

CLIMATE SOLUTIONS INVESTING: YOUR TOOLBOX FOR BUILDING A DIVERSIFIED INVESTMENT PORTFOLIO



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Climate change is one of the most pressing global challenges, but it also presents significant investment opportunities in the coming decades. All investors should consider exposure to solutions that help mitigate the systematic risks of climate change, as they will benefit economically from a world that is seeking to decarbonise and become more resource efficient. These climate solutions can exist in different forms across most, if not all, asset classes. As such, investors should take a holistic portfolio approach to access climate solutions. Public equities can deliver thematic alignment, offering a simple first step toward climate-aware positioning. For investors looking further ahead, a wide range of high-engagement strategies can accelerate target setting, improve disclosure, and facilitate real-world decarbonisation. For some of the most additional and impactful opportunities, they can look to private investments such as sustainable infrastructure. Crucially, investments in climate solutions can provide primary capital to fund innovation, expansion, and infrastructure buildout. With prudent manager selection and implementation, all of these areas can add value to portfolios, whether the investor is a traditional, climate-aware, or net zero investor.

Investment Themes and Investor Challenges

One way to categorise climate solutions is by focusing on those with the highest decarbonisation potential. Over 70 countries and more than 3,000 businesses¹ have made commitments to decarbonise and reach net zero emissions, suggesting the economically driven demand for solutions that help achieve these decarbonisation goals. According to John Doerr in *Speed & Scale*,² the following six key actions with the highest emission reduction potential would be necessary to achieve net zero emissions by 2050 and therefore offer broad investment potential:

1. Remove carbon from energy grids (21 gigatons of carbon removal potential)
2. Electrify transportation vehicles (6 gigatons of carbon removal potential)
3. Reinvent industrial processes (8 gigatons of carbon removal potential)
4. Develop sustainable agriculture practices (7 gigatons of carbon removal potential)

¹ United Nations Net Zero Coalition, January 2023.

² John Doerr, *Speed & Scale: An Action Plan for Solving Our Climate Crisis Now*. [New York], Portfolio, 2021.

5. Protect natural capital, such as oceans and forests (7 gigatons of carbon removal potential)
6. Promote carbon removal (10 gigatons of carbon removal potential)

Investors often see “low-carbon” investment strategies primarily invest in asset-light sectors, such as information technology, healthcare, financial, and consumer. They often avoid or underweight utilities, materials, energy, industrials, and agriculture. However, as seen above in Doerr’s key action areas, the meaningful reductions in global emissions and shifts in the carbon intensity of global economic activity will occur in the more asset-heavy sectors. Still, many high potential climate solutions are underfunded. The United Nations estimates that transitioning to low-carbon infrastructure alone will require an investment of \$90 trillion by 2030. This funding gap creates opportunities for investors to lean in and get ahead of the wholesale shift toward a low-carbon economy.

Asset Classes and Investment Focus

The universe of investment products focused on climate solutions has increased materially in recent years. Investors should note, however, that some asset classes lend themselves to specific climate solutions better than others. Investment strategies vary broadly in terms of intended real-world impact and exposure to climate solutions. The following sections give an overview of the most common investment strategies across asset classes, organised by our view of highest to lowest available opportunity set and impact on the real world.

Asset Class	Exposure / Investment Focus	Decarbonisation / Climate Solutions Benefit	Portfolio Construction Role
Private Equity	Innovative emerging climate solutions	Finance decarbonisation technologies; high impact	Growth
Infrastructure & Private Credit	Brownfield and greenfield opportunities across utilities, energy, and transportation	Support large scale climate change adaptation and mitigation	Stable return profile; growth; diversification and inflation sensitivity
Sustainable Agriculture & Timber	Transforming agriculture processes and business	Carbon sink and reimagination of agriculture	Diversification and inflation sensitivity
Public Equity & Public Credit	Activist managers that drive change in public companies or active managers with a thematically aligned portfolio	Reduce public carbon emissions	Liquidity, growth, diversification
Sustainable Commodities	Decarbonisation drives increasing demand for commodities; carbon allowances as a new investment strategy	Carbon market exposure	Inflation sensitivity
Hedge Funds	Diversify in highly volatile market conditions driven by climate change related events	Activist engage with companies to reduce emissions and set net zero targets; they can also use shorts to influence corporate behavior	Diversification

Source: Cambridge Associates LLC.

PRIVATE EQUITY

Role. Private investments have tended to have an attractive illiquidity premium and diversification characteristics that benefit a total portfolio. Investors have a direct impact by funding breakthrough innovation, decarbonising existing businesses, and scaling critical technology.

Key characteristics. Private equity markets have seen many new entrants and existing players investing in climate solutions across investment stage and geography. By asset class:

- Venture managers are often the first stop when looking for early breakthrough climate innovations.
- Growth-stage climate managers enter after technology is de-risked and as companies scale up. They have the potential to generate strong risk-adjusted returns by helping drive key commercial and operational growth for portfolio companies.
- Buyout opportunities in climate solutions are limited, with a select group of firms that bring a focus on sustainability, deep investment acumen, and differentiated post-investment value creation capabilities.

Key considerations. Track records for most strategies are still emerging. Investors specifically lack options across growth stage and buyout-focused funds, as well as those targeting asset-heavy opportunities. We favour specialists with an edge on sourcing, value creation, and technical expertise, and generally shy away from mega funds where valuation discipline and deployment pace can be tested.

MORE ON PRIVATE INVESTMENTS

Geography: Geographically, venture and growth fund managers in the United States benefit from the robust Silicon Valley ecosystem, now increasingly focused on climate solutions, and scientific innovation from the US East Coast. While Europe is seen as a leader in ESG implementation, the region has seen an explosion of first-time climate solutions funds with limited track records. Asia has seen a record increase in funding specifically toward venture tech climate solutions, mainly in China, with Southeast Asia gaining pace.

Strategics: Driven by their own decarbonization targets, more strategic players with in-house corporate investment funds are now specifically looking for low-carbon innovation within their strategic remit. The symbiosis and support strategic investors can offer are undeniably specifically for asset-heavy investment opportunities where they can help scale businesses toward commercialization.

Mega funds: Several climate solutions funds with multiple billions to deploy in late-stage venture capital, growth or large-cap buyout, and traditional renewables are emerging globally with mixed potential. They broaden the ecosystem, providing exit opportunities for smaller players. On the other hand, they often lack deployment discipline, given the sheer amount of capital they are managing. As a result, they could create more competition for deals and push up valuations despite the current market environment.

Generalists vs Specialists: The climate solutions landscape was initially dominated by emerging specialist managers. Specialist teams often have PhDs and/or other scientific and technical experts on staff, in addition to experienced investors with deep subject-matter expertise. This combination of skill-sets resonates well with the often technical founders of emerging climate solutions start-ups. However, competition is increasing. Generalists have understood the commercial attractiveness of the market and are now also making investments in the climate sector, especially in software and carbon management solutions.

INFRASTRUCTURE

Role. Infrastructure investments may provide inflation hedging, as well as yield- and liability matching characteristics, which have important diversification benefits to balance out more growth-focused investments within investment portfolios. Given the large amount of infrastructure investment needed for climate solutions, this asset class is a core pillar of investment portfolios to gain exposure to climate solutions.

Key characteristics. Investment strategies are spread across utilities, energy, and transportation investing in brownfield or greenfield opportunities. Energy transition funds are a growing cohort of skilled managers that invest in next-generation climate infrastructure. They can exclude fossil fuel-related investments or focus on them to offer capital for the business transition to a more low-carbon model. Credit managers play an important role in providing debt financing to sustainable infrastructure projects. For more traditional strategies, renewable power is a core opportunity set, which includes onshore wind, offshore wind, and solar photovoltaic projects.

Key considerations. Investors should be prepared to invest in more innovative and nascent climate solutions. Beyond traditional renewable strategies (e.g., onshore solar and wind power generation), emerging subsector infrastructure opportunities include electric vehicle-charging solutions, waste-to-energy, the circular economy, and smart-grid solutions. Decarbonisation is a central theme in addition to more energy efficient infrastructure.

SUSTAINABLE AGRICULTURE AND TIMBER

Role. Investments may provide diversification and inflation sensitivity. Sustainable agriculture and timber investments protect natural capital and have carbon removal benefits.

Key characteristics. Investment strategies typically focus on start-ups that help reimagine traditional agriculture processes, such as developing more renewable protein sources for agriculture feed or improving yields by using AI-driven precise agriculture farming. Other strategies invest in degraded land to naturally protect forests and create commercial tree farms, generating carbon offsets. The credits can be retained by investors to offset their own carbon emissions or sold in the voluntary carbon market to generate additional returns for the strategy. Some strategies combine this with commercial timber production to manufacture long-lived wood products, such as mass timber and furniture, that store carbon for longer periods and are more climate-friendly forms of building materials.

Key considerations. Given the long track record of this asset class, most innovation can be found in the financing structures and creative commercialisation solutions. Not all strategies have the same carbon emission reduction levels and investors should analyse them carefully.

PUBLIC EQUITY

Role. Public equity managers help balance out the liquidity characteristics for total investment portfolios. Investors benefit from active managers with a clear thematic focus on climate solutions or those that actively and constructively engage to accelerate real-world change to lower carbon emissions.

Key characteristics. They are often thematic investors in energy transition areas. The thesis is that the long-term winners in energy and power will be clean technology leaders. This can be across infrastructure, utility, and industrial companies. Some strategies exclude fossil fuel-related companies, making these funds appropriate for most investors who have pursued divestment. More activist investors not only vote their proxies, but actively engage with portfolio company management teams to improve disclosure on climate metrics, set decarbonisation targets, and vote against directors not taking material climate-related risks seriously. Highly engaged public credit managers also play an important role encouraging issuers to reduce emissions.

Key considerations. Credible engagement is key for material impact in this asset class. Investors need to assess managers' approaches carefully for impact. Both individual and collaborative engagement activities should be part of the investment process with dedicated resources and a clear escalation plan if engagements efforts are not successful.

SUSTAINABLE COMMODITIES

Role. Sustainable commodities can have an important function in portfolios, offering inflation sensitivity and equity diversification. Investors benefit from exposure to assets with increasing demand projections in line with a decarbonising real economy.

Key characteristics. Strategies often have exposure to energy, industrial metals, precious metals, transition fuels, and grain byproducts, such as soybean oil for renewable diesel production. Investors should be mindful of negative externalities—including high scope 1 and 2 carbon emissions profiles—which necessitate investor engagement with both commodity producers and exchanges. Trading carbon allowances are newer investment strategies. Political risk is an important consideration and volatility can be high. Carbon markets can incentivise faster decarbonisation, but carbon credits can also be seen as “permission” to continue polluting rather than reducing emissions in the first place.

Key considerations. The investment universe is still small in this emerging asset class. Few investment managers have substantive track records and return profiles are not yet well established in different market environments. Investors need to be patient to fully benefit from this asset class and initially support more emerging managers.

HEDGE FUNDS

Role. Hedge fund strategies can help generate less correlated returns in highly volatile market conditions. Some strategies engage with companies to reduce emissions and set net zero targets. They can also use shorts to influence corporate behaviour.

Key characteristics. These global macro, systematic, or multi-strategy funds trade baskets of currencies, indexes, and commodities via derivatives. Strategies can respond to pricing signals quickly to help diversify portfolios. The short book of hedge funds can bet against cyclical, structural underperformers and laggards in the transition. They are also able to respond quickly to unprecedented market shocks from both physical and transition risks of climate change and can diversify the common quality growth bias of investment portfolios with climate solutions exposure.

Key considerations. Investors should be aware that transparency across this asset class is relatively low compared to their long-only peers. Most hedge funds are in the very early stages of identifying and incorporating sensitivity to climate risks and opportunities within their investment context. For broader adoption within a climate solutions context, hedge funds will need to show more credible efforts for transparent dialogue and integration of climate risk-related signals in their models and processes.

Putting Everything Together: Portfolio Implementation

Investors should take advantage of their entire investor toolbox to maximise benefits from the transition to a low-carbon economy and portfolio construction characteristics. We believe careful manager selection is key to success. Investors need to review their expertise, track record, and how their investment fits within the ecosystem. “Climate washing” is not uncommon and deep diligence is required to uncover the true leaders in the space compared to those just looking to increase their assets. In addition to investment skill, managers’ authenticity, impact management, and reporting are important considerations in manager selection. Portfolios need to be customised to accommodate individual preferences on more technical nuances like portfolio liquidity. From a total portfolio perspective, the right mix of climate solutions across asset classes and geographies are necessary to deliver competitive risk-adjusted returns and measurable real-world climate impact. For those who are not able to pursue a total portfolio approach, opportunistic and carve-out allocations can be a solution. These customised strategies work within or in addition to an existing portfolio. Carve-out allocations are ideal first steps for investors not yet comfortable to fully allocate to climate solutions across their entire portfolio.

Conclusion

Impact characteristics and risk-adjusted returns vary across asset classes, and suitable investment strategies are mostly young and emerging. Investors should therefore use the entire investment toolbox to build diversified exposure to climate solutions. As the global trend toward decarbonisation is just starting and poised to accelerate, investors positioning their portfolios now can benefit fully from this economic opportunity, while contributing to the transition. ■

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