

The Roller Coaster of Climate Tech Investing

A virtual roundtable presented by The New York Academy of Sciences and the Private Capital Research Institute; sponsored by Ropes & Gray.



Panelists



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Moderator



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Executive Summary

Largely as a result of the burning of fossil fuels by humans, the Earth's climate is changing. This process will disrupt every aspect of modern society if left unchecked. Scientists, engineers, corporate leaders, and investors are working on numerous technology-focused strategies to address this problem. The question remains: which of those technologies will be worth implementing and will they succeed?

Climate response technologies range from low-cost, widely available solar panels are already in use globally, to speculative fusion reactors that may never work. The panelists discussed the needs for a broad spectrum of technologies as well as the challenges of implementing new power sources across vast electrical grids.

Compared to internet technology companies, climate technology startups can take far longer to scale up their products and integrate them into existing infrastructure. Supported by the right strategic capital, however, many of these technology companies stand to make long-term profits while also addressing a critical environmental problem.

Government regulation has the power to reshape the landscape of climate technology development, and recent inconsistencies in policymaking in the US and elsewhere have created new hazards for the market. Nonetheless, panelists expressed the hope that increased collaboration between technology developers, investors, and government officials will help both businesses and the environment.

Key Highlights

- Shifting the world's energy consumption to renewable sources will take a combination of new and existing technologies, and widespread renovations to existing infrastructure.
- Some zero-carbon-emission energy technologies are already providing more cost-effective electricity at immense scales, while others are awaiting investment, and still others remain at the basic research stage.
- Government policies will have an enormous impact on the development and deployment of technologies to address the climate crisis, and consistent policymaking is crucial for the market to work effectively and efficiently over the long term.
- Investors accustomed to fast-growing internet startups will need to adapt their strategies for the scale and pace of infrastructure-dependent climate technology deployment.
- Human resources, especially a shortage of skilled tradespeople, may be one of the biggest barriers to the adoption of new climate technologies.
- Numerous companies and investors are already profiting from new climate technologies, and the pace of change is accelerating, despite the aforementioned challenges.

Panel Summary

On January 22, 2026, The New York Academy of Sciences and the Private Capital Research Institute presented a panel discussion on climate technology investing. The online meeting was part of an ongoing series on Private Capital and Discovery: Strategic Investing in Scientific Innovation, sponsored by Ropes & Gray.

While predicting the impacts of climate change and uncovering new solutions remain ongoing scientific projects, commercializing and scaling up new solutions requires action from governments, businesses, and markets. Often, structural and financial constraints ultimately determine what climate response and mitigation technologies get funded, leading to a mismatch between the world's needs and the solutions available to us. The panelists set out to address this challenge head-on by offering their perspectives on better strategies for climate technology investing.

The group began with a discussion of the energy transition, the lengthy process of weaning the global economy off fossil fuels and replacing them with sustainable energy sources. For some technologies, such as solar and wind, adoption has already been extraordinarily fast and widespread. Both of those electricity sources are fully mature and powering millions of buildings and vehicles. Another group of technologies, including geothermal and nuclear power, have become practical enough that they could be adopted widely if only someone would scale them up. Meanwhile, nuclear fusion and a handful of other power sources remain the subjects of intense basic research, with a hazy timeline for reaching the market.

For investors, it's crucial to distinguish between the spectrum of technologies available, as investing in a solar or wind farm carries an entirely different risk-to-reward ratio than putting money into a fusion startup.

Experts estimate that about 60% of the technologies necessary to replace fossil fuels and solve the climate crisis already exist in practical forms. Implementing them, however, will continue to take time, requiring not only financing, but also demand from consumers to pull them into profitability. In other words, the technologies need to be made commercially viable.

Besides markets, climate technologies need government action to succeed. The boom in solar and wind generation, for example, stemmed largely from an enormous and deliberate effort by China's government to bet on those systems. That spurred their industry to mass-produce solar panels and wind turbines, driving down their prices until these renewable sources became cheaper than fossil fuel generating plants.

Now, however, some governments are hesitant to embrace renewable energy, or even antagonistic to it. Returning repeatedly to the topic of government's role, the panelists identified political challenges that persist. Politicians are loath to endorse anything that could increase energy prices, but the advent of cheap wind and solar power have changed that calculus. Indeed, the boom in data center construction for artificial intelligence has driven skyrocketing electricity demand, with the quickest, and hence most rational, way to meet it is now with renewable sources.

Rationality doesn't always drive politics though, with recent US policies, in particular, having undermined renewable power even when it's less expensive than fossil fuels. Panelists emphasized that such political inconsistency hurts the entire market.

Despite recent political disruptions, however, there are signs of progress toward sustainability more broadly. One panelist cited the CIRCLE Act, a bill in the US Congress that would provide substantial tax breaks for companies that invest in recycling. The bill enjoys an unusual degree of bipartisan support.

Another challenge these technologies face is the need for patient capital. Accustomed to internet startups and other software-focused strategies, venture capital and private equity often expect to operate at scales of billions of dollars and see meteoric growth within a few years. Climate technologies, however, rely on much slower, more traditional laboratory research and development pathways that include building substantial infrastructure. These firms may only need a few million dollars up front but may take many years to mature. Investors must evolve their mindsets to embrace these slower development cycles and notice the light at the end of the tunnel.

This said, the road to wide-scale adoption and profitability may be long. To address that, panelists argued that scientists, engineers, government regulators, and investors need to collaborate more closely from the earliest stages of technology development.

Human resources are another limiting factor. Upgrading the electrical grid, for example, requires legions of electricians, but a decades-long decline in vocational training has left the US and other countries short of trained tradespeople. Similar problems will confront efforts to decarbonize manufacturing processes that now rely on fossil fuels. No matter how good a technology is, someone still has to install and maintain it.

Local community acceptance is also an important element. Early, continuous engagement with neighbors of new technology plants, to address their concerns and offer opportunities for environmental and economic improvements, may be critical to further deployment.

Despite the challenges, the panelists are hopeful about the future of climate technology investing. Power grids are already adopting renewable energy sources at an unprecedented pace, numerous other energy technologies are in development, and industries worldwide are striving to reduce their carbon footprints. Investors willing to adapt to these trends have the power to help solve the climate crisis while also turning a profit.

About The New York Academy of Sciences and the Private Capital Research Institute

The New York Academy of Sciences stands as a pivotal platform for advancing scientific knowledge and fostering innovation. Established in 1817, the Academy has long been at the forefront of bridging scientific research with practical application.

Based at Harvard Business School, the Private Capital Research Institute's mission is to encourage research about private capital's potential to be a constructive force to power economic development, innovation, and business transformation.

While the Academy excels in fostering scientific discovery and interdisciplinary collaboration, PCRI focuses on enhancing the understanding and impact of private capital investments. This collaboration allows for a unique intersection where cutting-edge scientific research meets strategic investment insights.

Both non-profit organizations seek to present substantive, fact-based research in a form that maximizes broad accessibility of these ideas and their applicability to the concerns of investors, business leaders, and policymakers, investors, as well as influential intermediaries.