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Risks and Opportunities of Climate Change

Climate change presents risks, but there are ways for investors to take part in positive change.

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As extreme weather events make global headlines and scientists warn about a shifting climate, more investors are thinking about environmental risks and how they might affect their portfolios. After all, global sea levels have risen nearly eight inches since 1880,[1] a process that is rapidly accelerating[2] and threatening major global cities like Jakarta, Lagos, and Miami.[3] We've seen extreme weather events play out across the world, including the California wildfires which created an eerie orange glow in the sky for many of our colleagues and clients.

But it's not necessarily all doom and gloom. As someone who creates investment portfolios that aim to have positive social and environmental impact, I've seen that investors can play a role in bringing about change, and that can include managing for factors related to transitioning to a low carbon economy.

Here are four significant business risks associated with climate change and some ideas for how investors can play a role in mitigating them through their portfolio investments.

Damage to Buildings and Operations

Risk: Physical damage to buildings, supplies and equipment as a result of flooding or other extreme weather events can be costly. These events can also disrupt business by halting manufacturing or making it impossible for employees to get to work.

Opportunity: Companies around the world are preparing for climate change and as a result, they are investing in resilient buildings that can better withstand damage from storms, strong winds and flooding.

Developing countries may offer investment opportunities in new construction and infrastructure projects that are built to hold up under extreme weather events. In the U.S., investments can include companies that help refit existing buildings and reinforce energy infrastructure for more resilience.

For investors, the opportunities are twofold: energy conservation within existing infrastructure in developed economies, and integration of resource efficiency in new commercial construction in emerging markets. A recent study of the construction industry found that nearly half of companies expect that green building projects will account for more than 60% of their work by 2021, up from just 27% in 2018.[4]

Opportunity Cost

Risk: Companies that stick with processes and products that are seen as environmentally "dirty" can miss out on new opportunities for growth.

Opportunity: Invest in companies that are on the leading edge of creating products that help the environment and also help other companies get out of heavy carbon emitting industries.

We launched the Morgan Stanley Impact Quotient® application in the summer of 2019, to help investors align their investments with unique environmental and social goals and avoid objectionable sectors or geographies. Investors can evaluate their portfolio across 100+ environmental and social issues such as Energy Efficiency, Renewable & Cleaner Energy, and Environmental Leaders in Traditional Energy, as well as those with sustainable corporate practices such as Carbon Emissions Reporting.

As economies around the world transition to lower carbon economies, investors could benefit from reducing their exposure to traditional energy sectors, investing in funds and companies that are positioning themselves for this transition, or focusing on specific themes such as renewable energy, biofuels, and green hydrogen, or innovative technologies such as electric vehicles and carbon capture and storage.

Consider these facts: Renewable energy sources are now cost-competitive in many markets. The cost of utility-scale solar energy decreased 17% from 2018 to 2019 and has fallen more than 80% since 2010.[5] Wind and solar now account for 56% of global electricity generation, but these clean technologies, along with batteries, will comprise 80% of the $15.1 trillion invested in new power capacity over the next 30 years.[6]

Reputational Risk

Risk: Customers may shun a company that is involved in an environmental or public relations crisis.

Opportunity: Invest in all sectors, but choose companies with the best quantitative and qualitative disclosure and management practices.

One approach is to invest across all sectors of the economy, including traditional energy, but only in companies that have industry leading environmental, social and governance (ESG) practices. That might mean investing in companies with sound corporate climate policies in place or those that disclose their carbon footprints as well as disclose reduction targets over-time. With regard to the environment, a number of companies have made sustainability pledges, such as achieving carbon neutrality by a certain date, relying more on alternative energy or cutting usage through efficiency.

This also can include companies with better safety records and more diverse boards. By investing in companies from a best-in-class environmental, social and governance perspective, investors may be able to eliminate the worst offenders and position their portfolio in leading sustainable corporate practices across various industries.

Disruption of Food and Water Supply

Risk: A shortage of drinking water or food can affect companies in parts of the world prone to droughts, heat waves or pollution.

Opportunity: Invest in sustainable and resilient agriculture and water infrastructure or carefully evaluate companies with operations tied to parts of the world where food or water could be scarce and avoid them if the risks are too great.

In the U.S., heat waves and drought greatly affect agricultural production, including corn, wheat, soy and cotton. Without adaptation, estimates show that agricultural profits for common crops could fall 30% by 2070, thanks to climate change.[7]

Seizing These Opportunities

A Morgan Stanley Financial Advisor can help identify opportunities for climate solutions investments, such as companies that are developing new and innovative technologies for renewable and alternative energy sources. Examples include:

- Leveraging existing portfolio solutions that:

  - address multiple environmental themes focused on climate change mitigation and adaptation as well as

  - seek to advance key environmental United Nations Sustainable Development Goals, such as Affordable and Clean Energy, Industry Innovation and Infrastructure, and Climate Action, or

- Creating a custom solution tailored to specific financial and impact goals

Another option is an automated investment platform that includes climate solutions to account for some of these environmental risks and opportunities.

It's not just for the equity side of a portfolio either. Investors can buy bonds of companies with sound environmental policies or choose to buy corporate bonds issued as "green bonds", whose proceeds have a stated purpose that will seek to promote climate mitigation activities or other environmental sustainability projects. The opportunity in green bonds is vast, with issuance now exceeding $1 trillion.[8] Investors with the goal of achieving positive environmental impact can look to green bonds for an accessible way to invest in low-carbon assets that may receive a similar return to a traditional bond.

Finally, qualified investors can generate additional positive environmental impact by accessing opportunities in the private markets (private equity, real estate and hedge funds), which could include projects such as developing sustainable agriculture solutions or financing green energy projects.

As someone who spends time understanding the influence of climate change on investors' portfolios, as well as the emerging opportunities to help create a lower carbon economy, I believe that the most important thing is to take action. Climate change poses a complex, systemic global challenge, but its risks can be mitigated and an investment portfolio, *no matter the size*, can play a role.

[1] https://www.epa.gov/climate-indicators/climate-change-indicators-sea-level

[2] https://oceanservice.noaa.gov/facts/sealevel.html /

[3] https://www.newsweek.com/these-five-cities-are-vulnerable-rising-seas-including-miami-new-york-1486575

[4] https://www.worldgbc.org/sites/default/files/World%20Green%20Building%20 Trends%202018%20SMR%20FINAL%2010-11. pdf

[5] https://emp.lbl.gov/utility-scale-solar

[6] https://about.bnef.com/blog/emissions-and-coal-have-peaked-as-covid-19-saves-2-5-years-of-emissions-accelerates-energy-transition/

[7] https://www.nature.com/articles/s41467-020-18725-w

[8] https://about.bnef.com/blog/sustainable-debt-joins-the-trillion-dollar-club/

Risk Considerations

Investing in the market entails the risk of market volatility. The value of all types of investments may increase or decrease over varying time periods.

The returns on a portfolio consisting primarily of Environmental, Social and Governance ("ESG") aware investments may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria.

Bonds *are subject to interest rate risk. When interest rates rise, bond prices fall; generally, the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.*

Please note that there is currently no standard definition of **green bond**. *Without limiting any of the statements contained herein, Morgan Stanley makes no representation or warranty as to whether this bond constitutes a green bond or conforms to investor expectations or objectives for investing in green bonds. For information on characteristics of the bond, use of proceeds, a description of applicable project(s), and/or any other relevant information about the bond, please reference the offering documents for the bond.*

Equity securities *may fluctuate in response to news on companies, industries, market conditions and general economic environment.*

Investing in Sector Investments *Because of their narrow focus, sector investments tend to be more volatile than investments that diversify across many sectors and companies.*

Asset allocation and diversification *do not assure a profit or protect against loss in declining financial markets.*

Investing in emerging markets *involves certain consideration not usually associated with investing in developed countries, including political and economic situations and instability, adverse diplomatic developments, price volatility, lack of liquidity and fluctuations in the currency exchange.*

Investing in foreign markets *entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks.*

Investments in **Private Funds** *which include private equity, hedge funds and real estate often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. These investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. These investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing.* **Private equity funds** *typically invest in securities, instruments, and assets that are not, and are not expected to become, publicly traded and therefore may require a substantial length of time to realize a return or fully liquidate. They typically have high management, performance and placement fees which can lower the returns achieved by investors. They may be highly illiquid with significant lock-up periods and no secondary market, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums. They may be highly illiquid with significant lock-up periods and no secondary market, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums.* **Hedge funds** *are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager. Risks of*

Private Real Estate *include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage.*

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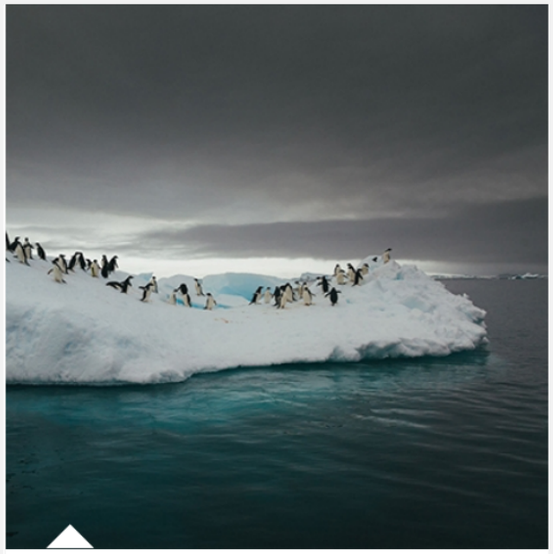

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