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Climate Change Investing 101: Risks and Opportunities from the Climate Transition

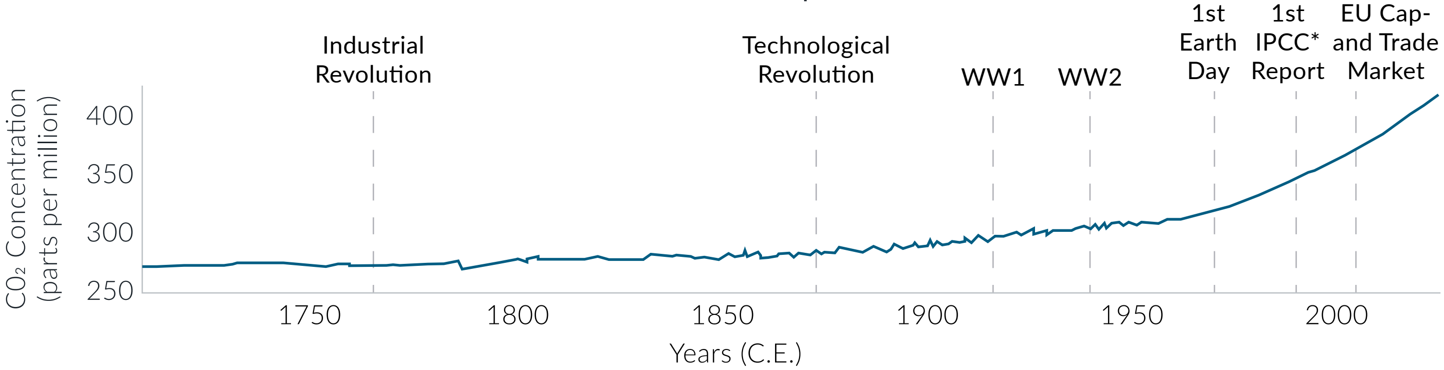
The climate transition brings inevitable changes in how companies operate, ushering in a new "business as usual" for the economy. As this broad market shift ensues, companies face evolving risks as well as opportunities to create new and improved products, differentiate services and expand into new business lines and untapped markets. Investors today now have the ability to effectively incorporate the climate transition using a total portfolio approach.

The Climate Transition Defined

The climate transition refers to the broad market shift toward a less emissions-intensive world. As the Keeling Curve chart shows,[1] carbon dioxide, the most prevalent greenhouse gas, has already risen to a geological anomaly and is expected to continue to contribute to global warming.

> The climate transition can be thought of as a megatrend, shifting business as usual across markets more broadly.

The Rise of Global Temperatures



Source: Keeling Curve: Scripps Institution of Oceanography at UC San Diego, As of 7/16/2024
*Intergovernmental Panel on Climate Change

Physical climate risks are posed from the increased frequency and severity of climatic events, which cause asset damage and loss. Companies face policy risk as regulatory landscapes shift, as well as the risk of reputational loss from litigation. The climate transition also creates opportunities to create new and improved products and differentiated services, and expand into new business lines and untapped markets. The climate transition is spurring a massive reallocation of capital from governments, companies and investors introducing new risks and opportunities that are material to investment decision-making.

Climate Transition Risks and Opportunities

Risks

- Stranded Assets
- Technological Shifts
- Policy Risk
- Physical Climate Risks
- Reputational Loss

Opportunities

- New and Improved Products
- Differentiated Services
- New Business and Untapped Markets

How to Invest in Climate Transition Opportunities

The climate transition does not affect one single sector or asset class. Instead, investment opportunities can be conceptualized as verticals (Transportation, Real Assets, Technology, Carbon, Energy and Industrial), cutting across many traditional sectors and industries and providing a lens to viewing these opportunities:

- Real Assets: The climate transition requires old infrastructure to be modified and eventually replaced by newer, more efficient assets, creating investment opportunities in energy and real asset space.
- Industrial and Technology: The more efficient use of resources in manufacturing and processing points to opportunities in the industrial and technology sectors.
- Carbon: The management of carbon as an asset is an emerging investment area with the rise of carbon markets and carbon capture, utilization and storage.

Climate Change Investment Verticals

Transportation Electric Vehicles Batteries Alternative Mobility	**Carbon** Carbon Capture, Utilization & Storage Carbon as an Asset
Real Assets Alternative Land Use Infrastructure Ecosystem Services	**Energy** Renewable Power Smart Grids Alternative Fuels
Technology Emissions Accounting Energy and Resource Efficiency	**Industrial** Efficient Manufacturing Waste & Circularity Steel, Cement & Chemicals

From Cleantech 1.0 to Climate Tech 2.0

Climate-related investment opportunities first took off in the early 2000s in the advent of "Cleantech 1.0." Over $25 billion was invested in promising clean energy technology, primarily renewable energy infrastructure such as solar and biofuels. Macroeconomic conditions at the time pointed to potential success — natural gas and petrol prices were soaring, federal policy incentives for renewable energy were introduced and investor sentiment was bolstered. However, the technologies were too nascent to withstand the “valley of death,” that is, the pivotal period in new technology development that divides research from commercialization.[2]

Today, a new era of Climate Tech 2.0 brings a more stable and attractive environment for investors given three fundamental changes.

The Drivers of Climate Tech 2.0

Macroeconomic Shifts	Enhanced Technology	New Regulatory Era
Explicit financial materiality linkages between economic activity and financial performance	Advancements in technology leading to greater transparency and impact	Aligned regulations and legislation incentivizing research and development, as well as compliance

Climate Tech 2.0 is driven by record-setting regulatory incentives, such as the 2021 Infrastructure Investment and Jobs Act and the 2022 Inflation Reduction Act, which furthered the development and commercialization of climate-related technologies. Increasing financial materiality and accelerated macroeconomic shifts to decarbonize have bolstered the space, diversifying the opportunity set across sectors and industries. Lastly, today’s technology enables better investment decision-making with more information and transparency into investment risks and opportunities.

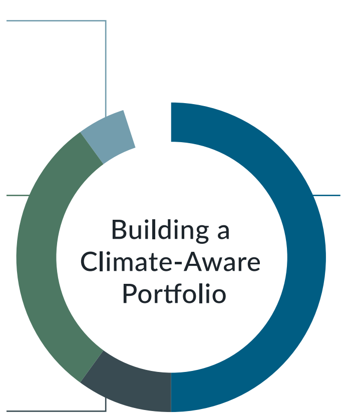
> Climate Tech 2.0 has ushered in over $1.7 trillion in climate change investments[3] proving to be a megatrend for investment portfolios.

Incorporating the Climate Transition in a Total Portfolio

The speed of the climate transition may be driven by an interplay of policy, technology and macroeconomic conditions. Navigating these drivers and the evolving landscape is pivotal to aligning total portfolios with the climate transition.

The climate change investment verticals may translate to a total portfolio across asset classes, from public equities and fixed income to alternative investments. Investors building a climate-aware portfolio can decide where to incorporate climate change investment opportunities given risk tolerances and return objectives. For example, under a public equities allocation, investors may choose to tilt investments toward best-in-class companies relative to their industry peer group or invest in climate-themed funds. Private equity is a rich opportunity set that allows eligible investors to allocate toward innovative climate technology and solutions not available in public markets. Investors have heightened optionality between varying asset class allocations and risk-return profiles.

Building a Climate-Aware Portfolio*



*Illustrative example of portfolio asset allocation

A Mosaic of Investment Opportunities

The climate transition is an evolving megatrend that requires expertise and investment skill to incorporate into portfolios. Companies face increasing challenges to mitigate new climate risks and adapt to shifting market opportunities. There are many investment opportunities to capitalize on this shift. Glenmede has a team of dedicated professionals to help navigate this evolving space and design climate aware portfolios that seek alignment with the climate transition.

For more information, please contact us at SustainableAndImpactInvesting@glenmede.com.

[1] IPCC Sixth Assessment Report. Intergovernmental Panel on Climate Change. https://www.ipcc.ch/report/ar6/wg1/resources/spm-headline-statements.

[2] Gaddy, B, V. Sivaram and F. O'Sullivan. "Venture Capital and Cleantech: The Wrong Model for Clean Energy Innovation." MIT Working Paper, July 2016. https://energy.mit.edu/wp-content/uploads/2016/07/MITEI-WP-2016-06.pdf.

[3] "World Energy Investment 2023: Overview and Key Findings." https://www.iea.org/reports/world-energy-investment-2023/overview-and-key-findings.