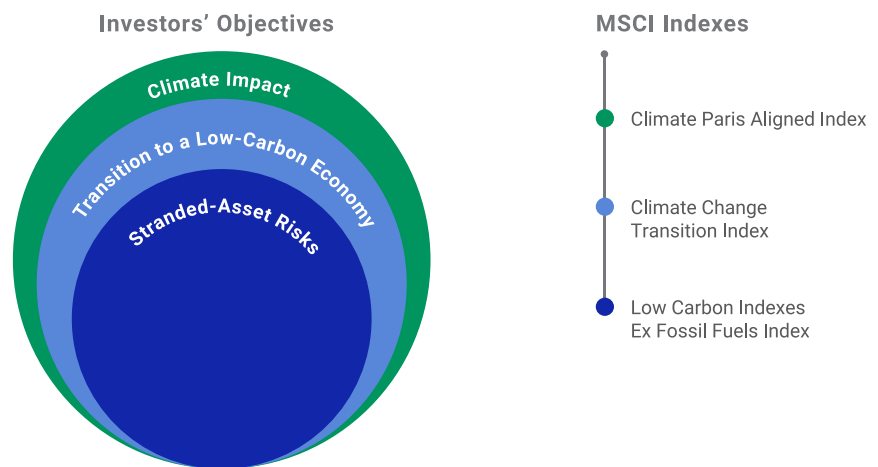
² For example, as summarized in the [“Fourth National Climate Assessment - Volume II: Impacts, Risks, and Adaptation in the United States”](#) or in [“Global Warming of 1.5°C.”](#) 2018. IPCC /

³ Badani, J. et al. 2019. “Climate change and climate risk: An index perspective.” MSCI Research Insight

Companies in carbon-intensive sectors are increasingly facing challenges due to lower demand for fossil fuels or their carbon-intensive products. Extreme weather events are damaging companies' assets and operations in high-risk regions (and the number of those regions is growing). In addition, regulators and civil society are pushing investors to act. In 2017, the Task Force on Climate-related Financial Disclosure (TCFD) released its recommendations to companies and investors, stressing the need for climate scenarios. In July 2020, the EU Commission proposed regulations⁴ to set minimum standards that indexes must meet to be labelled as EU Climate Transition Benchmarks (CTB) and EU Paris-Aligned Benchmarks (PAB).⁵

Some investors have already started this climate-change investment journey by adopting low-carbon strategies that have enabled them to reduce their exposure to carbon stranded-asset risks. Others have addressed transition risks more broadly by shifting capital from "brown" to "green" assets. How can climate indexes fit into this fast-evolving picture? Whether they are used as a benchmark for active managers or the basis of investment products, climate indexes may need to extend beyond solely addressing stranded-asset risk and instead be efficient and comprehensive in how they reduce climate risk and reweight in favor of companies whose activities or operations support economic transition or a positive impact on the environment.

Exhibit 1: How Can Climate Index Objectives Reflect Investor Needs?



⁴ ["Commission Delegated Regulation of 17.7.2020."](#) European Commission, July 17, 2020.

⁵ The pressure on issuers has also intensified via, for example, the [EU Sustainable Finance Disclosures Regulations](#) or with proposed changes to accounting standards. See ["IFRS Foundation Trustees consult on global approach to sustainability reporting and on possible Foundation role"](#) IFRS Foundation press release, Sept. 30, 2020.

How are MSCI Climate Paris Aligned Indexes Constructed?

The MSCI Paris Aligned Climate Indexes are designed to meet the needs of investors seeking to reduce their exposure to transition and physical climate risks and who wish to pursue opportunities arising from the transition to a lower-carbon economy while aligning with the Paris Agreement requirements. This new index series not only incorporates the TCFD recommendations but is designed to exceed the minimum standards of the EU Paris-aligned Benchmark designation.⁶

The MSCI Paris Aligned Climate Indexes follow a rules-based optimized methodology. This incorporates the following objectives:

- Align with a 1.5°C climate scenario as gauged by the MSCI Climate Value at Risk (Climate VaR) and a “self-decarbonization” rate of 10% year on year⁷
- Shift index weight from “brown” to “green” using the MSCI Low Carbon Transition score and by excluding categories of fossil-fuel-linked companies⁸
- Underweight high-carbon emitters assessed using scope 1, 2 and 3 emissions⁹
- Halve the assessment of physical risk from extreme weather events
- Support companies with credible carbon-reduction targets and track records through the weighting scheme
- Achieve a modest tracking error to the cap-weighted parent index and turnover

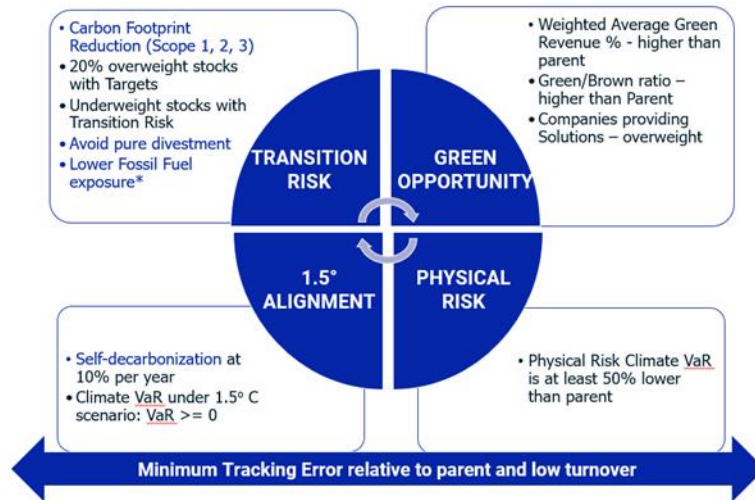
⁶ MSCI Paris-Aligned Climate Indexes are part of the MSCI Climate Toolkit which includes tools for climate reporting, risk management, portfolio construction and engagement.

⁷ This 10% self-decarbonization significantly exceeds the minimum standards for the EU Paris-aligned Benchmark.

⁸ Additionally, there is no exposure to companies violating global norms (UNGC, controversial weapons)

⁹ The carbon footprint assessment takes into product and supply chain emissions (Scope 3) as well as production and utility emissions (Scopes 1 and 2).

Exhibit 2: Key Features of the MSCI Climate Paris Aligned Index



Methodology elements shown in blue are required for the EU Paris-aligned Benchmark designation

Consistency of the Index with a 1.5°C Climate Scenario

What’s the “temperature” of your climate index? What does aligned with the Paris Agreement even mean? The MSCI Global Warming Potential framework¹⁰ aims to answer this by measuring how a given portfolio (or company) contributes to a projected global temperature rise above the pre-industrial average using: company climate targets; scope 1, 2 and 3 emissions and estimates of current and future green revenues as inputs into projected climate pathways. Understanding the calculated warming potential of a broad and diversified index is not easy as still relatively few companies have sufficiently ambitious and credible targets¹¹ and hence few are currently aligned with a 1.5°C scenario (based on MSCI Global Warming Potential framework).

Within the index methodology, the reweighting toward green revenues and other more “climate-friendly” assets and specified exclusions may be useful for indexed investors to support their active ownership programs but in themselves are not sufficient to achieve a 1.5°C warming potential at the index level. A positive Climate VaR adjusts index weightings for physical risk but the key element is the self-decarbonization feature of the index: the enforced reduction year-on-year of the

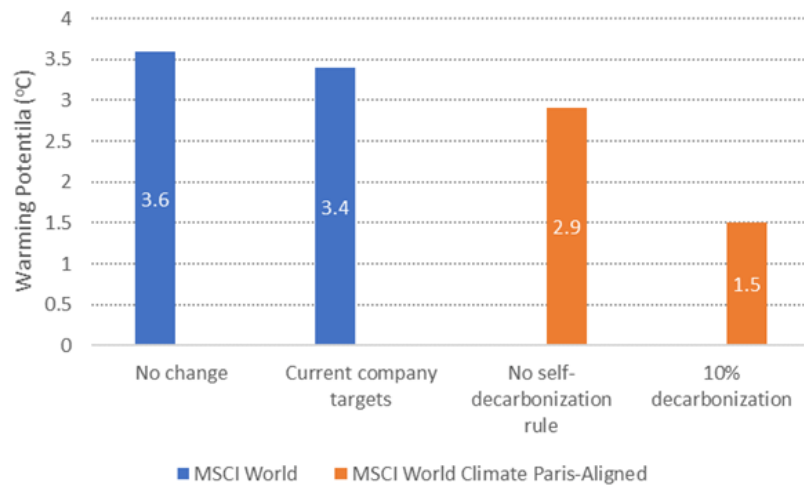
¹⁰ [An introduction to the Climate Value-at-Risk model](#)

¹¹ For example, as of October 2020, only 9% of MSCI ACWI have Science-Based Targets (<https://sciencebasedtargets.org/>) and a further 10% have quantitative targets, based on MSCI ESG research estimates.

index’s carbon footprint. We have tested a range of company-level self-decarbonization rates between 5% and 15%, which is the range of global carbon emissions reduction required year on year to be net zero between 2050 and 2100 (see exhibit 3).¹²

Ignoring self-decarbonization, the basic warming potential calculation says the MSCI World Climate Paris Aligned Index has a temperature of 2.9°C, as shown in Exhibit 3. We cannot easily embed the decarbonization in the warming potential model directly, but – as a shorthand – if we suppose every stock decarbonizes at the index methodology rate, then the current index is indeed 1.5°C aligned. By applying a 10% self-decarbonization shock through 2030, we have achieved a consistent picture: a warming potential of 1.5°C for the MSCI World Paris Aligned Climate Index alongside a positive 1.5°C Climate VaR. If some companies fall short of such upgraded targets and lag this climate pathway over the next 10 years, the index may naturally become more concentrated around the climate-solutions companies.

Exhibit 3: 10% Self-Decarbonization Drives Index Temperature Alignment



Data as of June 1, 2020

Performance and Climate Characteristics

The MSCI World Climate Paris Aligned Index outperformed its market-cap-weighted parent (the MSCI World Index) by 1.6% per year with 0.2% lower risk, relatively low tracking error (1.0%) and modest annualized turnover (11.7%), based on simulated index performance between November 2013 and September 2020.¹³ Only about half of the outperformance can be attributed to the index’s exposure to industries –

¹² “UNEP: 1.5C climate target ‘slipping out of reach.’” CarbonBrief, Nov. 26, 2019.

¹³ The simulation period reflects the available data history for the index methodology.

particularly underexposure to oil and gas companies – and to style factors.¹⁴ More critically, the MSCI World Climate Paris Aligned Index’s climate-risk profile compared favorably to the MSCI World Index (see Exhibit 4) across the following measures:

- More than 50% carbon-footprint reduction (scopes 1, 2 and 3)
- Three times more exposure to companies generating 20% or more revenue from clean technologies
- Three times more exposure to low-carbon transition risk solutions companies
- Significantly lower (almost 90% lower) exposure to companies with any fossil-fuel reserves and no exposure to thermal coal-mining stocks
- Fifty percent lower exposure to physical risk

Exhibit 4: Climate Risk of MSCI World vs. MSCI World Climate Paris Aligned Indexes

	MSCI World Index	MSCI World Climate Paris Aligned Index
MSCI Climate Paris Aligned Index Objectives*		
Scope 1+2+3 Carbon Emissions Intensity (tCO2/\$M EVIC adj)	475	227
Low-carbon transition score	6.1	6.7
Potential carbon emissions (t CO2e/\$M invested)	1748	0
Clean technologies solutions revenue (wtd avg %)	4.0	10.4
Green/brown net revenue exposure	1.1	129.0
Aggregate Climate VaR (wtd avg %)	-10.9	2.1
Extreme Weather Climate VaR - Aggressive Scenario (wtd avg %)	-5.5	-2.7
Low-carbon transition risks**		
Solutions (%)	7.0	21.0
Product & operational transition (%)	13.3	0.7
Clean technologies solutions (> 20% revenue)	5.1	16.0
Asset stranding (%)	0.1	0
Exposure to asset stranding risks**		
Fossil fuel-reserves (%)	4.2	0.6
Thermal coal mining (%)	0.9	0
Thermal coal-based power generation (%)	3.2	0.6

* As of May 2020 Semi-Annual Index Review

** As of July 31, 2020

¹⁴ Active return attribution using the MSCI Global Equity Model for Long-Term Investors.

Conclusion

As investors adapt their climate-aware investment strategies to cope with the physical, social and economic challenges of climate change, a holistic approach that embeds forward-looking measures of climate risk and return may help on their journey to decarbonizing their portfolios. The MSCI Climate Paris Aligned Index is a complementary tool for such institutional investors as a benchmark and as the basis of indexed allocations.

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