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Portfolio Construction and the Energy Transition: Q & A on What Investors Need to Know

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CIO PLANET PILLAR OF SUSTAINABLE INVESTING

PLANET

Contributions to climate and environmental sustainability

Climate Action

Alternative energy and resource efficiency; carbon emissions

Natural Resources

Management of natural resources and water use

How has the Ukraine/Russia conflict, attendant spike in energy prices and premium on energy security, upended global efforts related to climate change, 2021 United Nations Climate Change Conference (COP26) targets?

The energy shock of 2022 will potentially delay—not derail—global efforts to both curtail greenhouse gas emissions and respond to the significantly changing cost structure for different energy sources. Indeed, the current energy crisis only underscores the planet's over-reliance on fossil fuels and has galvanized policy makers to redouble their efforts in promoting/securing renewable energy sources. That said, however, the world lacks sufficient renewable supply to meet the energy demands of today, notably with Russia's weaponization of energy since the Ukraine invasion. Around the world, global energy and food prices are at multi-decade highs, stoking political instability and economic hardships not witnessed in years. Not unexpectedly, governments have had to turn back, embracing the near-term use of more coal, gas, oil and even nuclear power to offset supply disruptions. As recently noted in the Financial Times, "unpalatable as it is for ecological reasons, economic growth requires fossil fuel production."[1] The bottom line: The Ukraine/Russia conflict and attendant geopolitical realities have forced policy makers to accept the short-term realism of more fossil fuel usage, while also accelerating the long-term ambition of a world powered by renewable energy sources.

How will the Inflation Reduction Act of 2022 impact the transition to clean energy, and what does it mean for investors?

The Inflation Reduction Act of 2022 represents a significant step forward in America's bid to reduce greenhouse gas emissions. The bill earmarks $369 billion for spending on the U.S. clean energy sector, with the overarching goal of putting the country on a path to reduce greenhouse gasses by 40 percent below 2005 levels by 2030. To make this happen, think more capital expenditures (capex) spending on solar and wind, electrical vehicles and related infrastructure, and more investment in boosting the energy efficiencies of heat pumps, water heaters, heating, ventilation, and air conditioning (HVAC) units, appliances and related products. Funds will also be allocated to the domestic mining of critical materials needed for renewable and battery products. Broadly speaking, the bill is bullish for not just renewable stocks and electrical vehicle players, but also constructive for a much wider universe of sectors that includes Industrials, Materials, Utilities, and Energy. It should be noted, however, that many of these projects and investments have return potential without subsidies, and many investment managers have underwritten competitive return profiles before this act was put into place.

[1] Financial Times, "An Energy Reckoning Looms for the West." August 21, 2022.

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What are some things an investor would need to consider about implementing renewable investments through traditional means?

Over the last two decades, significant cost declines and technological improvements have made several clean energy solutions more economically competitive.[2] That has led to rapid growth in deployment and greater capital markets access for renewable companies and projects. For investors, this has resulted in a proliferation of options to achieve exposure to low-carbon risk and/or fossil fuel-free strategies. In our view, renewable investments can therefore be integrated across many areas of an investment portfolio.

Within traditional Equity allocations, investors have several choices including, but not limited to, individual publicly-traded stocks of clean energy (and related) companies, actively[3] managed mutual funds/separately managed accounts employing sustainable or thematic strategies, and passive[4] investment strategies such as clean energy-focused exchange-traded funds (ETFs). The traditional Fixed Income space similarly offers a wide range of options. A major development in climate finance in recent years has been the explosion of green bond issuance. This has led to the emergence of a wide range of investment options, from the purchase of individual green bonds to actively and passively managed funds and product structures focused on sustainable Fixed Income strategies.

Beyond Equities and Fixed Income, mutual funds and ETFs focused on trading carbon allowances have been the most common approach to investing in more niche climate instruments. However, with the creation of emissions offsets futures contracts traded, new funds have been launched providing access to the burgeoning voluntary carbon offset market. Thus, individual investors increasingly can implement a range of climate-related strategies in their portfolios through accessible products.

CIO VIEWS

Climate-related risks and opportunities should be considered precisely in such a manner: from a holistic portfolio perspective. Segmenting by asset classes or sleeves has its uses; however, as a megatrend, climate change will likely have all-encompassing impacts across societies, economies, and markets. That said, at the level of implementation, investors are increasingly able to select from numerous options touching this theme, which allows for complementary or substitutive asset allocation decisions

What are the key metrics used to evaluate climate change in portfolios?

There are number of different types of climate-related metrics that can help investors assess risks, including the long-terms effects of both the energy transition and carbon emissions intensity, or measuring the physical risk exposure to climate events. Certain metrics can be useful at the portfolio level, such as carbon emissions intensity, which typically combines both direct and indirect greenhouse (GHG) emissions and normalizes that number based on size of the company, which allows for a comparison between companies. This metric can be tracked over time to monitor whether companies are reducing their carbon footprint and becoming more efficient or increasing the share of renewables in their mix.

Other climate-focused metrics can be used to measure positive outcomes or impact. For example, looking at a company's efficient use of resources or inputs, its renewable energy mix or its investments into renewable sources as a share of overall revenue have the potential for identifying both positive financial and environmental outcomes.

Should I consider divesting fossil fuels entirely? How should I think about the transition away from fossil fuels that will be decades long?

While the world is presently in a third energy transition—from coal, to oil and gas, to renewables—when it comes to investing in either fossil fuels or divesting of them, the choice isn't black and white. Many oil and gas companies are significantly engaged in developing products and services that will help enable them to transition their own businesses over time—think carbon capture, or usage and storage carbon technologies and capabilities, for example. Another key argument in support of choosing best in class energy sector businesses versus outright divestment is that historically, Equities linked to oil prices may act as an inflation hedge, a point that is particularly relevant right now.

[2] Lazard, Levelized Cost of Energy Analysis. 2021.

[3] Active management seeks to outperform benchmarks through active investment decisions such as asset allocation and investment selection.

[4] Passive management is an investing strategy that tracks a market-weighted index or portfolio.

The issue for investors is one of time horizon and being able to take advantage of the current environment while also understanding the economic drivers of the energy transition. For example, while the Energy sector has rallied this year and will be supported by rising oil prices, if we look at the 3-year or 5-year time frame, many of the clean energy investments have also outperformed (see side bar).

Sustainable investments may also act as vehicle for exposure to companies on the forefront of the energy transition. Indeed, analysis of the Morningstar Sustainable Investment universe indicates examples of both global and domestic Equity strategies having exposure to the Energy sector similar to their respective traditional benchmarks.[5] In these strategies, exposure can also be sourced via the Utilities, Industrials and Materials sectors, which have important aspects of the supply chain, resources and the very infrastructure that supports the energy transition.

ENERGY SECTOR

5-Year annualized returns for S&P Global Clean Energy Index and S&P Global 1200 Energy Sector Index are 19.1% and 2.9%, respectively; while 3-Year annualized returns for S&P Global Clean Energy Index and S&P Global 1200 Energy Sector Index are 25.2% and 7.3%, respectively.*

* Bloomberg. Chief Investment Office. Data as of September 6, 2022. **Past performance is no guarantee of future results. It is not possible to invest directly in an index. Please refer to index definitions at the end of this report.**

As the world transitions to a more net zero carbon future, what commodities would be in demand, that could potentially offer attractive investment opportunities?

Going green won't be easy—and it won't be done without the assistance of fossil fuels and a myriad of other metals and minerals. The push to boost renewable power capacity (aka solar, wind and batteries) is extraordinarily metal- and mineral-intensive, requiring more minerals that are energy- or fossil fueled-based. Copper, for instance, is essential to the production of an electric vehicle because of the metal's high electrical conductivity, durability and malleability. A fully electric vehicle can use up to a mile of copper wiring; electrical vehicles can use up to three and a half times as much copper when compared to an internal combustion engine. Copper is also key when it comes to charging stations and supporting the electrical grid.[6] Water is another commodity we favor given that mining and mineral processing requires large volumes of water. The bottom line: Transitioning to a net zero carbon future will require extensive use of a variety of commodities, ranging from cobalt and copper to nickel and zinc. We remain long-term bullish on many key commodities that will help fuel the Green Revolution and continue to emphasize FAANG 2.0 , which pivots around Fuels, Aerospace/defense, Agriculture, Nuclear and renewables, and Gold and metals/minerals.

What is greenwashing and how is it being regulated?

The dramatic growth of sustainable funds has made greenwashing[7]—the practice of providing misleading or incomplete information in order to make people believe a product or company is more environmentally sustainable than it actually is—a hotly debated topic. As investors increasingly allocate capital to environmental, social and governance (ESG) funds, managers have responded by launching new funds, as well as repurposing existing traditional funds. But the breadth of sustainable investment approaches and the lack of consistent definitions of what funds or companies are sustainable can lead to investor confusion, or unintentional greenwashing.

In response, the European Union Sustainable Finance Disclosure Regulation (SFDR) took effect last year, including requirements that asset managers classify funds into one of three categories based on the sustainability objective. Similarly, the Securities and Exchange Commission (SEC) recently proposed a set of rules that if adopted, would require ESG-related disclosures and allow only funds with an ESG mandate to label themselves as such. A number of related regulations are also in the pipeline, such as the SEC's proposed climate risk disclosure rule that would require public companies to prepare detailed disclosures on climate related risks that are reasonably likely to have

CHIEF INVESTMENT OFFICE DUE DILIGENCE

A rigorous due diligence process designed to understand whether a sustainable strategy consistently incorporates ESG considerations into their decision-making processes and classifies each strategy according to its sustainability objective, alongside traditional investment analysis, supporting clients as they navigate the sustainable investing universe.

[5] Morningstar Sustainable Fund Universe. Chief Investment Office. Data as of June 30, 2022. Latest data available.

[6] Wood Mackenzie, "Copper: Powering up the Electric Vehicle." August 13, 2019.

[7] Greenwashing: implicitly or explicitly claiming, in external disclosures, marketing materials, advertising or otherwise, that policies, activities, products or services have meaningful positive environmental outcomes when this is false or cannot be substantiated) and the risk of acting inconsistently to climate related commitments.

a material impact on their business.[8] While more disclosure and uniform standards will help, investors already have the ability to rely on various sources, such as a robust due diligence process, to identify truly sustainable investment options.

For qualified investors, what opportunities might there be in Private Capital Markets?

A meaningful amount of climate-related investments is happening in Private Capital Markets ($45 billion for Climate Technologies in the trailing 12 months from Q1 2022, according to PitchBook), and we believe that dynamic is poised to accelerate. For qualified investors, we have observed several climate-related drawdown funds come to market that are managed by experienced and institutional-quality firms. Many of these funds have focused on renewable project finance, which fits an infrastructure-like profile with a significant yield-generation component. Others have focused on Private Equity. Importantly, the Private Equity-oriented strategies appear to be no longer confined to venture capital, but instead are more multi-strategy in nature, spanning the risk-and-return profiles from infrastructure to traditional Private Equity, to Venture Capital/Growth Equity. This is a space where Private Equity managers believe, and we agree, that the level of investment provided through the 2022 Inflation Reduction Act tax provisions will likely supercharge the investment opportunity set in the coming years. We have also observed Hedge Funds employing climate-related strategies in public Equities, Macro Strategies, quantitative trading strategies, carbon credits, and more. Similar to Private Equity, these strategies may offer differentiated and uncorrelated return streams to portfolios.

Are climate risks priced into the global capital markets? If not, what are the potential implications and risks to investor's portfolios and expected returns?

Certain areas of the market have begun to account for climate risk, but others have been slow to do so. Domestic coal is perhaps the best example of an industry that has felt the effects of the energy transition. Over the past decade, companies in the sector have been assigned significantly lower valuations as coal has become a more expensive energy input and both investors and industries that consume energy have shifted away from it in favor of less carbon-intensive and more cost-effective resources. On the other hand, municipal debt pricing and mortgage rates in coastal regions—areas that are prone to extreme weather events—have not seen any significant climate discount, which to us indicates that climate risk is not yet factored in.

It's likely that the implications of investment mispricing on portfolios, though difficult to quantify, will be meaningful and multidimensional. One way to address this uncertainty is to assign higher levels of expected volatility to sensitive areas of the market to account for climate risk. But since traditional measures of risk have often struggled to accurately capture the potential effects of climate change, investors would also be wise to integrate alternative measures of risk into their investment strategy. The movement to better understand and price climate risk as well as how to consider investing in the energy transition and growth of the renewables space has been gaining momentum, as evidenced by growing pressure on publicly traded companies to report more robust carbon metrics. We think this trend will increasingly influence capital markets in the future – however, it is not going to be linear.

The potential investment opportunity offered in transitional periods like these, when technologies and standards advance from merely accepted to widely adopted, has the potential to create significant opportunities throughout the broad investment spectrum. These could entail new investments in transitional infrastructure, integrating climate-resiliency in Real Estate, Equity and debt financing for low-carbon technologies, or as scenario modeling improves, integrating climate risk into portfolio construction and across the investment process.

> As Eurasia group observed: "With climate transition risk, not all high-carbon investments are risky in the near- or medium-term. But some are. They are because the global economy is decarbonizing, albeit at varying speeds and in different directions. And no one wants to be caught holding the high-carbon-asset bag when a market shifts. By evaluating climate risk, banks, insurers, and asset managers can understand where transition risk is an issue and where it is not. That said, the evaluation can be complicated. The risk can vary between countries. And the short- versus long-term risk is very different within countries."

Source: Eurasia Group, August 22, 2022.

> "Global decarbonization efforts over the next three decades will require a $100 trillion investment, generating a massive opportunity to deploy capital and drive the energy transition".

Source: Rob Horn, Blackstone Credit April 2022.

[8] U.S. Securities and Exchange Commission. March 21, 2022.

How does shareholder engagement play an important role in furthering climate change efforts?

Investor support for environmental and social shareholder resolutions has reached unprecedented levels in recent years as shareholders are increasingly connecting the risks and opportunities associated with management teams' consideration of environmental, social and governance issues with the economic sustainability of a company.

As fiduciaries, large institutional investors in U.S. corporations have become increasingly active on certain proxy ballot items, fueling voting momentum. This includes pressing heavy emitters to set climate targets and report progress toward decarbonization, and net-zero, or transparency around climate related lobbying activities. In 2021, a U.S. oil and gas giant lost a number of board seats at the hands of a successful contest by a small hedge fund that sought support from the three largest institutional shareholders in the company; alongside several of the largest U.S. pension funds, ejecting existing directors who have ignored the threat of climate change and replacing them with clean energy experts. The pressure for companies to be at the front of the energy transition—and to adequately manage the businesses most at risk—has become a critical component of corporate governance, and shareholders are increasingly using the tools of investment stewardship to express concerns and push companies they believe are not acting fast enough.

SHAREHOLDER ENGAGEMENT

A record of more than 250 environmental and social resolutions went to vote this proxy season, up from 145 in 2021. Of those 2022 proxy-year resolutions, 27 gained majority shareholder support and 57 gained more than 40% support, while 140 gained the support of more than 20% of shareholders.

Source: Morningstar, "Proxy Voting Managers Focus on E&S" July 12, 2022.

Index Definitions

Securities indexes assume reinvestment of all distributions and interest payments. Indexes are unmanaged and do not take into account fees or expenses. It is not possible to invest directly in an index. Indexes are all based in U.S. dollars.

S&P 500 Index measures the performance of 500 large companies listed on stock exchanges in the United States.

S&P Global Clean Energy Index is designed to measure the performance of companies in global clean energy-related businesses from both developed and emerging markets, with a target constituent count of 100.

S&P Global 1200 Energy Sector Index consists of all members of the S&P Global 1200 that are classified within the GICS® energy sector.

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Alternative investments are intended for qualified investors only. Alternative Investments such as derivatives, hedge funds, private equity funds, and funds of funds can result in higher return potential but also higher loss potential. Changes in economic conditions or other circumstances may adversely affect your investments. Before you invest in alternative investments, you should consider your overall financial situation, how much money you have to invest, your need for liquidity, and your tolerance for risk.

Private investments involve significant risks, including those associated with companies with a limited operating history, securities that do not have a liquid market, and investments that are difficult to value. They are only appropriate for investors with substantial knowledge and prior experience in making private investments, who are capable of independently evaluating the merits and risks of such investments, and who have the wherewithal to bear investment losses.

An investment in Green Bonds involves risks similar to an investment in debt securities of the issuer, including issuer credit risk and risks related to the issuer's business. You should review the relevant offering document carefully before investing.

Exchange Traded Funds are subject to risks similar to those of stocks. Investment returns may fluctuate and are subject to market volatility, so that an investor's shares, when redeemed or sold, may be worth more or less than their original cost.

Mutual funds are subject to investment risks, including possible loss of the principal amount invested. Investment return and principal value will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost.

The CIO has developed Impactonomics®, a sustainability-related analytic lens that includes societal and environmental factors while also examining a range of relationships between economic growth and investing for impact and profit, as well as the measurable social and environmental change sustainable investing can enable.

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