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2023

Stay at the forefront of the transition

Identify today the players of tomorrow's economy

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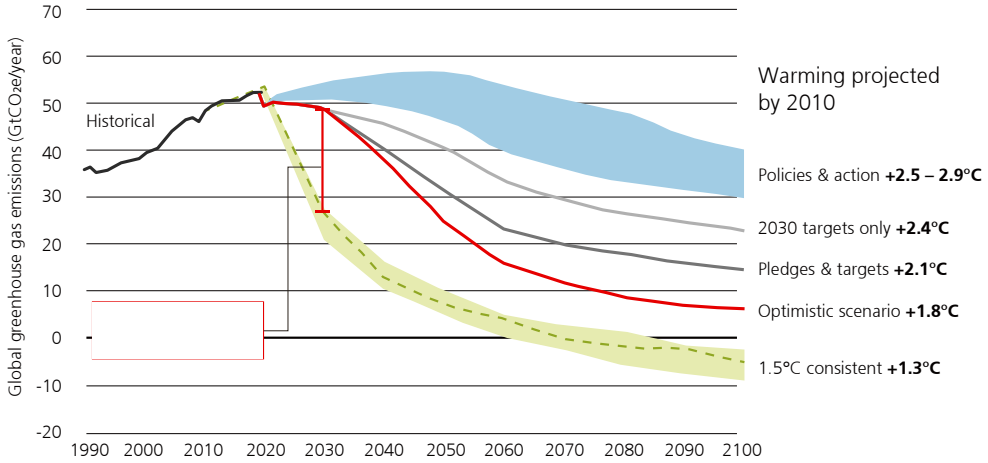
Climate change has become a key priority for both investors and regulators. To meet the needs of investors seeking to address climate change risks and opportunities, UBS ETFs has launched a suite of Paris-Aligned ETFs. These funds not only meet, but exceed the minimum standards for EU Paris-Aligned Benchmarks; they are aligned with the recommendations of the Task Force on Climate-related Financial Disclosures and are classified as Article 8 funds under the Sustainable Finance Disclosure Regulation.

Understanding climate change

What is the scale of the problem?

While climate change has taken center-stage in recent years, it can be overwhelming to understand both the magnitude of the challenge that lies ahead of us, as well as the limited time at our disposal to act and transition towards a net-zero economy. According to the first part of the sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC), global warming scenarios of 1.5°C and 2°C will both be exceeded during the 21st century unless deep reductions in carbon dioxide (CO_2) and other greenhouse gas emissions occur in the coming decades. As shown in Figure 1, the reduction in global emissions will have to be drastic to stay consistent with 1.5°C and 2°C scenarios. To keep the 1.5°C target within reach, the world needs to halve emissions over the next decade to reach net zero emissions by the middle of the century.

Figure 1: Warming projections under different scenarios

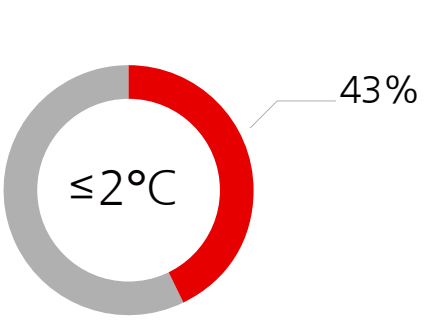


Source: Climate Action Tracker.

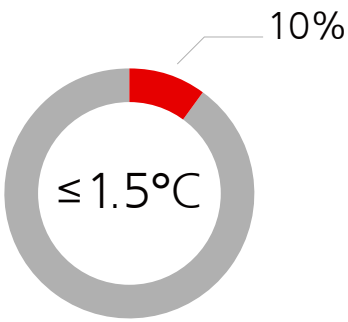
What is the current situation?

To assess how companies are currently aligned to these different scenarios, we can use the MSCI Implied Temperature Rise assessment, which provides an indicative temperature alignment for companies which can easily be compared to global warming scenarios depicted in Figure 1. Unfortunately, a substantial portion of listed companies are still misaligned with these goals. According to MSCI[1], and as shown on Figure 2, less than 10% of the MSCI ACWI IMI constituents are aligned with the goal of limiting temperature increase to below 1.5°C, while less than half are aligned with a below 2°C target.

Figure 2: Percentage of MSCI ACWI IMI constituents aligned with temperate increase scenarios



Less than half (43%) of listed companies align with the goal of limiting temperature increase to below 2°C.

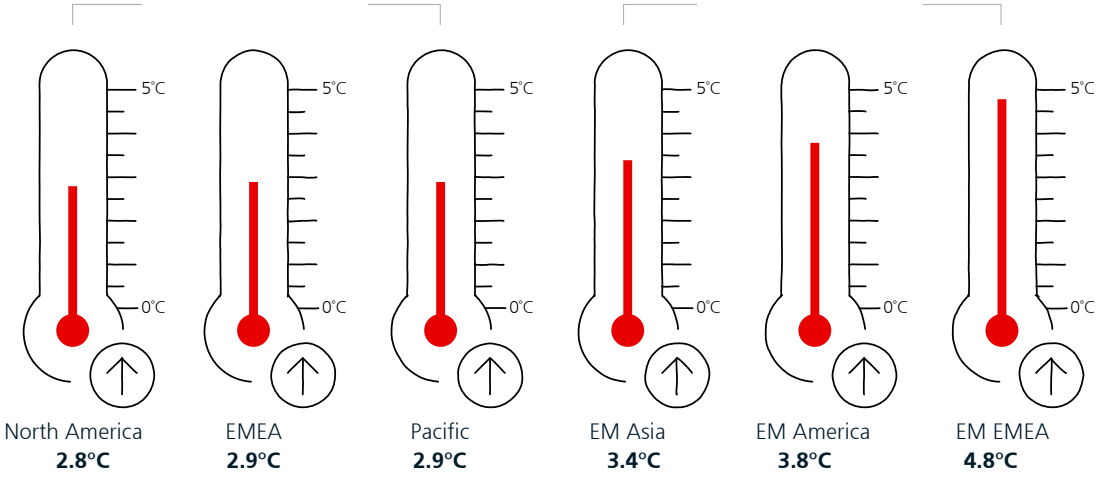


Less than 10% of listed companies align with the goal of limiting temperature increase to below 1.5°C.

Source: MSCI, Net-Zero Tracker, October 2021.

If we break down the implied temperature rise of listed companies by region, Figure 3 indicates that none of the regions are aligned with the Paris Agreement target, and by quite a wide margin. Companies in developed markets are showing lower temperature rise levels compared to emerging markets, but they still fall short of global targets.

Figure 3: Implied temperature rise of listed companies by region



Source: MSCI, Net-Zero Tracker, October 2021.

MSCI Climate Paris-Aligned indexes aim to be aligned with a 1.5°C scenario by 2030, which can support investors with their net-zero commitments. Thanks to their 10% self-decarbonization trajectory, we can already observe how they are moving towards their target. For example, the implied temperature rise of the MSCI ACWI Climate Paris-Aligned index is equal to 2.12°C, while the MSCI ACWI index exhibits a rise of 2.97°C[2].

1 The MSCI Net-Zero Tracker, October 2021.
2 Source: MSCI. Index holdings as of 28 February 2022, Climate data as of 03 March 2022.

The role of investors and corporates in tackling climate change

In this section we will focus on the role that both investors and corporates could play in addressing the challenges around climate change.

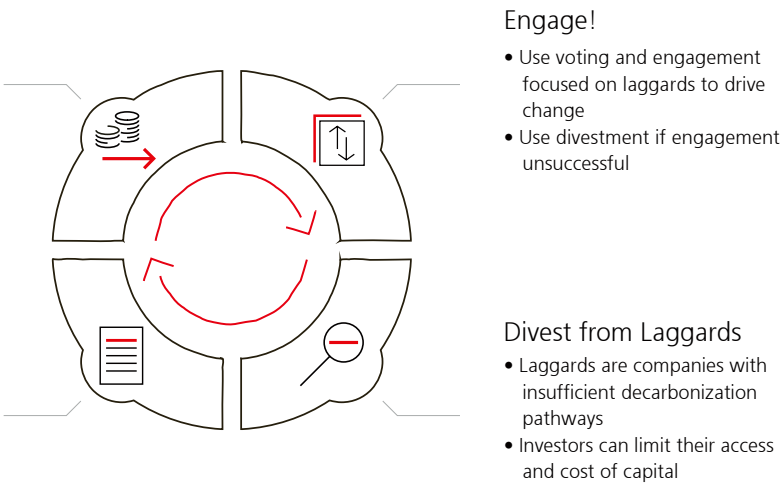
Investors' role in the transition to net-zero emissions

Now that we have highlighted the daunting task of transitioning to net-zero emissions, we can consider the role of investors. According to the Intergovernmental Panel on Climate Change (IPCC), all members of society, including the investment community, will have to contribute to achieve net zero emissions, as they estimate this will come at a cost of around 90 trillion USD[3] over the next 15 years. In economic terms, spending on physical assets on the course to net-zero would reach about USD 275 trillion by 2050, or USD 9.2 trillion per year on average, an annual increase of USD 3.5 trillion. To put it in comparable terms, the USD 3.5 trillion increase is equivalent to about half of global corporate profits, one-quarter of total tax revenue, and 7 percent of household spending[4].

How can asset owners contribute to this effort and play a role in the transition? As shown in Figure 4, they can increase their exposure to companies with credible net-zero targets, while also engaging with firms to influence them to pivot their business models towards lower carbon emission strategies. In addition, they can divert their capital towards businesses that provide green opportunities while at the same time reducing their exposure to companies exposed to climate risks and stranded assets.

3 Source: World Economic Forum, 9 steps to bridging the net-zero funding gap. August 2021.
4 Source: McKinsey Global Institute. What it will cost to get to net-zero. January 2022.

Figure 4: How can investors drive companies' Net-Zero alignment?



Source: MSCI. Net-Zero Alignment – Objectives and Strategic Approaches for Investors. September 2021.

To facilitate this process, the European Commission's climate benchmarks can support investors to reallocate capital towards a low-carbon and climate resilient economy. The minimum requirements for EU Paris-Aligned benchmarks provide a legal framework which helps legitimize climate solutions. Investors can use this benchmark as an instrument to stay at the forefront of the transition, favoring today the players of tomorrow's economy. In the upcoming section, we take a deep dive and explore these solutions in more detail to understand their objectives, how they are constructed, and which data sets are used in these indexes.

The role of corporates in transitioning to a more sustainable future

The recommendations of the TCFD

The Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD) in 2015 to support the goals of the Paris Agreement. It is a voluntary disclosure platform to help financial-market participants understand, manage, and disclose their exposure to climate risk (physical and transition) and climate opportunities.

The TCFD recommends that firms enhance their climate disclosures along four dimensions[5]:

1. the role of the board of directors in assessing and managing climate risks and opportunities (Governance)
2. identifying the types of risks and opportunities posed by climate change (Strategy)
3. disclosing firm processes surrounding core risk management steps (Risk Management)
4. disclosing climate metrics and targets used to identify climate risks and opportunities (Metrics and Targets)

Firms are particularly encouraged to describe the resilience of their strategy by stress testing portfolios to estimate the financial impact of different climate-related scenarios, including assessing the impact of limiting global warming to 2°C or lower relative to pre-industrial levels.

The MSCI Climate Paris-Aligned indexes are aligned with the recommendations of the TCFD. This is important, as the four dimensions holistically integrate how corporates are assessing the impact of climate change on their businesses, how they are adapting their strategies accordingly and how they manage climate risks / opportunities. Setting emission reduction targets and reporting on emissions is an important step for corporates, as we will show in the next section.

5 Source: MSCI. FAQ-Understanding MSCI Climate Indexes. November 2021.

The importance of setting emission reduction targets

Corporates will play an important role in the transition towards a more sustainable economic future as they will have to substantially decarbonize their business operations and products. One of the key pillars to achieve this goal is linked to how they will be setting their emission reduction targets. One way to assess the credibility of these targets is to leverage the work performed by well-recognized organizations such as the Science Based Targets initiative (SBTi), or from ESG data providers such as MSCI ESG Research. Hereafter we shortly explain how these entities assess corporate emissions reduction targets:

Science Based Targets initiatives[6] (SBTi)

The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). The SBTi call to action is one of the We Mean Business Coalition commitments.

What does the SBTi do?

The latest climate science sends a clear warning that we must dramatically curb temperature rise to avoid the catastrophic impacts of climate change. Science-based targets show companies how much, and how quickly, they need to reduce their greenhouse gas (GHG) emissions to prevent the worst effects of climate change.

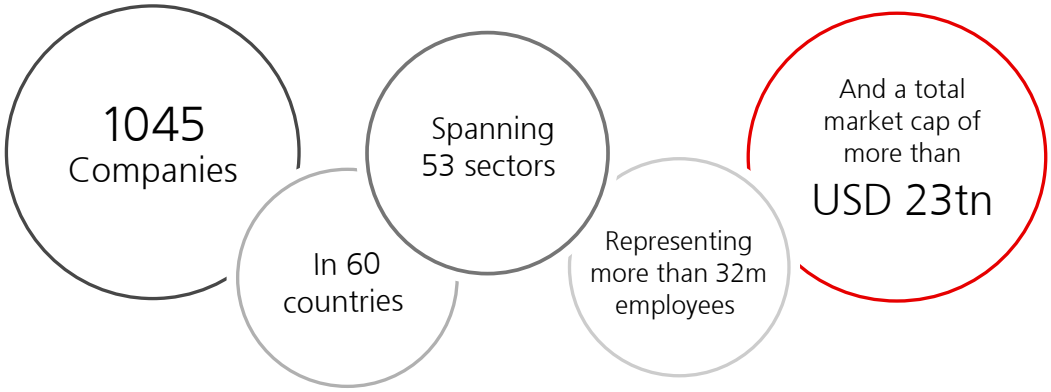
The Science Based Targets initiative (SBTi):

- Defines and promotes best practice in emissions reductions and net-zero targets in line with climate science.
- Provides technical assistance and expert resources to companies who set science-based targets in line with the latest climate science.
- Brings together a team of experts to provide companies with independent assessment and validation of targets.
- The SBTi is the lead partner of the Business Ambition for 1.5°C campaign - an urgent call to action from a global coalition of UN agencies, business and industry leaders, mobilizing companies to set net-zero science-based targets in line with a 1.5°C future.

Corporates set emission reduction targets verified by the SBTi

Corporates have a vital role to play in driving down greenhouse gas emissions and building the resilient, zero-emissions economy we urgently need. This action must be grounded in science. Since the launch of the Science Based Targets initiative (SBTi) and the Paris-Agreement reached in 2015, there has been a surge in corporate climate ambition, with SBTi companies leading the way. Over 1,000 companies spanning 60 countries and over 50 sectors – including one-fifth of the Global Fortune 500 – are working with the SBTi to the transition to a net-zero economy by setting emissions reduction targets grounded in climate science through the SBTi.

Figure 5: SBTi by the numbers

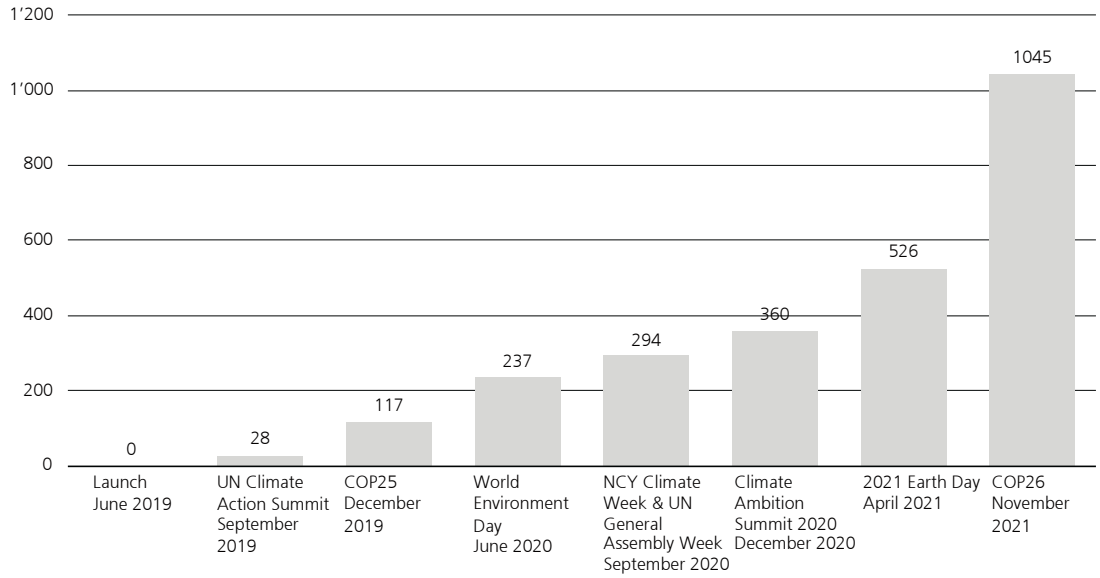


Source: SBTi: Status report: Business ambition for 1.5°C responding to the climate crisis.

6 Source: SBTi website and 2020 Status Report.

Considering data from the SBTi, it is interesting to observe the significant increase in the number of companies now committing to 1.5°C and Net-Zero targets. Figure 6 shows how from December 2019 to November 2021 the number of commitments increased from 117 to 1045.

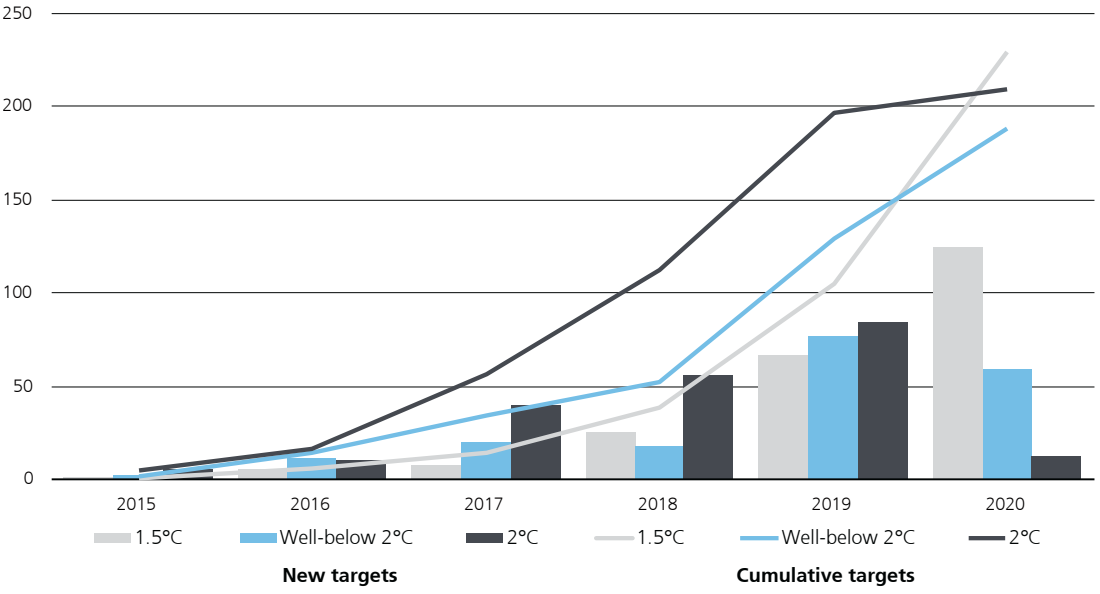
Figure 6: Campaigns and commitments growth



Source: SBTi: Status report: Business ambition for 1.5°C responding to the climate crisis.

As we can see in Figure 7, there has also been a paradigm shift between companies previously setting 2°C, or well-below 2°C targets from 2015 to 2019, to more recently where there has been a significant increase in companies setting more stringent 1.5°C targets.

Figure 7: Temperature alignment of Scope 1+2 targets



Source: SBTi: Annual progress report, 2020.

Setting science-based net-zero emission targets

Net-zero emission targets have rapidly moved to the mainstream: in 2019, net-zero pledges covered just 16% of the global economy; by 2021, nearly 70% had committed to net-zero by 2050. Rapid, deep cuts to value-chain emissions are the most effective and scientifically-sound way of limiting global temperature rise to 1.5°C. Most companies will require deep decarbonization of 90-95% to reach net-zero under the SBTi Net-Zero Standard.

To contribute to societal net-zero goals, companies must deeply reduce emissions and counterbalance the impact of any emissions that remain. The SBTi Net-Zero Standard defines corporate net-zero as:

– Reducing scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C-aligned pathways
– Neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter.

The SBTi Net-Zero Standard[7] sets out four key elements that make up a corporate net-zero target:

1. Near-term science-based targets

Previously known as "science-based targets", these are 5-10-year GHG mitigation targets in line with 1.5°C pathways. When companies reach their near-term target date, they must calculate new near-term science-based targets to serve as milestones on the path towards reaching their long-term science-based target.
Near-term science-based targets galvanize the action required for significant emissions reductions to be achieved by 2030. Near-term emissions reductions are critical to not exceeding the global emissions budget and are not interchangeable with long-term targets[8].

2. Long-term science-based targets

These targets show companies how much they must reduce value chain emissions to align with reaching net-zero at the global or sector level in eligible 1.5°C pathways by 2050 or sooner.
These targets drive economy-wide alignment and long-term business planning to reach the level of global emissions reductions needed for climate goals to be met based on science. A company cannot claim to have reached net-zero until the long-term science-based target is achieved.

3. Neutralization

Measures that companies take to remove carbon from the atmosphere and permanently store it to counterbalance the impact of emissions that remain unabated.
Although most companies will reduce emissions by at least 90% through their long-term science-based targets, some residual emissions may remain. These emissions must be neutralized to reach net-zero emissions and a state of no impact on the climate from GHG emissions.

4. Beyond value chain mitigation

"Beyond value chain mitigation" refers to mitigation action or investments that fall outside of a company's value chain. This includes activities that avoid or reduce greenhouse gas emissions, and those that remove and store greenhouse gases from the atmosphere.

7 SBTI Corporate Net-Zero Standard. October 2021.
8 Despite this, if a company sets a long-term science-based target to reach the level of decarbonization required to reach net-zero at the global or sector level in 1.5°C pathways within a 10-year timeframe, the near-term science-based target is not required.

The climate and ecological crises require bold and decisive action from companies. Decarbonizing a company's value chain in line with science and reaching net-zero emissions by 2050 is increasingly becoming the minimum societal expectation of companies. Businesses can play a critical role in accelerating the net-zero transition and in addressing the ecological crisis by investing in mitigations actions beyond their value chains. Additional investments like these could help increase the likelihood the global community stays within a 1.5˚C carbon budget but are not a substitute for the rapid and deep reduction of a company's own value chain emissions.

MSCI ESG Research

In order to assess emission reduction targets, MSCI ESG Research has developed an analytical framework which breaks down targets by three main dimensions, as outlined in Figure 8:

Figure 8: Three Dimensions for Assessing Decarbonization Targets

Analytical Framework	Descriptions	Key Components
Comprehensiveness	Does the target focus on the majority of a company's emissions?	– Type – Unit – Target scopes – Target coverage – Percentage of company footprint covered by targets
Ambition	How much and how quickly does a target aim to reduce emissions?	– Remaining emission reduction – Normalized reduction per year – Target year – Projected target emissions against net-zero trajectory in 2030 – Projected target emissions against net-zero in 2050
Feasibility	How feasible is a given target, and how much confidence can investors have in its achievement?	– Track record of meeting previous targets – Progress on active targets – Intention to use carbon offsets – Revenue from climate-change solutions – Decarbonization strategy by scope and category

Source: MSCI, "Breaking Down Corporate Net Zero Climate Targets", 2021.

Looking at the first pillar, the model analyzes whether a target targets all emissions scopes, but more importantly it also looks at the percentage of the company footprint covered by the target. In terms of ambition, it is important to also understand the rate at which a corporation is planning to reduce its emissions, but also what will be its residual emissions by the target end year. Lastly, the assessment looks at how feasible a given target is. By looking for example at the company's track record in meeting previous targets or their progress in currently active targets, one can already have a good understanding of how current targets are likely to be met.

A passive solution that addresses climate change:

MSCI Climate Paris-Aligned indexes

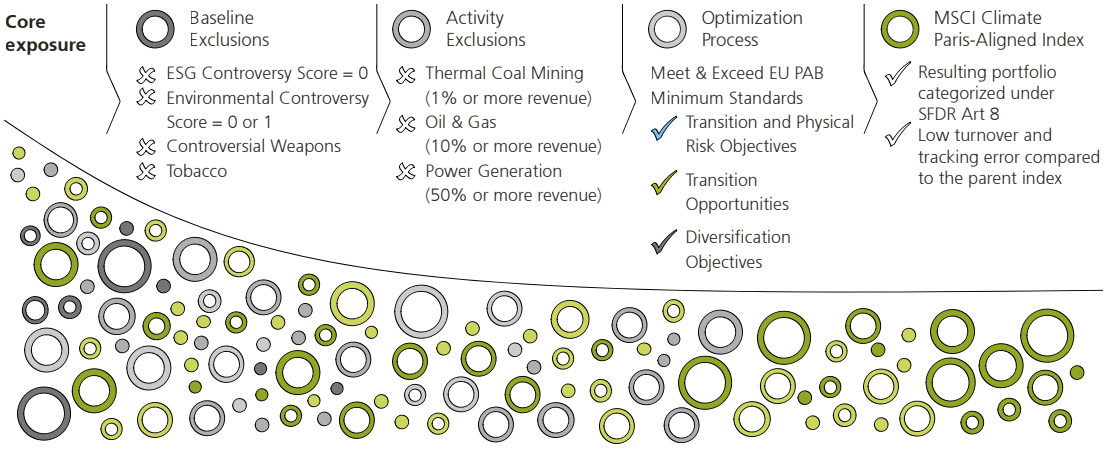
Investment Objective

The MSCI Climate Paris Aligned indexes aim to support investors in reducing their transition and physical climate risks, benefit from opportunities arising from the transition to a lower-carbon economy while aligning with the EU Paris-Aligned Benchmarks (PABs) minimum standards. To meet the minimum requirements, PABs must achieve a 50% reduction in carbon intensity (Scope 1+2+3 GHG emissions), while following a 7% year-on-year self- decarbonization trajectory.

The index methodology (Figure 9) excludes companies involved in controversial weapons, having faced very severe ESG controversies, or linked to controversies pertaining to severe environmental issues as per the "do no harm principles". Activity based exclusions are aimed at companies deriving revenue from tobacco, thermal coal mining, oil & gas related activities as well as certain kinds of power generation which accounts for more than 50% of revenues.

To avoid divestment from high climate impact sectors, the weight of these sectors needs to be equal in an EU PAB as compared to the parent index. These exclusions and constraints complete the set of minimum criteria as set out in the legislation.

Figure 9: Methodology overview



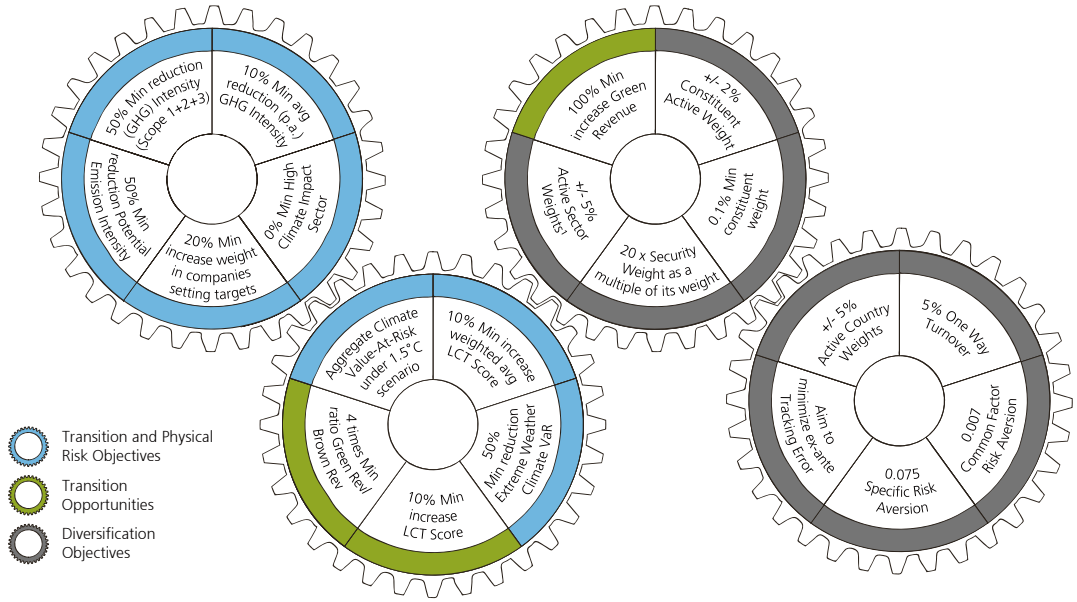
Source: MSCI, UBS Asset Management.

An optimization-based approach

The MSCI Climate Paris Aligned indexes follow an optimization-based approach (Figure 5) that not only meets, but exceeds the minimum standards for EU PAB. The approach aims to achieve the following objectives:

- Align with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).
- Align with a 1.5°C climate scenario using the MSCI Climate Value-at-Risk and a "self-decarbonization" rate of 10% year-on-year (as opposed to the minimum requirement of 7%).
- Reduce the Index's exposure to physical risk arising from extreme weather events by at least 50%.
- Shift index weight from "brown" to "green" revenue using the MSCI Low Carbon transition score and by excluding categories of fossil-fuel-linked companies.
- Increase the weight of companies which are exposed to climate transition opportunities and reduce the weight of companies which are exposed to climate transition risks.
- Reduce the weight of companies assessed as high carbon emitters using Scope 1, 2 and 3 GHG emissions.
- Increase the weight of companies with credible carbon reduction targets through the weighting scheme.
- Achieve a modest tracking error compared to the Parent Index and low turnover.

Figure 10: Optimization Process – Uses the MSCI Barra Global Equity Model for Long-Term Investors (GEMLT)

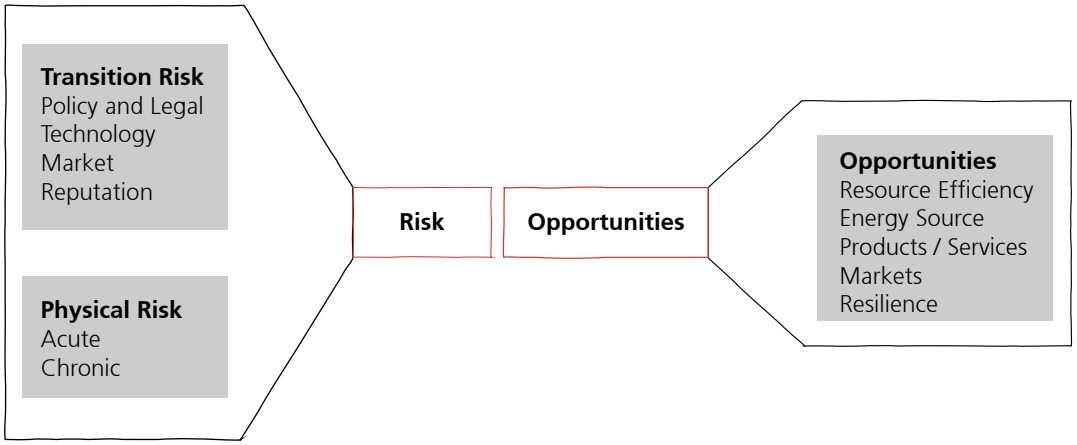


Source: MSCI, UBS Asset Management. Data as of November 2020. For illustrative purposes only.

Alignment to TCFD Recommendations

As outlined earlier, the MSCI Climate Paris Aligned indexes are aligned with the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD). We spoke about the TCFD's key goals to better disclose the financial impacts of climate-related risks and opportunities. If we focus on these in more detail, we can see in Figure 11 that the TCFD breaks down the risks into two sub-groups: transition risks and physical risks. We will see in the following sections how the index methodology addressed these two risk categories by leveraging the MSCI ESG Research's Low Carbon Transition Score as well as their Climate Value-at-Risk. Focusing on opportunities, we will also outline how these two data sets allow the indexes to overweight companies likely to benefit from the transition to a lower-carbon economy.

Figure 11: Climate-related Risks and Opportunities



Source: TCFD Recommendations report.

Transition Risk

MSCI ESG Research's Low Carbon Transition Risk assessment (Figure 12) is designed to identify potential leaders and laggards by holistically measuring companies' current risk exposure to, and its efforts to manage the risks and opportunities related to the low carbon transition. The output of this assessment are two company-level factors:

1. Low Carbon Transition Category: groups companies in five categories highlighting predominant risks and opportunities of transitioning.
2. Low Carbon Transition Score: an industry agnostic score based on multi-dimensional risks and opportunities assessment considering predominant and secondary risks of transitioning.

Using the output of this assessment, companies facing climate transition risks can be identified, and subsequently underweighted in the MSCI Climate Paris Aligned indexes, while firms with potential to benefit through the growth of low-carbon products and services are overweighted. If we link this with the TCDF recommendations, we can see how such a product can support in managing climate-related risk and opportunities. To support the use of this data in the index construction, MSCI has examined the performance impact of issuer's climate transition risk profiles[9]. Interestingly, their findings show that the Low Carbon Transition Score provided a positive return when used in a GEMLT performance attribution (i.e., after controlling for the risk factors of the model), especially in the last 2 years. This suggests that climate-transition risk should be considered as an additional risk factor by investors as it already exhibits performance implications on their investments.

Furthermore, the Low Carbon Transition score provides a quantitative and transparent assessment of how effectively firms have managed their climate-transition-related risk exposures[10]. Using this score, investors can identify portfolio companies that have lagged in their climate risk management and prioritize them for engagement through company-level structured talks or voting arrangements.

9 Giese, G., Z. Nagy, and B. Rauis. 2021. "Foundations of Climate Investing: How Equity Markets have Priced Climate-Transition Risks." The Journal of Portfolio Management, 47 (9).
10 MSCI. FAQ-Understanding MSCI Climate Indexes. November 2021.

MSCI Climate Paris Aligned Indexes also promote engagement indirectly by tilting from climate laggards toward climate leaders. Firms that are excluded or underweighted in the climate indexes may find it costlier to raise capital and take corrective actions to improve their climate profile. Such actions include investing more in green technology, making more informative climate disclosures and reducing their exposure to climate risk.

Figure 12: Low Carbon Transition Risk Assessment

Low Carbon Transition Score	Low Carbon Transition Category		Low Carbon Transition Risk / Opportunity	Examples
Score = 0	Asset Stranding		Potential to experience «stranding» of physical/natural assets due to regulatory, market or technology forces arising from low carbon transition	Coal mining & coal-based power generation, Oil sands exploration/production
	Transition	Product	Reduced demand for carbon-intensive products and services. Leaders and laggards are defined by the ability to shift product portfolio to low carbon products	Oil & Gas exploration & production, Petrol/diesel-based automobile manufacturers; Thermal power plant turbine manufacturers etc.
		Operational	Increased operational and/or capital cost due to carbon taxes and/or investment in carbon emission mitigation measures leading to lower profitability of the companies	Fossil fuel-based power generation, cement, steel, etc.
	Neutral		Limited exposure to low carbon transition carbon risk. Though companies in this category could have exposure to physical risk and/or indirect exposure to low carbon transition risk via lending, investments, etc.	Consumer staples, Healthcare, etc.
Score = 10	Solutions		Potential to benefit through the growth of low carbon products and services	Renewable electricity, electric vehicles, solar cell manufacturers, etc.

By way of a practical example, let us consider Figure 13. In the example of the MSCI EMU and MSCI EMU Climate Paris Aligned indexes, this regional exposure does not contain any companies classified under "Asset Stranding". On the other end of the spectrum, there are some companies classified under "Solutions", for example Verbund AG and Siemens Gamesa Renewable Energy SA. When we focus on the differences in terms of weight between the two indexes, we can clearly see that "Solution" are overweighted (6.88% to 19.58%), while the "Transition" part is underweighted both from a "Product" as well as "Operational" perspective.

Figure 13: Low Carbon Transition Risk Assessment of EMU universe

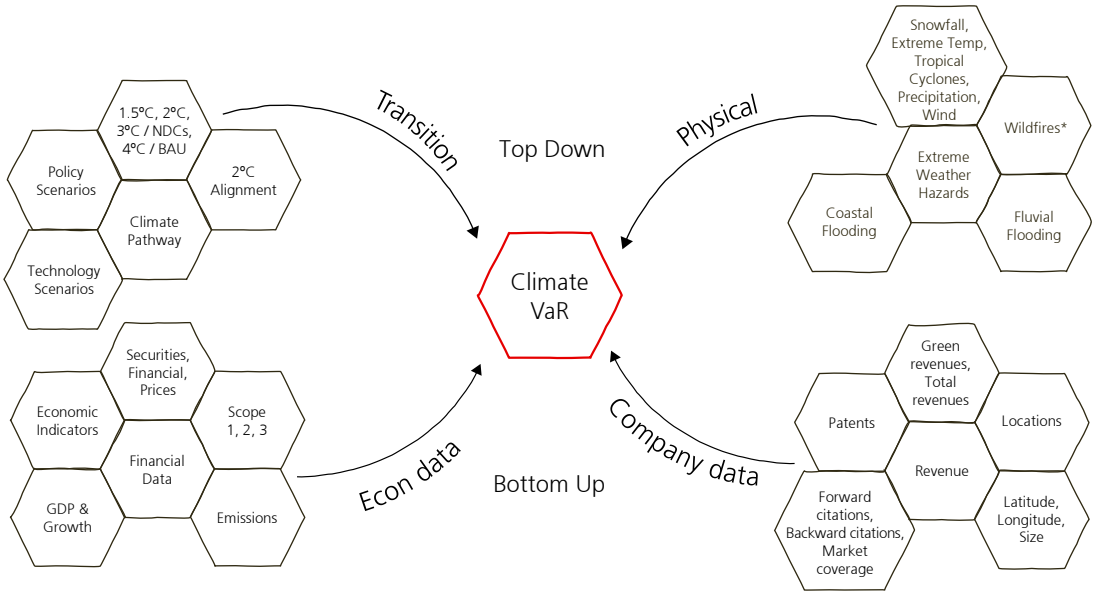
Low Carbon Transition Score	Low Carbon Transition Category		MSCI EMU	MSCI EMU Climate Paris Aligned	Examples in MSCI EMU	LCTS
Score = 0	Asset Stranding		0.00%	0.00%	–	–
	Transition	Product	10.52%	0.39%	SNAM SPA	2.58
					Total SE	4.09
					Daimler AG	5.26
		Operational	8.48%	1.56%	RWE AG	3.83
					Heidelberg Cement AG	3.78
					Deutsche Lufthansa AG	5.41
	Neutral		71.67%	76.20%	BASF SE	5.81
					LVMH SE	6.20
					Axa SA	6.66
	Solutions		6.88%	19.58%	Energias de Portugal SA	8.44
					Verbund AG	10.00
Score = 10					Siemens Gamesa Renewable Energy SA	10.00

Source: MSCI, UBS Asset Management. Index weights as of 31 January 2022, MSCI ESG data as of 11 February 2022.

Physical Risk

The Climate VaR model developed by MSCI aims to measure the potential impact of different climate scenarios on individual securities' valuations. Climate VaR indicates, in percentage points, what could be the potential impact on the market value of a security because of the effects of climate change.

Figure 14: MSCI Climate Value-at-Risk model



*Will be included in the Q3 2021 release.

Source: MSCI, Climate Value-at-Risk.

The MSCI Climate Value-At-Risk measurement helps investors to assess future costs related to climate change and understand what those future costs could mean in the current valuation of securities. The premise of Climate Value-At-Risk is to aggregate costs related to specific climate risks over the next 15 years and calculate what these costs might signify about financial performance into the foreseeable future. Using the Extreme Weather Climate Value-at-Risk in its optimization, the MSCI Climate Paris Aligned indexes target a reduction of at least 50% in the exposure to physical risk arising from extreme weather events. In addition, the methodology also leverages Policy Risk and Technology Opportunities Climate Value-at-Risk to align the portfolios to a 1.5°C climate scenario.

Looking at Figure 15, we can see how the MSCI EMU Climate Paris Aligned index reduces its economical exposure to Physical Climate scenarios as compared to the parent MSCI EMU index. In addition, the MSCI Climate Value-At-Risk also quantifies how current and forthcoming climate policies could financially impact companies within the portfolio, but also how these corporations could profit from their low carbon innovative capacities. The index captures these aspects in its methodology, as the Climate Paris Aligned index reduces its policy risks while increasing its exposure to technology opportunities arising from the transition to a low carbon economy. We again clearly see how the methodology aligns with the TCFD recommendations in this instance by addressing physical and transition risks while also considering opportunities' financial impact.

Looking at the Aggregated Climate Value-at-Risk to summarize how significant these improvements are, we can see that the MSCI EMU index could lose up to 22.15% of its value in the next 15 years due to climate change, whereas the Climate Paris Aligned index would even slightly benefit from it, with an upside of +0.39%. It is interesting to note how the policy risks account for most of the downside risks. It will be costly for companies included in the MSCI EMU index to meet reduction targets embedded in policies that have been proposed in the Nationally Determined Contributions (NDCs) of the Paris Agreement. On the other hand, since the MSCI EMU Climate Paris Aligned index diverts its weights towards companies better positioned for the transition, the policy risks are extensively reduced for that portfolio and are more than compensated by the financial opportunities the transition will bring to the companies forming the index.

Figure 15: Aggregated Climate VaR

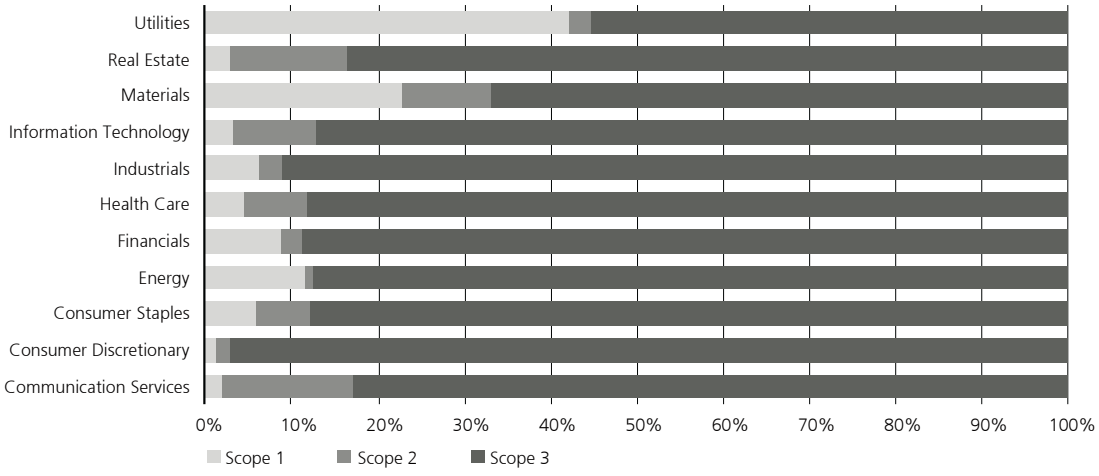
	MSCI EMU Index	MSCI EMU Climate Paris Aligned index
Low Carbon Transition Risk Scenarios	**-16.45%**	**3.73%**
Policy Risk Direct Emissions (Scope 1)	-12.02%	-3.71%
Policy Risk Electricity Use (Scope 2)	-4.86%	-2.26%
Policy Risk Value Chain (Scope 3)	-9.85%	-2.72%
Technology Opportunities	10.28%	12.43%
Physical Climate Scenarios	**-5.69%**	**-3.34%**
Extreme Cold	0.34%	0.25%
Extreme Heat	-1.80%	-1.09%
Precipitation	-0.02%	-0.03%
Extreme Snowfall	0.00%	0.00%
Extreme Wind	-0.02%	-0.03%
Coastal Flooding	-4.23%	-2.48%
Fluvial Flooding	-0.05%	-0.03%
Tropical Cyclones	-0.04%	-0.02%
Aggregated Climate VaR	**-22.15%**	**0.39%**

Source: MSCI, UBS Asset Management. Data as of 03 March 2021.

The challenge of 1.5°C alignment

As we have alluded to earlier, the transition to net zero emissions will require substantial efforts from investors, as their investment portfolios will need to achieve drastic reductions in carbon emissions. As a first step, it is important to assess the actual carbon intensity of a given portfolio. To achieve this, investors must not only consider Scope 1 and 2 emissions, but they also need to incorporate Scope 3 emissions in their analysis. If we investigate the weighted average carbon intensity by sector in the MSCI ACWI index, we can see in Figure 16 that most of the emissions are related to Scope 3 emissions. While sectors like Utilities and Materials display a higher proportion of Scope 1+2 emissions relative to other sectors, the emissions in other sectors are mostly driven by Scope 3 emissions. It is therefore natural that the European Commission in the minimum requirements for Paris-Aligned benchmarks requires that Scope 3 emissions be phased-in in the coming years. The MSCI Climate Paris Aligned indexes go beyond these minimum requirements, as they already include Scope 3 emissions since June 2020.

Figure 16: MSCI ACWI - Carbon Intensity breakdown by sector and emission type



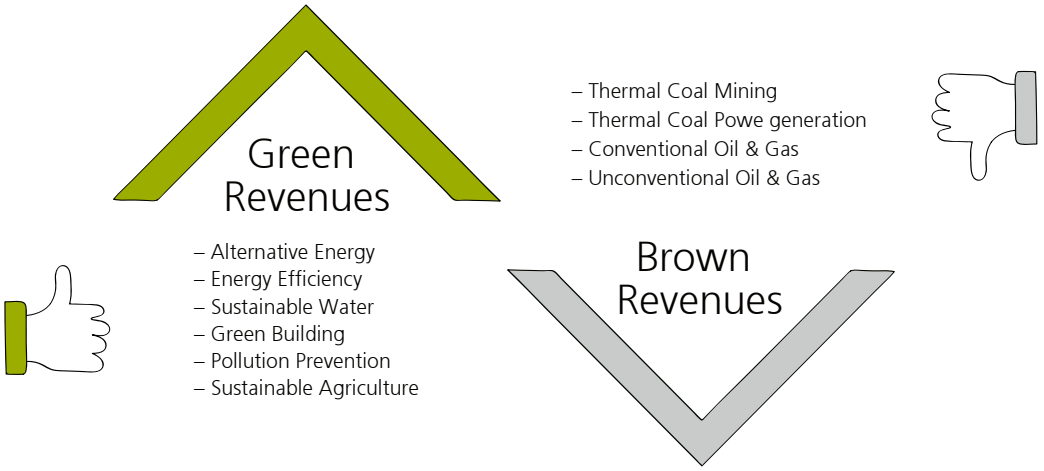
Source: UBS Asset Management, MSCI. Index holdings as of 28 February 2022, ESG data as of 02 March 2022.

The current carbon intensity of a portfolio is only part of the challenge. Next, we also need to understand the carbon emissions reduction targets planned by issuers and assess whether these targets are credible. As we noted earlier, companies globally are still vastly misaligned with 1.5°C scenarios. There again, MSCI Climate Paris Aligned indexes can support investors in overweighting companies setting credible emissions reductions targets by at least 20% compared to their corresponding parent indexes. However, the key to aligning the MSCI Climate Paris Aligned indexes to a 1.5°C scenario remains the 10% self-decarbonization per annum which goes beyond the 7% decarbonization rate prescribed by the EU PAB minimum requirements. Applying a 7% decarbonization on the investable universe would only be sufficient to limit global warming to below 2°C; only by performing a more stringent reduction of 10% can we aim to achieve the 1.5°C global warming potential.

Green Opportunities

There is a strong focus on green versus brown revenues with the aim to have a four times higher ratio in MSCI Climate Paris Aligned Indexes as compared to the parent index. This is achieved by reducing and excluding exposure to fossil-fuel-linked activities, while increasing exposure to sustainable activities related to green revenues as shown in Figure 17. It is interesting to note that the percentage of green revenues have increased, while the percentage of brown revenues have decreased. This led to a green versus brown revenue ratio of 40.89 times, which is a substantial improvement above the aim of four times.

Figure 17: Green vs Brown revenues



	MSCI EMU	MSCI EMU Climate Paris Aligned
Green Revenue (%)	5.36	11.23
Brown Revenue (%)	3.14	0.27
Green / Brown ratio	**1.71**	**40.89**

Source: MSCI, UBS Asset Management. Index weights as of 31 January 2022, MSCI ESG data as of 11 February 2022.

Do we meet the PAB Minimum Standards?

As displayed in Figure 18, using the MSCI EMU Climate Paris Aligned index as an example, we can see how the index meets the PAB minimum standards, for example the minimum 50% reduction in carbon intensity as compared to the parent index. Moreover, the index also meets objectives that are not included in the regulation but that help the portfolio to reduce its exposure to climate change risks.

More specifically, the index can reduce its exposure to extreme weather events by reducing its Climate Value-At-Risk by at least 50% compared to the parent exposure, while the green to brown revenues ratio is also well above the aim of a four times improvement.

Figure 18: Climate Paris Aligned index objectives

	MSCI EMU Index	MSCI EMU Climate Paris Aligned index	Objective		
Scope 1+2+3 Carbon Emissions Intensity (tCO_2/USDm EVIC)	511	200	Min 50% reduction	✓	✓
Low-Carbon Transition Score	5.96	6.59	Min 10% increase	✓	
Potential carbon emissions ($MtCO_2$)	154.41	0.00	Min 50% reduction	✓	
Green revenues (wtd avg %)	5.36	11.23	Min 100% increase	✓	
Green/brown net revenue exposure	1.71	40.89	4x higher	✓	✓
Company sets GHG reduction targets (wtd avg %)	67.22%	74.35%	Overweight	✓	✓
NACE High Climate Impact sector exposure (wtd avg %)	68.7%	69.3%	Min equal to parent	✓	✓
Aggregate Climate VaR (wtd avg %)*	-22.15%	+0.39%	Greater than parent (and at least above 0)	✓	
Extreme Weather Climate VaR – Aggressive Scenario (wtd avg %)	-6.3%	-3.8%	Min 50% reduction**	✓	
Low-Carbon transition risks					
Solutions (%)	6.88%	19.58%	Overweight	✓	
Product & Operational transition (%)	19.00%	1.95%	Underweight	✓	
Asset Stranding (%)	0.00%	0.00%	Underweight	✓	
Exposure to asset stranding risks					
Fossil fuel-reserves (%)	0.00%	0.00%	Underweight	✓	
Thermal coal mining (%)	0.00%	0.00%	Underweight	✓	✓
Oil & Gas – Extraction and Production (%)	0.34%	0.00%	Underweight	✓	✓

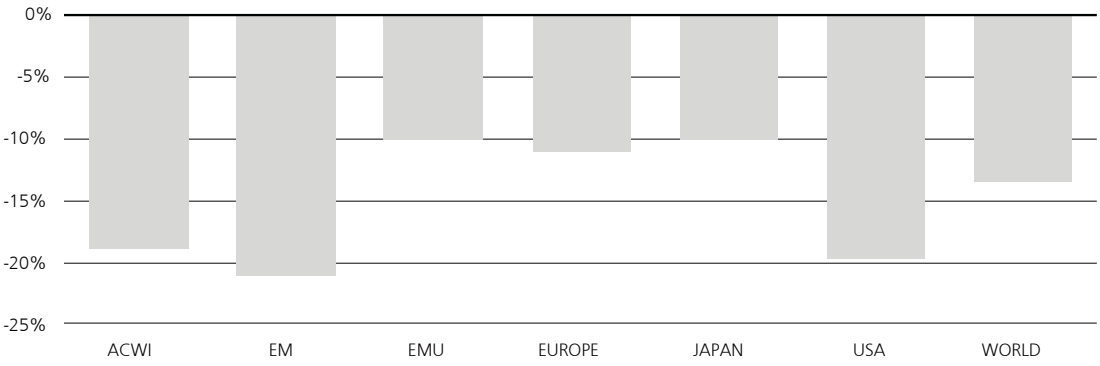
* Data as of 03 March 2021 for the Climate VaR metrics (including underlying index composition).

** The objective was achieved at the last index review and now slightly deviated due to market movements.

Source: UBS Asset Management, MSCI. Index composition as of end of January 2022, MSCI ESG data as of 11 February 2022.

In addition to these objectives, the MSCI Climate Paris Aligned indexes have also achieved their first annual self-decarbonization of a minimum of 10%. In Figure 19, we can see that all exposures have achieved this objective which started in June 2020 with the inclusion of Scope 3 emissions in the index methodology. Interestingly, for broader exposures like ACWI, EM or USA, the indexes have even achieved a higher self-decarbonization.

Figure 19: Yearly decarbonization rate MSCI Climate Paris Aligned indexes

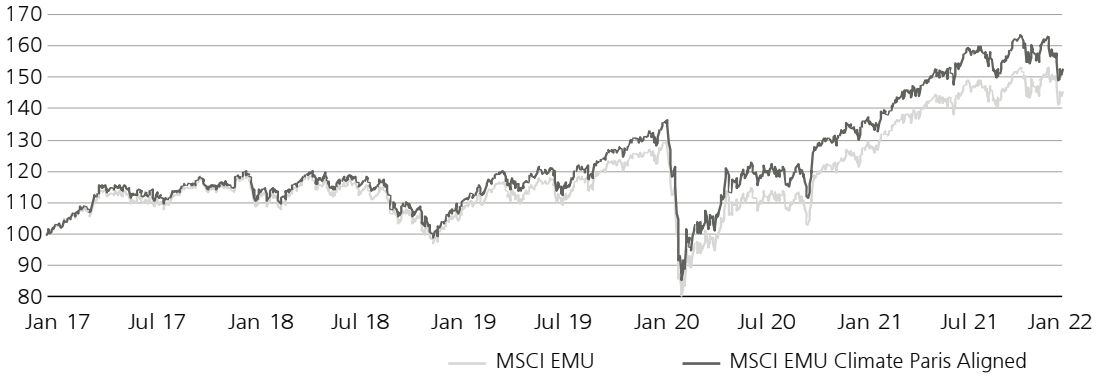


Source: UBS Asset Management, MSCI. Data as of May 2021 semi-annual index review.

Performance Analysis

From a performance perspective we can see in Figure 20 that the MSCI EMU Climate Paris Aligned Index has a better performance compared to the parent benchmark. This outperformance is particularly noticeable in 2019 and 2020. The drivers of the outperformance in 2020 have been both a smaller maximum drawdown at the peak of the COVID-19 outbreak, as well as a stronger recovery in the second half of 2020. One further observes how this excess return is achieved with lower volatility, which results in an overall improvement in the risk-return profile of the benchmark. This finding is confirmed when looking at metrics such as the Sharpe and Sortino ratios. When looking at the tracking error versus the parent benchmark, it can be termed as a "good" one, because as shown in Figure 21 the higher tracking error translated to higher performance versus the parent benchmark.

Figure 20: Performance analysis



Total returns	45.23%	52.79%
Returns p.a.	7.74%	8.84%
Volatility p.a.	17.52%	17.04%
Tracking error vs MSCI EMU	–	2.08%

Source: Bloomberg, MSCI, UBS Asset Management. Data from 31 January 2017 to 31 January 2022.

Includes backtested data. Past performance is not a reliable indicator of future results. For illustrative purposes only.

Figure 21: Performance difference vs. parent benchmark (in %)

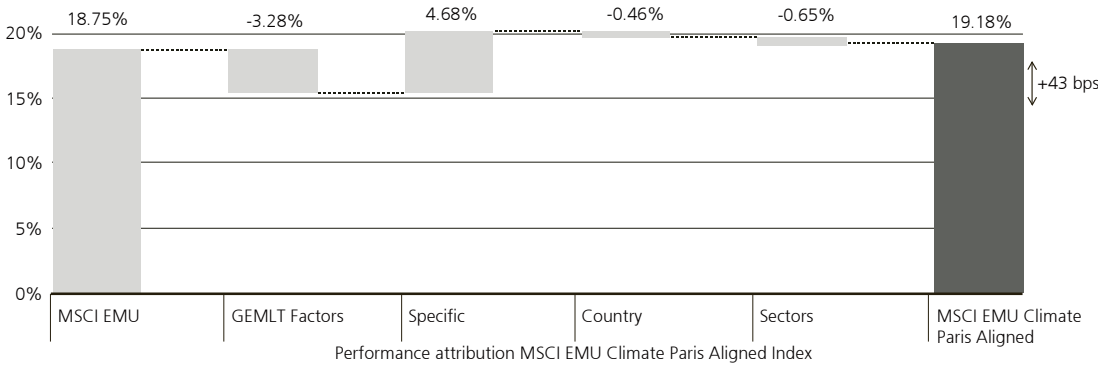
Source: Bloomberg, MSCI, UBS Asset Management. Data from 31 January 2017 to 31 January 2022.

Includes backtested data. Past performance is not a reliable indicator of future results. For illustrative purposes only.

Performance Attribution

To understand what is driving the recent excess returns of the MSCI EMU Climate Paris Aligned index over the parent MSCI EMU index, we ran a performance attribution using the GEMLT factor model from MSCI Barra (Figure 22). Over the last 24 months, we can see that the GEMLT factors (-3.28%) and the country active exposures (-0.46%) caused a performance drag, while the active sector weights (-0.65%) also negatively impacted returns. Interestingly, the specific returns which is the portion that cannot be explained by the model, was the largest positive contributor to performance with +468bps. This result might suggest that overweighting companies that are well positioned to benefit from transition opportunities while underweighting stocks with physical and transition risks was performance accretive for the Climate Paris Aligned benchmark.

Figure 22: GEMLT Excess Return Attribution – MSCI EMU Climate Paris Aligned vs MSCI EMU – Last 24 months

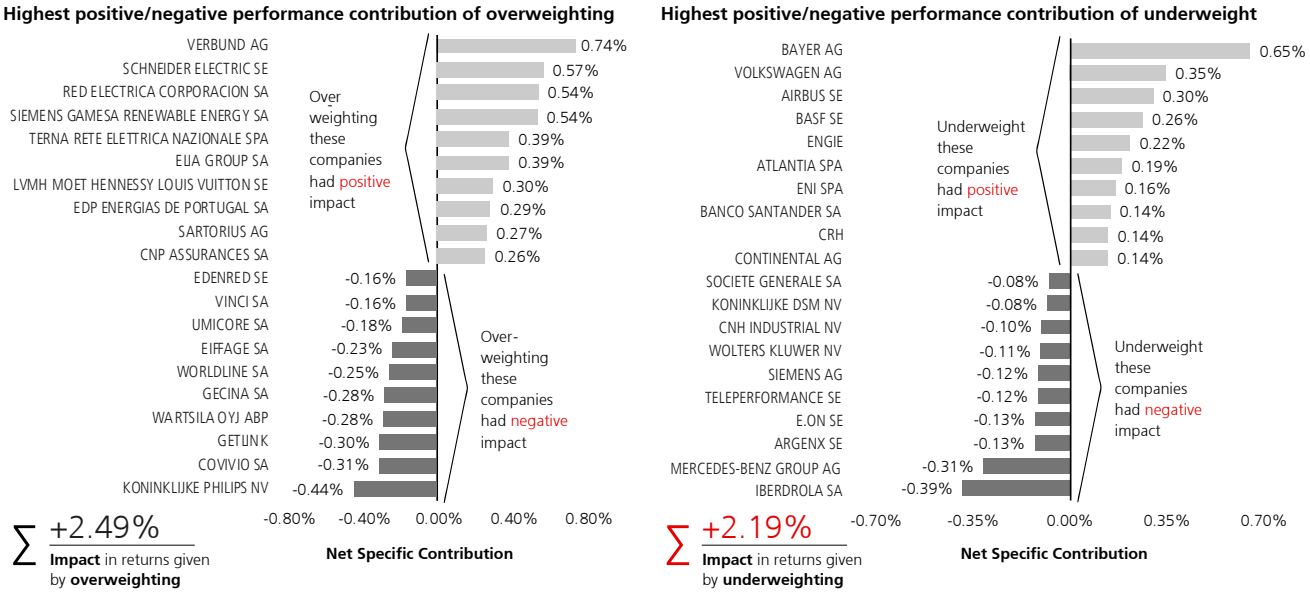


Source: MSCI BPM, UBS Asset Management. Data from January 2020 to January 2022. Net total returns.

Includes backtested data. Past performance is not a reliable indicator of future results. For illustrative purposes only.

One way of dissecting returns a step further is to look at individual stocks and their respective contribution to the 4.68% of specific returns based on their weight allocation. As shown on Figure 23, we can see that 219bps out of 468bps are linked to stocks that are underweighted or excluded, whereas 249bps can be attributed to companies being overweight compared to their weight in the parent index. This result is in line with our expectations: increased exposure to companies providing green revenues and well placed to benefit from the climate transition are improving returns, while being less exposed to stocks having climate or transition risks was also beneficial in terms of performance.

Figure 23: Top and bottom contribtors to YTD specific returns by asset allocation



Source: MSCI BPM, UBS Asset Management. Data from January 2020 to January 2022. Net total returns.

Past performance is not a reliable indicator of future results. For information purposes only.

No investment advice or a recommendation to buy or sell any securities.

Conclusion

According to the second part of the sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC), there is still a path for the world to transition to a below 2°C scenario, but the window is brief and rapidly closing. To address this massive challenge, both investors and corporates must play a significant role as the world needs to halve emissions over the next decade to reach net zero emissions by the middle of the century. We have outlined the tools available to investors that could support driving change, while we went through the pivotal role corporate emission reduction targets will play.

As a passive solution to address climate change, the European Union has created a legal framework which defines the minimum requirements for climate benchmarks. The strictest benchmark defined under this framework, the EU Paris Aligned Benchmark, can serve as an instrument for investors at the forefront of the transition, favoring today the players of tomorrow's low carbon economy. The MSCI Climate Paris-Aligned indexes not only meet, but exceed the minimum requirements for EU Paris-Aligned Benchmarks. Their methodology integrates a 50% carbon footprint reduction, together with a 10% year-on-year self-decarbonization glidepath, with the aim to achieve a 1.5°C pathway by 2030 and support investors in meeting their net zero commitments. In addition, these indexes are fully aligned with the recommendations from the TCFD, assessing and subsequently reducing transition and physical climate risks, while increasing exposure to potential opportunities arising from the transition.

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