
Oil Is the New Oil. Sustainable Investing in an Energy Crisis.

Morningstar's range of ESG indexes illustrates the trade-offs inherent to different responses to the energy crisis.

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Dan Lefkowitz
Strategist, Morningstar Indexes
dan.lefkowitz@morningstar.com

Robert Edwards, CFA
Director of Product Management, ESG
Morningstar Indexes
robert.edwards@morningstar.com

<https://indexes.morningstar.com/>

A few years back, it was fashionable to say that “Data is the new oil.” In an era of artificial intelligence, robotics, and renewable energy innovation, the fossil fuels that had powered the global economy since the Industrial Revolution seemed passé. The coronavirus pandemic only amplified these trends. Remember when oil futures went negative back in April 2020, while societal lockdowns were compressing years of digital transformation into weeks?

Fast-forward to early 2022, and oil is the new oil. Even before Russia's war on Ukraine wreaked havoc on commodity markets, crude prices had climbed to 2014 levels, stoking generationally high inflation. The energy sector has paced global stock markets. Meanwhile, Morningstar's Equity Research Team expects oil prices to stay elevated through 2023.

Where does this leave sustainability-focused investors? Critics say that the war “bankrupts the ESG case,”¹ while charges of greenwashing fly and soaring oil prices challenge the performance of sustainable investments. Yet, at the same time, the war adds urgency to the low carbon transition.

Regardless of whether the current crisis undermines or accelerates sustainable investing, criticism of environmental, social, and governance-focused investing misses the diversity within the field. The Morningstar Sustainability Framework illustrates a broad spectrum of approaches. Each has its own goals. Each comes with trade-offs. Without casting judgment, this paper explores responses to the current energy crisis through the lens of Morningstar ESG equity indexes.

Key Takeaways:

- ▶ A portfolio excluding fossil fuels does not deviate dramatically from the market, though the performance of energy, the most volatile equity sector, will drive relative returns. Divestment reduces but does not eliminate portfolio-level carbon intensity. Its impact is hotly debated among sustainable investors.
- ▶ An ESG risk-mitigation approach, which maintains some fossil fuel exposure, has been successful in recent years; future outperformance is an open question.
- ▶ Investors seeking ESG opportunities can find attractive assets across sector and geography. The approach can cause significant deviation from the market. Valuation is a perennial concern.
- ▶ Active ownership goals can be guided through indexes and can be accomplished with minimal deviation from the market. The case of Engine No. 1 and Exxon sparks hope that change can come from within.
- ▶ Renewable energy investments, while appealing as climate solutions, may surprise investors with current carbon intensity and performance volatility.

¹ Tariq Fancy quoted in *Financial News*, March 14, 2022.

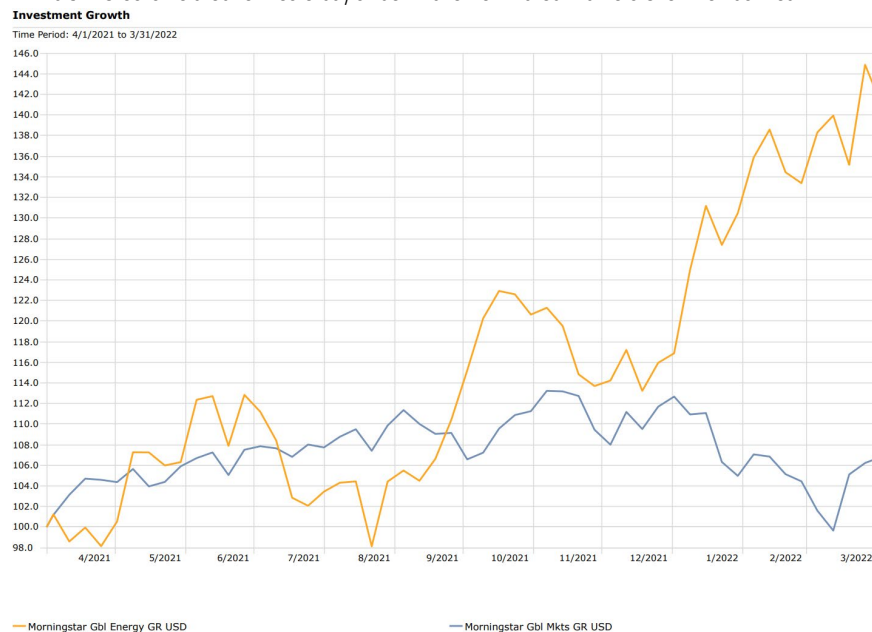
Oil Is the New Oil

The future of energy is notoriously difficult to forecast. In 1999, an *Economist* cover story titled "Drowning in Oil," predicted that low-cost petroleum would send prices down to USD 5 per barrel. Even as late as 2003, a market consensus expected long-term oil prices to be in the USD 20–USD 25 range.² Then China's economic boom drove a "commodities supercycle" and crude hovered around USD 100 for years. The theory of "Peak Oil" has surfaced repeatedly, envisioning an inevitable depletion of global reserves. But the U.S. shale revolution proved that technological innovation can alter the trajectory of supply. Another *Economist* cover story, this one in 2013, proclaimed "The Future of oil - Yesterday's fuel." It cited natural gas extracted through fracking, as well as increased fuel efficiency, and renewable energy sources as secular challenges. The oil price did fall sharply in 2014. And when the pandemic-driven downturn sent oil futures into negative territory, obituaries for fossil fuels were penned.

But by the third quarter of 2021, oil prices were soaring on recovering demand, restrained production, and supply disruptions. Rising energy costs have contributed to rampant inflation, which is at a 40-year high in the United States. Then, in the first quarter of 2022, one of the world's leading producers of oil, gas, and minerals invaded its neighbor. Oil prices tested USD 140 per barrel.

As far as equity markets are concerned, Russian tanks rolling into Ukraine have overtaken the Teslas cruising motorways dotted with wind turbines. Leadership has rotated away from the techy innovators to what used to be derided as the "old economy." Of Morningstar's 11 global equity sector indexes, energy has been the best performer for the year that ended with 2022's first quarter. Companies like Exxon Mobil, Chevron, BP, and Shell have booked record profits.

Exhibit 1 Stocks Related to "Yesterday's Fuel" Have Dominated Markets Over the Past Year



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

² Yergin, D. 2020. *The New Map*. Penguin Press. P. 56.

Aspirations to forge a cleaner postpandemic world have seemingly taken a back seat to economic and political imperatives. The U.S. administration has stopped talking about climate change and is tapping the Strategic Petroleum Reserve. The Germans, whose homes are heated by Russian gas, are building new fossil infrastructure. Japan, the U.S., and others are calling for more production.

Although it is certainly possible that the current crisis accelerates the transition to a low-carbon economy, history provides reason for pessimism. According to an opinion piece in *The New York Times*: "After previous global energy crises—1973, 1979, 1990 and 2008—tensions abated, prices fell, people forgot and governments turned to other priorities. And global dependence on oil and gas kept rising."³

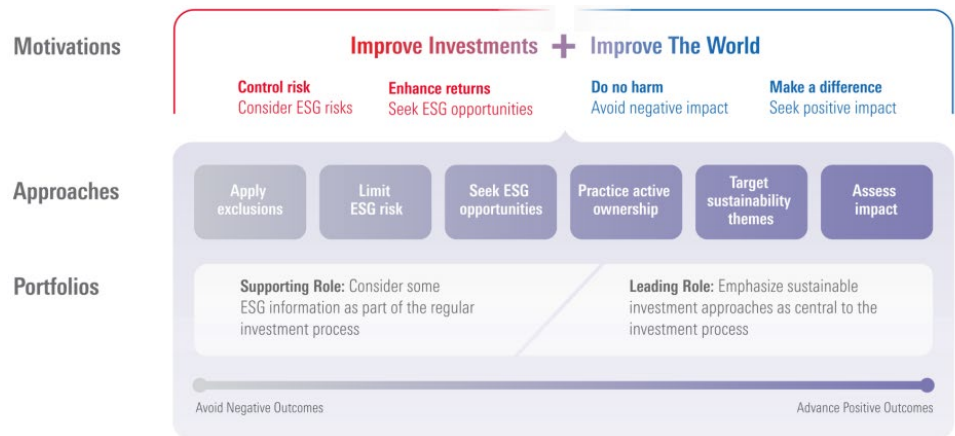
There Isn't Just One ESG Response to the Energy Crisis

Sustainable investing has come in for lots of criticism since the start of the war. Greenwashing charges have been leveled against sustainable investments that owned Russian assets. Pumping oil and defending Ukraine seem more urgent than concerns around climate change and weapons proliferation. Meanwhile, a rising oil price presents performance challenges for portfolios light on fossil fuels.

Criticism ignores the diversity inherent to ESG. According to Jon Hale, director of sustainability research for the Americas at Sustainalytics, a Morningstar company: "Critics seem to think sustainable investing is dogmatic, monolithic, and undifferentiated. They don't understand that sustainable investing is a big tent, addressing a spectrum of investor concerns and preferences."

The Morningstar Sustainable-Investing Framework aims to clarify motivations, approaches, and portfolios with an ESG focus.

Exhibit 2 The Morningstar Sustainable-Investing Framework



Source: Morningstar.

³ Verleger, P., & Victor, D.G. 2022. "Why It's Time to Start Caring About Clean Hydrogen." *The New York Times*, April 18, 2022. <https://www.nytimes.com/2022/04/18/opinion/environment/europe-natural-gas-prices-climate-change.html>

Morningstar's ESG indexes can be employed to illuminate the framework. Below, several global equity benchmarks are probed that roughly align with the various approaches. All use data and research from Sustainalytics. They include:

- ▶ Morningstar Global ex-Fossil Fuels (Exclusionary)
- ▶ Morningstar Global Markets Sustainability (ESG Risk Mitigation)
- ▶ Morningstar Global Markets Sustainability Leaders (Seek ESG Opportunities)
- ▶ Morningstar Global Markets Climate Transition Benchmark/Paris Aligned Benchmark (Active Ownership)
- ▶ Morningstar Global Markets Renewable Energy (Sustainability Theme)

The indexes profiled below illustrate several key points. First, ESG approaches are not mutually exclusive. Sustainable investments can employ both exclusionary screening and positive selection focused on risk mitigation or opportunity. Second, ESG outcomes vary. Divestment and active engagement, to take two examples, are obviously very different.

Third, the further a sustainable investment deviates from a market portfolio, the more its performance will diverge. A strategy with a few exclusions or one that keeps its regional and sector weights close to the broad market will behave more like a non-ESG equivalent than a more narrowly focused peer. The former may be more of a core holding and the latter a satellite. Exhibit 3 displays tracking error, or the degree to which performance has deviated from the market, for six Morningstar ESG indexes.

Exhibit 3 Exclusions and Active Ownership Can Be the Most Marketlike of Sustainable Approaches

Index	Tracking Error (3 Year)
Global ex-Fossil Fuels	0.92
Global Sustainability	1.65
Global Sustainability Leaders	6.60
Global Climate Transition Benchmark	0.81
Global Paris Aligned Benchmark	1.41
Global Renewable Energy	7.02

Source: Morningstar Direct. Data as of March 31, 2022. Tracking error is calculated relative to the Morningstar Global Large-Mid Cap Index.

What follows is an in-depth discussion of five ESG approaches represented by Morningstar ESG indexes. The point is not to assess whether these approaches are good or bad but to analyze them from investment and ESG perspectives. The indexes show that sustainable investing, like life, is all about trade-offs.

Excluding Fossil Fuels From a Portfolio—The Consequences Aren't Dramatic

The practice of excluding fossil-fuel-related assets from portfolios predates the current crisis. According to a 2021 report published by the Global Fossil Fuel Divestment Commitments Database, 1,485 institutions with assets totaling USD 39.2 trillion have publicly committed to “at least some form of fossil

fuel divestment.”⁴ In the wake of the 2015 Paris Agreement on Climate Change, the University of Toronto started a trend by divesting from companies that “blatantly disregard the international effort to limit the rise in average global temperatures to not more than one and half degrees Celsius above pre-industrial averages by 2050. . . These are fossil fuel companies whose actions are irreconcilable with achieving internationally agreed goals.”

Exclusionary screening is the oldest form of sustainable investing, dating back to when “socially responsible” and “ethical” were common descriptors for strategies. Aligning investments with values is a key motivation. But financial considerations also matter. Combating climate change requires that some fossil fuel reserves will become “stranded assets.” Parnassus Investments, an established sustainable investment manager, invokes both values and value to explain its avoidance of fossil fuels:

“While we recognize that fossil fuels are still an integral part of the global economy, we want to remind you that we do not hold any oil or gas companies in our strategies, because we believe avoiding fossil fuel companies is the best decision for the long run, both for investors and for the climate.”⁵

The **Morningstar Global ex-Fossil Fuels Index** can be examined to better understand the consequences of an exclusionary strategy. The equity index is derived from the Morningstar Global Markets Large-Mid Index and excludes companies that derive at least 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 2021 with returns back-tested to 2018 based on historical Sustainalytics data.

Unsurprisingly, the index is significantly less carbon-intensive than the market overall, though eliminating fossil-fuel-related businesses still leaves heavy-emitting energy consumers. Carbon intensity compares scope 1, 2, and 3 emissions with enterprise value including cash. Carbon-intensive steel and cement companies, airlines, and utilities all remain in the Morningstar Global ex-Fossil Fuels Index, as do carbon-intensive industrials, miners, and shippers.

Exhibit 4 Excluding Fossil Fuels Significantly Lowers Portfolio-Level Carbon Intensity

Index	Carbon Intensity
Global ex-Fossil Fuels	178.35
Global Equities	313.09

Source: Morningstar Direct. The Morningstar Global Large-Mid Cap Index is used to represent “Global Equities.” Index-level carbon intensity is a weighted average of constituent-level data, using company-level emissions data from Sustainalytics. Carbon intensity is computed for each constituent by dividing Total Emissions (metric tons of CO₂) by enterprise value including cash (Mil USD).

⁴ Invest Divest 2021. <https://divestmentdatabase.org/wp-content/uploads/2021/10/DivestInvestReport2021.pdf>

⁵ Parnassus Investments Message to Our Investors on Events in Ukraine. March 11, 2022.

https://www.parnassus.com/insights/article/a_message_to_our_investors_on_events_in_ukraine

The investment consequences of divestment are not dramatic. Less than 10% of the global equities universe is composed of companies that generate revenue from fossil fuels. The ex-Fossil Fuel Index contained 4,458 constituents as of March 2022, while the parent index held 4,893. But on a weighted basis, eliminating fossil fuels removes an even smaller section of the universe. The energy sector represented just 3.5% of the Morningstar Global Markets Index as of the start of 2021, versus 11.1% in 2011.

That is why the ex-Fossil Fuel Index's tracking error (displayed in Exhibit 3) is minimal. Of course, any deviation from market exposure will cause divergence, which will inevitably be positive in some market conditions and negative in others. Energy has been the most volatile of the 11 global equity sectors over the past 10 years. It was the best performing sector in the first quarter of 2022, which hurt the ex-Fossil Fuel Index relative to the broad market. The opposite was true in 2020, when low oil prices caused the energy sector to lag.

Exhibit 5 Excluding Fossil Fuels Can Lead to Both Outperformance and Underperformance

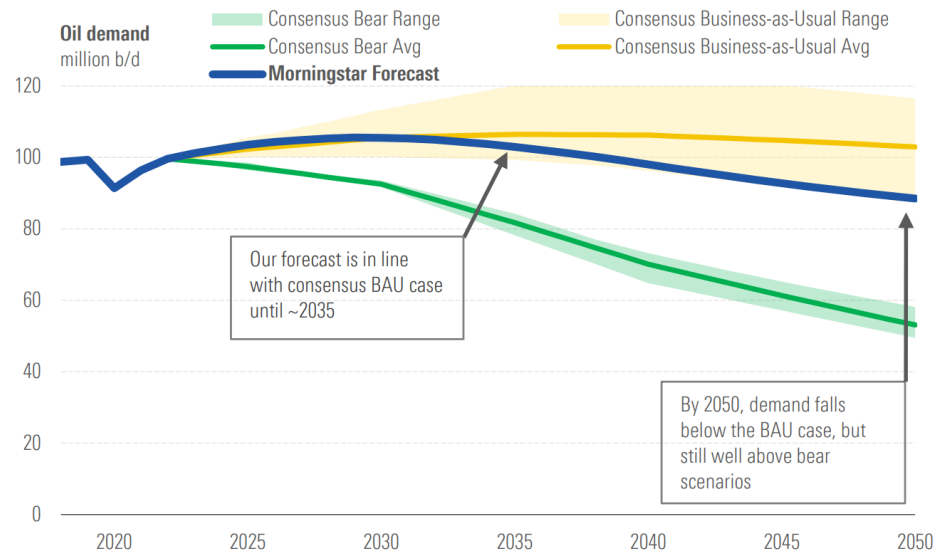
Index	2022 Q1 Return%	2021 Return %	2020 Return %	2019 Return %
Global ex-Fossil Fuels	-6.6	18.2	19.5	28.2
Global Equities	-5.3	18.5	16.7	27.2

Source: Morningstar Direct. The Morningstar Global Large-Mid Cap Index is used to represent "Global Equities."

What does the future hold? As discussed, energy forecasting is difficult. Global decarbonization goals undoubtedly represent a secular challenge to fossil fuel businesses. The International Energy Agency's "net zero pathway" envisions energy demand in 2050 that is 8% smaller than today with an economy twice as large.⁶ Morningstar Equity Research, for its part, did not foresee such an aggressive transition in its November 2021 report, "The Future of Oil Demand—Reports of Its Death Have Been Greatly Exaggerated."⁷ The report projected oil demand peaking in 2030, then declining by 11% through 2050. Although the research team is above-consensus on electric-vehicle penetration and expects Chinese demand for oil to fall, it sees sustained strong demand from shipping, air travel, petrochemicals, and emerging markets outside of China.

⁶ Net Zero by 2050. IEA. https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

⁷ Caldwell, P., Goldstein, S., & Meats, D. 2021. "The Future of Oil Demand—Reports of Its Death Have Been Greatly Exaggerated." *Energy Observer*. Morningstar. November 2021.

Exhibit 6 Morningstar Equity Research Forecasts Strong Long-Term Oil Demand

Source: IEA, Morningstar Equity Research. November 2021.

In the wake of the Ukraine crisis, the Morningstar Equity Research team updated its near-term forecast for Brent crude prices to roughly USD 100 per barrel through 2023.⁸ Higher oil prices mean more profits for energy companies, raising the fair value of their shares. The question investors must ask is: What is already factored in to stock prices?

Then there is the question of impact. At the COP26 climate conference in Glasgow, several sustainability-focused investors warned of unintended consequences. "Just divesting from a portfolio is absolutely not going to get the capital where it needs to be for us to be able to transition to a low-carbon economy," said Rachel Elwell of the UK's Border to Coast Pension Partnership. Vanguard argued that ownership stakes in fossil fuel businesses allowed for engagement, shareholder activism, and influence. Larry Fink of BlackRock worried about pushing oil and gas companies, or the most carbon-intensive pieces of them, into opaque private markets.

The divestment movement makes strong arguments as well. Challenging fossil fuel companies' social license to operate creates pressure that can change corporate behavior. Many asset owners have reallocated capital from fossil fuel businesses to climate solutions. When Dutch pension fund ABP announced it would sell its fossil fuel holdings under pressure from its participants, it questioned the efficacy of activism, stating:

"We part with our investments in fossil fuel producers because we see insufficient opportunity for us as a shareholder to push for the necessary, significant acceleration of the energy

⁸ Meats, D. & Good, A. 2022. "Oil Supply and Demand: Famine to Feast?" Morningstar. April 13, 2022. <https://www.morningstar.com/articles/1088204/oil-supply-and-demand-famine-to-feast>

*transition at these companies. . . . From now on we will focus on bulk users of fossil energy such as electricity companies, the car industry and aviation. . . . Using our influence as a shareholder, ABP will encourage companies that use fossil fuels to become more sustainable.*⁹

The debate will continue as investors weigh considerations. Fossil fuel divestment will inevitably work for some but not others. The implications of divestment on a portfolio do not appear dramatic.

ESG Risk Mitigation— Effective in Recent Years but Not a Guaranteed Outperformer

To many investors, ESG issues are material financial risks. Environmental impact, labor relations, product safety, data privacy, and business ethics are issues that can impact a firm's results. Business today undoubtedly faces rising expectations to serve a range of stakeholders. The CFA Institute describes ESG analysis as “consistent with a manager’s fiduciary duty to consider all relevant information and material risks in investment analysis and decision-making.” Assessments like the Sustainalytics' ESG Risk Rating focus on the issues most likely to impact enterprise value.¹⁰

The **Morningstar Global Sustainability Index** can be examined to better understand the nature of a risk-mitigation strategy. The equity index is derived from the Morningstar Global Markets Large-Mid Index and is methodologically aligned with the Morningstar Sustainability Rating for funds (the “globe rating”).¹¹ 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's market cap is reached. To maintain broad market exposure, sector and regional weights are kept within 2 percentage points of their equivalent market weight. Index constituents are weighted by market cap. The index launched in 2016.

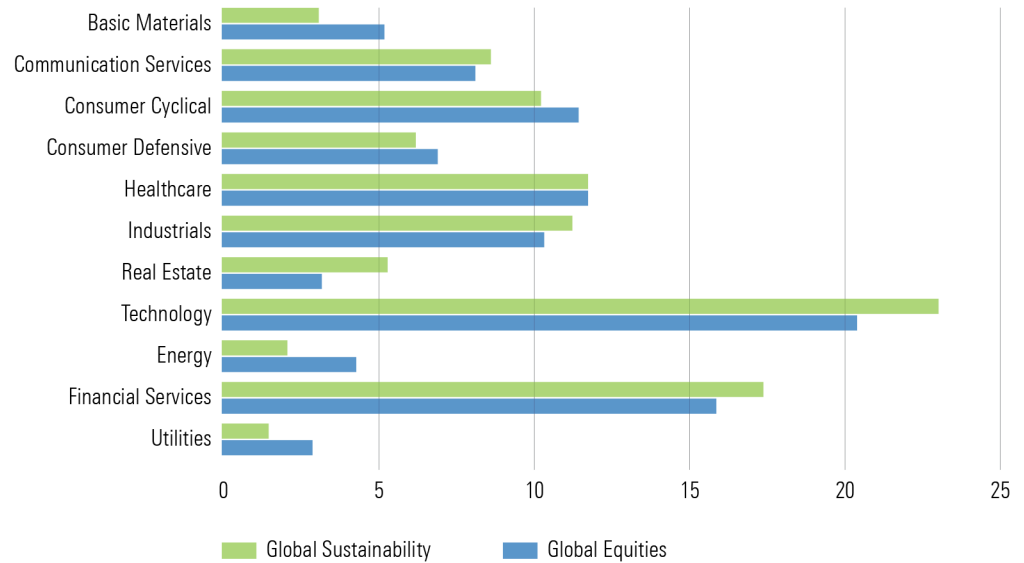
How does the index compare with the broad market from a sector perspective?

⁹ ABP stops investing in fossil fuel producers. Press Release. Oct. 26, 2021. https://www.abp.nl/images/Press%20Release%20Fossil_EN.pdf

¹⁰ Please refer to the Sustainalytics ESG Risk Rating methodology for more details. <https://connect.sustainalytics.com/esg-risk-ratings-methodology>

¹¹ Please refer to the Morningstar Sustainability Rating methodology for more details.

https://www.morningstar.com/content/dam/marketing/shared/research/methodology/744156_Morningstar_Sustainability_Rating_for_Funds_Methodology.pdf

Exhibit 7 ESG Screens Lead to Heavier Technology and Financials Exposure, Less Energy and Materials

Source: Morningstar Direct. Data as of March 31, 2022. The Morningstar Global Large-Mid Cap Index is used to represent "Global Equities."

Energy and materials are both systemic underweights for the sustainability index. Not only do businesses in extractive industries produce emissions, effluence, and waste, but they also face challenges related to health and safety, community relations, and business ethics, according to Sustainalytics.

But within the energy sector, there are higher risk and lower risk companies in the eyes of Sustainalytics. Exxon Mobil, Shell, and PetroChina are not included in the index because of their elevated risk. But the sustainability index does contain companies like Enbridge and Cheniere Energy Partners, which both have strong management of the ESG-related risks to their energy transportation businesses, Repsol, the Spanish oil and gas business that ties executive remuneration to emissions reduction, and Woodside Petroleum, an Australian oil and gas exploration business with a strong record on spills and a commitment to net zero. All of these companies carry Medium ESG Risk Levels.

The notion of balancing risk and return for ESG investors was articulated recently in an article from Harris Associates, advisor to the Oakmark Funds:

"The reality is all business investments come with trade-offs. . . Fossil fuels are harmful to the environment and critical to the functioning of current society. Rather than gloss over this complexity, we believe the role of the ESG-conscious investor should be to balance trade-offs and make decisions that drive the best possible outcomes over the long term. This means recognizing oil production will remain essential to society over the medium term and that environmental costs should eventually lead to declining demand. Both of these conflicting

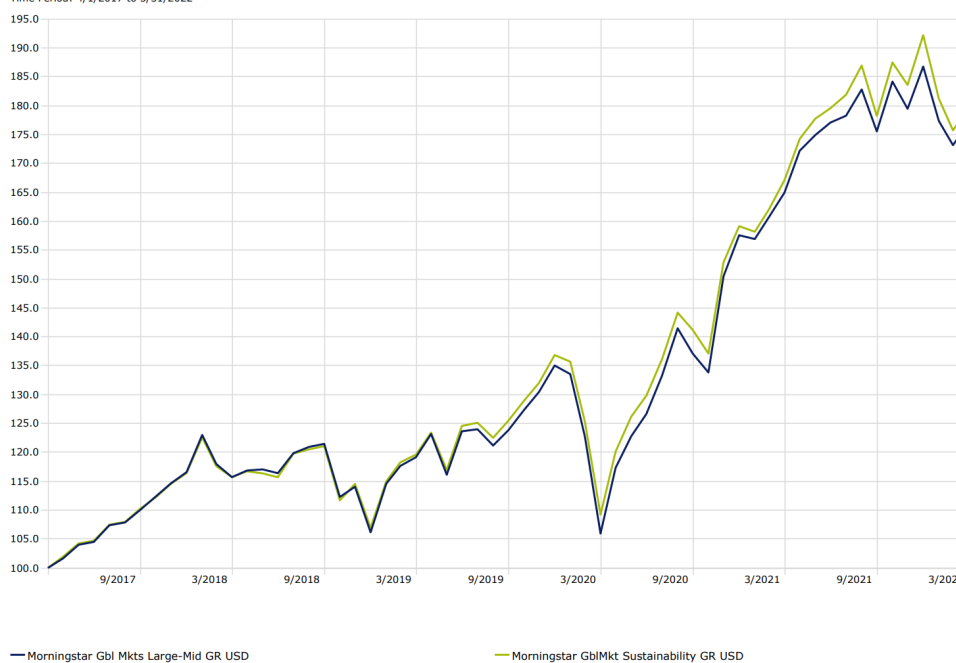
*factors must be incorporated into the pricing of oil and gas investments today. When oil companies can be purchased at prices that compensate for these considerations, even ESG-conscious investors should be willing to invest."*¹²

How has ESG risk mitigation worked out for the Morningstar Global Sustainability Index? Not bad for the past five years. Underweighting the energy sector has contributed to outperformance, but overweighting technology stocks has contributed even more.

Exhibit 8 ESG Risk Mitigation Has Been a Winning Strategy in Recent Years

Investment Growth

Time Period: 4/1/2017 to 3/31/2022



Source: Morningstar Direct. Date as of March 31, 2022.

Seeking ESG Opportunity—Valuation Can Be a Concern

To some investors, ESG is an investment indicator. A company can use sustainability to establish or enhance a competitive advantage. Such companies may or may not be in a business directly related to ESG. But the idea is that a strong ESG profile is a desirable attribute in a company and investors may practice "positive ESG selection" to target it.

The **Morningstar Global Sustainability Leaders Index** can be examined to better understand the nature of investment strategies that seek ESG opportunity. The equity index is derived from the Morningstar Global Large Cap Index. After employing a number of exclusions, it selects a focused group of ESG exemplars. Not only are companies involved with tobacco, controversial weapons, and civilian firearms avoided, so too are nuclear products and companies with significant exposure to gambling, alcohol, and

¹² Fitch, A.. "The Importance of the Long Term for the ESG-Conscious Investor." Oakmark Funds. April 1, 2022. . <https://oakmark.com/news-insights/the-importance-of-the-long-term-for-the-esg-conscious-investor/>

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. From the remaining universe, the index selects 100 companies in order of their Sustainalytics' ESG Risk Ratings. Regional and sector weights can deviate widely from the market, and the index is weighted by market cap.

Notably, the index contains no energy companies, though it does include Vestas Wind Systems, a leader in renewables, and several companies that are involved in sustainable products and contributing to the low-carbon transition. Examples include:

- ▶ Capitaland Investment, Nippon Prologis REIT, and Swire Properties—Asian real estate companies that are energy-efficient and involved in green building.
- ▶ Nvidia—The semiconductor maker is mindful of environmental impact, energy efficiency, and diversity, equity, and inclusion. Nvidia's products also have social impact in healthcare, space, and other fields.
- ▶ Schneider Electric—As a maker of energy management solutions for residential and commercial use, the French industrial benefits from the global push for increased energy efficiency.

With fewer constraints at the sector and regional level, the index has outperformed the broad market by a larger margin than Morningstar Global Sustainability Index over the past five years. That said, it underperformed badly in the first quarter of 2022. Total lack of exposure to the soaring energy sector detracted from returns, as did a crash in technology stocks. Whether lack of energy exposure turns out to be a positive or negative over the long term is an open question.

Valuation is a real concern for a strategy seeking ESG opportunity. David Meats, Morningstar equity research director for energy and utilities, speaks of the cycle of fear and greed driving energy sector performance: "The market is a bit myopic with oil prices; when prices are up, it tends to assume they'll stay up; when prices are down, it does the same." The implication is that investors should heed Warren Buffett's maxim to be "fearful when others are greedy and to be greedy only when others are fearful."

For years, the market bid up the shares of stocks that carry low levels of ESG risk. In November 2021, Morningstar head of global research Haywood Kelly wrote: "[I]nvestors are paying too much for good ESG companies and too little for bad ESG companies."¹³

¹³ Kelly, H. "What's the Cost of Buying Good ESG Companies?" Nov. 23, 2021. <https://www.morningstar.com/articles/1069245/whats-the-cost-of-buying-good-esg-companies>

Exhibit 9 Companies With Low ESG Risk Have Been Bid Up By the Market

Index	Price to Earnings Ratio
Global Sustainability Leaders	23.8
Global Sustainability	18.6
Global Equities	17.5

Source: Morningstar Direct. The Morningstar Global Large-Mid Cap Index is used to represent "Global Equities."

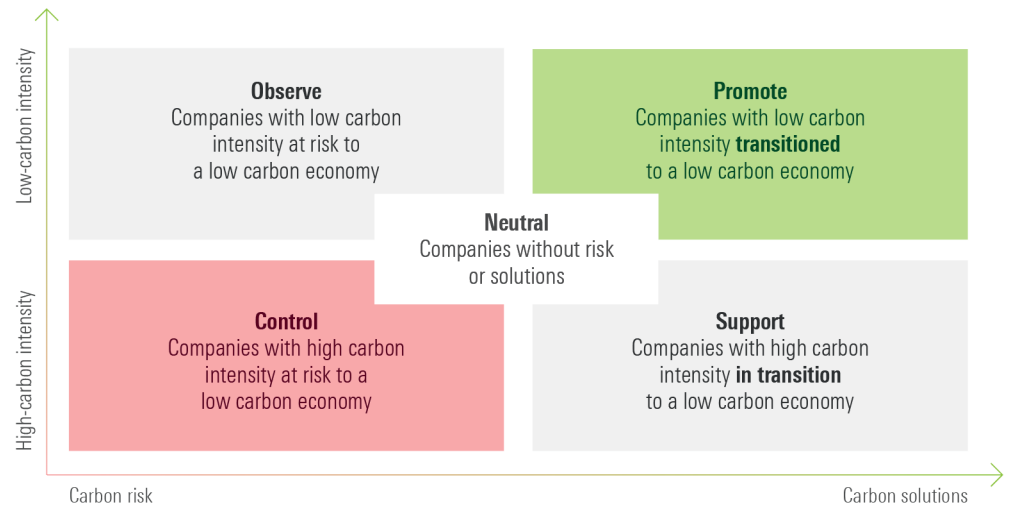
Active Ownership—Indexes Can Facilitate Engagement

As discussed, shareholders of public companies can influence their behavior through dialogue with management and the board, voting their proxies, proposing resolutions, even advocating for public policy that addresses sustainability concerns.

Indexes don't own securities. But the managers of passive funds allocate assets to index constituents when they replicate a benchmark. Indexes can therefore be used as tools that facilitate active ownership for sustainable investors.

The **Morningstar Global Sustainability Indexes (the EU Carbon Transition Benchmark, or CTB, and Paris-Aligned Benchmark, or PAB)** can be examined to provide insight into active ownership. The equity indexes achieve regulatory 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 climate indexes enable investors to implement their views on climate-risk mitigation and climate-related opportunities while channeling investments toward sustainable activities.

The indexes are derived from the Morningstar Global Markets Large-Mid Index and exclude companies with revenue from controversial weapons, tobacco producers, those noncompliant with the principles of the U.N. Global Compact and those carrying severe controversy ratings from Sustainalytics. The PAB index excludes many fossil-fuel-related businesses, while the CTB does not. After exclusions are applied, the climate indexes adjust the weight of parent index constituents based on Sustainalytics' carbon emissions data and research. A Climate Transition Matrix assigns companies to groupings that determines their index weight. The buckets align with active ownership goals: control, support, observe, and promote.

Exhibit 10 EU Climate Indexes Assign Weight Based on Active Ownership Goals

Source: Morningstar Indexes.

Consider examples from each bucket:

- ▶ **Promote**—**Kone**, a Finnish elevator and escalator business, is aligned with the 1.5 degree C scenario and receives maximum index weight. Its elevators and escalators are energy-efficient; the company uses renewable energy and is aggressively decarbonizing.
- ▶ **Support**—**Whirlpool**, a U.S. home appliance maker, is quite carbon-intensive, but it has taken strides to minimize environmental impact, like recycling and reusing, and reducing emissions and energy intensity.
- ▶ **Observe**—**Volkswagen** is still attempting to come back from its "Dieselgate" scandal, but its ability to meet EU emissions targets is in jeopardy. Its electric-vehicle business is lacking, and the Porsche unit is accused of falsifying fuel-consumption figures.
- ▶ **Control**—**Shell** has begun diversifying into hydrogen, energy storage, and renewables, yet they all pale in comparison to oil as a revenue stream. A Dutch court told the company to reduce emissions further and faster than planned. Shell's net zero by 2050 relies on "future technologies."

The case of Exxon Mobil and activist investor Engine No. 1 gives hope that shareholders can effectuate change from within oil majors. New board members are pushing a climate-focused agenda. Some believe that fossil fuel companies can become renewable leaders, with their vast resources and expertise. It will surprise some to learn that Exxon was an innovator in solar technology in the 1970s.¹⁴ The potential is there, but their contribution to the low-carbon transition remains to be seen.

¹⁴ Yergin, D. 2020. *The New Map*. Penguin Press. P. 395

Thematic ESG—Renewable Energy Investing Can Be Carbon-Intensive and Volatile

According to Morningstar data, thematic investments tripled their market share in the decade ended in 2021, with renewable energy considered a key secular growth driver. Clean-energy investors might be motivated by sustainability criteria or pure financial goals. The current crisis has added renewed geopolitical impetus, as articulated by *New York Times* columnist Thomas Friedman:

*"This is our umpteenth confrontation with a petro-dictator whose viciousness and recklessness are possible only because of the oil wealth he extracts from the ground. No matter how the war ends in Ukraine, it needs to end with America finally, formally, categorically and irreversibly ending its addiction to oil."*¹⁵

The **Morningstar Global Renewable Energy Index** highlights the shares of companies leading the transition to the low-carbon economy. The index includes two index sleeves. The first, 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 index relies on Sustainalytics' data and research and selects from the Morningstar Global Markets Index.

Investors aiming to invest in climate solutions to combat climate change might be surprised by the carbon intensity of some companies involved in renewable energy. In fact, the Morningstar Global Renewable Energy Index is twice as carbon-intensive as the broad equity market.

Exhibit 11 Renewable Energy Investing Is Not the Same as Low-Carbon Investing

Index	Carbon Intensity
Global Renewable Energy	643.65
Global Equities	313.09

Source: Morningstar Direct. The Morningstar Global Large-Mid Cap Index is used to represent "Global Equities." Index-level carbon intensity is a weighted average of constituent-level data, using company-level emissions data from Sustainalytics. Carbon intensity is computed for each constituent by dividing total emissions (metric tons of CO₂ by enterprise value including cash (Mil USD).

Why the carbon intensity? First, many companies are involved in both fossil fuels and renewables. The large slug of utilities stocks in the index includes such carbon-intensive companies as China Resources Power Holdings, Eversource Energy, and Japan's Electric Power Development Co. Second, a company can be focused on products and services that are climate-friendly—electric vehicles, wind turbines, or solar panels, for example—but have carbon-intensive operations. Nikola, which makes electric-vehicle batteries, is quite carbon-intensive, as is Canada's TransAlta Renewables.

To some, high carbon intensity today is a necessary step toward tomorrow's low-carbon economy. Hendrik du Toit, founder and CEO of Ninety One, a fund manager, has argued forcefully against fossil

¹⁵ Friedman, T. 2022. "How to Defeat Putin and Save the Planet." *The New York Times*. March 29, 2022. <https://www.nytimes.com/2022/03/29/opinion/how-to-defeat-putin-and-save-the-planet.html>

fuel divestment and for financing the technologies enabling decarbonization: "Many public companies and investment managers are focused on a simplistic reduction of their own reported carbon emissions." Du Toit points out that three of the world's largest clean-energy producing utilities, Iberdrola, Enel, and NextEra Energy, also burn fossil fuels and will therefore raise a portfolio's carbon intensity. He also notes that avoiding emerging markets can make a portfolio greener but also deprives those markets of capital to finance their transition.¹⁶

From an investment perspective, thematic investments like renewables can be very volatile. A portfolio of stocks, concentrated by industry and sector, many of them highly correlated with each other, will bounce around more than a diversified one. Unsurprisingly, the Morningstar Global Renewable Energy Index's standard deviation of returns (a measure of volatility) has exceeded that of the broad market.

Exhibit 12 Renewable Energy Investing Has Been a Bumpy Ride

Investment Growth

Time Period: 4/1/2017 to 3/31/2022



Source: Morningstar Direct. Date as of March 31, 2022.

Even long-term secular growth drivers can experience setbacks. Danish power group Orsted, which had been a strong-performing darling of renewable energy investments, and Vestas, a wind turbine maker, both suffered significant share price decline in 2021. Low wind speeds and higher renewable costs were to blame.

¹⁶ Du Toit, H. 2021. "Net Zero Is a Pipe Dream Without Total Inclusion." Aug. 9, 2021.

Sustainable Investing Isn't Just One Thing

The fact that there's no consensus definition of sustainable investing is sometimes used to discredit the field. This is unfair. "Value investing" is not questioned just because it can be defined and implemented in a variety of ways? Sustainable investing, which is still developing, is undoubtedly diverse in its motivations and its applications. Only time will tell how the current energy crisis, exacerbated by the war in Europe, changes the field. Will it undermine the growth of ESG or accelerate it? Will it favor one of the current sustainable-investing approaches over others? Could it give rise to new expressions of ESG? ■■

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Contact:

indexes@morningstar.com

U.S. + 1 312 384-3735

Europe: +44 203 194 1401

Japan: +81 3 5511 7540

India: +91 22 6121 7123

Hong Kong: +852 2973 4680

Singapore: +65 6340 1285

Australia: +61 2 9276 4446

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22 West Washington Street
Chicago, IL 60602 USA