

The Resilience and Future of Climate Tech



As global temperatures climb, with an increase of 2.3°F (1.3°C) above pre-industrial levels, the imperative to address climate change has never been more urgent. Climate technology innovations in renewable energy, electric vehicles, energy storage, and carbon capture are leading the charge in combating these challenges.

Despite facing headwinds like anti-Environmental, Social, and Governance (ESG) policies and a slowdown in venture capital activity, the climate tech sector has shown remarkable resilience. At [Alinea Ventures](#), we believe climate tech is evolving from a sector driven purely by impact to one that offers substantial financial returns—a critical investment opportunity for our time.

Challenges

As multi-cycle investors and operators, we understand that the last three years were anything but typical. The climate tech sector has faced significant challenges, primarily driven by:

Policy and Macro Factors: Anti-ESG narratives have created a challenging environment for climate tech investment. With over 150 anti-ESG bills introduced across 37 U.S. states, investor confidence has been shaken. Skepticism surrounding carbon credits and concerns about greenwashing have further heightened caution among investors and corporations. Moreover, delays by the Securities and Exchange Commission (SEC) in finalizing climate-related disclosure rules have contributed to uncertainty and dampened corporate commitment to ESG initiatives.ⁱⁱⁱⁱ

Reduction in Large Deals: High interest rates and geopolitical tensions have led to a reduction in large VC investments, with capital invested in climate tech falling by 50%. The drop in mega deals, which previously accounted for a significant portion of total capital, has had a ripple effect, cooling VC funding to a seven-year low. This challenging environment has also impacted exit opportunities, further complicating the outlook for later-stage investments.^{iv}

Path Forward

Despite these challenges, we see tremendous potential in the climate tech sector, driven by strategic investments, emerging legislation, and a growing recognition of the urgency to mitigate climate risks:

Strategic, Patient Investment: Climate tech requires a long-term view. Hardware and deep tech solutions, in particular, demand longer development cycles and more patient capital compared to software. Investors must be ready for extended timelines, especially in sectors involving complex engineering and infrastructure projects. By integrating financial technology (fintech) and software solutions, climate tech companies can streamline operations, reduce costs, and accelerate the path to commercialization.^{viii}

Scaling First-of-a-Kind (FOAK) Projects: FOAK projects are crucial for bringing groundbreaking climate technologies to market but often face significant challenges, including high risks and costs. To successfully scale these innovations from pilot phases to full-scale operations, it's essential to reduce deployment costs and secure innovative financing, such as project finance and corporate debt.

Partsimony, an Alinea Ventures portfolio company, exemplifies the innovation needed to overcome these challenges. Their intelligent supply chain platform streamlines the transition from prototype to production by unifying data sources, optimizing designs, and reducing costs. This efficiency is vital for scaling FOAK projects.

Similarly, **Transmute** enhances supply chain transparency and security using blockchain technology. Their Verifiable Data Platform ensures regulatory compliance and improves traceability, making supply chains more resilient. By partnering with organizations like the U.S. Department of Homeland Security, Transmute is setting new standards in global supply chain management.

By leveraging advanced technologies like those offered by Partsimony and Transmute, climate tech companies can effectively scale FOAK projects, reduce costs, and attract further investment, driving the commercialization of innovative solutions.

Collaborative Efforts



The future of climate tech depends on strong public-private partnerships. Initiatives like [For Climate Tech](#) and the [New York State Energy Research and Development Authority](#) (NYSERDA) are crucial in helping startups transition from early-stage development to large-scale operations. These collaborations offer the resources, mentorship, and funding necessary to overcome scaling challenges and bring groundbreaking solutions to market. Globally, similar initiatives are gaining momentum, reflecting a strong commitment to advancing climate tech solutions.

Looking Ahead

The journey to achieving climate tech goals is filled with challenges, but also brimming with opportunity. Strategic, long-term investments and innovative financing solutions are essential to scale pioneering technologies. The combination of hardware and software advancements, backed by strong public-private collaboration, will be key to overcoming current hurdles and unlocking the full potential of the climate tech sector. At [Alinea Ventures](#), we are dedicated to supporting these transformative efforts, confident that they will deliver substantial financial returns while making a profound impact on our planet's future.

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ii Camilla Hodgson, "Carbon Credits: How a VCM Standard Setting Body Collapsed," Financial Times, August 15, 2023, <https://www.ft.com/content/3f064321-138c-4c65-bbb9-6abcc92adead>.

iii Thomas Singer, "The ESG Backlash is Real and Growing," The Conference Board, August 29, 2023, <https://www.conference-board.org/publications/barrons-esg-backlash-is-real-and-growing>.

iv PwC, "PwC's State of Climate Tech 2023: Investment in Climate Tech Falls by Over 40%," PwC, March 29, 2023, <https://www.pwc.com/gx/en/news-room/press-releases/2023/pwc-2023-state-of-climate-tech.html>.

v Climate Tech VC, "\$32B and 30% Drop as Market Hits Pause in 2023," Climate Tech VC, July 5, 2023, <https://www.ctvc.co/32bn-and-30-drop-as-market-hits-pause-in-2023/>.

vi Illuminem, "Climate Tech Investments Decline but Show Signs of Resilience," Illuminem, July 17, 2023, <https://illuminem.com/illuminemvoices/climate-tech-investments-decline-but-show-signs-of-resilience>.

vii PitchBook, "Q1 2024 PitchBook Analyst Note: VC Investment in Climate Tech," PitchBook, March 15, 2024, <https://pitchbook.com/news/reports/q1-2024-pitchbook-analyst-note-vc-investment-in-climate-tech>.

viii Closed Loop Partners, "Partsimony Closes \$2M Seed Round to Help Organizations Build Intelligent Manufacturing Supply Chains," Closed Loop Partners, August 9, 2022, <https://www.closedlooppartners.com/partsimony-closes-2m-seed-round-to-help-organizations-build-intelligent-manufacturing-supply-chains/>.

ix Ledger Insights, "DHS Pilots Blockchain-Based Digital Credentials for Imports with Transmute," Ledger Insights, June 28, 2023, <https://www.ledgerinsights.com/homeland-security-dhs-blockchain-credentials-imports-transmute/>.