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There's More Than One Way to Be a Climate Investor

Morningstar Indexes' range of climate benchmarks demonstrates the diversity of approaches and the trade-offs they entail.

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"Climate is clearly king when it comes to ESG," concluded Morningstar's 2023 Voice of the Asset Owner Survey.[1] "But how is the dialogue, scope and investment approach around climate broadening and deepening as asset owners become more sophisticated and nuanced?"

The study found that pension plans, endowments, foundations, and sovereign wealth funds increasingly view climate change as financially material. How that translates into an investment strategy, however, is highly dependent. Managing climate-related investment risk can prompt a far different approach to investing in opportunities stemming from the low-carbon transition. Some climate investors prioritize portfolio decarbonization, while others might focus on green technologies. Incorporating impact goals is another point of divergence.

Sustainable investing has never been monolithic. Environmental, social, and governance-based investment approaches have long varied in their motivation and implementation. "Low carbon, "net zero," "energy transition," "green technology," and "climate solutions," are among the many terms applied to climate-focused strategies. What do they mean for investors? How do they differ in terms of ESG-related outcomes? What are their implications for risk and return?

Morningstar Indexes' range of sustainable investing solutions can help answer these questions. Among the findings of this report:

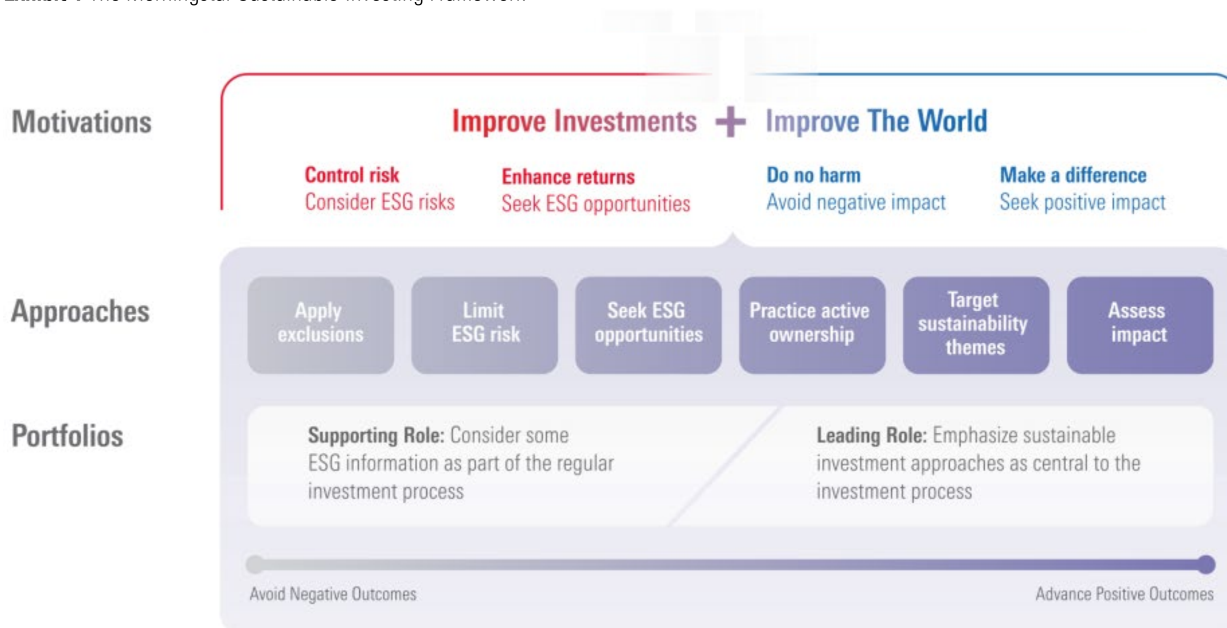
- The surest way to decarbonize a portfolio is to explicitly consider emissions in investment selection, as opposed to excluding fossil fuels, minimizing ESG risk, or targeting solutions, technologies, and impact.
- Investing in climate change opportunities can come at the expense of current emissions and ESG risk.
- When corporate revenues are examined for alignment with United Nations Sustainable Development Goals, renewables, energy transition, and climate action, indexes score best. Portfolios prioritizing decarbonization, fossil fuel exclusion, and low ESG risk don't score particularly well on impact measures.
- From a risk/return perspective, a portfolio can target decarbonization and exclude fossil fuels without deviating significantly from the market in terms of portfolio composition or risk/return. A narrower focus on climate opportunities and SDG alignment, however, is less marketlike and more volatile.
- Portfolios focused on decarbonization have performed well in the tech-driven market of 2023, but they suffered in 2022. By contrast, climate-opportunity-oriented investments have lagged in 2023 but had a good 2022.

1 Kuh, Thomas. "Voice of the Asset Owners Survey 2023, Qualitative Insights."

Researching Climate Investing With Morningstar Indexes

The Morningstar Sustainable-Investing Framework displayed in Exhibit 1 illustrates a broad spectrum of environmental, social, and governance-focused approaches, with their varying goals and profiles. It is important to note that the strategies are not mutually exclusive. Many sustainable investments incorporate more than one approach—such as applying exclusions and limiting ESG risk.

Exhibit 1 The Morningstar Sustainable-Investing Framework



Source: Morningstar.

Morningstar Indexes' range of climate-investing solutions[2] span the framework. Below, we examine several global equity benchmarks that put environmental criteria at the center of their construction rules. Other indexes that incorporate climate-related criteria were left out to limit scope.

The studied indexes and their approaches as categorized by the Morningstar Sustainable-Investing Framework are as follows:

- Morningstar Ex-Fossil Fuels Index (Exclusionary) avoids companies deriving revenue from activities like oil and gas production based on corporate data from Morningstar Sustainalytics.[3]
- Morningstar Global EU Climate Indexes (ESG Risk Mitigation, Assess Impact), which include Climate Transition, or CTB, and Paris Aligned Benchmarks, or PAB, target emissions reduction versus the broad equity market and follow a decarbonization trajectory informed by European Union regulation. Index weight is driven by a Climate Transition Matrix underpinned by data and research from Morningstar Sustainalytics and is designed to look beyond corporate net-zero pledges.

2 For a full methodological discussion of the indexes mentioned, refer to their construction rules and other documentation posted on the Morningstar Indexes website. https://indexes.morningstar.com/

3 For a full discussion of Sustainalytics' data and research, see: https://www.sustainalytics.com/

- Morningstar Global Sustainable Environment Index (Limit ESG Risk) considers climate in conjunction with other environmental issues like biodiversity and water management, emphasizing companies carrying low risk levels. This reflects a theme from the Morningstar 2023 Voice of the Asset Owner Survey that investor consideration of environmental issues is broadening.
- Morningstar Global Renewable Energy Index (Seek ESG Opportunities & Target Sustainability Themes) highlights companies leading the transition to a low-carbon economy through their involvement in or use of renewable energy and green transportation based on Morningstar Sustainalytics' data.
- Morningstar Global Energy Transition Index (Seek ESG Opportunities & Target Sustainability Themes) draws on the in-depth knowledge and forward-looking insights of Morningstar's equity research team to highlight companies well positioned to benefit from carbon-capture technologies, energy storage, hydrogen, and renewables.
- Morningstar Global Climate Action Index (Assess Impact), which is part of a range of Sustainable Activities Involvement Indexes, includes companies whose revenues are aligned with United Nations Sustainable Development Goals related to climate, as measured by Morningstar Sustainalytics.

How do these indexes vary, both in their sustainability outcomes as well as risk and return? The answer can help guide climate investors and set expectations.

Divergent ESG Outcomes Illustrate Climate Investing Trade-Offs

There are many ways to measure ESG outcomes. For climate investors, portfolio-level carbon emissions are a fundamental indicator. Exhibit 2 displays carbon intensity levels for a range of climate indexes. Carbon intensity compares scope 1, 2, and 3 emissions to enterprise value including cash. The data shows that investment approaches that explicitly target portfolio decarbonization, avoid fossil fuels, or minimize ESG risk are the surest path to a low-carbon portfolio. Investing for climate change solutions, technologies, and impact, by contrast, can come at the expense of current carbon emissions.

Exhibit 2 Carbon Intensity Levels Are Lowest for Indexes That Explicitly Select/Weight on Emissions

Index	Carbon Intensity
Morningstar Global Large-Mid (Equities)	436.69
Morningstar ex-Fossil Fuels	285.14
Morningstar EU Climate Transition Benchmark	157.98
Morningstar EU Paris Aligned Benchmark	111.26
Morningstar Sustainable Environment	225.79
Morningstar Renewable Energy	934.75
Morningstar Energy Transition	732.21
Morningstar Climate Action	1000.75

Source: Morningstar Indexes calculation. Data as of June 31, 2023. Index-level carbon intensity is a weighted average of constituent-level data, using company-level emissions data from Sustainalytics. Carbon intensity is computed for each constituent by dividing Total Emissions (metric tons of CO_2) by enterprise value including cash (Mil USD).

The EU climate benchmarks most dramatically reduce carbon intensity versus the broad equity market because they are designed to explicitly target reductions in average emissions versus their parents (the large mid-cap equity market segment) on a net-zero pathway. Excluding fossil fuels reduces carbon intensity but still leaves heavy emitters, such as steel, cement, airlines, and utilities.

Investors aiming to invest in solutions to combat climate change might be surprised by the carbon intensity of some companies involved in renewable energy, transition technologies, and climate action. What accounts for their carbon intensity? First, many companies are involved in both fossil fuels and renewables—for example, utilities transitioning from coal to energy sources like wind and solar. Second, a company can be focused on products and services that are climate-friendly—electric vehicles, wind turbines, solar panels, or the basic materials that power green technologies—but have carbon-intensive operations. This can even be true of semiconductor manufacturers whose chips enable energy efficiency.

What about ESG risk? How do the various climate approaches compare when it comes to exposure to environmental, social, and governance-related risks that can materially affect companies? Exhibit 3 displays the range of risk levels, with the least-risky portfolio unsurprisingly being the sustainable environment index, which explicitly screens on ESG risk, and renewable energy being the riskiest.

Exhibit 3 ESG Risk Exposure Is Lowest for Decarbonization-Focused Portfolios and Highest for Renewables

Index	ESG Risk Level
Morningstar Global Large-Mid (Equities)	21.79
Morningstar ex-Fossil Fuels	21.04
Morningstar EU Climate Transition Benchmark	20.91
Morningstar Paris Aligned Benchmark	20.58
Morningstar Sustainable Environment	19.06
Morningstar Renewable Energy	26.36
Morningstar Energy Transition	22.04
Morningstar Climate Action	19.24

Source: Morningstar Direct. ESG Risk is represented by index-level Portfolio Sustainability Scores, a weighted average of Sustainalytics' company-level ESG Risk Ratings. The scores are rendered on a 0-100 scale where lower scores are better. Portfolio Sustainability Score dates are as of June 30, 2023.

Excluding fossil fuels and targeting portfolio decarbonization yields a lower ESG risk level than the market, while the EU climate benchmarks, which are more comprehensive in their carbon reduction, lower levels further. The climate action index, with its narrow focus and technology-heavy portfolio, is unsurprisingly low ESG risk. Renewables and energy-transition-focused portfolios have higher ESG risk than the market, which is mostly a result of their heavy exposure to companies in the utilities, industrials, and materials sectors. These companies have an environmental impact and face risks related to health and safety.

How do the indexes compare based on impact-aligned investing? The United Nations Sustainable Development Goals, which represent a global consensus on the most pressing issues faced by humanity, provide a framework for impact measurement. Exhibit 4 displays percentage of index weight aligned with two climate-related SDG's: Affordable and Clean Energy and Climate Action. This is where the opportunities and impact-oriented indexes shine relative to exclusionary, decarbonization, and ESG-risk-focused approaches.

Exhibit 4 From an Impact-Aligned Perspective, Climate Opportunities and Impact-Oriented Investments Score Best

Index	Affordable & Clean Energy SDG (% Involvement)	Climate Action SDG (% Involvement)
Morningstar Global Large-Mid (Equities)	28.87	16.60
Morningstar ex-Fossil Fuels	27.55	14.22
Morningstar EU Climate Transition Benchmark	31.26	14.71
Morningstar EU Paris Aligned Benchmark	31.55	13.78
Morningstar Sustainable Environment	26.51	16.84
Morningstar Renewable Energy	66.99	77.97
Morningstar Energy Transition	70.62	71.52
Morningstar Climate Action	71.66	63.91

Source: Morningstar Direct. ESG Risk is represented by index-level Portfolio Sustainability Scores, a weighted average of Sustainalytics' company-level ESG Risk Ratings. The scores are rendered on a 0-100 scale where lower scores are better. Portfolio Sustainability Score dates are as of June 30, 2023.

Investment Outcomes for Climate-Focused Portfolios Also Vary Widely

How much do various climate-focused portfolios deviate from the broad market? Exhibit 5 displays tracking error, or the degree to which performance has diverged from the large- and mid-cap segment of the global equity market, for eight Morningstar indexes. The data demonstrates that climate investing can result in both minimal and dramatic divergence. Renewables, energy transition, and impact-aligned indexes have deviated far more than the exclusionary, low-carbon, and ESG-risk-based approaches.

Exhibit 5 Low-Carbon Investing Can Provide Marketlike Exposure, While Narrower Strategies Diverge Dramatically

Index	Tracking Error
Morningstar Global Large-Mid (Equities)	0.00
Morningstar ex-Fossil Fuels	0.10
Morningstar EU Climate Transition Benchmark	1.01
Morningstar Paris Aligned Benchmark	1.61
Morningstar Sustainable Environment	2.05
Morningstar Renewable Energy	7.48
Morningstar Energy Transition	9.41
Morningstar Climate Action	10.81

Source: Morningstar Direct. Tracking Error is over the trailing three-year period through Aug. 31, 2023. Index performance measured in net return, USD terms. For some indexes, back-cast returns are used.

Low tracking error for the ex-fossil fuels index is not surprising given that less than 5% of the global equities universe is composed of companies that generate most of their revenue directly from fossil fuels. The EU climate indexes are explicitly designed to deliver marketlike exposure and hold most of the same securities as the broad market portfolio, with weights tilted based on climate considerations. Climate solutions and impact-aligned indexes are far more narrowly focused and selective.

What about risk and return? Exhibit 6 displays the indexes' standard deviation of returns (a measure of volatility) and recent calendar-year performance. The data can answer critical questions: How much have returns fluctuated? In what market environments does this investment tend to thrive/struggle? In terms of volatility, the broader, more marketlike portfolios have unsurprisingly fluctuated only slightly more than the market, while the narrower climate solutions and impact-aligned indexes have bounced around more. From a return perspective, the more-marketlike indexes, with their growth stock bias, have performed better so far in 2023 but worse during the downturn of 2022.

Exhibit 6 Portfolios Focused on Decarbonization Have a Growth Tilt, While Climate Opportunities Investments Have Been More Volatile

Index	Volatility (Standard Deviation of Returns)	2023 YTD Return %	2022 Return %
Morningstar Global Large-Mid (Equities)	16.94	14.42	-18.27
Morningstar ex-Fossil Fuels	17.10	15.50	-20.59
Morningstar EU Climate Transition Benchmark	17.22	15.97	-19.26
Morningstar EU Paris Aligned Benchmark	17.19	16.44	-20.97
Morningstar Sustainable Environment	17.17	15.66	-20.26
Morningstar Renewable Energy	17.86	4.12	-12.67
Morningstar Energy Transition	21.68	4.51	-6.79
Morningstar Climate Action	22.89	9.05	-24.23

Source: Morningstar Direct. Standard Deviation is over the trailing three-year period through Aug. 31, 2023. For some indexes, back-cast returns are used. Index performance measured in net return, USD terms. 2023 returns are for the year to date through Aug. 31, 2023.

Probing calendar-year performance provides insight into behavior during various market environments. The past few years have seen both bull and bear markets. Leadership has rotated sharply, both by sector and investment factors.

So far, 2023 has been an up year for markets, but a small group of stars is responsible for the lion's share of returns. Artificial intelligence has been the major investment theme driving performance, with the shares of companies perceived to be benefiting from the trend leading the market. The technology and communication services sectors have performed best. Utilities have brought up the rear, while industrials, energy, and real estate stocks have underperformed.

Against this backdrop, it's not surprising to see several indexes with above-market technology exposure (sector weights are displayed in Exhibit 7 below) outperform in 2023. Those include the EU climate benchmarks, sustainable environment, and ex-fossil fuels. The tech-heavy climate action index's underperformance in 2023 is surprising but owes to its neglect of several of this year's stars, including Meta, Tesla, Amazon.com, Apple, and Microsoft, and above-market exposure to utilities and real estate.

The energy transition and renewable energy indexes have underperformed in 2023. Solar in particular has been hurt by higher interest rates, which have undermined housing demand. Add regulatory changes in California and increased competition, and solar businesses have hit a rough patch, even as the U.S. Inflation Reduction Act has encouraged adoption.

The performance picture was markedly different in 2022. Stubbornly high inflation prompted a series of steep interest-rate hikes while technology shares plunged. All the tech-heavy indexes suffered, while the energy transition and renewable energy indexes, heavier on old economy sectors, held up better.

Exhibit 7 A Carbon Focus Can Result in a Tech-Heavy Portfolio, While Climate Opportunity Investments Are Biased Toward Utilities, Industrials, and Materials

Sectors	Morningstar Global Large-Mid (Equities)	Morningstar ex-Fossil Fuels	Morningstar EU Paris Aligned Benchmark	Morningstar Climate Transition Benchmark	Morningstar Sustainable Environment	Morningstar Renewable Energy	Morningstar Energy Transition	Morningstar Climate Action Activities
Cyclical								
Basic Materials	4.62	4.74	2.69	3.53	2.56	6.62	25.15	0.21
Consumer Cyclical	11.11	12.03	11.66	11.1	13.1	8.28	0.00	7.52
Financial Services	15.28	16.47	14.25	13.98	17.39	0.95	0.00	0.08
Real Estate	2.63	2.85	2.83	2.73	3.24	0.66	0.00	13.89
Sensitive								
Communication Services	7.26	7.86	6.94	6.77	9.45	2.22	0.00	0.00
Energy	4.85	0.08	0.06	4.21	0.9	1.07	10.43	0.00
Industrials	11.06	11.29	8.61	8.92	9.22	30.48	31.74	27.83
Technology	21.98	23.83	27.14	25.47	23.9	10.27	18.17	44.54
Defensive								
Consumer Defensive	6.97	7.51	7.36	7.38	5.45	4.27	0.00	0.00
Healthcare	11.6	12.57	15.42	13.07	13.41	2.73	0.00	0.00
Utilities	2.64	0.72	3.01	2.8	1.3	32.46	14.51	5.79

Source: Morningstar Direct. Data as of Aug. 31, 2023.

Climate Investing, Like Sustainable Investing Broadly, Is a Long-Term Proposition

For climate investors, and sustainable investors more broadly, it's important not to make too much of short-term performance fluctuations. Investment returns must always be analyzed in the context of the approach and the biases inherent to the strategy. In the case of climate investments, low carbon, fossil fuel-free, and low-ESG-risk approaches can hew closely to the market. They tend to exhibit a growth bias with higher tech exposure.

By contrast, renewables, green technologies, and impact-oriented investments tend to be far more focused and narrow. They deviate further from the market and are generally more volatile. Heavier exposure to old economy sectors cannot only result in higher current emissions and ESG risk, but also act as a drag when tech-oriented stocks lead the market. On the plus side, they are more impact-aligned and hold up better during tech crashes.

Just as sustainability goals must be understood and balanced, climate investors need to set realistic expectations for risk and return.

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Morningstar Indexes was built to keep up with the evolving needs of investors—and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers and advisors in navigating investment opportunities across major asset classes, styles and strategies. From traditional benchmarks and unique IP-driven indexes, to index design, calculation and distribution services, our solutions span an investment landscape as diverse as investors themselves.

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