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# In a Period of Poor Performance for Sustainable Investments, Gender Equality and Renewable Energy Were Bright Spots

Morningstar sustainability indexes reflect the diversity of the field.

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## Morningstar Inc.

January 2023

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Sustainable investments generally struggled in 2022. In the five years since Morningstar Indexes began tracking the risk/return profile of its sustainability range, 2022 was the worst performing calendar year.<sup>1</sup> Market dynamics were highly unfavorable to investments centered around environmental, social, and governance factors. The carbon-intensive energy and utilities sectors were the only areas of the equity market in positive territory in 2022, while technology stocks, which tend to face relatively few ESG risks, were deep in the red.

But sustainable investing is not monolithic. Approaches vary in motivation, implementation, and application. ESG indexes focused on value stocks, dividend payers, and quality companies with low valuations outperformed the broad equity market in 2022, though they lagged their counterparts that do not incorporate ESG screens, partly because of less energy exposure.

Meanwhile, indexes focused on gender equality and renewable energy outperformed, helped by below-market exposure to technology. The gender indexes were boosted by above-market weights in energy and defensive sectors like healthcare and consumer staples. Renewables-focused companies in the utilities and industrials areas held up well in 2022.

Among the findings of this report:

- ▶ In calendar-year 2022, just 27% (36/134) of Morningstar's sustainability indexes outperformed their equivalents that don't incorporate ESG, down from 57% outperformance in 2021 and 75% in 2020.
- ▶ Despite poor performance for sustainability indexes in 2022, the five-year numbers remain strong. From 2018 to 2022, 78% (99/127) of Morningstar sustainability indexes with five-year performance histories beat their equivalents. For the five-year period ended 2021, 80% had outperformed.
- ▶ On the risk side, 70% (89/127) of Morningstar sustainability indexes with five-year histories lost less than their non-ESG equivalents during down periods between 2018 and 2022, as measured by the downside capture ratio. This number is down from the five-year period through 2021, when 88% of sustainability indexes had lost less in down markets.
- ▶ Indexes focused on mitigating ESG risk relative to the broad market generally performed poorly in 2022. Too little energy and too much technology disadvantaged many. These same sector leanings boosted five-year relative returns for sustainability indexes.
- ▶ The Morningstar US Sustainability Index overcame unfavorable sector weights to outperform its broad equity market equivalent in 2022, thanks in large part to avoiding Tesla and Amazon.com.

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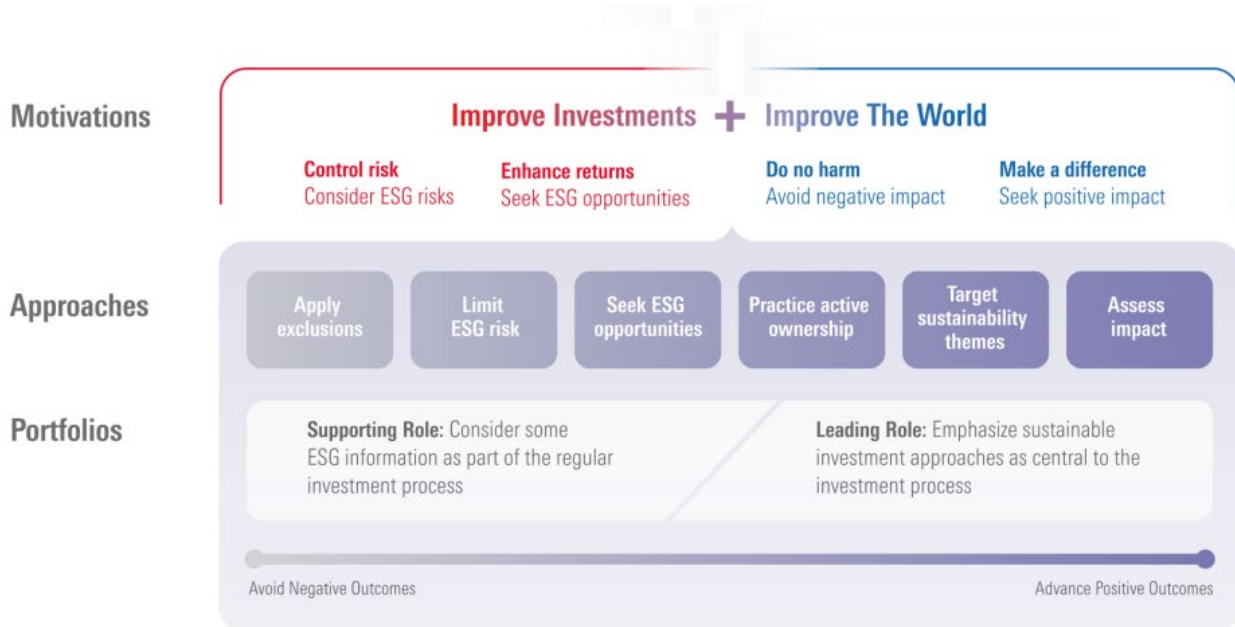
<sup>1</sup> For last year's study, see: Lefkowitz, D, "Morningstar Risk/Return Analysis Reveals Mixed Results for 2021." Feb. 3, 2022.

- ▶ Sustainability indexes focused on value stocks, dividends, and reasonably valued companies with economic moats (durable competitive advantages) generally outperformed the market in 2022 but lagged their non-ESG equivalents. Here, too, lower energy exposure disadvantaged the sustainability indexes.
- ▶ Gender diversity indexes performed relatively well in 2022, benefiting from below-market technology exposure and above-market energy, utilities, and consumer defensive weights.
- ▶ Renewable energy indexes also performed well in 2022, benefiting from above-market exposure to the utilities sector, below-market exposure to technology stocks, and inclusion of strong-performing stocks like Bombardier, First Solar, Enphase Energy, and Semcorp Industries.

### 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.

**Exhibit 1** The Morningstar Sustainable-Investing Framework



Source: Morningstar.

Morningstar Indexes' range of sustainable-investing index solutions cover 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, and carbon data.<sup>2</sup>

This study will focus on several series of indexes that select and/or weight constituents on ESG criteria.<sup>3</sup> Only indexes launched in 2022 or earlier are included. A handful of indexes are excluded that are derivatives of broader benchmarks because the exposures they provide is already analyzed and are idiosyncratic in nature.

A total of 137 unique indexes spanning equities and bonds are analyzed in 2022, and 127 have five-year performance histories. The indexes can be classified into four broad buckets: ESG Risk, Climate, Impact, and Values Alignment.

#### Exhibit 2 Morningstar Indexes' Sustainability Range

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

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

<sup>2</sup> For a full discussion of Sustainalytics' data and research, see: <https://www.sustainalytics.com/>

<sup>3</sup> 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/>

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:

- ▶ 2022 excess returns
- ▶ Five-year trailing excess returns through year-end 2022
- ▶ Five-year downside capture through year-end 2022

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 time period studied. Readers will note that, in 2022, value stocks beat growth stocks by a wide margin, with the energy sector leading the market and technology stocks deep in the red. For the five years through the end of 2022, growth stocks outperformed value and the technology sector paced the market.

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**Exhibit 3** Energy Boomed and Tech Swooned in 2022; Over Five Years, Though, Tech Still Dominates

Returns	Morningstar Global Energy Index	Morningstar Global Tech Index
2022	34.0%	-32.2%
2018-2022	5.7% (annualized)	11.6% (annualized)

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Source: Morningstar Direct.

## Section 1 - ESG Risk

### Morningstar Sustainability Indexes

The Morningstar Sustainability indexes represent broad equity market exposure while limiting ESG risk. After excluding companies involved with 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 4 Morningstar Sustainability Indexes

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

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 5, only two of the 23 Morningstar Sustainability indexes outperformed in calendar-year 2022. The outperformers included the U.S. and Asia outside of Japan. On a five-year basis, results improve, with 15 of 23 sustainability indexes outperforming their parent indexes. In terms of risk, 18 of 23 sustainability indexes lost less than their broad-market equivalents during down markets over the past five years.

**Exhibit 5** Morningstar Sustainability Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sustainability	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	-0.44	0.52	98.26
US	0.59	0.25	97.86
Global Markets ex-US	-3.04	0.73	99.52
Developed Markets	-0.20	0.62	96.58
Developed Markets ex-North America	-3.80	0.73	100.22
Developed Markets ex-US	-3.97	0.78	99.69
Asia Pacific	-1.18	0.58	99.27
Asia Pacific ex-Japan	-0.35	0.67	94.33
Asia	-0.01	0.70	99.20
Asia ex-Japan	0.99	1.27	96.73
Europe	-4.49	1.35	96.05
Developed Europe	-5.27	1.30	96.05
Eurozone	-2.18	2.02	93.96
Emerging Markets	-0.83	-0.43	101.21
Nordics	-3.15	-2.03	99.72
Emerging Americas	-3.88	-1.59	96.92
Japan	-3.32	1.05	99.20
UK	-8.37	0.88	102.62
Germany	-3.10	-0.45	94.45
Canada	0.00	-1.96	99.75
Australia	-6.35	-0.85	100.83
India	-4.18	-0.17	97.73
Brazil	-6.78	-5.50	101.19

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

Too much technology and not enough energy explains much of the underperformance for the sustainability indexes in 2022. To take the Morningstar Global Markets Sustainability Index, for example, above-market exposure to stocks like Microsoft, Nvidia, and Taiwan Semiconductor Manufacturing undermined returns, as did the avoidance of energy stocks like Exxon Mobil and TotalEnergies.

The Morningstar US Sustainability Index overcame unfavorable sector dynamics to slightly outperform in 2022. It benefited from avoiding Alphabet, Tesla, and Amazon.com, all of which suffered deep losses. Alphabet was dropped in 2019 because of controversy, and Tesla and Amazon.com were not included because of their relative ESG Risk Ratings.

For the Morningstar Asia ex-Japan Sustainability Index, security-specific weights managed to compensate for unfavorable sector exposures. Avoiding Alibaba and Samsung Electronics contributed to outperformance.

In Europe, above-market exposure to ASML and SAP were a disadvantage in 2022, as was below-market exposure to the energy sector.

**Morningstar Sustainability Leaders Indexes**

The Morningstar Sustainability Leaders indexes, which are equity-focused, are similar to the Morningstar Sustainability indexes but are 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 involved with tobacco, controversial weapons, and civilian firearms, 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 Sustainability ESG Risk Ratings and are fixed-count in nature. Index constituents are weighted by market cap.

#### Exhibit 6 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 launched in 2018 but have returns back-cast to December 2012 based on Sustainability's company-level ratings. The indexes are derived from the large-cap segment of the equivalent Morningstar region/country index.

As displayed in Exhibit 7, zero of 10 Morningstar Sustainability Leaders indexes outperformed in 2022, though nine of 10 beat their parent index over the five-year period through the end of 2022. Only three of 10 lost less 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.

#### Exhibit 7 Morningstar Sustainability Leaders Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Sustainability Leaders	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	-7.86	1.27	113.19
Developed Markets	-10.45	0.60	115.69
US	-4.09	1.17	103.94
Global Markets ex-US	-7.60	2.39	110.14
Developed Markets ex-US	-8.65	1.70	115.63
Asia ex-Japan	-2.92	1.89	92.89
Developed Europe	-8.94	1.61	109.38
Emerging Markets	-2.92	1.20	92.31
Japan	-6.15	2.34	97.53
Nordics	-13.09	-5.38	111.67

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

#### 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 involved with tobacco, controversial weapons, and civilian firearms, as well as companies experiencing serious ESG-related controversies according to Sustainability, the indexes select securities reflecting the top 50% of the parent universe by market cap of securities with the lowest Sustainability 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 8, three of the five Morningstar Corporate Bond Sustainability indexes outperformed in calendar-year 2022. On a five-year basis, five of the five indexes outperformed their parents. In terms of risk, four 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 8** Morningstar Corporate Bond Sustainability Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Corporate Bond Sustainability	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	0.05	0.12	97.22
US	0.05	0.19	96.62
Eurozone	0.09	0.02	98.74
UK	-0.06	0.02	99.32
Canada	-0.43	0.07	100.81

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

### 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 involved in 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 9 below, zero of 10 indexes outperformed in 2022, while 10 of 10 indexes outperformed over the five-year period and 10 of 10 lost less than their non-ESG equivalents for the trailing five-year period.

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

Index	2022	5-Year	Trailing 5-Year
Global Markets ex-US	-1.94	0.74	98.28
Developed Markets ex-US	-2.78	0.69	98.56
Asia Pacific	-1.26	1.06	97.54
Developed Europe	-3.27	0.84	98.02
Emerging Markets	-0.61	0.76	98.97
Japan	-0.99	1.02	97.18
Canada	-0.26	0.22	95.68

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

### 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 involved in 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 individual holding, 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 Markets Asia Pacific ex-Japan ESG Enhanced Index
- ▶ Morningstar Emerging Markets ESG Enhanced Index

As displayed in Exhibit 10 below, zero of six indexes outperformed in 2022, while two of six indexes outperformed over the five-year period and three of six lost less than their non-ESG equivalents for the trailing five-year period.

**Exhibit 10** Morningstar ESG Enhanced Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar ESG Enhanced	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
US	-1.64	0.25	100.69
UK	-4.43	-0.42	102.17
Emerging Markets	-0.58	-0.72	100.10
Developed Europe ex-UK	-1.88	-0.05	99.80
Japan	-0.47	0.57	98.66
Developed Asia Pacific Ex-Japan	-1.37	-0.09	98.87

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

**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 involved with 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, one of three indexes outperformed in 2022. Over the five-year period, two 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 Sustainability Extended	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
US	1.41	0.83	96.51
Canada	-0.62	-0.34	96.94
Developed Markets ex-North America	-3.24	0.44	98.63

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

**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 2022, 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	0.22	0.11	98.49
Global ex-US	-0.28	-0.14	100.89
Global ex-Japan	-0.58	0.10	99.46
Eurozone	0.20	-0.20	100.16

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

### 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 (US only). They exclude companies involved in 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 include:

- ▶ 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 Broad Growth Index
- ▶ Morningstar US Sustainability Large-Mid 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 2022. In a year in which value stocks outperformed growth stocks by a large margin, it is unsurprising to see the sustainability value indexes outperform the broad equity market and the growth indexes underperform. For the five-year period, eight 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 Styles	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global Sustainability Large-Mid Growth	-9.59	1.12	-
Global Sustainability Large-Mid Value	7.03	0.10	-
Global Sustainability Large Growth	-9.20	1.61	-
Global Sustainability Large Value	8.27	1.00	-
Global Sustainability Mid Growth	-9.41	1.61	-
Global Sustainability Mid Value	3.48	-1.16	-
US Sustainability Large-Mid Broad Growth	-10.58	0.84	-
US Sustainability Large-Mid Broad Value	9.29	-0.28	-
US Sustainability Large Broad Growth	-10.38	0.79	-
US Sustainability Large Broad Value	10.34	0.00	-
US Sustainability Mid Broad Growth	-11.29	0.99	-
US Sustainability Mid Broad Value	5.19	-1.65	-

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

But in Exhibit 14, when we compare the Morningstar Sustainability Style indexes to their available non-ESG style equivalents, we see that opposite effect, with four of eight outperforming in 2022, all growth indexes. The sustainability value indexes all underperformed. Over the five-year period, results improve; seven of eight indexes outperformed their non-ESG screened equivalents and seven of eight lost less during down periods.

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

Morningstar Sustainability Styles	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global Sustainability Large-Mid Growth	0.62	1.08	98.33
Global Sustainability Large-Mid Value	-3.25	0.76	98.70
Global Sustainability Large Growth	-	-	-
Global Sustainability Large Value	-	-	-
Global Sustainability Mid Growth	-	-	-
Global Sustainability Mid Value	-	-	-
US Sustainability Large-Mid Broad Growth	1.63	0.46	97.23
US Sustainability Large-Mid Broad Value	-3.28	0.82	99.28
US Sustainability Large Broad Growth	2.48	0.42	95.12
US Sustainability Large Broad Value	-2.99	1.11	99.02
US Sustainability Mid Broad Growth	-1.51	0.58	101.24
US Sustainability Mid Broad Value	-4.29	-0.50	98.87

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

### 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 involved in 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 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 to 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 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 five of five Sustainable Moat Focus indexes outperformed their broad equity market equivalents in 2022. For the five-year period, five of five outperformed and four of five lost less than their broad market equivalents in down periods. 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	3.98	1.48	
Developed Markets	5.08	1.08	
U.S.	1.12	2.77	
Global Markets ex-US	4.53	1.15	
Developed Europe	9.07	1.55	

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

But in Exhibit 16, when we compare the Morningstar Sustainability Moat Focus indexes to their non-ESG Moat Focus equivalents, we see that zero of five outperformed in 2022. Over the five-year period, two of five indexes outperformed their non-ESG screened equivalents and one 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	-3.31	-1.42	104.34
Developed Markets	-3.26	-1.59	112.57
U.S.	-5.12	0.66	94.40
Global Markets ex-US	-5.01	1.52	105.23
Developed Europe	-3.92	1.72	95.93

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

What explains the underperformance of the Sustainability Moat Focus indexes versus their non-ESG Moat Focus equivalents? The Morningstar Global Markets Sustainability Moat Focus Index largely underperformed because of its lower exposure to the relatively strong-performing consumer defensive sector, including tobacco-related businesses, like British American Tobacco, which is excluded from the sustainability index's eligible universe. In the United States, the Sustainability Moat Focus Index was disadvantaged relative to its non-ESG equivalent by including fewer healthcare companies.

**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 involved in 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 11 of 12 Sustainability Dividend Yield Focus indexes outperformed their broad equity market equivalents in 2022. For the five-year period, 10 of 12 outperformed and 11 of 12 lost less than their broad market equivalents in down periods. 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	9.08	0.56	
Developed Markets	11.21	0.25	
U.S.	17.21	1.18	
Global Markets ex-US	2.99	2.74	
Developed Markets ex-US	5.97	2.75	
Emerging Markets	5.28	2.03	
Japan	14.23	4.91	
Developed Asia Pacific ex-Japan	6.16	0.36	
Developed Europe	3.80	0.96	
Nordics	4.68	-1.00	
UK	-17.96	-1.56	
Canada	3.40	1.11	

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

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 three of 12 outperformed in 2022. Over the five-year period, results improve; 10 of 12 indexes outperformed their non-ESG screened equivalents and nine 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	-9.45	0.50	97.34
Developed Markets	-10.08	1.00	92.80
U.S.	-9.45	3.33	82.28
Global Markets ex-US	-3.67	1.03	104.76
Developed Markets ex-US	-3.97	1.54	98.51
Emerging Markets	7.22	1.01	98.16
Japan	9.05	0.56	95.06
Developed Asia Pacific ex-Japan	2.04	-0.74	109.01
Developed Europe	-3.23	1.29	104.85
Nordics	-6.71	-0.06	94.40
UK	-9.26	2.68	98.09
Canada	-4.69	1.26	89.79

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

Lower exposure to strong-performing energy stocks contributed to the underperformance of the Sustainability Dividend Yield Focus indexes versus their non-ESG equivalents.

## Section 2: Climate

### 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, two of the 10 sustainable environment indexes outperformed in 2022, eight of 10 achieved superior returns for the five-year period, and six 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	-2.04	0.82	100.67
Developed Markets	-1.38	1.08	99.70
US	1.10	0.96	99.22
Global Markets ex-US	-1.64	0.00	100.77
Developed Markets ex-US	-1.59	0.19	99.74
Asia ex-Japan	-0.72	1.66	94.54
Developed Europe	-0.60	0.78	96.88
Emerging Markets	-2.23	-0.10	102.02
Japan	0.27	0.45	98.85
Nordics	0.00	-1.58	99.19

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



### 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<sup>4</sup>, 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 to 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 2022, while eight of 10 outperformed over the trailing five-year period and nine 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	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	0.38	0.57	98.78
Developed Markets	0.32	0.29	98.82
US	0.36	0.14	98.92
Global Markets ex-US	-0.01	0.21	98.37
Developed Markets ex-US	-0.03	0.12	99.09
Asia ex-Japan	0.29	0.28	94.81
Developed Europe	-0.22	-0.17	99.37
Emerging Markets	-0.77	0.23	95.53
Japan	0.10	0.27	100.06
Nordics	0.10	-0.16	98.15

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

<sup>4</sup> For more on the Sustainalytics Carbon Risk Rating, see: <https://www.sustainalytics.com/investor-solutions/esg-research/climate-solutions#:~:text=Sustainalytics%20Carbon%20Risk%20Ratings%20assess,and%20management%20of%20carbon%20issues.>

### Morningstar EU Climate Indexes

The Morningstar EU Climate indexes achieve the EU Carbon Transition Benchmark, or CTB, and Paris-Aligned Benchmark, or PAB, requirements by providing a decarbonization trajectory to limit the global increase in temperatures to below 1.5 C while minimizing tracking error to their parent indexes. The two climate indexes are powered by Sustainalytics' carbon emissions data, Carbon Solutions Involvement, and Carbon Risk Ratings. The CTB indexes target a 30% minimum reduction in average emissions versus their parents, while the PAB indexes target 50%. Both follow an ongoing decarbonization trajectory of at least 7% per year. The indexes are derived from the large- and mid-capitalization equivalent market segment. They exclude companies involved in controversial weapons, deemed to be noncompliant with the United Nations Global Compact, and with severe ESG-related controversies. 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, and arctic oil extraction, and 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 include:

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

As displayed in Exhibit 23, zero of eight outperformed in 2021. For the five-year period, six of eight outperformed and four of eight lost less than their parent index during down periods.

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

Morningstar E.U. Climate	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global CTB	-1.00	0.42	100.08
Global PAB	-2.74	0.38	100.29
Developed Markets CTB	-1.15	0.46	100.41
Developed Markets PAB	-3.05	0.42	100.41
Developed Europe CTB	-0.54	0.35	98.97
Developed Europe PAB	-2.70	-0.09	99.98
Emerging Markets CTB	-0.46	0.14	99.45
Emerging Markets PAB	-0.47	-0.04	98.36

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

### Section 3: Impact

#### Morningstar Societal Development Index

The index targets the shares of 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 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 index is similar in that it also targets 200 companies listed in the U.S., 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 Minority Empowerment, Women's Empowerment, and Societal Development indexes are kept to within 4 percentage points of their market weight.

As displayed in Exhibit 24, two of three impact indexes outperformed in 2022. All three indexes launched in August 2018 with no back-casting.

**Exhibit 24** Morningstar Impact Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Impact	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Societal Development	0.79	-	-
Developed Markets	-2.42	-	-
Women's Empowerment	2.21	-	-

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

#### 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 25, seven of eight gender-focused indexes outperformed in 2022. For the five-year period, six of eight outperformed, and six of eight lost less during down markets over the last five years.

#### Exhibit 25 Morningstar Gender Diversity Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Gender Diversity	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Developed Markets Gender Diversity	1.82	0.59	97.80
Developed Asia Pacific Gender Diversity	1.13	0.55	100.70
Developed Europe Gender Diversity	2.49	0.51	95.44
US Gender Diversity	2.44	0.69	97.09
Developed Markets ex-Japan Gender Diversity	1.39	0.47	98.07
Japan Gender Diversity	0.57	0.40	100.66
Canada Gender Diversity	0.95	0.22	98.87
UK Gender Diversity	-1.05	0.60	95.89

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

Strong performance in 2022 for Morningstar's gender diversity indexes, including Women's Empowerment, is notable. Above-market exposure to energy and below-market exposure to technology boosted relative returns for these indexes. 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 involved in 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 26, four of four renewable-energy-focused indexes outperformed in 2022. For the five-year period, three of three indexes with five-year performance histories outperformed, and three of three lost less than their broad market equivalents in down periods.

**Exhibit 26** Morningstar Renewable Energy Indexes Risk/Return Record vs. Non-ESG Parent Index

Morningstar Renewable Energy	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global	5.69	1.87	83.01
Developed Markets	7.54	0.33	85.67
North America	7.33	-	-
Developed Europe	2.71	4.09	98.66

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

What accounts for the strong performance of renewable energy amid a down year for sustainable investments broadly? The Morningstar Global Markets Renewable Energy Index benefited from its above-market exposure to the utilities sector, its below-market exposure to technology stocks, and its inclusion of relatively strong-performing stocks like Bombardier, First Solar, and Sembcorp Industries.

## Section 4: Values Alignment

### Morningstar Global Target Market Exposure Responsible Index

The Morningstar Global Target Market Exposure Responsible Index represents the top 85% of market capitalization across developed and emerging markets after excluding companies involved with adult entertainment, alcohol, gambling, firearms, fossil fuels, or tobacco products. The index uses Sustainalytics' Controversial Product Involvement data and relies on revenue thresholds. The index launched in 2019 with returns back-cast to 2016 based on historical Sustainalytics data.

### Morningstar Global ex-Fossil Fuels Index

The Morningstar Global ex-Fossil Fuels Index is derived from the Morningstar Global Markets Large-Mid Cap Index. The index excludes 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. The index launched in 2021 with returns back-cast to 2018 based on historical Sustainalytics data.

### Morningstar Canada ex-Fossil Fuels Index

The Morningstar Canada ex-Fossil Fuels Index is derived from the Morningstar Canada Large-Mid Cap Index. The index excludes 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. The index launched in 2020 with returns back-cast to 2018 based on historical Sustainalytics data.

### Morningstar Global Core Bond ex-Fossil Fuels Index

The Morningstar Global Core Bond Ex-Fossil Fuels Index is derived from the Morningstar Global Core Bond Index, which represents the broad investable universe of investment-grade credits, including government, corporate, and securitized and collateralized securities. The index excludes companies that source 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, and 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. The index launched in 2022 with returns back-cast to 2018 based on historical Sustainalytics data.

As displayed in Exhibit 27, one of four indexes outperformed in 2022, while one of one index with a five-year history outperformed over the five-year period and zero of one lost less than its non-ESG equivalent for the trailing five-year period.

**Exhibit 27** Morningstar Values Alignment Indexes Risk/Return Record vs. Non ESG Parent Index

Morningstar Values Alignment	2022 Excess Return	5-Year Excess Return (Annualized)	5-Year Downside Capture Ratio
Global Target Market Exposure Responsible	-3.68	0.05	100.46
Global Core Bond ex-Fossil Fuels	0.13	-	-
Global ex-Fossil Fuels	-2.36	-	-
Canada ex-Fossil Fuels	-6.95	-	-

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

### Sustainable Investments Will Outperform in Some Markets, Underperform in 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, performance in 2022 shows that "doing good" doesn't always lead to "doing well." A growth bias and below-market exposure to the energy sector undermined returns in 2022. Of course, it is only over the long term that the performance of sustainable investments can be judged.

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](https://indexes.morningstar.com) for more information.



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