BANK OF AMERICA

CHIEF INVESTMENT OFFICE

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Sustainable Investing: A focus on the "E" in ESG

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The "E" in ESG

Public concern about environmental risk has undoubtedly grown, and with it regulation, leaving investors wondering about its impact on their investment decisions in the way of both return expectations and risk factors. The response: Climate change will likely become a more central feature of corporate decision-making in the years ahead and should remain at the forefront of environmental, social and governance (ESG) factors and considerations. Similarly, addressing climate risk and energy needs looms large as elevated geopolitical risk raises the imperative for sustainable, supply chain-resilient energy solutions. Higher fossil fuel prices also raise the relative competitiveness of green energy, where costs had already significantly come down.

As the flow of capital continues into sustainable investment—a strategy which seeks to consider both financial return and social and environmental effects—solutions have matured, and sustainable investing with environmentally oriented objectives has evolved. Historically, two of the most common approaches have been exclusionary screening of carbon extraction companies and purchasing the common stock of solar panel or wind turbine manufacturers, whether in public equity or venture capital markets. Today, the opportunity set has widened to include a broader range of investment options. Technological advancements, public policy, and corporate and investor preferences have combined to provide institutional and retail investors with a greater menu of environmentally oriented investment approaches from which to select—and these investments span a range of risk and return profiles across the maturing ecosystem supporting the energy transition.

The "E" Through an Economic Lens

The macroeconomic imperative to address climate change starts by acknowledging the growing risk of more extreme exogenous shocks to the global economy with impacts on physical infrastructure, labor productivity and financial stability. Long-term growth forecasts are at risk. Work by the Group of Thirty (G30)[1] concluded that if the world continues on its current path, temperatures will rise by over 3 degrees Celsius (°C) above preindustrial levels by 2100, reducing world gross domestic product (GDP) by up to 25% due to these impacts.[2] As policymakers across the globe work to address the growing concern at a high level, long-term capital market assumptions (both returns and volatility) will likely need to be revisited.

[1] Led by former central bankers Mark Carney, Janet Yellen and Philipp Hildrebrand, The Group of Thirty, often abbreviated to G30, is an international body of financiers and academics which aims to deepen understanding of economic and financial issues and to examine consequences of decisions made in the public and private sectors.

[2] Mainstreaming The Transition To A Net-Zero Economy, G30, October 2020.

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INVESTMENT IMPLICATIONS

We believe investors who embrace sustainable investing practices may be better positioned to achieve their social and environmental effects, alongside competitive financial returns.

There are many factors to take into consideration when building an investment portfolio and it's important to remember ESG factors are only one component to potentially consider and should always be used alongside fundamental analysis.

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Investors focusing on country selection for Equity, sovereign bond or currency investments should consider incorporating analysis of climate vulnerabilities and readiness. Rising temperatures and changing weather patterns have led to drought, food shortages, resource competition and ultimately migration (and migration has consequences for neighboring countries that may lead to sovereign risk). Country-level indicators such as the University of Notre Dame Global Adaptation Index (ND-GAIN) initiative and others can try to help rank sovereign vulnerabilities and readiness to address climate change. Financial markets tend to price in uncertainty with volatility, making that "readiness" a key input to assessing potential climate-related volatility across asset classes.

In the near term, elevated geopolitical risk creates an opportunity for green energy to help countries pursue energy independence or minimize dependence on other countries.

Globally, there is a concerted policy effort to help address a common danger, including the 140 countries that have committed to net-zero emissions in the coming years, according to the United Nations (UN). Economic growth forecasters will likely balance the short-term costs to create long-term benefits in the form of higher potential economic growth. Those who manage money should consider doing the same by balancing tactical risks with long-term strategic benefits.[3]

NET-ZERO EMISSIONS

According to the Science Based Target initiative (SBTi), Net Zero emissions are achieved when emissions of greenhouse gases to the atmosphere are balanced by removals over a specified period.

The "E" Through a Corporate Lens

No longer tangential to the economic equation, environmental risks and opportunities are considered in corporations regular course of business, and, now, public companies may soon be required by regulators to disclose their environmental risks. And not surprisingly—given their impact on both revenue and costs and increasingly the cost of capital—companies are currently investing in the "E" from the bottom up. Strong ESG factor propositions may relate to higher financial returns and lower downside risks.

Considerations for Companies

- The majority of consumers (83%) think companies should be proactive and concerned about ESG practices, with 76% stating that they would discontinue their relationships with companies that treated the environment, employees or the community in which they operate poorly.[4]
- 70% of surveyed consumers would pay a 5% premium on a green product of the same standard over a non-green alternative.[5]
- A strong environmental proposition may be a differentiator, allowing corporations to enter new markets or create new verticals within existing ones, as well as to identify new needs for supply chains or streamline opportunities in an effort to reduce emissions.
- Companies may find it easier to attract, retain and motivate talent when their purpose resonates with existing and potential employees.
- Reducing resource costs—such as the true cost of water, carbon, raw materials—has the potential to improve operating profits by up to 60%.[5]
- One-third of corporate profits are at risk from state intervention.[6] Executing an effective environmental proposition, as well as providing greater visibility via ESG metrics and disclosures, can help mitigate the chances of regulatory and government pressure, as well as reputational risks.

[3] McKinsey: *How the E in ESG creates business value*, June 2020.

[4] 2021 ESG Consumer Intelligence Series: PwC. July 13, 2021.

[5] McKinsey: How the E in ESG creates business value, June 2020. Social impact bonds are a relatively new and evolving investment opportunity which is highly speculative and involves a high degree of risk. An investor could lose all or a substantial amount of their investment.

[6] Ibid

- Providing visibility into ESG metrics[7] and embracing sustainable business practices on material issues may also lead to a lower cost of capital relative to peers.[8]

Investment Themes and Needs

As the scale of the impending environmental crisis has come into clearer focus, the universe of viable climate-related investments has expanded. Green bonds, a widely publicized segment of climate finance, are one such example of a climate-related asset class that has grown rapidly, reaching $297 billion of annual issuance in 2020 and $517 billion in 2021, according to Climate Bonds Initiative. In 2021, global investment in the low-carbon energy transition totaled $755 billion, up from $595 billion in 2020 and just $264 billion in 2011—with a 27% increase in energy transition investment from 2020 to 2021 according to BloombergNEF.[9] In the renewable energy space, financing for large-scale solar and wind projects reached $47 billion in 2019 according to BloombergNEF. The imperative to decarbonize virtually all sectors of the economy has further extended the investment universe to include transportation, shipping, agriculture, cement, heating and more. Although many of these opportunities remain the province of private capital for the time being, technological innovation, the scaling of capacity, and public policy are increasingly pushing climate financing into public markets.

In many cases, we believe the driving force today behind capital flows into certain climate-oriented sectors is economics. Renewable energies offer perhaps the starkest example. During the period between 2009 and 2020, solar energy costs fell by 90%, while utility-scale wind energy costs declined by 71%, making these renewable sources of power cost-competitive with conventional generation, according to the Lazard's Levelized Cost of Energy Analysis November 2021 report. Similarly, in the transportation sector, electric vehicles (EV) have received a boost from the rapid decline in the cost of lithium-ion batteries—BloombergNEF estimates that lithium-ion battery pack prices had fallen 89% between 2010 and 2021—falling an additional 6% from 2020 to 2021. Entrepreneurs and investors have recognized areas such as these where the economics of certain technologies now stand on their own. The behaviors of many of the largest integrated oil majors, which, according to BloombergNEF, are increasingly setting ambitious climate targets and planning deep transition-related investments, reveal the extent to which the energy transition has already been set in motion.

We do not anticipate that the energy/climate transformation that's underway will cease because of the conflict overseas—in many cases, we believe this will accelerate it. Indeed, the opportunity for renewables and capacity required is huge, but there are major risks in both the availability/depletion and geography/geopolitics of inputs and supply chains. Energy security, resilience and efficiency remain key global themes, and will support the ongoing energy transformation. And investing in solutions like EV, creating infrastructure to support the transition and solutions for next-order effects of this crisis like food sustainability/security are all investment opportunities.

Implementation Approaches within the CIO "ABC Framework"

Investors have historically found it challenging to deploy capital in the climate finance space due in part to the dearth of options and guidance. As markets have expanded, the ability to implement climate-oriented investment strategies into a portfolio context has improved.

The Chief Investment Office has closely tracked the evolution of capital markets in response to climate change and has adapted a framework for sustainable investing from The Impact Management Project[10] as the reality of climate change has become clear. At a high level, the three primary approaches include:

Task Force on Climate-related Financial Disclosures (TCFD) was established in 2015 to develop a set of voluntary, consistent disclosure recommendations about climate-related financial risks. More than 2,600 organizations have expressed their support for its recommendations, an increase of more than a third since 2020. They include 1,069 financial institutions responsible for assets of $194 trillion.

In March of 2022, the U.S. Securities and Exchange Commission (SEC) formally proposed new rules that would, for the first time, require businesses to report their greenhouse gas emissions, along with details of how climate change is affecting their businesses.

Sources: Task Force on Climate-Related Financial Disclosures (TCFD) report as of December 2021; SEC.gov

[7] ESG viewpoint: What asset owners look for when selecting asset managers? BofA Global Research, April 4, 2022.

[8] Khan, Serafeim, Yoon: Harvard University: Corporate Sustainability: First Evidence of Materiality, February 1, 2017.

[9] BloombergNEF—Energy Transition Investment Trends January 2022.

[10] Impact Management Project (IMP) provides a forum for building global consensus on measuring, managing and reporting impacts on sustainability.

Avoid (exclusionary screens)

- Reduce and eliminate exposure to carbon-intensive industries
- Divest from companies that are engaging in harmful deforestation or otherwise harming biodiversity
- Reducing exposure to resource-intensive companies/industries

Benefit (sustainable strategies)

- Invest in companies that have "best-in-class" environmental strategies employing environmental frameworks as analytical tools throughout the investment process, including alignment with the UN's Sustainable Development Goals (SDG) or other environmental framework such as TCFD, Sustainability Accounting Standards Board (SASB), etc.
- Invest in companies that are leading the energy transition in their respective sectors

Contribute (outcomes-based or impact solutions)

- Investment in highly resource-efficient or alternative energy sectors
- Investment in storage, smart grids, electric autos, or in companies, municipalities or infrastructure focused on clean energy/renewables
- Innovations in sustainable food, agriculture, forestry and clean water solutions

Various factors are now coalescing to potentially shift the climate finance space into high gear, with climate-oriented investment strategies poised to benefit. Governments across the globe are looking to implement a variety of policies to address the climate crisis, innovation continues to drive technological deployment, and investor interest and awareness have begun to alter everything from disclosure to investment mandates to portfolio allocations. We believe these forces may likely cause disruptions across various sectors, impacting market pricing, cost of capital and profitability. Investment approaches such as those highlighted in Exhibit 1 may help to mitigate the resultant climate-related risks or capitalize on potential emergent opportunities.

Avoid

Seek to reduce negative social or environmental effects and manage risk by limiting certain exposures

Benefit

Seek to support positive social or environmental practices and enhance potential for long-term competitive financial returns

Contribute

Seek to advance positive, measurable social or environmental outcomes and target opportunities where impact is intrinsic to financial performance

Exhibit 1: Range of Risk and Return Profiles for Sustainable and Impact Investments.

	Debt/Credit /Fixed Income	Equity	Alternative Solutions
Above		• Renewables/sector focused • Long/short sustainable hedge funds • Investing in "resource efficient" public companies • Thematic strategies focused on solution providers	• Growth private equity investments in renewables • Venture capital in energy transition sectors such as battery storage, green transport • Sustainable agriculture and food (food/waste reduction/plant-based foods)
Market	• "E" leaders corporate issuers • Munis focused on sustainable cities/ energy transition • Green and transition bonds	• Diversified strategies with a focus on environmental leaders • Low carbon • Green Real Estate Investment Trusts	• Renewables project financing and infrastructure • SDG focused diversified private equity
Below	• Environmental community loan fund		• Water or sewer projects focused on underserved communities
	Lower Risk		Higher Risk

Source: Chief Investment Office as of March 29, 2022. For illustrative purposes only. This illustration details the sustainable investing universe across investments related to the "ABC" framework and have a range of potential investment risks and returns.

Asset Allocation

In the end, environmental activism is on the rise and we believe will likely continue to mount as key stakeholders come to grips with the multilayered concerns of climate risks—issues that include shrinking arable land, hotter and debilitating weather patterns around the world and extreme weather events, to name a few. Climate risk touches every aspect of life—politics, economics, finance, ingrained inequalities, demographics, migration—the list goes on. Against this backdrop, we believe that companies that embrace more climate-friendly business models and operations, as well as products and services, are likely to experience the potential for sustained growth opportunities over the long term.

We believe that portfolio strategies in the coming years have the potential to allocate more capital to assets backed or underpinned by high sustainability. ESG-related assets have surged recently on the need to improve income inequality, promote diversity and address the challenges of climate change accentuated by the pandemic. Moreover, structural dynamics like rising political pressure, regulatory change and technological advances may be additional planks to consider in sustainable investing and capital reallocation.

Doing well and doing good have become strategic priorities of many companies and the asset managers who invest in sustainable investment. We believe those companies that are the most transparent about their goals and hold strong sustainability credentials are likely to also be better positioned for the long-term. In that way, adding a sustainability lens to your investments may help to prove beneficial by uncovering risks and potential opportunities not apparent with traditional analysis, and may create a more robust investment approach that better aligns with portfolio goals.

Definitions

University of Notre Dame Global Adaptation Index (ND-GAIN) summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It aims to help businesses and the public sector better prioritize investments for a more efficient response to the immediate global challenges ahead.

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Investments have varying degrees of risk. Some of the risks involved with equity securities include the possibility that the value of the stocks may fluctuate in response to events specific to the companies or markets, as well as economic, political or social events in the U.S. or abroad. Investments in foreign securities involve special risks, including foreign currency risk and the possibility of substantial volatility due to adverse political, economic or other developments. These risks are magnified for investments made in emerging markets. Bonds are subject to interest rate, inflation and credit risks. Investments in a certain industry or sector may pose additional risk due to lack of diversification and sector concentration. Investments in real estate securities can be subject to fluctuations in the value of the underlying properties, the effect of economic conditions on real estate values, changes in interest rates, and risk related to renting properties, such as rental defaults. There are special risks associated with an investment in commodities, including market price fluctuations, regulatory changes, interest rate changes, credit risk, economic changes and the impact of adverse political or financial factors.

Alternative investments are speculative and involve a high degree of risk.

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.

Social impact bonds are a relatively new and evolving investment opportunity which is highly speculative and involves a high degree of risk. An investor could lose all or a substantial amount of their investment.

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.

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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