J.P.Morgan

PRIVATE BANK

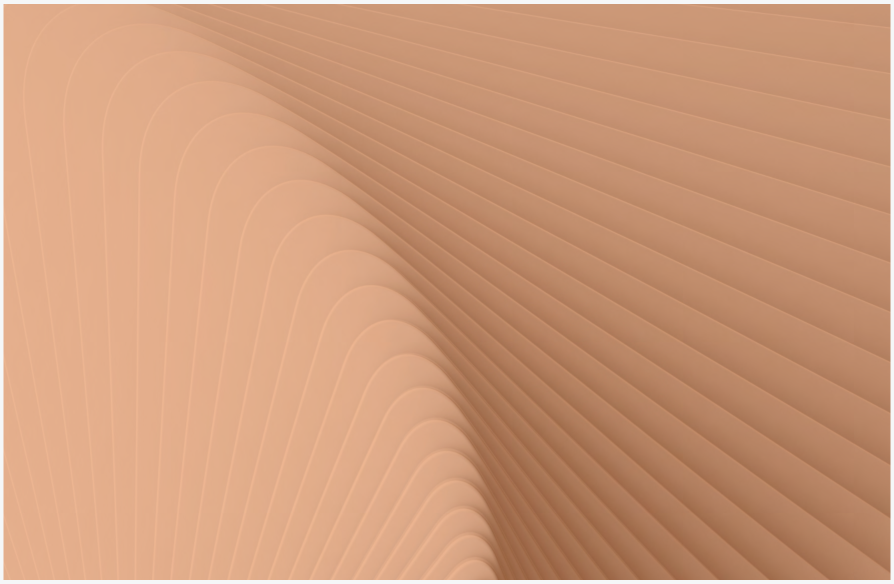
MANAGER SOLUTIONS

Implementation Guide for traditional and clean energy investing

Contents

Introduction

The Manager Solutions Due Diligence Team at the Private Bank is dedicated to continuously evaluating current recommendations, analyzing the factors driving investment returns, and researching new investment opportunities. This whitepaper delves into the challenges and potential benefits of investing in both traditional and clean energy sectors. It provides comprehensive guidance on how investors can strategically incorporate energy investments to optimize their portfolios.



Part 1: Traditional Energy

Our latest research highlights numerous shifts within the perpetually evolving energy sector, underscoring the importance for investors to remain cognizant of these changes when considering the addition or retention of energy investments in their portfolios. For instance:

- **Continued global reliance:** Despite being unprofitable for the past decade, fossil fuels make up 80% of global primary energy consumption, and are predicted to still represent between 62% and 73% of global primary energy demand by 2030, depending on what transition scenario you look at (source: International Energy Agency).

- **Geopolitics:** Europe's energy crisis, coupled with the current macroeconomic volatility, has underlined the need for countries to continue to invest in fossil fuels. The crisis has served as a cautionary tale for other regions currently relying or planning to rely on renewables as a major source of energy.

- **Resurgence in key segments:** WTI pricing, supply-side constraints, historical underinvestment and other factors have prompted a resurgence of interest in traditional energy investing. Investing in traditional energy can form part of the long-term strategy for solving the looming energy crisis.

The fossil fuels industry falls under the GICS® energy sector, which includes companies engaged in the exploration, production, refining, marketing, storage and transportation of oil, gas, coal and consumable fuels; it also includes companies providing related equipment and services.

This sector is a cyclical area of the market, and the cycle has recently turned positive. In 2021 and 2022, the energy sector led U.S. equities after many years of underperformance (see Table 2).

TABLE 1. MORNINGSTAR: TOP 3 GICS® SECTORS % RETURNS YEAR-ON-YEAR (UNIVERSE: S&P 500)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Consumer Discretionary 43	Real Estate 30	Consumer Discretionary 10	Energy 27	Information Technology 39	Healthcare 6	Information Technology 50	Information Technology 44	Energy 55	Energy 66	Information Technology 58	Comm. Services 40
Healthcare 41	Utilities 29	Healthcare 7	Comm. Services 23	Materials 24	Utilities 4	Comm. Services 33	Consumer Discretionary 33	Real Estate 46	Utilities 2	Comm. Services 56	Information Technology 37
Industrials 41	Healthcare 25	Consumer Staples 7	Financials 23	Consumer Discretionary 23	Consumer Discretionary 1	Financials 32	Comm. Services 24	Financials 35	Consumer Staples -1	Consumer Discretionary 42	Financials 31

Source: FactSet. Data as of December 2024.

TABLE 2. MORNINGSTAR: BOTTOM 3 GICS® SECTORS % RETURNS YEAR-ON-YEAR (UNIVERSE: S&P 500)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Utilities 13	Materials 7	Utilities 5	Consumer Staples 5	Real Estate 11	Industrials -13	Materials 25	Financials -2	Industrials 21	Information Technology -28	Consumer Staples 1	Real Estate 5
Comm. Services 11	Comm. Services 3	Materials -8	Real Estate 3	Energy 1	Materials -15	Healthcare 21	Real Estate -2	Consumer Staples 19	Consumer Discretionary -37	Energy 1	Healthcare 3
Real Estate 2	Energy 8	Energy 21	Healthcare -3	Comm. Services -1	Energy 18	Energy 12	Energy 34	Utilities 18	Comm. Services -40	Utilities 7	Materials 0

Source: FactSet. Data as of December 2024.

Notably, investors have had to accept a higher level of volatility to stay invested in this sector between 2011 and 2024, given its sensitivity to changes in the cycle (see Table 3).

TABLE 3. ANNUALIZED RETURNS AND VOLATILITY BY GICS® SECTOR % (2011–2024) (UNIVERSE: S&P 500)

Annualized Returns		Volatility	
Information Technology	23%	Energy	28%
Consumer Discretionary	15%	Consumer Discretionary	19%
Financials	14%	Financials	19%
Industrials	13%	Materials	18%
Healthcare	13%	Information Technology	18%
Communication Services	11%	Communication Services	18%
Consumer Staples	10%	Industrials	18%
Utilities	10%	Real Estate	17%
Materials	9%	Utilities	15%
Real Estate	8%	Healthcare	14%
Energy	5%	Consumer Staples	13%

Source: FactSet. Data as of December 2024.

Note: **Past performance is no guarantee of future results.** It is not possible to invest directly in an index.

What does this mean for the choices available to public market investors? Is there scope to generate alpha?

The investment universe is limited, and public equity active managers have found it difficult to achieve success in this space. Looking at the level of dispersion in returns and the drivers of that dispersion (i.e., the conditions that should be in place to generate active returns), we see high volatility; however, this volatility is driven by high levels of correlation across the underlying stocks. In other words, stock prices are influenced primarily by the direction of the commodity price, rather than stock-specific factors that active managers typically focus on—for example, financial strength of the business, quality of management, capital allocation, etc.

Our active manager cohort believes this is aggravated by the extremely concentrated nature of the benchmarks, which limit the ability to take meaningful active bets. Investors, therefore, are better served by capturing beta exposures to traditional energy via the passive route. Conditions are favorable for one exception: the energy midstream space.

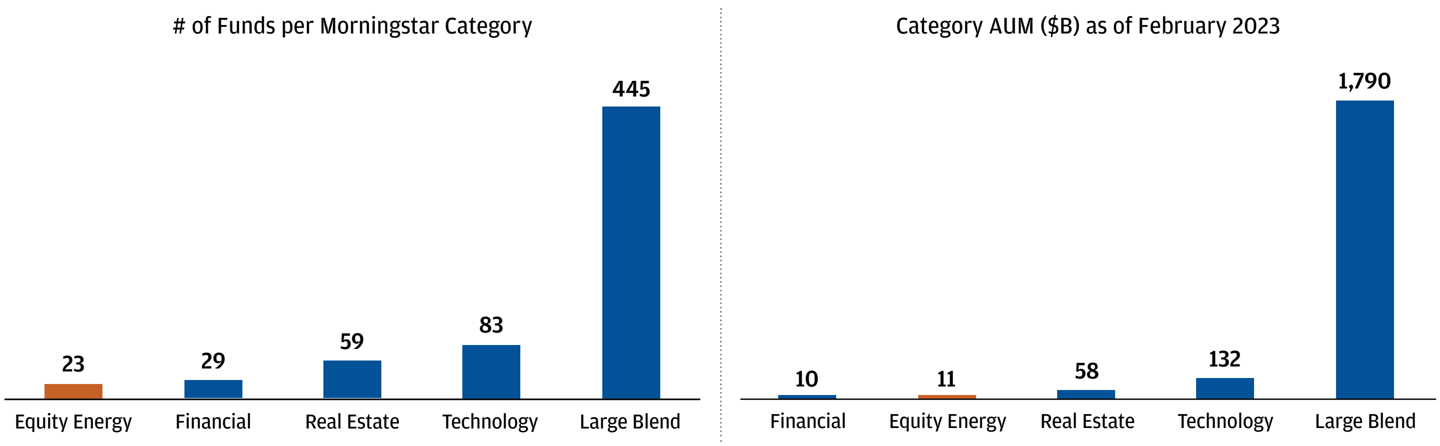
Evaluating active management in the energy sector

We have examined the size and structure of the universe of actively managed strategies within the energy sector, and assessed the factors tied to alpha generation.

The characteristics of actively managed energy strategies

Currently, there are only 23 unique strategies in the Equity Energy category.[1] The smallest of all sector-focused categories, Equity Energy, in terms of number of funds, is also one of the smallest in terms of assets under management.

CHARTS 1 AND 2. MORNINGSTAR FUND UNIVERSE (BY SECTOR/CATEGORY)



Source: Morningstar. Data as of March 2025.

[1] Morningstar U.S. Fund Equity Energy category. Data as of March 2023.

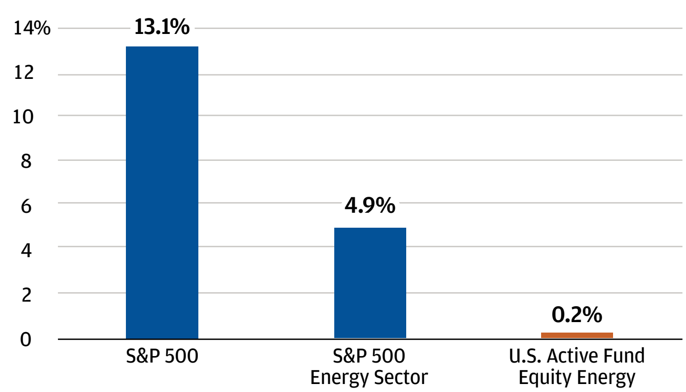
Why is the universe so restricted?

Performance trends in Chart 3 offer a clue.

First, the energy sector massively underperformed broad equities during the 2010s, shrinking from 11% of the S&P 500 in December 2009 to only 2% at the end of 2020. The annualized return of the sector was -0.5% versus +14.1% for the broad market over that 10-year period.

Second, active managers have not been able to deliver consistent and meaningful outperformance of the sector's returns in recent years. In fact, they underperformed the Energy Sector Index in seven out of the past 10 years (2015–2024), with a single period annualized return of 0.2%, compared to the broad sector's 4.9%.

CHART 3. ANNUALIZED RETURNS (LAST 10 CALENDAR YEARS)



Source: Morningstar. Data as of March 2025.

Why has it been so difficult for managers to outperform in this sector?

When assessing whether to implement a view through active or passive management, we typically consider three factors: (i) fees, (ii) time horizon and (iii) alpha opportunity. While fees and time horizon are relatively easy to measure, the alpha opportunity is more difficult to measure and capture.

As a consequence, we developed a systematic scoring process that takes into account: (i) levels of dispersion and (ii) drivers of dispersion experienced by energy sector managers versus other areas of the U.S. equity universe. This is based on our belief that over time, these aspects of dispersion can enhance alpha generation opportunities.

Is the level of volatility a clue to the size of the alpha opportunity?

When stock prices need to present some level of volatility, we expect active managers to show dispersion. An active manager's forecast is likely to have a lower impact on the magnitude of potential excess returns if the stock tends to trade in line with the benchmark (meaning the stock and benchmark have similar levels of volatility). On the other hand, if the manager detects a higher level of volatility in a stock, however, this can indicate a higher probability of large excess returns.

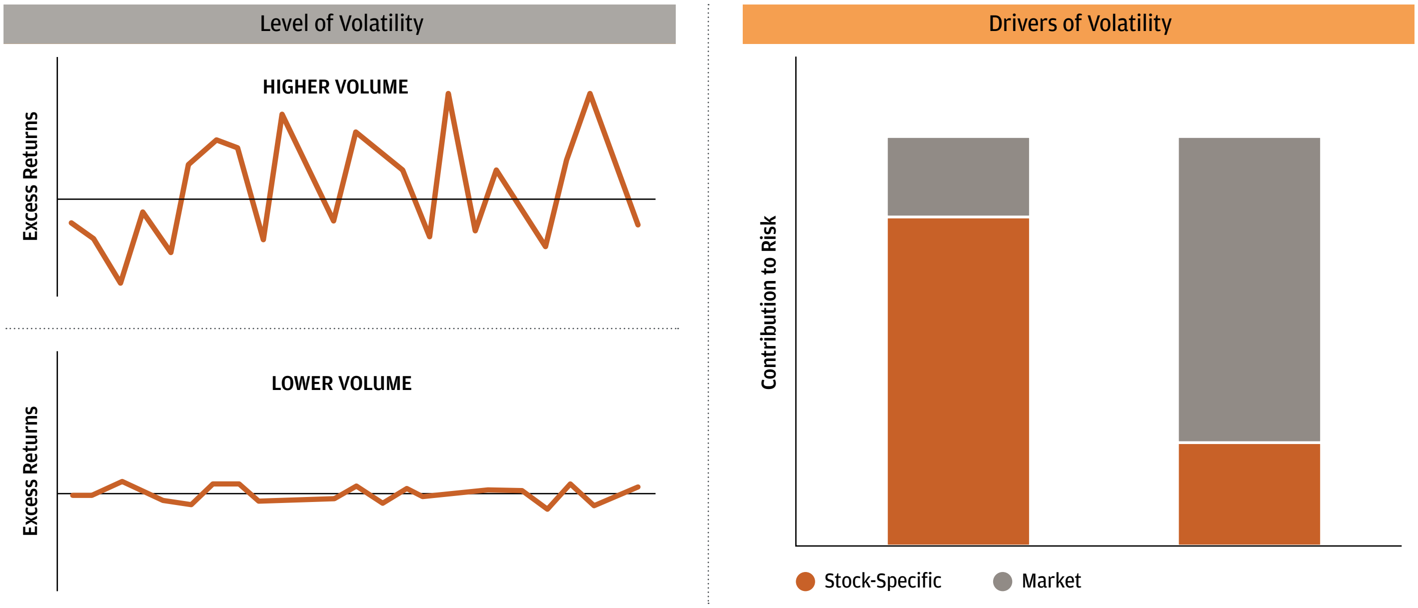
Consider two scenarios: a healthcare company awaiting FDA approval for a new drug, and a regulated utility company awaiting the outcome of a rate review process from the regulator. If the manager forecasts correctly about the drug's FDA approval, the stock could move up materially to account for potential substantial future earnings. By contrast, even if the manager's forecast for the regulated utility is correct, the stock price reaction might be less dramatic, given the predictability and smaller magnitude of the earnings surprise.

The factors driving dispersion also matter: Active managers are typically better set up to generate stock-specific insights

Active managers will typically focus on stock selection and stock-level insights, rather than attempt to forecast macro or exogenous factors, which have high levels of uncertainty and are typically much harder to exploit.

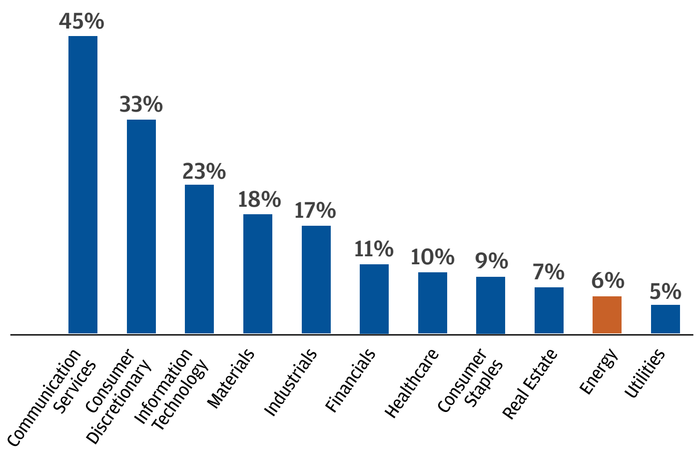
In short, the higher the contribution of stock-specific risk to the overall volatility, the better the environment for active stock pickers.

CHART 4. ILLUSTRATION OF VOLATILITY AND DRIVERS OF VOLATILITY OF EXCESS RETURNS



Sources: J.P. Morgan Manager Solutions, Morningstar.

CHART 5. STOCK-SPECIFIC RISK BY SECTOR



Sources: FactSet, Barra. Data as of March 2025.

Energy stocks offer higher volatility and dispersion, but returns are generally not driven by stock-specific factors

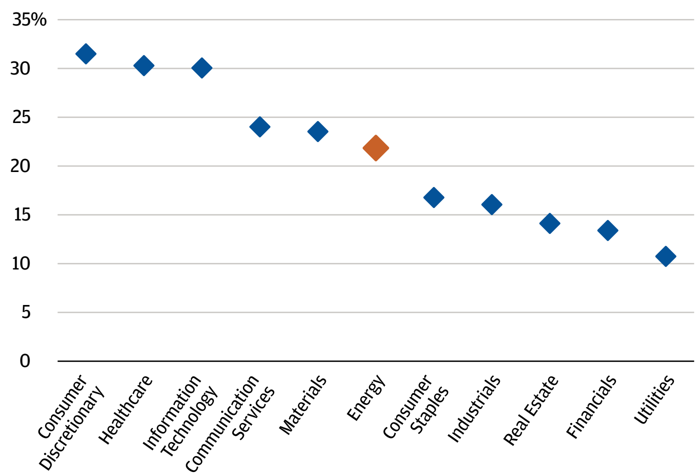
To help you understand the market dynamics faced by active managers in the energy sector, we have summarized a series of indicators used to create a score to indicate the magnitude and quality of the opportunity available in the energy sector versus other sectors (using the U.S. equities market as the universe to start).

TABLE 4. DESCRIPTION OF INDICATORS OF LEVEL OF VOLATILITY/DISPERSION AND DRIVERS OF DISPERSION/VOLATILITY

Concept	Metric	Description
Levels of Volatility	**Outperformer/underperformer dispersion**	Measures the difference between the median of the top quintile of performers ("winners") and the median of the bottom quintile ("losers") over rolling 12-month periods for the last 10 years. A larger dispersion indicates a larger potential added value by picking the "winners" and avoiding the "losers."
	Volatility of individual stocks	Measures the variation of returns in the entire sector by taking the median stock-level standard deviation. Stock volatility means performance can diverge enough from the benchmark for active managers to outperform (or underperform).
	Volatility of outperformers	Measures the variation of returns in the top quintile of performers ("winners") by taking the median stock-level standard deviation. High volatility indicates a wider distribution of outcomes and the potential for "bigger" home runs.
	The "tails" of underlying stock performance	Measures kurtosis, which looks at the size of distribution's tails—i.e., a higher kurtosis indicates "fatter" tails, or more extreme outliers. This gives more insight into the dispension and the potential for "home runs." Looking at the "tails" of the distribution tells how many stocks (rather than magnitude) generate outsized returns; active managers want more stocks with more differentiated returns.
Drivers of Volatility	**Intra-sector pairwise correlations**	Measures the average correlation of every two-stock combination of names within a sector. Lower correlations indicate bottom-up or micro drivers of stock returns, whereas higher correlations indicate top-down or macro drivers. Active managers are better at forecasting the former.
	Stock-specific risk	The portion of volatility that is not driven by macro risk factors (Barra risk model is utilized to estimate this). A higher percentage of total risk that is made up of stock-specific may indicate a higher potential source of bottom-up alpha.

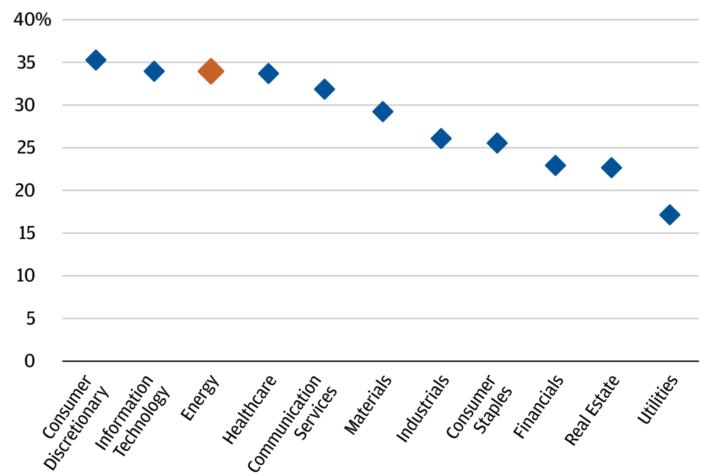
Source: J.P. Morgan Manager Solutions.

CHART 6. OUTPERFORMER/UNDERPERFORMER DISPERSION



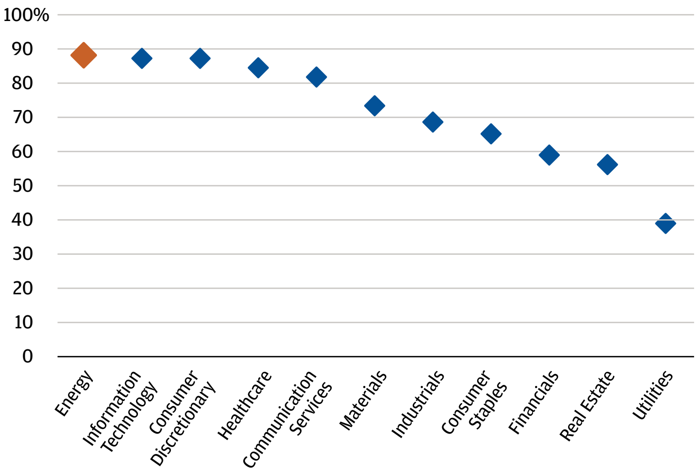
Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

CHART 7. INDIVIDUAL STOCK VOLATILITY



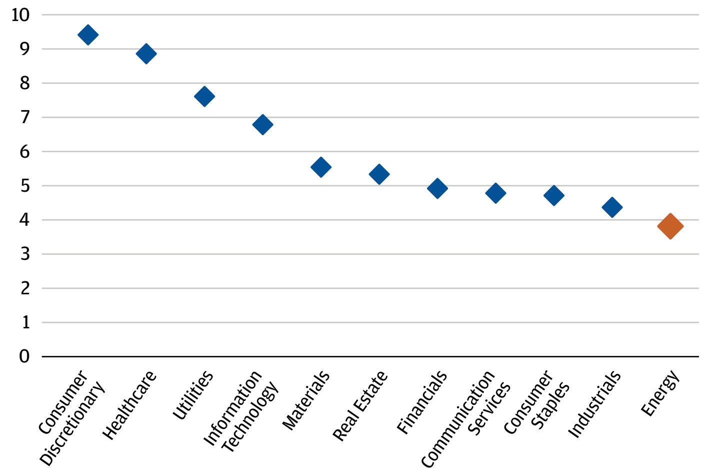
Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

CHART 8. OUTPERFORMER VOLATILITY



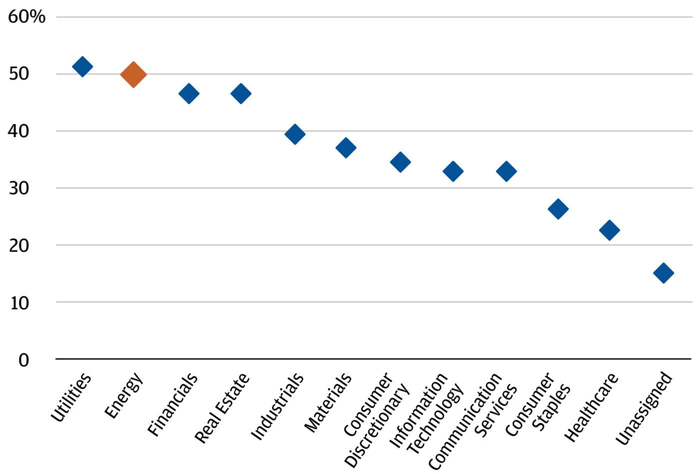
Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

CHART 9. "TAILS" OF UNDERLYING STOCK PERFORMANCE



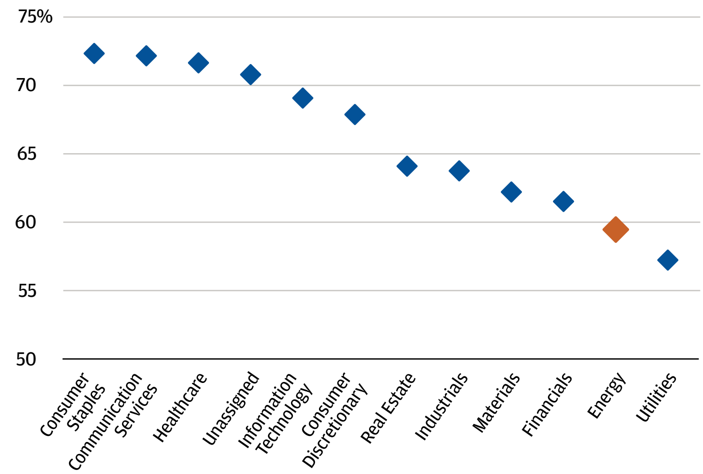
Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

CHART 10. INTRA-SECTOR PAIRWISE CORRELATIONS



Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

CHART 11. STOCK-SPECIFIC RISK



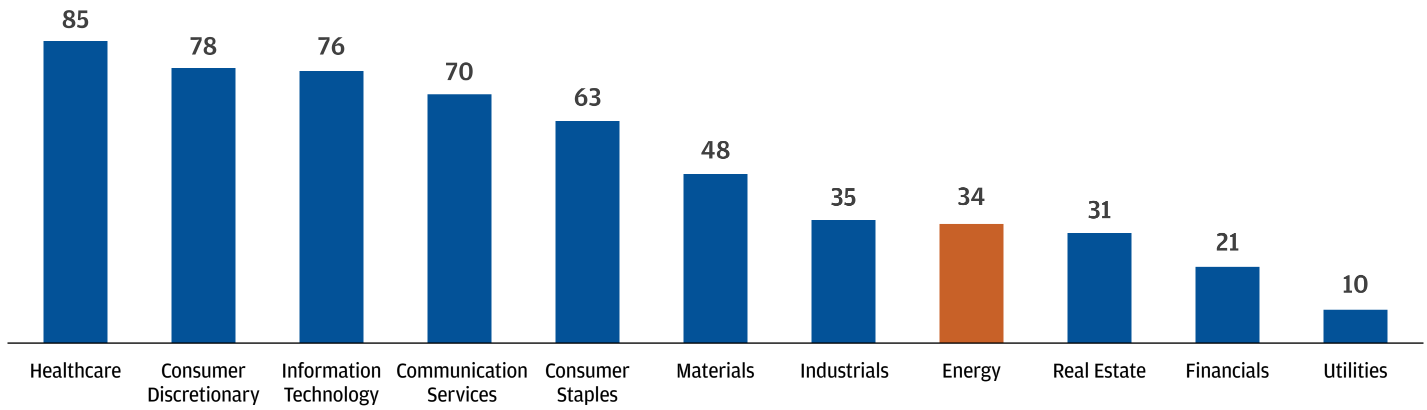
Sources: J.P. Morgan Quantitative Investment Analytics Team, FactSet, Barra. Data as of December 31, 2023.

All else being equal, sectors with a higher levels of dispersion (volatility) driven by stock specifics are better set up for high-alpha opportunities.

Chart 12 shows how the aggregate scores for the indicators in Table 4 compare across all sectors. Energy ranks close to the bottom, primarily because its drivers of volatility are mainly macro risk factors, and so show there is a high correlation between stocks.

Given that active managers are primarily focused on generating stock-specific insights, they want stocks to move in an uncorrelated manner that is driven by stock-specific risk.

CHART 12. ALPHA OPPORTUNITY RANKS: U.S. EQUITY GICS® SECTORS



Source: J.P. Morgan Quantitative Investment Analytics Team. Data as of December 31, 2023.

TABLE 5. CORRELATION OF WEEKLY RETURNS FOR TOP 10 HOLDINGS IN RUSSELL 1000 ENERGY SECTOR

	ExxonMobil	Chevron	ConocoPhillips	EOG Resources	Williams Companies	ONEOK	Schlumberger	Kinder Morgan	Cheniere Energy	Phillips 66
ExxonMobil	1.00	0.83	0.78	0.79	0.51	0.65	0.76	0.62	0.51	0.74
Chevron	0.83	1.00	0.78	0.71	0.54	0.63	0.70	0.62	0.46	0.71
ConocoPhillips	0.78	0.78	1.00	0.84	0.55	0.65	0.77	0.60	0.58	0.73
EOG Resources	0.79	0.71	0.84	1.00	0.50	0.66	0.82	0.60	0.58	0.72
Williams Companies	0.51	0.54	0.55	0.50	1.00	0.68	0.50	0.70	0.52	0.51
ONEOK	0.65	0.63	0.65	0.66	0.68	1.00	0.62	0.73	0.55	0.61
Schlumberger	0.76	0.70	0.77	0.82	0.50	0.62	1.00	0.58	0.54	0.73
Kinder Morgan	0.62	0.62	0.60	0.60	0.70	0.73	0.58	1.00	0.57	0.58
Cheniere Energy	0.51	0.46	0.58	0.58	0.52	0.55	0.54	0.57	1.00	0.48
Phillips 66	0.74	0.71	0.73	0.72	0.51	0.61	0.73	0.58	0.48	1.00

Source: Bloomberg Finance L.P. Data as of December 2024.

Manager views confirm what the data suggests: It is tough to generate alpha in this space

Sector-focused energy and broad equity managers generally share the view that highly commoditized and price-taker business models in this sector are a challenge to analyze or forecast with a reasonable degree of confidence. Additionally, regardless of how strong their skills in forecasting earnings and management effectiveness may be, they believe macro factors in this sector tend to determine stock prices. Finally, active managers have commented on the extremely concentrated nature of the benchmark, which makes it difficult to take active bets and to generate alpha. In fact, the largest five names represent 57% of the index.

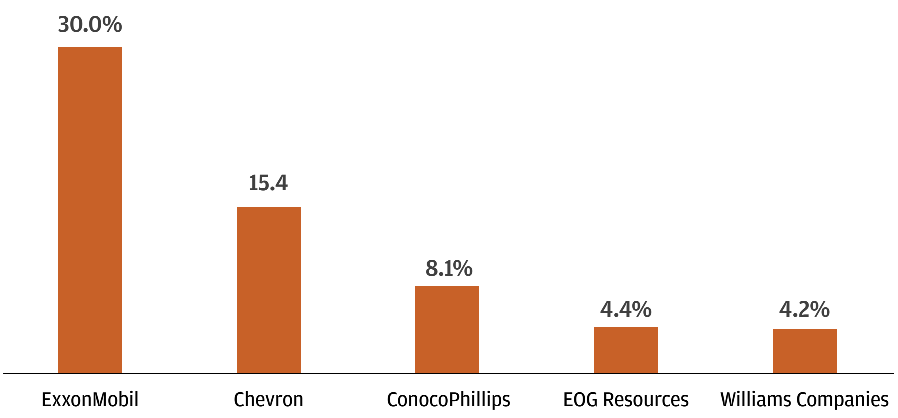
Note: All third-party companies referenced are shown for illustrative purposes only, and are not intended as a recommendation or endorsement by J.P. Morgan in this context.

TABLE 6. CORRELATION OF WEEKLY RETURNS FOR TOP 10 HOLDINGS IN ALERIAN MLP INDEX

	Energy Transfer	MPLX	Enterprise Products Partners	Western Midstream Partners	Sunoco	Plains All American Pipeline	Hess Midstream	EnLink Midstream	Cheniere Energy Partners	USA Compression Partners
Energy Transfer	1.00	0.67	0.69	0.57	0.53	0.65	0.66	0.63	0.50	0.55
MPLX	0.67	1.00	0.71	0.57	0.58	0.63	0.70	0.56	0.50	0.50
Enterprise Products Partners	0.69	0.71	1.00	0.65	0.61	0.74	0.63	0.66	0.53	0.58
Western Midstream Partners	0.57	0.57	0.65	1.00	0.50	0.60	0.49	0.61	0.39	0.57
Sunoco	0.53	0.58	0.61	0.50	1.00	0.55	0.51	0.47	0.44	0.55
Plains All American Pipeline	0.65	0.63	0.74	0.60	0.55	1.00	0.59	0.66	0.55	0.50
Hess Midstream	0.66	0.70	0.63	0.49	0.51	0.59	1.00	0.58	0.48	0.44
EnLink Midstream	0.63	0.56	0.66	0.61	0.47	0.66	0.58	1.00	0.49	0.49
Cheniere Energy Partners	0.50	0.50	0.53	0.39	0.44	0.55	0.48	0.49	1.00	0.40
USA Compression Partners	0.55	0.50	0.58	0.57	0.55	0.50	0.44	0.49	0.40	1.00

Source: Bloomberg Finance L.P. Data as of December 2024.

CHART 13. S&P ENERGY SECTOR: TOP 5 INDEX WEIGHTS



Source: Morningstar. Data as of March 2025.

In short, we are not excited about the opportunity for active management in the traditional energy space, due to a mediocre universe of available strategies and the inherent challenges in generating alpha in this sector.

There remains one bright spot for active managers within the energy sectors: midstream

Energy midstream is a critical part of energy infrastructure responsible for moving product from well-head to consumption. The business model is centered around long-term contracts that tie revenues to volume transported. Contract prices are typically inflation indexed with minimum volume commitments. All this translates into more recurring revenues and less exposure to commodity prices (versus exploration and production companies).

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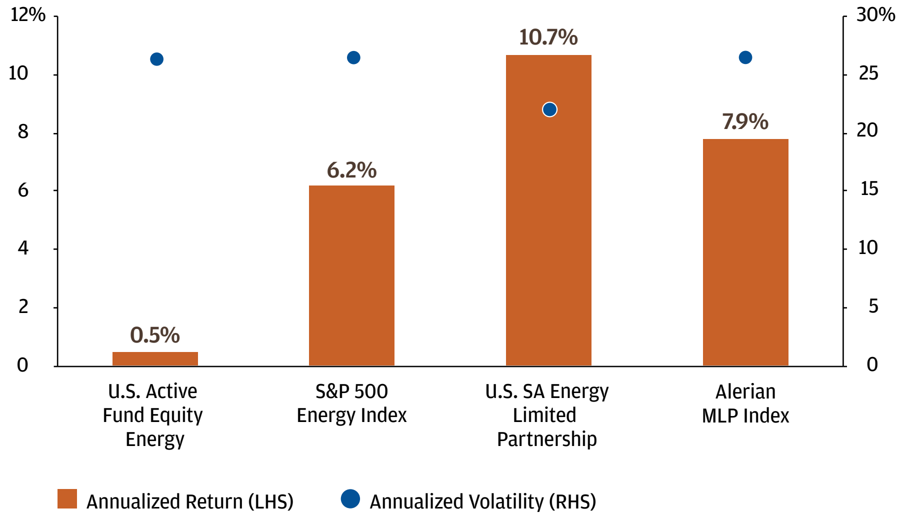
Additionally, energy midstream is an under-researched asset class. While stocks with market capitalization above $25 billion are covered on average by 27 sell-side analysts, stocks with market capitalization below $2.5 billion (typically in energy midstream) only have coverage from six analysts on average. Lower sell-side coverage is also conducive to wider dispersion in estimates and consequently more opportunities for active managers. Compared to the broader energy sector, midstream names have exhibited generally weaker correlations.

CHART 14. ACTIVE ENERGY FUND PERFORMANCE VS. S&P 500 ENERGY SECTOR, COMPARED TO ACTIVE MIDSTREAM PERFORMANCE VS. ALERIAN MIDSTREAM INDEX (LAST 15 YEARS)



Source: Morningstar. Data as of March 2025.

Active strategies in this peer group outperformed the Alerian Midstream Index by 1.5% annualized over the 10-year period between 2010 and 2020.

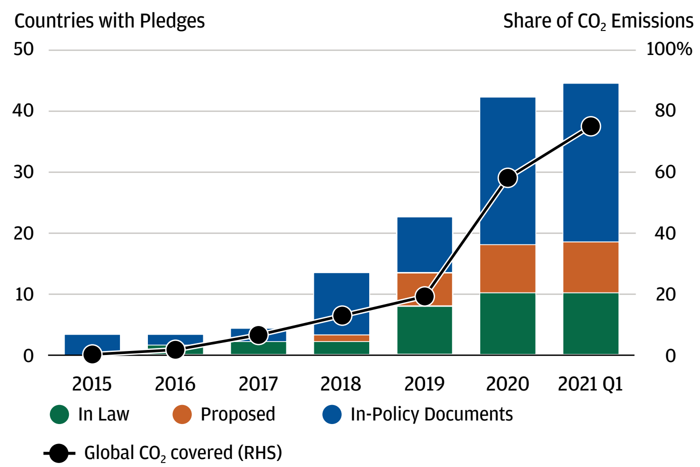
Passive strategies in this space are less well positioned. First, ETFs with exposure above 25% to MLPs lose their Regulated Investment Company (RIC) status and become taxable as C-corps, and this tax can create a drag on relative returns to the index. Second, fees for passive products are not necessarily cheap—for instance, the largest ETF in the space has total fees of 87 basis points.

Part 2: Clean Energy

Why should we consider clean energy transition investments?

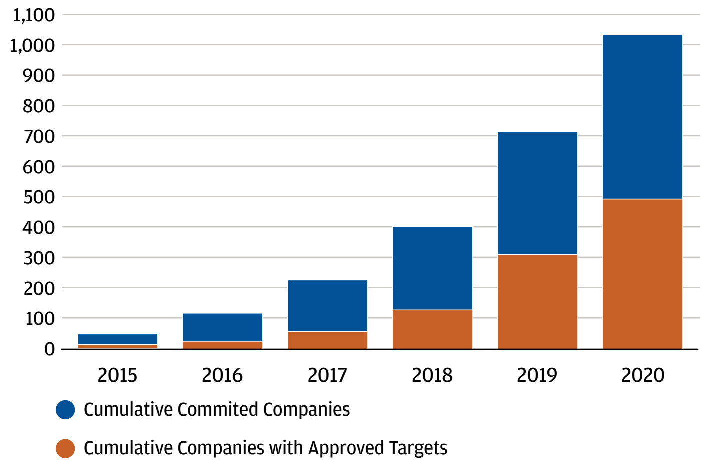
Achieving net zero goals across society (see growing pledges from governments/corporates below) requires a lot more capital investment. According to the International Energy Agency (IEA), annual investments will need to increase from today's level of more than $1 trillion to around $4 trillion by 2030 to achieve net zero emissions by 2050. This means there is a growing universe of related investment opportunities.

CHART 15. NUMBER OF NATIONAL NET ZERO PLEDGES AND SHARE OF GLOBAL CO_2 EMISSIONS COVERED



Source: International Energy Agency. Data as of May 2021.

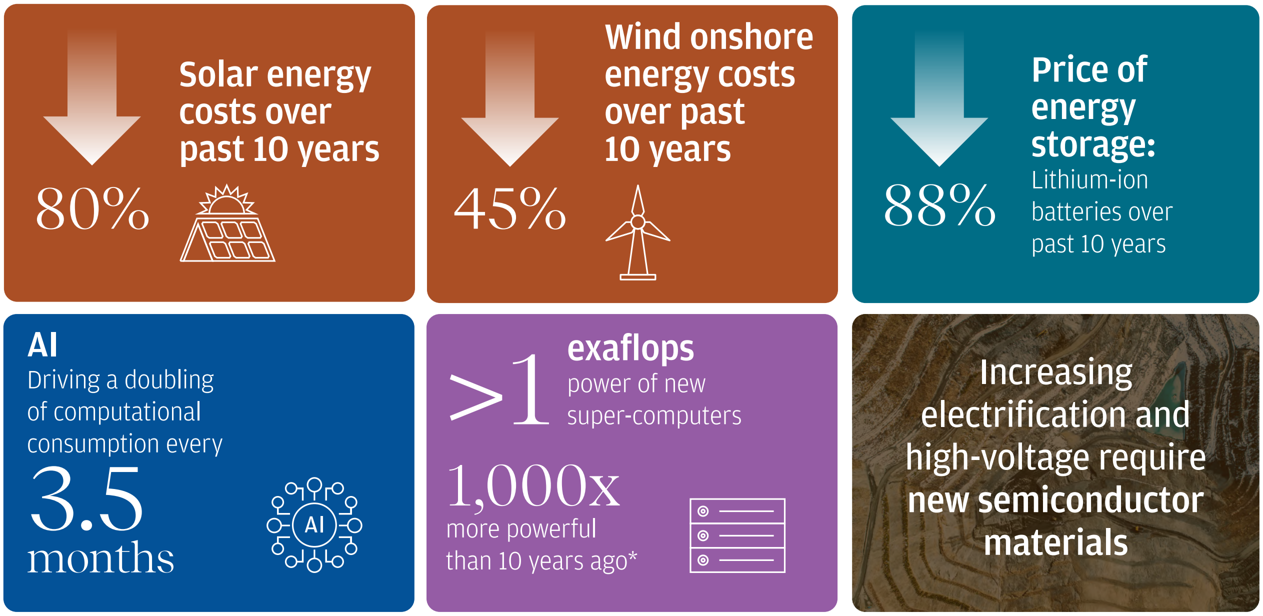
CHART 16. NUMBER OF COMPANIES COMMITTING TO SCIENCE-BASED TARGETS



Source: Science-Based Targets Progress Report 2020.

The economics for increasing adoption of clean energy solutions have shifted. In past decades, renewables were expensive and subsidy dependent; nowadays, renewables are the cheapest power source in most parts of the world.

CHART 17. AFFORDABILITY: TECHNOLOGY INNOVATION ENABLES PROFOUND CHANGES



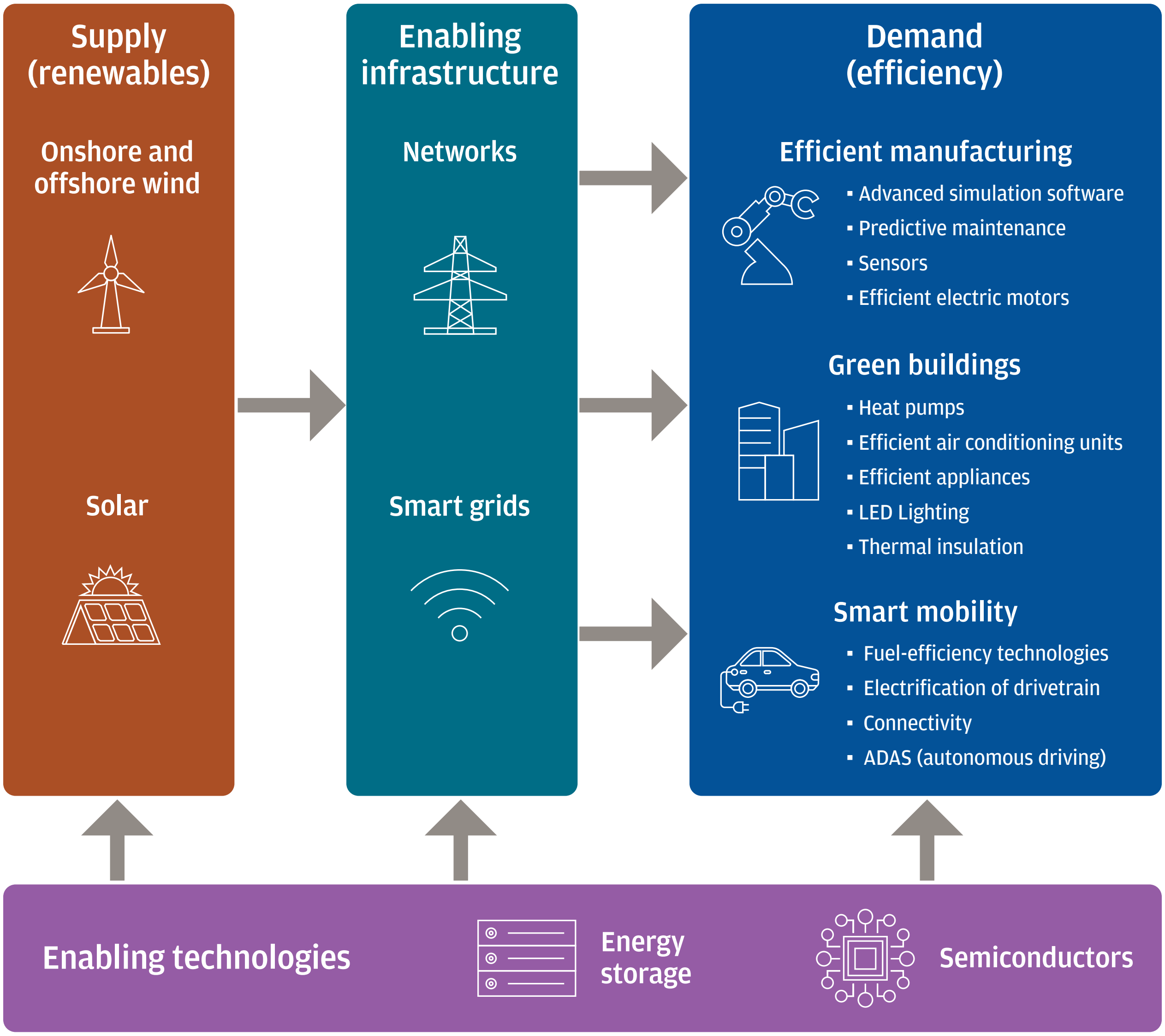
Sources: Bloomberg Energy Outlook, 2019; AMD 2019, Nextera Energy 2019. *"Frontier" supercomputer to deliver > 1.5 exaflops in 2021.

Moreover, the rapid rise in fossil fuel energy costs in 2022 has created additional incentives for:

- Consumers to accelerate adoption (e-mobility, heat pumps, residential solar, energy storage and building efficiency) due to better economics and longer-term cost visibility
- Industries to focus on energy efficiency investments and signing long-term renewable energy purchase contracts to have visibility and lower volatility of input costs
- Governments to strategically reduce dependence on foreign nations; reduce cost burden for economy; manage price volatility; and potentially replace natural gas with nuclear as transition fuel despite inferior economics (requires subsidies)

Importantly, the universe of investible opportunities spans not just companies in power production, but also in transport, manufacturing, buildings, IT and energy infrastructure, such as networks and grids, as a way to capture the full value chain of this transition.

CHART 18. INVESTING IN THE ENERGY TRANSITION



Source: Pictet Asset Management. Data as of 2023.

We also expect this universe to continue to expand, evolve and become more complex, making it more difficult for the market to understand, and therefore creating opportunities for dispersion in returns that our active equity managers are well positioned to capitalize on.

The role of debt financing in the energy transition: opportunities and developments

Large-scale debt financing can play a significant role in energy transition, given the shift in investment flows toward sectors such as electricity, where debt finance is more common. First, the long-term nature of debt investment instruments aligns well with the investment horizon of climate-oriented developments. Second, debt capital markets are larger than equity capital markets, so to contribute effectively to the transition, a fixed income allocation is vital. It is important to note that many companies that need the most support for the transition have debt-only capital structures, in which investors have no ability to vote; active management and thoughtful engagement are therefore paramount.

Below are some key debt market developments observed by our active fixed income managers.

More growth and better diversification in green bonds

Since the first green bond was issued in 2007 by the European Investment Bank and World Bank, the market for global sustainable bonds developed at an increasing pace over the past 5–7 years.

The global sustainable bond market can be divided into four categories: green, social, sustainability and sustainability-linked bonds. While all can play a role in financing the energy transition, this link is clearest in the case of green bonds and potentially sustainability bonds, which have a designated use of proceeds earmarked for this specific purpose (via heavy investment in renewable energy, utilities, green buildings, etc.).

1. **Green bonds** are issues where proceeds are used explicitly to finance or refinance projects/activities with positive environmental impacts. The green bond universe is divided into "labeled" and "unlabeled" green bonds.

   "Labeled" green bonds follow ICMA's Green Bond Principles framework, which designates the following allowable use of proceeds (among others):

   - Renewable energy
   - Energy efficiency
   - Pollution prevention and control
   - Clean transportation
   - Sustainable water and wastewater management
   - Climate change adaptation
   - Circular economy adapted products, production technologies and processes

   Green buildings are buildings that meet regional, national or internationally recognized standards or certifications for environmental performance.

   "Unlabeled" green bonds issuers are fundamentally aligned to low carbon products and services (e.g., a renewable energy company), where proceeds are for climate projects that are not (yet) labeled as green. There is a clear role for active managers in issue selection here.

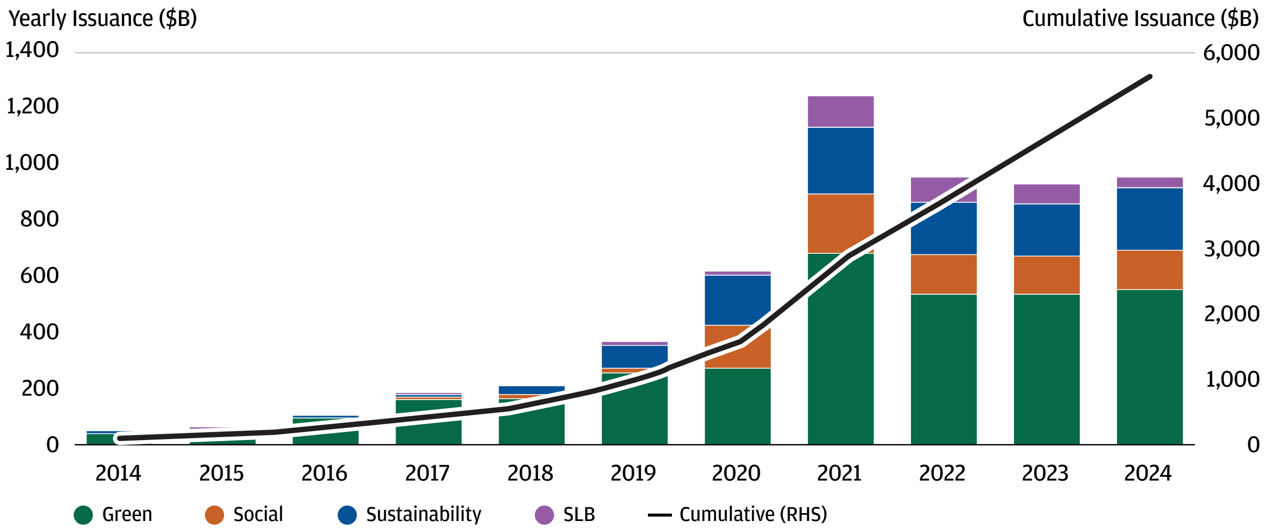
2. **Social bonds'** proceeds are used explicitly to finance or refinance social projects or activities that achieve positive social outcomes or address social issues.

3. **Sustainability bonds'** proceeds are used explicitly to finance or refinance a combination of green and social projects or activities.

4. There has been growing interest in **sustainability-linked bonds,** which are tied to a company's sustainability targets that it promises to meet over a timeframe. If unmet, there is a penalty: higher interest paid to investors. Unlike the previous three types, these are not "use-of-proceed" instruments, so funds can be used for any range of corporate activities (and the risk of greenwashing is heightened, requiring additional scrutiny by a manager to carefully assess security documentation and determine the underlying use of proceeds and expected impact).

The combination of green, social, sustainability and sustainability-linked bonds (GSSS bonds) reached over $1 trillion in annual issuance in 2021. The bulk of this issuance is still happening in green bonds, where issuers have been able to access the market at a lower yield and get cheaper funding versus "plain vanilla" traditional debt.

CHART 19. BOND ISSUANCE HAS GROWN ACROSS DIFFERENT CATEGORIES



Sources: Bloomberg Finance L.P., PIMCO. Data as of December 2024.

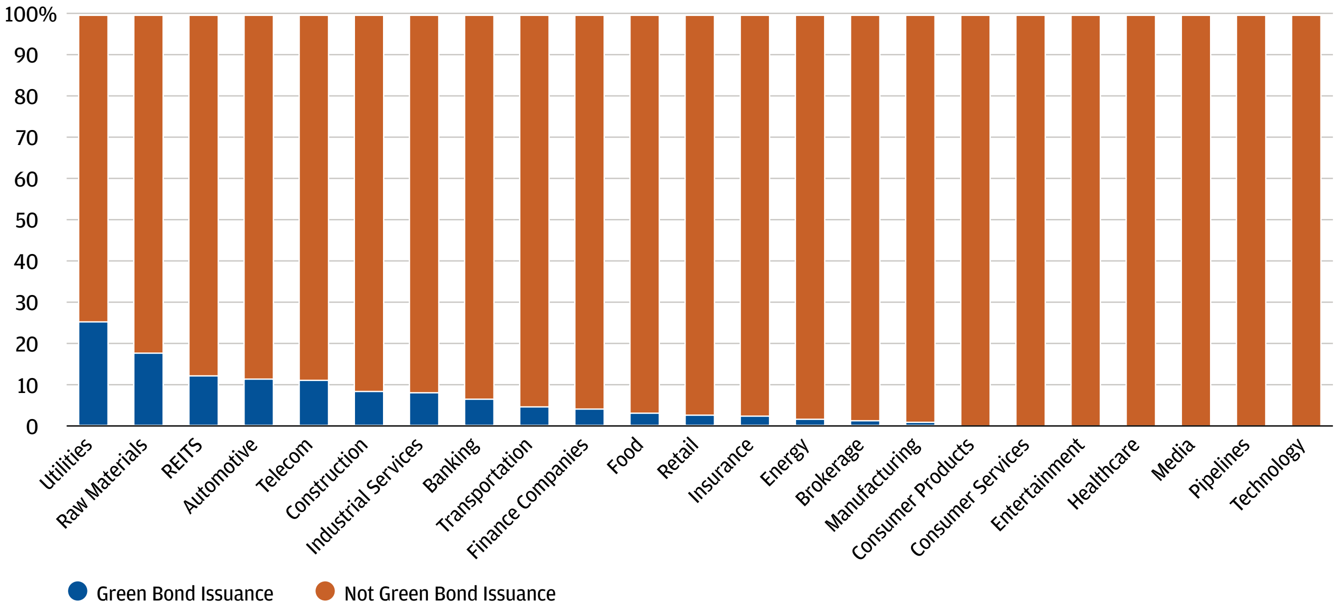
With growth in issuance, there has also been greater diversification

- Initially, much of the activity was government related (e.g., in 2015, quasi-sovereign issuers dominated the market with $50 billion of issuance), but by 2022, the market was split 50/50 between sovereign and credit issuers.

- There has been a broadening of risk profiles: While high-quality issuers remain a core part of the market, there is more subordination from banks and corporates, and some high yield players are also coming to the market (approximately 10% of the universe). (Source: Axa IM.)

As expected, green bond issuance is still happening, primarily in key sectors involved in the energy transition, including utilities, materials and real estate. (See Chart 20 below.)

CHART 20. 2024 CORPORATE BOND ISSUE BY SECTOR



Source: Data reflects holdings of the Bloomberg Global Aggregate Credit Index as of December 31, 2024.

Why go active in fixed income?

In fixed income, there is a long history of the average manager beating market benchmarks. This has been possible due to inefficiencies in the index construction, such as the obligatory inclusion of a growing proportion of lower-quality credits in indices, or the fact that new issues form a significant proportion of the overall market, and allocations are achieved through negotiation. Knowing when to participate, and at what levels, can give an active manager an advantage over one taking a passive approach.

When it comes to green bonds, there are additional complexities that lend themselves to an active approach:

- Passive indices track historic ESG ratings at issuer level, and may be slow to accompany developments in this fast-moving market.
- Active managers will look beyond the issuer rating to the use of proceeds of an issue, and can be highly selective in their analysis of the use of proceeds of a green bond. Active managers can also engage with repeat issuers to drive toward better disclosure and alignment of use of proceeds toward energy transition goals.

As demonstrated, the universe of debt financing options is broad and growing. We believe there is a clear role for active management in carefully selecting issues and avoiding “greenwashing” risks. We remain confident that our platform of selected managers is up to the task of delivering attractive risk-adjusted returns while achieving environmental objectives.

Definitions

Alerian Midstream Index: The Alerian Midstream Energy Index is a broad-based composite of North American energy infrastructure companies.

Alperian MLP Index: The Alerian MLP Index is the leading gauge of energy infrastructure Master Limited Partnerships (MLPs).

Exaflop: An exaflop is a measure of performance for a supercomputer that can calculate at least one quintillion floating point operations per second.

Russell 1000: The Russell 1000 Index represents the top 1,000 companies by market capitalization in the United States. The index is a subset of the Russell 3000 Index.

Russell 1000 Energy: The Russell 1000 Energy Index tracks the performance of energy-related businesses in the United States, including oil companies, coal miners and gas distribution companies.

S&P 500: The S&P 500 Index, or Standard & Poor's 500 Index, is a market-capitalization-weighted index of 500 leading publicly traded companies in the United States.

S&P 500 Energy Sector: The S&P 500 Energy comprises those companies included in the S&P 500 that are classified as members of the Global Industry Classification Standard energy sector.

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