Morgan Stanley

INVESTMENT MANAGEMENT

Private Equity Climate Investing, the Year Ahead

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AUTHOR

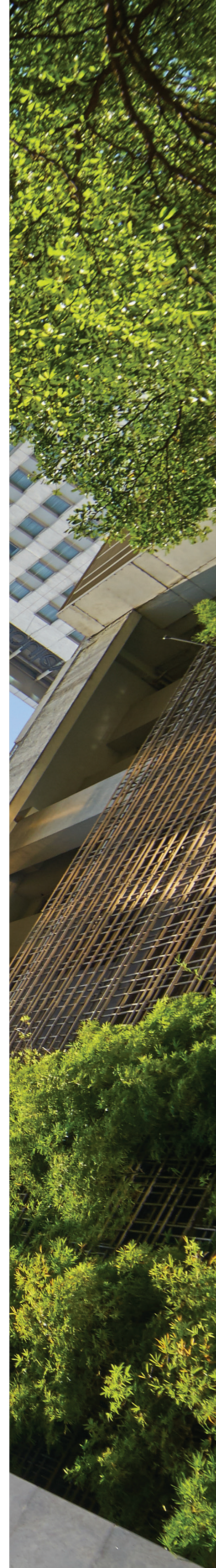
VIKRAM RAJU, CFA
Managing Director, Head of Climate Investing, Private Credit & Equity

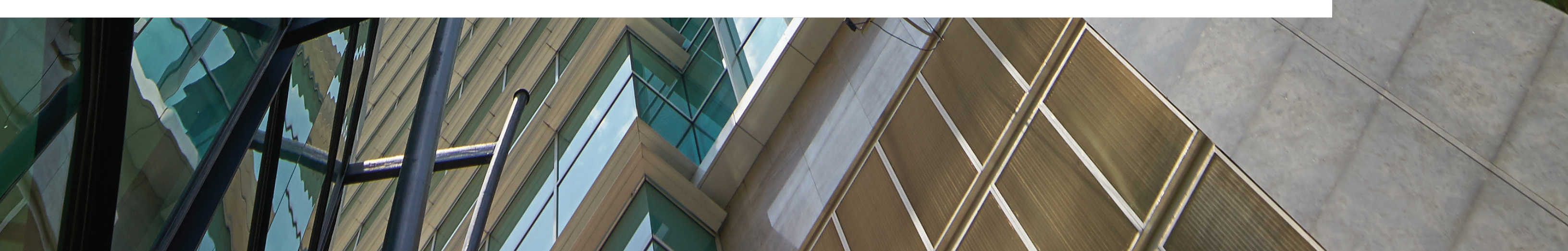
Three Key Points

- We believe this is an opportune time to invest in growth companies driving the transition to a lower carbon economy amid a confluence of macroeconomic, regulatory, and market factors.
- Unprecedented levels of investment and innovation in climate startups in recent years has led to a deep and maturing pipeline of highly attractive, decarbonization focused growth-stage companies.
- Asset owners and investment managers must be willing to think creatively about traditional fund mechanisms to meaningfully address decarbonization on a global scale.

What We are Seeing

- Valuations are rationalizing as investors react to higher inflation, higher cost of debt, and geopolitical disruption. This shift has driven away many shorter-term participants from the climate space, leaving key innovators requiring capital and operational input at a critical point in their growth trajectories.
- European countries have learned that reliance on imported fossil fuels can be politically and economically harmful. Energy transition is not the sole solution to these problems, but greater control of energy supplies provided by renewables is beneficial.





- Despite a boom in climate-focused funds, the bulk of money has been raised in either more mature buyouts or in the early-stage space, opening a gap in the middle that we intend to capture. The climate impact growth space remains relatively underserved, meaning innovative companies maturing from the early stage are sometimes overlooked or underfunded.
- Opportunities for investment in carbon abatement solutions are plentiful and highly necessary. The UN estimates that $125 trillion of climate investment is needed by 2050 to reach net zero. To achieve this, investment from now until 2025 must triple compared to the last 5 years.[1]

What We are Doing

- The mobility sector directly accounts for 14% of global emissions and needs to detach growth from fossil fuel usage.[2] Encouragingly, the following four key themes are developing, each creating opportunities for innovative, growth-oriented companies:
  - **ELECTRIFICATION:** The shift of powertrains across the automotive, rail, and shipping industries will drive systemic change in supply chains, infrastructure, and end-of-life processes.
  - **CONNECTIVITY:** Connected vehicles unlock capability improvements, information systems, and live monitoring of performance metrics across consumer and industrial use cases.
  - **AUTONOMY:** Unassisted transportation (i.e., with no human backup) will meaningfully change how vehicles are viewed and used and how they interact with the surrounding environment.
  - **SMART MOBILITY:** Mobility-as-a-Service (MaaS) offerings are creating new use cases for vehicles and transport services.
- Electricity, heat, and other energy production account for ~35% of global emissions.[3] Macro drivers (e.g., population growth and increasing energy use per capita) point to an inexorable rise in energy demand that must be served by affordable, zero-carbon energy generation. This creates opportunities to roll-out existing renewable energy technologies – such as wind and solar – and to spur innovation to help overcome obstacles in renewable energy adoption.
- Deteriorating agricultural land, rising populations, government regulations, and changing consumer preferences increase demand for more food, healthier options, and better practices for the environment. Agriculture, forestry, and other land use account for nearly 25% of global emissions.[4] Historically, the food and agriculture sector hasn't benefited as much from capital and innovation as the mobility and energy sectors. However, that has changed with unprecedented levels of funding flowing into innovative solutions that are enabling a more sustainable food system. As those solutions mature, we see ample opportunity to support companies up and down the value chain.[5]

What We are Watching

- Climate discussion has mainly centered around supply-side dynamics. We see huge potential for emissions avoidance on the demand side by making better use of the materials we have already produced. Employing circular economy models that reduce our consumption of natural resources has the potential to cut global emissions by 39% by 2032[6] and to unlock $4.5 trillion of economic output by 2030.[7] This opportunity is amplified by the powerful convergence of certain structural macroeconomic drivers, creating potentially compelling investment opportunities across sustainable fashion, packaging, building materials, and advanced recycling.
- At the early growth stage, venture capital (VC) investors are taking vital risks to scale technologies required to avoid a climate catastrophe, ranging from net-zero cement and sustainable building materials to hydrogen aviation and alternative infrastructure systems. Innovation is necessary, but the success of these companies will be predicated on their ability to sustainably raise and deploy capital. We consistently see and engage with a promising pipeline of opportunities from the early-stage space, relying on our methodology to identify those with genuine carbon impact potential.

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1 UN Climate Champions, Race to Zero, 2021

2 IPCC (2014); Exit based on global emissions from 2010. Details about the sources included in these estimates can be found in the Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

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5 Innovations across a range of hardware, software, biological, and synthetic solutions in high-growth sectors like precision agriculture, sustainable agriculture, alternative foods (plant-based, fermentation, cultured meat), aquaculture, and renewable chemistry, all offer opportunities for commercial and carbon abatement success in what is a multi-trillion-dollar global food and agriculture sector.

6 The Circularity Gap Report 2021

7 Accenture: Waste to Wealth

- The challenging fundraising environment forces many high-growth companies to accept lower valuations in order to raise required capital. We have seen companies with previously eye-watering valuations come down to investable ranges. Companies are more willing to accept investor-friendly deal structures, which could enable us to negotiate for terms such as liquidation preferences, drag-along rights, and anti-dilution rights, which present the potential for an even more attractive risk-return profile.
- Private Capital dry powder remains at record levels of $3.6 trillion,[8] which should sustain high transaction volumes across the private markets landscape, including private equity. Amid continued competition for quality assets, deal origination at attractive value-at-entry levels is not a given. General partners (GPs) must remain selective and disciplined to create value for their limited partners.

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[8] Source: Preqin

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