
Why Didn't Sustainable Investments Thrive Amid 2023's Tech Rebound?

Morningstar sustainability indexes' mixed performance can be blamed on ESG risk within the 'Magnificent Seven.'

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Sustainable investments posted mixed performance overall in 2023. In the six years since Morningstar Indexes began tracking the risk/return profile of its sustainability range, 2023 was the second-worst-performing calendar year after 2022.¹ Market dynamics are typically favorable for investments centered around environmental, social, and governance factors in periods when less carbon-intensive sectors like technology and communication services outperform. However, the top-heavy nature of global equity market returns in 2023 led to disjointed performance for sustainability indexes, as many missed out on certain members of the "Magnificent Seven."²

It is important to note that sustainable investing is not monolithic. Approaches vary in motivation, implementation, and application. Indexes using ESG Risk-focused security selection or tilting weight mechanisms generally underperformed the broad equity market in 2023. Unlike in 2022, when sustainability indexes suffered from lack of exposure to carbon-intensive sectors, underperformance in 2023 was primarily driven by security selection. Magnificent Seven members Meta and Alphabet face serious ESG controversies, while Tesla and Amazon.com have higher ESG Risk relative to their sector peers, leading to either exclusion from or downweighting in many ESG-Risk Focused indexes.

Meanwhile, climate indexes, such as those focused on net-zero alignment, had a bounce back year, helped by above-market exposure to the technology sector. These indexes also benefited from tilting away from high carbon intensive sectors, which underperformed in 2023.

Among the findings of this report:

- ▶ In calendar-year 2023, 44% (64/146) of Morningstar's sustainability indexes outperformed their non-ESG equivalents, up from 27% outperformance in 2022 but down from 57% in 2021. Despite mixed performance for sustainability indexes in 2023, the five-year numbers remain strong.
- ▶ From 2019 to 2023, 61% (89/146) of Morningstar's sustainability indexes beat their non-ESG equivalents. For the five-year period ended 2022, 78% outperformed.
- ▶ On the ESG risk side, 57% (83/146) of Morningstar's sustainability indexes lost less than their non-ESG equivalents during down periods between 2019 and 2023, as measured by the downside capture ratio. This number is down from the five-year period through 2022, when 70% of sustainability indexes had lost less in down markets.

¹ For last year's study, see: Lefkovitz, D, "In a Period of Poor Performance for Sustainable Investments, Gender Equality and Renewable Energy Were Bright Spots." Feb. 1, 2023.

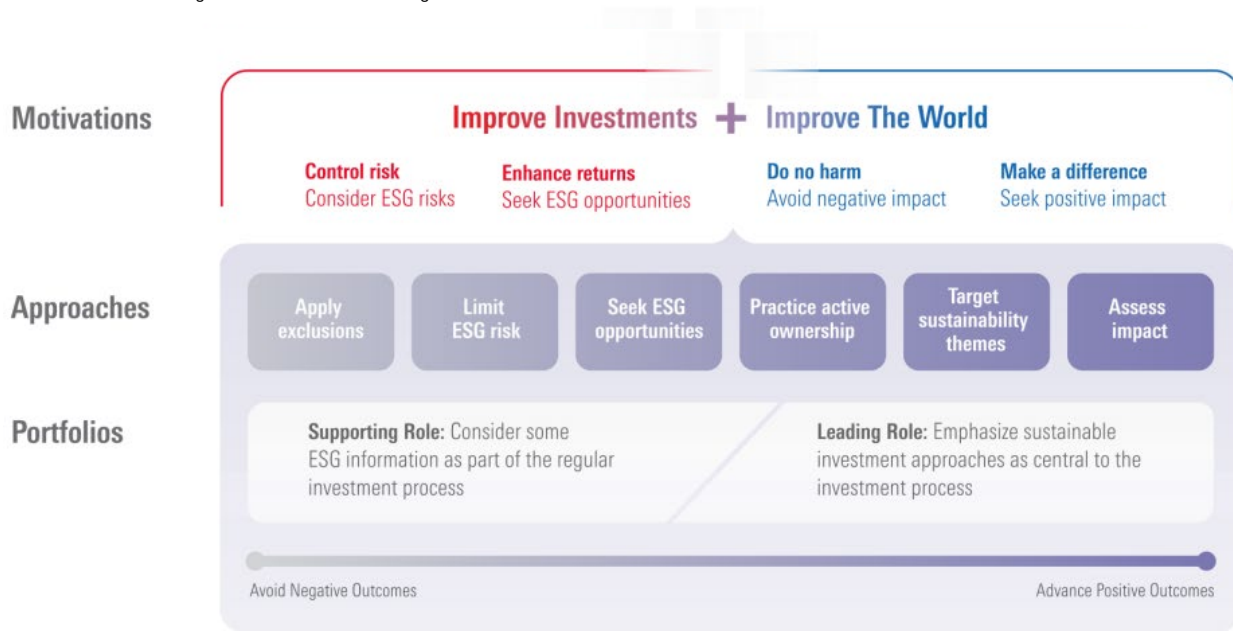
² Amazon.com, Apple, Alphabet, Meta, Microsoft, Nvidia, and Tesla.

- ▶ Climate and net-zero aligned indexes had a strong year, with 67% (18/27) outperforming their broad-based benchmark. Tilts away from the energy sector and toward technology and consumer cyclicals were the main drivers of the outperformance.
- ▶ Indexes focused on best-in-class security selection, which select the lowest ESG Risk stocks within a sector, generally performed poorly in 2023. Overweight exposure to technology stocks was beneficial but could not overcome negative security selection. Top-performing Magnificent Seven stocks Meta and Alphabet were left out of the Morningstar Global Sustainability Index because of ESG controversies, while Tesla and Amazon were excluded because of relatively high ESG risk within their respective sectors.
- ▶ Morningstar's EU Climate Indexes, which feature the Paris Aligned Benchmarks and Climate Transition Benchmarks, had a banner year, with 88% (7/8) beating their benchmark. In a reversal of fortune from 2022, overweight exposure to technology benefited performance, as did almost entirely excluding the energy sector.
- ▶ Sustainability indexes focused on value stocks, dividends, and reasonably valued companies with economic moats (durable competitive advantages) generally underperformed the market in 2023 but beat their non-ESG equivalents. Here, too, higher technology exposure advantaged the sustainability indexes.
- ▶ Renewable energy indexes largely underperformed in 2023, as inflation and high interest rates battered most clean energy stocks. However, the Morningstar Global Renewable Energy Index did outperform traditional energy as measured by the Morningstar Global Energy Index.
- ▶ Impact-aligned indexes as measured by the Morningstar Sustainable Activity Involvement indexes had a challenging year, with all nine indexes underperforming the broad market. These indexes have heavy tilts toward real estate, industrials, healthcare, and utilities. Many of the worst-performing stocks of 2023³ such as Moderna, SolarEdge, and Plug Power had significant weightings in the indexes.

Researching Sustainable-Investing Approaches With Morningstar Indexes

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

³ Albrecht, B. "The Worst-Performing Stocks of 2023." Morningstar. Jan. 3, 2024.

Exhibit 1 The Morningstar Sustainable-Investing Framework

Source: Morningstar.

Morningstar Indexes' range of sustainable-investing index solutions covers most of the approaches within the framework. Many indexes screen companies using the Sustainalytics ESG Risk Rating so can be considered primarily focused on limiting ESG risk relative to the market. Sustainalytics, a Morningstar company specializing in ESG data and research, covers tens of thousands of companies across the globe with a range of solutions. Sustainalytics' capabilities employed for index selection and weighting include Product Involvement Research, ESG Risk Ratings, Carbon Risk Ratings, Country Risk Ratings, Sustainable Product Research, Impact Metrics, and carbon data.⁴

This study will focus on several series of indexes that select and/or weight constituents on ESG criteria.⁵ Only indexes launched in 2023 or earlier are included. A handful of indexes are excluded that are derivatives of broader benchmarks because the exposures they provide are already analyzed and are idiosyncratic in nature.

A total of 146 unique indexes spanning equities and bonds are analyzed in 2023, and all 146 have five-year performance histories. The indexes can be classified into three broad buckets: ESG Risk, Climate, and Impact.

⁴ For a full discussion of Sustainalytics' data and research, see: <https://www.sustainalytics.com/>

⁵ 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/>

Exhibit 2 Morningstar Indexes' Sustainability Range

ESG Risk	Climate	Impact
Morningstar Sustainability (23)	Morningstar ex-Fossil Fuels Indexes (3)	Morningstar Sustainable Activities (6)
Morningstar Sustainability Leaders (10)	Morningstar Low Carbon Risk (10)	Morningstar Minority Empowerment
Morningstar Corporate Bond Sustainability (5)	Morningstar EU Climate (8)	Morningstar Women's Empowerment
Morningstar Sustainability Tilt (10)	Morningstar ESG Enhanced (6)	Morningstar Gender Diversity (8)
Morningstar Sustainability Extended (3)		Morningstar Renewable Energy (4)
Morningstar Global Treasury Bond Sustainability (4)		Morningstar Societal Development
Morningstar Sustainability Styles (12)		
Morningstar Sustainability Moat Focus (5)		
Morningstar Sustainability Dividend Yield Focus (12)		
Morningstar Sustainable Environment (10)		

Source: Morningstar Indexes.

For the purposes of risk/return analysis, most sustainability indexes are compared with their parent indexes (the non-ESG broad market benchmarks from which they are derived). For example, the Morningstar Global Markets Sustainability Index is compared with the Morningstar Global Markets Index. But in some cases, the sustainability index is compared with a closer equivalent. For example, the Morningstar Sustainability Moat Focus indexes and the Morningstar Sustainability Dividend Yield Focus indexes are compared with their non-ESG equivalents, the Morningstar Moat Focus indexes and Morningstar Dividend Yield Focus indexes, respectively. The goal is to isolate the effect of the ESG screens. For all indexes, gross return or total return index variants in U.S. dollars are examined for purposes of apples-to-apples comparison.

Indexes are compared with their non-ESG parent indexes (or non-ESG equivalents) on three parameters:

- ▶ 2023 excess returns
- ▶ Five-year trailing excess returns through year-end 2023
- ▶ Five-year downside capture through year-end 2023

While the returns comparison is straightforward, downside capture is chosen from a variety of risk measures because it helps gauge a portfolio's ability to preserve capital in bad market conditions. Capital preservation is critical to long-term investment success. A downside capture ratio above 100% implies greater losses than the market during losing periods; a downside capture ratio below 100% suggests lesser losses.

As with any study, this one has caveats:

- ▶ Attribution analysis will not be discussed for every index. Many of the contributors and detractors discussed in regard to the Morningstar Sustainability Indexes apply more broadly.
- ▶ Morningstar Sustainability Indexes transitioned from the Sustainalytics' ESG Rating, which was industry-relative, to the Sustainalytics ESG Risk Rating, which is an absolute gauge of ESG-related material financial risks to enterprise value, in 2019. Returns until 2019 incorporate the ESG Rating, and from 2019 the ESG Risk Rating.
- ▶ Given the relatively recent development of ESG indexing, the time periods assessed sometimes include back-cast returns. The oldest and largest series studied, the Morningstar Sustainability indexes, was launched in mid-2016, so its history spans the entire five years. Other indexes analyzed are newer. Preinception returns are simulated based on historical Sustainalytics ratings.
- ▶ Returns-based analysis is always deeply influenced by the nuances of the period studied. Readers will note that, in 2023, growth stocks generally beat value stocks,, with the technology sector leading the market. For the five years through the end of 2023, growth stocks outperformed value and the technology sector paced the market.

Exhibit 3 Magnificent Seven Drives Tech Boom, While Energy Comes Back to Earth in 2023

Returns	Morningstar Global Energy Index	Morningstar Global Tech Index
2023	6.26%	52.62%
2019-23	10.26% (annualized)	23.20% (annualized)

Source: Morningstar Direct.

Exhibit 4 How Are the Magnificent Seven Stocks on ESG Risk and Controversies?

Name	2023 Return	2022 Return	Sustainalytics ESG Risk Level	Sector	Company Controversy Level	ESG Risk Rank – Subindustry
Meta Platforms Inc Class A	194.13	64.22	High	Communication Services	High (4)	248/249
Alphabet Inc Class A	58.32	-39.09	Medium	Communication Services	High (4)	106/249
Alphabet Inc Class C	58.83	-38.67	Medium	Communication Services	High (4)	106/249
Amazon.com Inc	80.88	-49.62	High	Consumer Cyclical	Significant (3)	96/99
Apple Inc	48.91	-26.32	Low	Technology	Significant (3)	35/116
Tesla Inc	101.72	-65.03	Medium	Consumer Cyclical	Significant (3)	35/78
Microsoft Corp	57.96	-27.94	Low	Technology	Significant (3)	23/444
NVIDIA Corp	238.98	-50.26	Low	Technology	Moderate (2)	1/231

Source: Morningstar Direct as of Dec. 31, 2023.

Much of the struggles of ESG risk-based indexes in 2023 can be explained by the ESG Risk Ratings of the technology and communication services sector—especially the Magnificent Seven market leaders of 2023. Amazon.com is classified as High risk and is a poor ESG performer in its sector, which leads to it being excluded from or heavily downweighted within most ESG-Risk-based indexes. Meta and Alphabet have both faced High ESG Controversies, which means they are excluded from the majority of Morningstar's ESG Risk-based indexes.

Section 1 – ESG Risk

Morningstar Sustainability Indexes

The Morningstar Sustainability indexes represent broad equity market exposure while limiting ESG risk. After excluding companies exposed to tobacco, controversial weapons, and civilian firearms, as well as companies experiencing serious ESG-related controversies according to Sustainalytics, the indexes select companies in order of their Sustainalytics ESG Risk Rating until 50% coverage of the parent index is reached by market cap. Sector and regional weights are kept within 2 percentage points of their equivalent market weight. Index constituents are weighted by market capitalization.

Exhibit 5 Morningstar Sustainability Indexes

Broad Regional Markets	Developed Markets	Emerging Markets	Single Country
Global Markets	Developed Markets	Emerging Markets	United States
Global Markets ex-U.S.	Developed Markets	Emerging Markets Americas	Japan
Asia	Developed Markets ex- U.S.		United Kingdom
Asia ex-Japan	Developed Markets ex- North America		Germany
Asia Pacific			Canada
Asia Pacific ex-Japan			Australia
Europe			India
Eurozone			Brazil
Nordics			

Source: Morningstar Indexes.

Launched in 2016, the Morningstar Sustainability indexes are derived from the large- and mid-cap segment of the equivalent Morningstar Global Market indexes. Indexes include back-cast returns based on historical Sustainalytics' company-level assessments.

As displayed in Exhibit 6, only five of the 23 Morningstar Sustainability indexes outperformed in calendar-year 2023. The outperformers included Australia and Europe. On a five-year basis, results improve, with 13 of 23 sustainability indexes outperforming their parent indexes. In terms of risk, nine of 23 sustainability indexes lost less than their broad-market equivalents during down markets over the past five years.

Exhibit 6 Morningstar Sustainability Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sustainability	2023 Excess	5Yr Excess Return	5 Year Down
US	-0.13	0.05	97.77
Developed Markets ex North America	-0.82	0.42	102.01
India	-2.40	-1.46	97.40
Brazil	0.01	-3.50	102.40
Australia	1.65	-0.17	101.16
Canada	-3.36	-2.87	102.39
Germany	-1.44	-1.84	97.54
Japan	-0.51	0.95	100.91
UK	-0.83	0.03	104.96
Nordics	-3.66	-2.54	102.37
Emerging Markets America	1.28	-1.08	99.46
Emerging Markets	-0.57	-0.82	102.47
Developed Markets Europe	-0.19	0.54	100.39
Eurozone	-1.42	1.11	96.06
Europe	0.37	0.75	99.27
Asia ex Japan	-3.27	-0.17	100.30
Asia	-2.33	0.02	101.75
Asia Pacific ex Japan	-2.39	-0.30	96.71
Asia Pacific	-1.96	0.06	101.49
Developed Markets ex US	-1.27	0.29	102.33
Developed Markets	-0.33	0.27	96.32
Global ex US	0.07	0.40	101.67
Global	-0.09	0.34	98.44

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

Security selection and the exclusion of high-performing technology and communications stocks because of ESG screens explains much of the underperformance for the sustainability indexes in 2023. In the Morningstar Global Markets Sustainability Index, above-market exposure to stocks like Microsoft and Nvidia boosted performance returns but could not make up for missing out on Tesla, Alphabet, and Amazon. Alphabet was dropped in 2019 because of controversy, and Tesla and Amazon.com were not included because of their relative ESG Risk Ratings.

The Morningstar US Sustainability Index generally overweighted and underweighted the correct sectors, but it also struggled with security selection. Outside of the Magnificent Seven, the U.S. index suffered from overweight positions to Walt Disney and Verizon and leaving out stellar performers like Uber and MongoDB.

For the Morningstar Asia ex-Japan Sustainability Index, security-specific weights were also a drag on performance. Avoiding Toyota Motor, Meituan, and Shin-Etsu Chemical contributed to underperformance.

In Europe, which was one of the few bright spots in 2023, strong security selection helped in consumer defensive and basic materials stocks, such as heavy allocations to Air Liquide, L'Oreal, and ASML.

Morningstar Sustainability Leaders Indexes

The Morningstar Sustainability Leaders indexes, which are equity-focused, are similar to the Morningstar Sustainability indexes but more concentrated. They can deviate further from market weights by sector and region, and they exclude more classes of companies. Not only do the Sustainability Leaders indexes exclude companies exposed to tobacco, controversial weapons, and civilian firearms, but they also avoid nuclear products and companies with significant exposure to gambling, alcohol, or adult entertainment. Companies experiencing serious ESG-related controversies according to Sustainalytics are excluded, as are companies that have a poor Sustainalytics Carbon Risk Rating or that are not compliant with the United Nations Global Compact. The indexes select companies in order of their Sustainalytics ESG Risk Ratings and are fixed-count in nature. Index constituents are weighted by market cap.

Exhibit 7 Morningstar Sustainability Leaders Indexes—Membership and Constituent Counts

Broad Regional Markets		Developed Markets		Emerging Markets		Single Country	
Global Markets	100	Developed Markets	75	Emerging Markets	50	United States	50
Global Markets ex-U.S.	75	Developed Markets ex-U.S.	50			Japan	25
Asia ex-Japan	50	Developed Europe	50				
		Nordics	50				

Source: Morningstar Indexes.

The Morningstar Sustainability Leaders indexes are derived from the large-cap segment of the equivalent Morningstar region/country index.

As displayed in Exhibit 8, six of 10 Morningstar Sustainability Leaders indexes outperformed in 2023, and seven of 10 beat their parent index over the five-year period through the end of 2023. All 10 lost more in down markets than its non-ESG equivalent. The indexes are more concentrated and less constrained in their sector weights than the Morningstar Sustainability indexes, increasing their margins of outperformance/underperformance. The concentrated nature of the index can be seen in 2023 via a large position in Nvidia for the Morningstar Global Sustainability Leaders, a large reason for the year's overperformance of 12.94%.

Exhibit 8 Morningstar Sustainability Leaders Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sustainability Leaders	2023 Excess	5Yr Excess Return	5 Year Down
Global	12.94	3.79	110.85
Asia ex Japan	-6.07	-1.85	100.37
Developed Markets Europe	9.36	3.62	109.04
Developed Markets	13.86	3.11	115.30
Developed Markets ex US	8.04	4.32	115.33
Emerging Markets	-4.51	-2.19	100.68
Global ex US	8.83	4.45	110.44
Japan	-1.12	1.27	102.59
Nordics	-9.09	-7.74	120.32
US	5.13	1.67	105.73

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

Morningstar Corporate Bond Sustainability Indexes

The Morningstar Corporate Bond Sustainability indexes are essentially the fixed-income equivalents of the Morningstar Sustainability indexes. After excluding issuers exposed to tobacco, controversial weapons, and civilian firearms, as well as companies experiencing serious ESG-related controversies according to Sustainalytics, the indexes select securities reflecting the top 50% of the parent universe by market cap of securities with the lowest Sustainalytics ESG Risk Ratings across 27 distinct categories. The indexes maintain similar interest-rate sensitivity, yield, sector weights, and credit quality as the corporate bond index parents from which they are derived. The Morningstar US Corporate Bond Sustainability Index launched in 2019, and the other indexes launched in 2021 with performance back-cast to 2016. The indexes are:

- ▶ Morningstar Global Corporate Bond Sustainability Index
- ▶ Morningstar US Corporate Bond Sustainability Index
- ▶ Morningstar Eurozone Corporate Bond Sustainability Index
- ▶ Morningstar UK Corporate Bond Sustainability Index
- ▶ Morningstar Canada Corporate Bond Sustainability Index

As displayed in Exhibit 9, two of the five Morningstar Corporate Bond Sustainability indexes outperformed in calendar-year 2023. On a five-year basis, four of the five indexes outperformed their parents. In terms of risk, three of the five corporate bond sustainability indexes lost less than their non-ESG equivalents during down markets over the past five years. The margins of underperformance and outperformance are small by design, in line with the indexes' mission to provide marketlike exposure. Small differences in sector weights, yield-curve positioning, credit quality, and other factors contribute to divergence.

Exhibit 9 Morningstar Corporate Bond Sustainability Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Corp Bond Sust	2023 Excess	5Yr Excess Return	5 Year Down
Global	-0.01	0.06	98.22
Eurozone	0.14	0.004	98.87
Canada	0.06	0.04	101.16
UK	-0.12	-0.09	100.06
US	-0.07	0.11	97.72

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

Morningstar Sustainability Tilt Indexes

The Morningstar Sustainability Tilt indexes aim to minimize portfolio-level ESG risk while delivering diversified exposure similar to their parent indexes, the Morningstar Global Markets indexes. The tilt indexes exclude companies exposed to tobacco, controversial weapons, and civilian firearms, as well as severe ESG-related controversies and companies out of compliance with the United Nations Global Compact. Each eligible company is weighted according to market capitalization modified by the Sustainalytics ESG Risk Rating. The indexes' sector and regional weights are constrained to within 2 percentage points of their parent indexes. The indexes were launched in 2022 with performance history back-cast to December 2015 based on historical Sustainalytics ratings. The indexes are:

- ▶ Morningstar Global Markets Sustainability Tilt Index
- ▶ Morningstar Developed Markets Sustainability Tilt Index
- ▶ Morningstar US Sustainability Tilt Index
- ▶ Morningstar Global Markets ex-US Sustainability Tilt Index
- ▶ Morningstar Developed Markets ex-US Sustainability Tilt Index
- ▶ Morningstar Asia Pacific Sustainability Tilt Index
- ▶ Morningstar Developed Markets Europe Sustainability Tilt Index
- ▶ Morningstar Emerging Markets Sustainability Tilt Index
- ▶ Morningstar Japan Sustainability Tilt Index
- ▶ Morningstar Canada Sustainability Tilt Index

As displayed in Exhibit 10, six of 10 indexes outperformed in 2023, while eight of 10 indexes outperformed over the five-year period and eight of 10 lost less in down markets than their non-ESG equivalents for the trailing five-year period.

Exhibit 10 Morningstar Sustainability Tilt Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sust Tilt	2023 Excess	5Yr Excess Return	5 Year Down
US	-2.23	-0.26	99.51
Japan	-0.09	0.75	99.08
Global	-0.45	0.33	99.66
Emerging Markets	0.91	0.75	98.33
Developed Markets ex US	0.47	0.55	100.75
Developed Markets	-1.00	0.13	99.83
Developed Markets Europe	0.84	0.67	100.40
Canada	0.56	-0.03	95.95
Asia Pacific	0.20	0.86	97.90
Global ex US	0.85	0.72	99.44

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

Morningstar Sustainability Extended Indexes

The Morningstar Sustainability Extended indexes launched in 2020 with returns back-cast to December 2014 based on Sustainalytics' company-level ratings. The sustainability extended indexes are equity-focused and are methodologically similar to the Morningstar Sustainability indexes. The sustainability extended indexes are derived from the large- and mid-cap segments of the equivalent region/country index. After excluding companies exposed to tobacco, controversial weapons, and civilian firearms, as well as companies experiencing serious ESG-related controversies according to Sustainalytics, the indexes select companies in order of their Sustainalytics-assigned ESG Risk Rating until 67% coverage of the parent index is reached by market cap. Until 2019, the indexes used the Sustainalytics' ESG Rating, which was an industry-relative measure of a company's ESG profile. Sector and regional weights are kept within 2 percentage points of their equivalent market weight. Index constituents are weighted by market cap. The indexes are:

- ▶ Morningstar US Sustainability Extended Index
- ▶ Morningstar Canada Sustainability Extended Index
- ▶ Morningstar Developed Markets ex-North America Sustainability Extended Index

As displayed in Exhibit 11, two of three indexes outperformed in 2023. Over the five-year period, one of the three outperformed and two of the three lost less during down markets.

Exhibit 11 Morningstar Sustainability Extended Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sust Ext	2023 Excess	5Yr Excess Return	5 Year Down
Canada	0.35	-1.19	98.71
DM ex North America	0.66	0.37	100.16
US	-3.66	-0.47	96.48

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

Morningstar Global Treasury Bond Sustainability Indexes

Morningstar Global Treasury Bond Sustainability indexes includes developed-markets, investment-grade Treasury bonds issued in each country's home currency. The indexes leverage Sustainalytics Country Risk Ratings, which are applied to 172 countries. The rating measures risk to a country's long-term prosperity and economic development by assessing how sustainably it is managing its natural, human, and institutional capital. Sustainalytics assesses more than 30 indicators to score three areas that correspond to the E, S, and G pillars. Meanwhile, an event rating assesses incidents that might have negative impact, such as state corruption or violent conflict. The indexes are tilted toward those countries with lower country sustainability risks and incorporates environmental, social, or governance criteria. The indexes are:

- ▶ Morningstar Global Treasury Bond Sustainability Index
- ▶ Morningstar Global ex-US Treasury Bond Sustainability Index
- ▶ Morningstar Global ex-Japan Treasury Bond Sustainability Index
- ▶ Morningstar Eurozone Treasury Bond Sustainability Index

The indexes launched in 2021 with returns back-cast to 2014 based on Sustainalytics' ratings. As displayed in Exhibit 12, two of four indexes outperformed in 2023, while two of four indexes with five-year histories outperformed over the five-year period and two of four lost less than their non-ESG equivalents for the trailing five-year period.

Exhibit 12 Morningstar Treasury Bond Sustainability Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Global Treasury Bond	2023 Excess	5Yr Excess Return	5 Year Down
Global ex US	0.10	-0.08	101.18
Eurozone	-0.25	-0.29	100.55
Global	0.05	0.12	98.72
Global ex Japan	-0.03	0.04	99.80

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

Morningstar Sustainability Styles Indexes

The Morningstar Sustainability Styles indexes represent broad equity market style segments while reweighting constituents of their parent indexes to favor companies with lower ESG risk, as measured by their Sustainalytics ESG Risk Rating. The indexes are derived from the Morningstar Global Style indexes or Morningstar Broad Style indexes (U.S. only). They exclude companies exposed to tobacco, controversial weapons, or civilian firearms, those deemed to be noncompliant with the United Nations Global Compact, and those with severe ESG-related controversies. Each eligible company is weighted according to market capitalization modified by Sustainalytics ESG Risk Rating. Weights at the security, region, and sector levels are constrained to within 5 percentage points of parent index weight. The indexes launched in 2022 with back-cast returns to 2015 based on historical Sustainalytics data. The indexes are:

- ▶ Morningstar Global Sustainability Large-Mid Cap Growth Index
- ▶ Morningstar Global Sustainability Large-Mid Cap Value Index
- ▶ Morningstar Global Sustainability Large Cap Growth Index
- ▶ Morningstar Global Sustainability Large Cap Value Index
- ▶ Morningstar Global Sustainability Mid Cap Growth Index
- ▶ Morningstar Global Sustainability Mid Cap Value Index
- ▶ Morningstar US Sustainability Large-Mid Cap Broad Growth Index
- ▶ Morningstar US Sustainability Large-Mid Cap Broad Value Index
- ▶ Morningstar US Sustainability Large Cap Broad Growth Index
- ▶ Morningstar US Sustainability Large Cap Broad Value Index
- ▶ Morningstar US Sustainability Mid Cap Broad Growth Index
- ▶ Morningstar US Sustainability Mid Cap Broad Value Index

It is useful to compare the Morningstar Sustainability Styles indexes both to their broad equity market parents and to their style-specific equivalents. The latter comparison is the one that contributes to this study's overall results. Comparing Sustainability Styles indexes to their non-ESG equivalents isolates the risk/return effect of the sustainability screens.

First, as we observe in Exhibit 13, six of 12 outperformed the broad equity market in 2023. In a year in which growth stocks outperformed value stocks by a large margin, it is unsurprising to see the sustainability growth indexes outperform the broad equity market and the growth indexes outperform. For the five-year period, six of 12 outperformed. Downside capture ratios versus the broad market are not computed.

Exhibit 13 Morningstar Sustainability Styles Indexes Return Record vs. Broad Equity Market Index

Morningstar Sustainability Style	2023 Excess	5Yr Excess Return
US Sustainability Large Broad Value	-16.23	-3.03
US Sustainability Large Broad Growth	5.55	0.26
US Sustainability Mid Broad Value	-1.91	-1.68
US Sustainability Mid Broad Growth	2.44	0.27
US Sustainability Large-Mid Broad Growth	-13.00	-2.65
US Sustainability Large-Mid Broad Value	4.68	0.25
Global Sustainability Large Value	-8.38	-0.76
Global Sustainability Large Growth	4.20	1.22
Global Sustainability Mid Value	-0.32	-0.80
Global Sustainability Mid Growth	0.57	0.86
Global Sustainability Large-Mid Growth	3.60	1.02
Global Sustainability Large-Mid Value	-6.76	-0.89

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

But in Exhibit 14, when we compare the Morningstar Sustainability Style indexes to their available non-ESG style equivalents, there is a very different story, with only one of 12 outperforming in 2023. Over the five-year period, results improve slightly; five of 12 indexes outperformed their non-ESG screened

equivalents and seven of twelve lost less during down periods. On both sides of the value and growth spectrum, the indexes were punished by security selection.

Exhibit 14 Morningstar Sustainability Styles Indexes Risk/Return Record vs. Morningstar Style Equivalent Index

Morningstar Sustainability Style	2023 Excess	5Yr Excess Return	5 Year Down
US Sustainability Large Broad Value	-1.39	0.16	100.75
US Sustainability Large Broad Growth	-10.45	-2.07	96.54
US Sustainability Mid Broad Value	2.49	-0.20	98.54
US Sustainability Mid Broad Growth	-2.16	-0.44	102.51
US Sustainability Large Mid Broad Growth	-8.72	-1.75	98.96
US Sustainability Large Mid Broad Value	-0.49	0.16	101.08
Global Sustainability Large Value	-0.51	0.91	95.97
Global Sustainability Large Growth	-1.85	0.46	97.36
Global Sustainability Mid Value	-0.10	-1.55	115.60
Global Sustainability Mid Growth	-13.13	-2.32	106.90
Global Sustainability Large Mid Growth	-3.98	-0.05	99.16
Global Sustainability Large Mid Value	-0.42	0.45	99.75

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

Morningstar Sustainability Moat Focus Indexes

The Morningstar Sustainability Moat Focus indexes target the shares of a select set of companies with durable competitive advantages, relatively attractive valuations, and moderate to low exposure to ESG risks. The principal sustainability screen, the Sustainalytics ESG Risk Rating, focuses on the issues most likely to affect a company's financial results. The other two inputs rely on Morningstar's team of stock analysts, who assign Morningstar Economic Moat Ratings and fair value estimates to each company they cover. The indexes exclude companies exposed to tobacco, controversial weapons, companies with Sustainalytics ESG Risk Ratings of High or Severe, those that have experienced serious ESG-related controversies over the past three years, and companies carrying Sustainalytics Carbon Risk Ratings of High or Severe. The indexes also screen out securities in the bottom 20% in terms of negative share price momentum. Every quarter, the indexes select a target number of companies with wide or narrow Morningstar Economic Moat Ratings that carry the lowest current price/fair value ratios that meet the ESG criteria. The indexes launched in 2020 with back-casted returns to 2014. The indexes are:

- ▶ Morningstar Global Markets Sustainability Moat Focus Index
- ▶ Morningstar Developed Markets Sustainability Moat Focus Index
- ▶ Morningstar US Sustainability Moat Focus Index
- ▶ Morningstar Global Markets ex-US Sustainability Moat Focus Index
- ▶ Morningstar Developed Markets Europe Sustainability Moat Focus Index

Although the Morningstar Sustainable Moat Focus indexes are derived from their all-capitalization market equivalents, they are compared below both with their broad equity market parents and their equivalent Morningstar Moat Focus Index. The latter comparison is the one that contributes to this study's overall results. Comparing Morningstar Sustainable Moat Focus indexes to their non-ESG equivalents isolates the risk/return effect of the sustainability screens.

First, we observe in Exhibit 15 that one of five Sustainable Moat Focus indexes outperformed their broad equity market equivalents in 2023. For the five-year period, four of five outperformed. Downside capture ratios versus the broad market are not computed.

Exhibit 15 Morningstar Sustainability Moat Focus Indexes Risk/Return Record vs. Broad Equity Market Index

Morningstar Sustainability Moat Focus	2023 Excess	5Yr Excess Return
Developed Markets Europe	0.71	0.06
Developed Markets	-2.04	0.13
Global	-4.90	-0.15
Global ex US	-1.90	0.25
US	-7.60	0.31

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

But in Exhibit 16, when we compare the Morningstar Sustainability Moat Focus indexes with their non-ESG Moat Focus equivalents, we see that four of five outperformed in 2023. Over the five-year period, four of five indexes outperformed their non-ESG screened equivalents, and three of five lost less during down periods.

Exhibit 16 Morningstar Sustainability Moat Focus Indexes Risk/Return Record vs. Morningstar Moat Focus Equivalent Index

Morningstar Sustainability Moat Focus	2023 Excess	5Yr Excess Return	5 Year Down
Developed Markets Europe	1.46	0.64	97.26
Developed Markets	8.40	1.08	107.40
Global	5.30	0.02	105.04
Global ex US	3.16	1.90	92.86
US	-13.57	-1.98	94.25

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

What explains the outperformance of the Sustainability Moat Focus indexes versus their non-ESG Moat Focus equivalents? The Morningstar Global Markets Sustainability Moat Focus Index largely outperformed because of its high relative exposure to technology and lower exposure to consumer defensive. In the United States, the Sustainability Moat Focus Index struggled, including missing out on Amazon and Meta entirely.

Morningstar Sustainability Dividend Yield Focus Indexes

The Morningstar Sustainability Dividend Yield Focus indexes select the shares of dividend-paying companies that are competitively advantaged and financially healthy. To be eligible, a security must have paid a dividend in the past 12 months, be assigned a Morningstar Economic Moat Rating or a Quantitative Economic Moat Rating, a Sustainalytics ESG Risk Rating, a Sustainalytics Controversy Rating, and a Morningstar Distance to Default score. The indexes exclude companies exposed to

tobacco, controversial weapons, and those with serious ESG-related controversies. Eligible securities that are assigned wide or narrow moat ratings must land in the top 50% of their Morningstar region-sector cohort by Distance to Default score. The portfolio of securities passing the screens is optimized to achieve a high Portfolio Corporate Sustainability Score. To maximize yield, the index is weighted on the basis of trailing 12-month available dividends, which considers dividend per share and number of shares. The indexes launched in 2020 with back-cast returns to 2012. The indexes are:

- ▶ Morningstar Global Markets Sustainability Dividend Yield Focus Index
- ▶ Morningstar Developed Markets Sustainability Dividend Yield Focus Index
- ▶ Morningstar US Sustainability Dividend Yield Focus Index
- ▶ Morningstar Global Markets ex-US Sustainability Dividend Yield Focus Index
- ▶ Morningstar Developed Markets ex-US Sustainability Dividend Yield Focus Index
- ▶ Morningstar Emerging Markets Sustainability Dividend Yield Focus Index
- ▶ Morningstar Japan Sustainability Dividend Yield Focus Index
- ▶ Morningstar Developed Markets Asia Pacific ex-Japan Sustainability Dividend Yield Focus Index
- ▶ Morningstar Developed Europe Sustainability Dividend Yield Focus Index
- ▶ Morningstar Nordic Sustainability Dividend Yield Focus Index
- ▶ Morningstar UK Sustainability Dividend Yield Focus Index
- ▶ Morningstar Canada Sustainability Dividend Yield Focus Index

Although the Morningstar Sustainability Dividend Yield Focus indexes are derived from their all-capitalization market equivalents, they are compared both with their broad equity market parents and their equivalent Morningstar Dividend Yield Focus Index. The latter comparison is the one that contributes to this study's overall results. Comparing Sustainability Dividend Yield Focus indexes to their non-ESG equivalents isolates the risk/return effect of the sustainability screens.

First, we observe in Exhibit 17 that five of 12 Sustainability Dividend Yield Focus indexes outperformed their broad equity market equivalents in 2023. For the five-year period, five of 12 outperformed. Downside capture ratios versus the broad market are not computed.

Exhibit 17 Morningstar Sustainability Dividend Yield Focus Indexes Risk/Return Record vs. Broad Equity Market Index

Morningstar Sustainability Dividend Yield Focus	2023 Excess	5Yr Excess Return
Developed Markets Asia Pacific ex Japan	-4.48	-0.67
Developed Markets ex US	-2.40	1.97
Developed Europe	2.09	0.45
Canada	-7.38	-1.17
Developed Markets	-10.66	-1.75
Emerging Markets	6.18	2.16
Global	-7.04	-1.02
Global ex US	3.41	3.03
Japan	2.61	5.59
Nordics	-10.83	-2.72
US	-16.31	-3.23
UK	3.06	-0.42

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

But in Exhibit 18, when we compare the Morningstar Sustainability Dividend Yield Focus indexes to their non-ESG Dividend Yield Focus equivalents, we see that 10 of 12 outperformed in 2023. Over the five-year period, results are also stellar: 11 of 12 indexes outperformed their non-ESG screened equivalents, and eight of 12 lost less during down periods.

Exhibit 18 Morningstar Sustainability Dividend Yield Focus Indexes Risk/Return Record vs. Morningstar Dividend Yield Focus Equivalent Index

Morningstar Sustainability Dividend Yield Focus	2023 Excess	5Yr Excess Return	5 Year Down
Developed Markets Asia Pacific ex Japan	-1.42	-0.56	108.29
Developed Markets ex US	3.46	2.17	96.71
Developed Europe	4.34	1.87	102.51
Canada	3.10	1.06	90.37
Developed Markets	7.37	2.44	90.83
Emerging Markets	1.32	2.31	91.55
Global	8.66	2.12	94.35
Global ex US	4.83	2.14	101.83
Japan	-1.42	1.67	90.68
Nordics	0.81	0.18	95.40
US	8.67	4.29	79.50
UK	3.14	2.89	100.19

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

Morningstar Sustainable Environment Indexes

The Morningstar Sustainable Environment indexes are equity-focused and mitigate environmental-related risks. Material environmental-related issues include emissions, effluents, and waste; carbon-own operations; and land use and biodiversity. The indexes exclude companies involved with controversial weapons and thermal coal, as well as companies experiencing a serious environmental controversy, according to Sustainalytics, and those carrying a Sustainalytics Carbon Risk Rating of Severe. The indexes then select companies in order of their environmental-related risk scores as assigned by Sustainalytics until 50% coverage of the relevant parent (Morningstar Global Markets Large-Mid Cap indexes) is reached by market cap. Index constituents are market-capitalization-weighted, and sector and regional weights are kept within 2 percentage points of their equivalent market weights.

Exhibit 19 Morningstar Sustainable Environment Indexes

Broad Regional Markets	Developed Markets	Emerging Markets	Single Country
Global Markets	Developed Markets	Emerging Markets	United States
Global Markets ex-U.S.	Developed Markets ex-U.S.		Japan
Asia ex-Japan	Developed Europe Nordics		

Source: Morningstar Indexes.

The Morningstar Sustainable Environment indexes launched in 2018, but most have returns back-cast to June 2012 based on Sustainalytics' company-level ratings.

As displayed in Exhibit 20, three of the 10 Sustainable Environment indexes outperformed in 2023, seven of 10 achieved superior returns for the five-year period, and five of 10 lost less than their non-ESG equivalents during down periods.

Exhibit 20 Morningstar Sustainable Environment Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sustainable Environment	2023 Excess	5Yr Excess Return	5 Year Down
Asia ex Japan	-2.87	0.41	98.54
Developed Markets Europe	-0.72	0.48	97.25
Developed Markets	0.11	1.01	100.11
Developed Markets ex US	-0.36	0.18	99.71
Emerging Markets	-0.94	-0.42	104.51
Global	1.01	0.72	101.30
Global ex US	0.37	0.02	101.04
Japan	-4.74	-0.08	99.56
Nordics	-3.32	-2.10	103.22
US	-2.88	0.19	99.19

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

Section 2: Climate

Morningstar Low Carbon Risk Indexes

The Morningstar Low Carbon Risk indexes are equity-focused and allow investors to mitigate risks associated with climate change. Leveraging the Sustainalytics Carbon Risk Rating, the indexes emphasize companies aligned with a low-carbon economy. Some industries are inherently better positioned for a world less dependent upon fossil fuels, but individual companies can take actions to mitigate their climate-related risk. The indexes are created through an optimization process that targets low portfolio-level carbon risk and fossil fuel exposure, while minimizing deviation from the broad market. Only high-carbon-risk companies are excluded; otherwise, most members of the parent index are included in the indexes, with weights tilted based on Carbon Risk Ratings. Regional and sector weights are kept within 4 percentage points of market weight.

Exhibit 21 Morningstar Low Carbon Risk Indexes

Broad Regional Markets	Developed Markets	Emerging Markets	Single Country
Global Markets	Developed Markets	Emerging Markets	United States
Global Markets ex-U.S.	Developed Markets ex-U.S.		Japan
Asia ex-Japan	Developed Europe		
	Nordics		

Source: Morningstar Indexes.

The Morningstar Low Carbon Risk indexes launched in 2018, but the indexes have returns back-cast to December 2012. The Morningstar Low Carbon Risk indexes are derived from the large- and mid-cap segment of the equivalent region/country index.

As displayed in Exhibit 22, six of the 10 Morningstar Low Carbon Risk indexes outperformed in 2023, while eight of 10 outperformed over the trailing five-year period and eight of 10 lost less than their non-ESG equivalents over the five-year period.

Exhibit 22 Morningstar Low Carbon Risk Indexes Risk/Return Record vs. Equivalent Large/Mid-Cap Index

Morningstar Low Carbon Risk	2023 Excess	5Yr Excess Return	5 Year Down
Asia ex Japan	1.67	0.67	93.77
Developed Europe	0.12	-0.04	99.15
Developed Markets	-0.09	0.19	98.91
Developed Markets ex US	-0.22	0.05	99.08
Emerging Markets	1.74	0.80	94.31
Global	0.48	0.56	98.72
Global ex US	0.46	0.34	98.54
Nordics	-4.22	-0.98	100.33
Japan	0.09	0.27	100.30
US	-0.39	0.01	99.12

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

Morningstar EU Climate Indexes

The Morningstar EU Climate Indexes achieve the EU Carbon Transition Benchmark and Paris-Aligned Benchmark requirements by providing a decarbonization trajectory to limit the global increase in temperatures to below 1.5 degrees Celsius while minimizing tracking error to their parent indexes. The two climate indexes are powered by Sustainalytics' carbon emissions data and Impact Metrics. The CTB indexes target a 30% minimum reduction in average emissions versus their parent benchmarks, while the PAB indexes target a 50% minimum reduction. Both follow an ongoing decarbonization trajectory of at least 7% per year. The indexes are derived from the large- and mid-capitalization segment of the equivalent Morningstar Global Markets Index. They exclude companies involved in controversial weapons, those deemed to be noncompliant with the United Nations Global Compact, and those experiencing ESG-related controversies as according to Sustainalytics. For the PAB indexes, companies are also excluded if they earn more than 5% of revenue from thermal coal extraction, 10% or more from oil sands extraction, oil and gas production, arctic oil extraction, or more than 50% of revenues from shale extraction, oil and gas generation, and coal power generation. Remaining constituents have their weights tilted based on decarbonization goals, corporate target setting, and whether they are aligned with a transition to a low carbon economy. The indexes launched in 2021 with back-casted returns to December 2014 based on historical Sustainalytics data. The indexes are:

- ▶ Morningstar Global Markets EU Climate Transition Benchmark Index
- ▶ Morningstar Global Markets Paris Aligned Benchmark Index
- ▶ Morningstar Developed Markets EU Climate Transition Benchmark Index
- ▶ Morningstar Developed Markets Paris Aligned Benchmark Index
- ▶ Morningstar Developed Europe EU Climate Transition Benchmark Index
- ▶ Morningstar Developed Europe Paris Aligned Benchmark Index
- ▶ Morningstar Emerging Markets EU Climate Transition Benchmark Index
- ▶ Morningstar Emerging Markets Paris Aligned Benchmark Index

As displayed in Exhibit 23, six of eight outperformed in 2023. For the five-year period, all eight outperformed and seven of eight lost less than their parent index during down periods. EU Climate

Indexes benefited from strong tilts toward the lower-emitting sectors of technology and communication services and away from energy.

Exhibit 23 Morningstar EU Climate Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar EU Climate	2023 Excess	5Yr Excess Return	5 Year Down
Global CTB	1.54	0.71	99.99
Global PAB	2.24	0.74	99.21
Developed Markets CTB	-0.89	0.26	99.82
Developed Markets PAB	2.45	0.76	99.34
Developed Europe CTB	-0.89	0.26	99.82
Developed Europe PAB	0.11	0.18	100.08
Emerging Markets CTB	0.55	0.32	98.23
Emerging Markets PAB	0.11	0.30	97.81

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

Morningstar ex-Fossil Fuels Indexes

The Morningstar ex-Fossil Fuels Indexes are derived from the large- and mid-capitalization segment of the equivalent Morningstar Global Markets Index for equity and the Morningstar Global Core Bond Index for fixed income. The indexes exclude companies that derive more than 5% of revenue from thermal coal extraction, thermal coal power generation, oil and gas production, oil and gas power generation, oil sands extraction, or arctic oil and gas exploration and extraction. The index also excludes companies that derive more than 50% of revenue from oil- and gas-supporting products/services.

As displayed in Exhibit 24, two of three indexes outperformed in 2023, while two of three indexes outperformed over the five-year period and all three lost less than its non-ESG equivalent for the trailing five-year period.

Exhibit 24 Morningstar ex-Fossil Fuel Indexes Risk/Return Record vs. Non ESG Parent Index

Morningstar Global Ex-FF	2023 Excess	5Yr Excess Return	5 Year Down
Global ex-Fossil Fuels	1.59	0.29	99.86
Canada ex-Fossil Fuels	5.04	0.01	98.55
Global Core Bond ex-Fossil Fuels	-0.11	-0.04	99.43

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

Morningstar ESG Enhanced Indexes

The Morningstar ESG Enhanced indexes aim to minimize portfolio-level ESG risk and reduce carbon emissions intensity while delivering diversified exposure similar to their parent indexes, the Morningstar Target Market Exposure indexes, which target 85% of equity market capitalization. The ESG Enhanced indexes exclude companies exposed to tobacco, controversial weapons, and civilian firearms, as well as severe ESG-related controversies and companies out of compliance with the United Nations Global Compact. They aim to minimize portfolio-level ESG risk as measured by aggregated Sustainalytics ESG Risk Ratings. The indexes limit tracking error versus their parents by constraining active weights at security level, sector, and country levels, employing the Morningstar Global Industry Standard Risk

Model. The indexes were launched in 2021 with performance history back-cast to December 2015 based on historical Sustainalytics ratings. The indexes are:

- ▶ Morningstar US Markets ESG Enhanced Index
- ▶ Morningstar UK ESG Enhanced Index
- ▶ Morningstar Developed Europe ex-UK ESG Enhanced Index
- ▶ Morningstar Japan ESG Enhanced Index
- ▶ Morningstar Developed Asia Pacific ex-Japan ESG Enhanced Index
- ▶ Morningstar Emerging Markets ESG Enhanced Index

As displayed in Exhibit 25 below, three of six indexes outperformed in 2023, while three of six indexes outperformed over the five-year period and four of six lost less than their non-ESG equivalents for the trailing five-year period.

Exhibit 25 Morningstar ESG Enhanced Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar ESG Enhanced	2023 Excess	5Yr Excess Return	5 Year Down
Emerging Markets	0.90	-0.46	98.59
Developed Markets Asia Pacific ex Japan	-0.02	0.11	98.97
Developed Europe ex UK	0.86	0.00	99.75
Japan	-0.47	0.45	99.36
UK	3.26	-0.16	104.10
US	-0.03	-0.05	101.14

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

Section 3: Impact

Morningstar Sustainable Activities Involvement

The nine indexes that make up the Morningstar Sustainable Activities Involvement Index family are designed to deliver exposure to companies whose business activities contribute positively to the United Nations Sustainable Development Goals. Index constituents must pass stringent ESG screens and derive at least 50% of revenues from one or more of the following Sustainalytics' Impact Themes: Human Development, Climate Action, Healthy Ecosystems, Resource Security, and Basic Needs. There are indexes built to capture each of the individual themes, and in these cases, a threshold of 25% is used. To emphasize companies signaling positive contribution, index weights are tilted toward those with the greatest percentage of revenue derived from SDG-aligned activities, as measured by Sustainalytics' SAI data, which is part of Sustainalytics Impact Metrics products. The indexes launched in 2023 with returns back-cast to 2018 based on historical Sustainalytics data. All of the Morningstar SAI Indexes are compared with the Morningstar Global All Cap Target Market Exposure Index, which serves a starting point for index construction.

As displayed in Exhibit 26, all indexes underperformed in 2023, while one of the nine indexes outperformed over the five-year period and all but two lost less than its non-ESG equivalent for the trailing five-year period. The Morningstar SAI Indexes were punished in 2023 thanks to their concentration in healthcare, real estate, and industrials. The SAI Indexes held large weighting in some of the [Worst Performing Stocks in 2023](#) including Moderna, Plug Power, and SolarEdge technologies.

Exhibit 26 Morningstar Sustainable Activities Involvement vs. Non-ESG Parent Index

Morningstar Sustainable Activities Involvement	2023 Excess	5Yr Excess Return	5 Year Down
Healthy Ecosystem	-11.41	-5.97	112.95
Developed Markets Europe	-13.06	-4.96	126.41
Developed Markets	-7.05	-1.85	103.31
Basic Needs	-16.61	-3.22	78.10
Climate Action	-6.99	-0.15	113.84
Human Development and Resources	-6.57	-6.95	107.37
Resource Security	-7.07	-6.98	107.84
Global	-7.56	-2.36	98.48
Transatlantic	-3.46	0.61	111.92

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

Morningstar Societal Development Index

The Morningstar Societal Development Index includes 200 companies from developed and emerging markets that are contributing to the United Nations' 17 Sustainable Development Goals, which target global challenges such as poverty, inequality, and stewardship of land, air, and sea. Its scoring considers policies and programs related to human rights, labor protection, environmental protection, and corruption as assessed by Sustainalytics. The index has an emphasis on companies that are contributing to global development, so companies active in lesser-developed countries are emphasized.

Morningstar Minority Empowerment Index

The Morningstar Minority Empowerment Index targets the shares of 200 U.S. companies selected for their commitment to diversity and inclusion. Its scoring leverages indicators researched by Sustainalytics, including board diversity, discrimination policies, and support for community development programs.

Morningstar Women's Empowerment Index

The Morningstar Women's Empowerment Index is similar in that it also targets 200 companies listed in the United States, but its focus is a commitment to gender equity. Companies are assessed by specialist researcher Equileap on 19 criteria, including gender balance within a company's workforce, board, and executive ranks, as well as equal compensation and policies such as paid maternity leave.

All of the above indexes are derived from their equivalent large- and mid-cap market segment. Sector and regional weights for the indexes are kept to within 4 percentage points of their market weight.

As displayed in Exhibit 27, two of three impact indexes outperformed in 2023, while one of three indexes outperformed over the five-year period and one lost less than its non-ESG equivalent for the trailing five-year period. All three indexes launched in August 2018 with no back-casting.

Exhibit 27 Morningstar Impact Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Impact	2023 Excess	5Yr Excess Return	5 Year Down
Minority Empowerment	5.02	-0.26	100.17
Societal Development	-3.17	-1.45	104.11
Women's Empowerment	0.89	0.41	95.60

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

Morningstar Gender Diversity Indexes

Morningstar Gender Diversity indexes use Equileap assessments, like the Women's Empowerment Index discussed above, but hold most of the same constituents as their parent indexes with weights tilted toward better-scoring companies. Companies embroiled in legal cases involving gender-based violence and discrimination are excluded. The indexes are tightly constrained against their parent indexes, the equivalent large/mid-cap broad equities segment. The regional gender diversity indexes launched in 2020 with back-cast history from 2014 based on historical Equileap data.

As displayed in Exhibit 28, three of nine gender-focused indexes outperformed in 2023. For the five-year period, five of the nine outperformed, and eight of nine lost less during down markets over the last five years.

Exhibit 28 Morningstar Gender Diversity Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Gender Diversity	2023 Excess	5Yr Excess Return	5 Year Down
Japan ex-REIT Gender Diversity ⁶	1.04	0.41	99.63
Developed Markets Asia Pacific Gender Diversity	-1.22	0.25	102.52
Canada Gender Diversity	-1.27	-0.12	99.82
Developed Europe Gender Diversity	0.02	0.37	95.37
Developed ex-Japan Gender Diversity	-2.78	-0.17	99.18
Developed Markets Gender Diversity	-2.67	-0.01	98.90
Japan Gender Diversity	0.07	0.39	99.81
US Gender Diversity	-4.02	-0.14	96.94
UK Gender Diversity	-0.11	0.05	98.01

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

The reversal for the Morningstar Gender Diversity indexes is notable. Above-market exposure to energy and below-market exposure to technology boosted relative returns for these indexes in 2022 but hurt

⁶ The Morningstar Japan ex-REIT follows a different methodology from the rest of the Morningstar Gender Diversity Indexes and can be found here <https://indexes.morningstar.com/indexes/details/morningstar-japan-ex-reit-gender-diversity-tilt-FS000014J9?tab=overview>

performance greatly in 2023. Energy, along with defensive sectors like healthcare and consumer staples, tends to score well on gender criteria. Technology companies tend to score less well.

Morningstar Renewable Energy Indexes

The Morningstar Renewable Energy indexes highlight the shares of companies leading the transition to the low-carbon economy. The indexes select both companies exposed to renewable energy or green transportation and include companies that meet a significant percentage of their energy needs from renewable sources. The 30-stock indexes focus solely on renewable energy and green transportation. The indexes rely on Sustainalytics' Sustainable Product Research and carbon data using revenue to determine a company's involvement. For the indexes that include both producers and users of renewable energy, there are two index sleeves. The first sleeve, which selects companies for their renewable energy or green transportation involvement, represents 75% of index weight. The second, which highlights heavy users of renewable energy, represents 25% of index weight. Companies are equally weighted within their sleeves.

The Morningstar North America Renewable Energy Index launched in 2019, with back-cast returns to June 2018 based on historical Sustainalytics data. The other indexes launched in 2020 with back-cast returns to December 2015 based on historical Sustainalytics data. The indexes are derived from their equivalent all-capitalization market segment. The indexes are:

- ▶ Morningstar Global Markets Renewable Energy Index
- ▶ Morningstar Developed Markets Renewable Energy Index
- ▶ Morningstar North America Renewable Energy Index
- ▶ Morningstar Developed Europe Renewable Energy Index

As displayed in Exhibit 29, zero of four renewable-energy-focused indexes outperformed in 2023. For the five-year period, one of three indexes with five-year performance histories outperformed, and three of three lost less than their broad market equivalents in down periods.

Exhibit 29 Morningstar Renewable Energy Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Renewable Energy	2023 Excess	5Yr Excess Return	5 Year Down
Developed Europe	-9.09	1.50	106.98
Developed Markets	-14.49	-2.47	97.42
Global Markets	-14.18	-0.99	94.78
North America	-24.27	-1.87	98.26

Source: Morningstar Direct. Data as of Dec. 31, 2022

Similar to the Morningstar SAI Indexes, Morningstar Renewable Energy suffered from poor security selection and overweight allocations to struggling sectors in 2023. However, it is good to note that the Morningstar Global Renewable Energy Index did best the Morningstar Global Energy Index by 1.69% in 2023.

Understanding Sustainable Investments Performance Requires Understanding Broader Market Drivers

Investors should look at longer-term performance as well as calendar-year returns, and keep in mind that sustainable investing encompasses a broad range of strategies, some of which are riskier or more volatile than others. Morningstar Indexes' annual sustainability performance study began in 2018. For many years, sustainability indexes posted strong relative returns, supporting the view that investing based on E, S, and G factors does not necessarily entail sacrificing returns—and may enhance them.

On the flip side, two straight years of mixed performance shows that “doing good” doesn’t always lead to “doing well.” The year 2023 is a good reminder that, to understand the performance of any portfolio, you must fully recognize and understand any active risk you are taking versus the broad market. In past years, an overweighting to technology boosted ESG Index performance, but 2023 illuminated complexity in understanding the idiosyncratic risks of ESG investing.

What is certain now is that any deviation from a market portfolio will produce a different outcome. Some market environments will favor sustainable investments and others won't. Studying past behavior can help guide sustainability-focused investors going forward. ■■

About Morningstar Indexes

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.

Please visit indexes.morningstar.com for more information.



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