



Financial Innovations Lab[®] Executive Summary: Models for Financing an Environmentally Sustainable Business Transition

Report Background and Overview

There is undeniable evidence that changes to the climate impact the day-to-day lives of individuals, communities, and corporations alike. The report from the UN Intergovernmental Panel on Climate Change (IPCC) released in August 2021 confirmed that increased emissions of greenhouse gases, so-called because they absorb and trap heat in the Earth's atmosphere, are having irreversible consequences. Climate change has arrived more quickly than was predicted in previous assessments.¹ With an intense focus on an environmentally sustainable future by organizations, both big and small, adapting the existing systems and developing new, cleaner technologies will be critical.

Although many corporations seek opportunities to transition to innovative technologies, they often lack access to these products. Reasons vary from cost (legacy options are less expensive to maintain) to practical reasons (the technology is not yet available at a commercial scale). Many may not have the in-house expertise to analyze the science to decipher the costs and benefits of new technologies or products. There are also challenges of investing at a scale that will pay off.

Corporations are looking for proven commercial-scale innovative technologies, but these require upfront capital and time for research, testing, marketing, and launch. The barriers to financing these needed clean technologies mainly fall into three categories: technology risk, market risk, and commercialization risk, summarized below.

- **Technology risk:** As investors consider putting capital to work to address climate change, one of the biggest challenges is understanding the science. Investors are unlikely to deploy capital to help innovations progress past the science lab if the technology is not yet proven.
- **Market risk:** Once a company has proved the efficacy of its technology, it must develop a market for the product or service. Without a robust market, investors are unable to project future cash flows—leading to a challenging investment case.
- **Commercialization risk:** Scaling production and distribution infrastructure to meet the volume commercial businesses require is capital-intensive, and product revenue is limited until this can occur. For many technologies, this is a final hurdle to widespread adoption.

As environmental, social, and governance (ESG) investing grows and national policies play a greater role in defining investment markets, asset managers and investors increasingly want to identify innovative, creative opportunities to help corporations meet sustainable transition targets. Since the opportunity to reduce emissions is present across all sectors, the spectrum of technology needs is vast. Investment can offer diversified opportunities with stable and predictable cash flows and can be broken into three categories, each requiring a different type of investor.

Approximately 40 percent of climate technologies are mature, commercially proven, and therefore ready for financing. On the opposite end are those still being proven in the lab. Venture capital investment is likely to continue to play an outsized role in lowering the technology risk of these businesses.

In the middle are the 20 percent of climate technologies on the verge of commercialization. Even though these technologies are sound, investor hesitancy persists, mainly around a lack of expertise to assess the deals and no standardized market. Consequently, the majority of investors are reluctant to participate without an ability to assess the contracts thoroughly, and the few that do invest typically do so via unique project finance deals. This category of technologies is likely to play a significant role in corporate decarbonization over the coming decades, so the Financial Innovations Lab focused on potential solutions that can help drive capital to this space.

In June 2021, the Milken Institute organized a Financial Innovations Lab to explore financing opportunities for facilitating investment in sustainability transition elements in North America, mainly the United States. *Models for Financing an Environmentally Sustainable Business Transition* brought together investors, asset managers, cleantech startups, consultants, and corporations to develop recommendations to expand the range and availability of investment opportunities and market-test new financing structures. The report articulates the ideas prioritized by Lab participants, including:

- Creating pooled investments in the form of a blended finance structure or a securitization-like vehicle,
- Facilitating co-investment partnerships across the value chain, and
- Establishing forward-looking purchase agreements.

Solutions Overview

The Lab identified the specific models that would attract institutional investment and examined the crucial role they would play in creating a viable pathway for businesses to reach net zero. Through the Lab process, three promising solutions emerged.

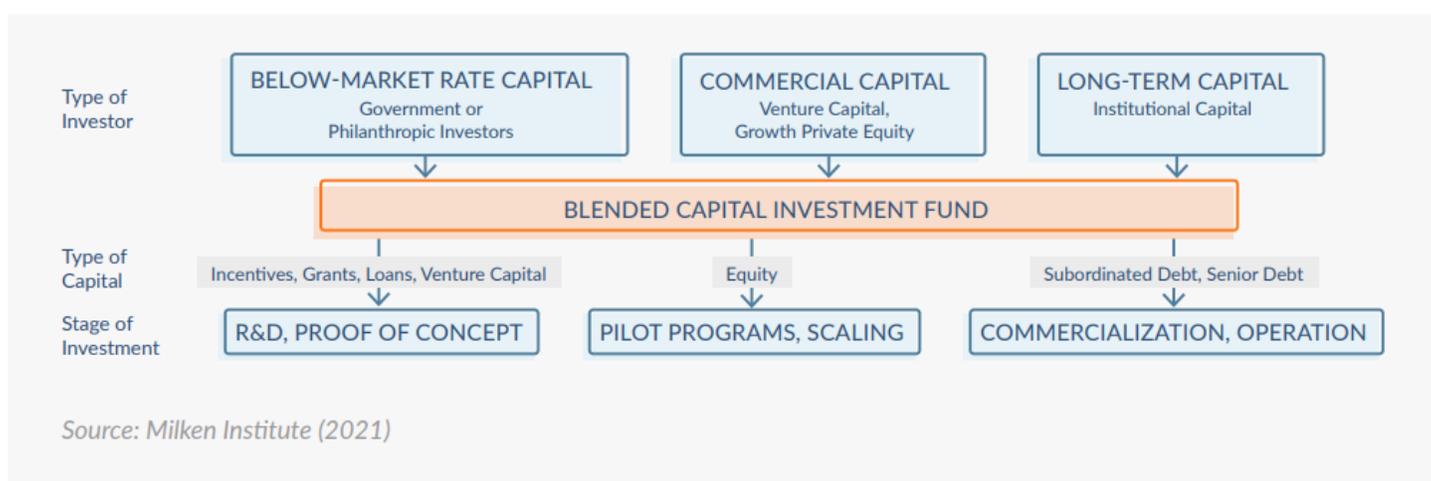
Solution 1: Structure a Securitization-like Vehicle or Blended Capital Investment Fund to Widen the Available Investment Opportunities

Lab participants discussed the importance of creating pools of value that are attractive to various levels of risk appetite. Through discussions, Lab participants identified the screening factors necessary to evaluate and "bundle" different investment opportunities. The assessment factors should include technology maturity, company fundamentals, environmental impact, geography, and supporting infrastructure. Depending on the type of investor, the pooled investment vehicle could be either a blended capital fund or a security-like loan product.

Blended Capital Investment Fund

- To more efficiently match the investment opportunities institutional investors are looking for with the forms of financing businesses need across their maturity timelines, Lab participants suggested a blended capital investment fund with limited partners interested in participating in different layers of the capital stack. Creating a blended investment product, identifying, and commingling like-minded investors with different levels of risk tolerance will help deploy capital to match the financing needs of the most promising companies across their maturity timelines and improve efficiency in the market.
- A government or philanthropic entity could provide public funding incentives at the earliest stages of development to entice private investors to participate in the later stages of deals.

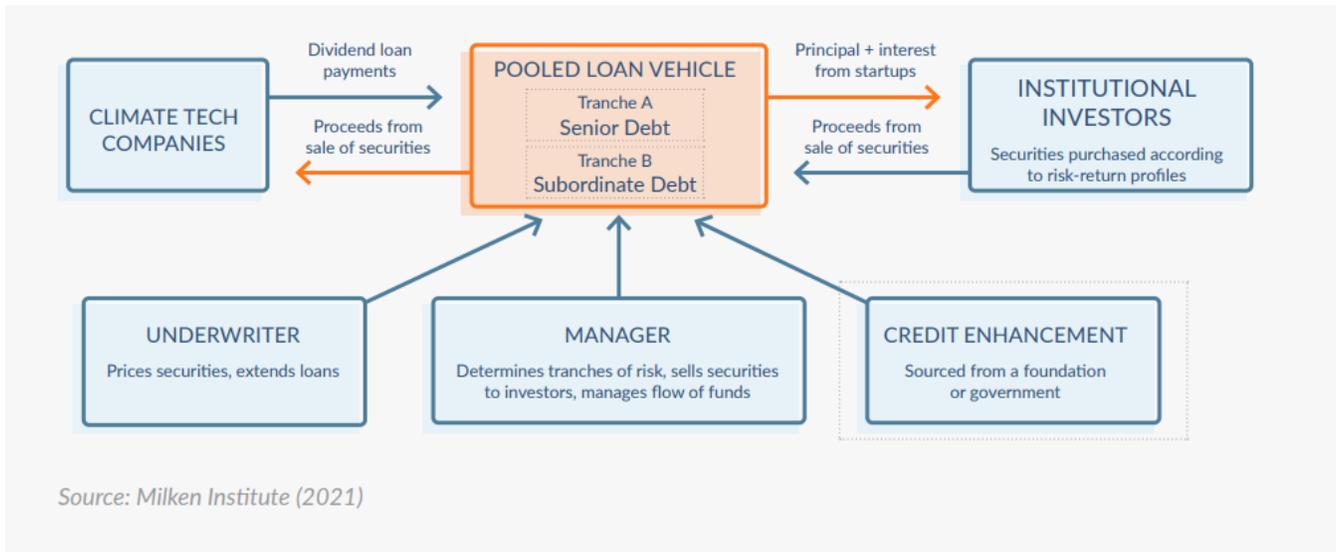
Figure 1: Blended Capital Investment Fund Model



Securitization-like Product

- Securitization is a way to bundle a group of underlying opportunities and repackage them as a single asset. Since debt capital is prohibitively expensive for scaling businesses and there are few pooled loan products available to climate technology businesses, this model could allow for institutional capital to play a role in developing needed technologies.
- Lab participants agreed that the initial step must be to identify a central manager, or clearinghouse, that can qualify and vet the level of risk of each underlying asset before being packaged and sold to investors. The model suggested by Lab participants is somewhat of a hybrid structure that combines the benefits of a traditional securitization product and a revolving loan fund.
- As the final stage of the investment vehicle design, Lab participants suggested a credit enhancement in the form of an existing government offering or provided by the significant foundation stakeholders working in the issue area. Products in the scaling-up phase of development, where the risk is relatively quantifiable, are ideally positioned to benefit from a pooled investment financing tool.

Figure 2: Securitization-Like Model



Solution 2: Diversify and Reduce Risks through Co-investment Partnerships

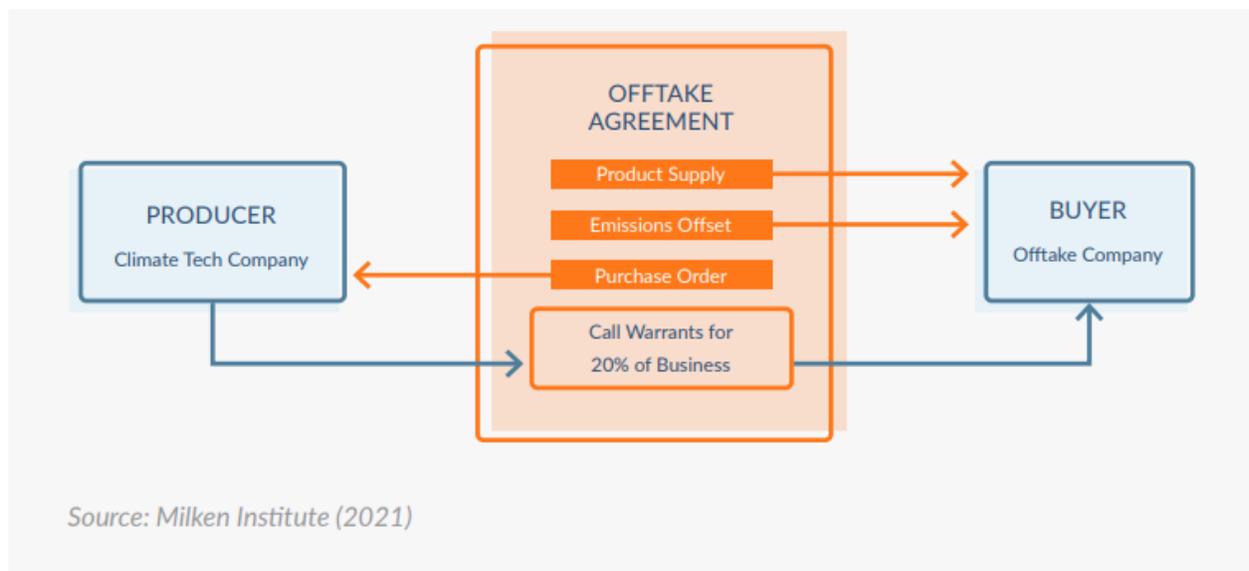
- According to EY's Renewable Energy Country Attractiveness Index, 20 percent of institutional investors have invested in renewable energy indirectly through funds. However, only 1 percent of investors have invested capital directly into projects through co-investment partnerships.² A co-investment partnership is one way to address risk adversity in investors, be they private equity or large institutional, because the different partners bring a vast and diverse amount of experience to the table.
- Co-investment participants may include corporates that can provide guidance on product requirements and industry expertise, as well as commit to product offtake contracts. Institutional investors can help with commercialization by contributing sizable, long-term capital commitments and signaling market confidence. And early growth capital will continue to play an important role in reducing technical risk.

Solution 3: Clearly Define Forward-Looking Offtake Agreements That Convey Market Value and Environmental Impact

- To help offtakers feel comfortable committing to buying a product, Lab participants highlighted the central factors to include in purchase guarantees: quality, volume, and price expectations. For up-and-coming technologies, including the data and transparency of carbon abated or carbon avoided can help communicate the technology's environmental attributes. Incorporating forward-looking acknowledgment clauses that articulate anticipated performance target thresholds could help relay more clearly where future production or impact from the technology will be.

- To encourage offtakers to commit earlier, the producer could offer equity shares in the business. This will align incentives to reach commercial scale. Lab participants felt offering 20 percent of a company through warrants or options linked to purchase guarantees was feasible. Companies with a multibillion-dollar market capitalization might not be interested in an ownership clause for a portion of a smaller business. In that case, purchase guarantee contracts should include a Most Favored Nation statement for future purchases.
- For some new technologies looking for a buyer today, the counterparty risk is high because offtakers might not necessarily be rated highly by rating agencies. Sometimes one purchase commitment, even if significant, is not enough to commercialize a technology fully. Industry coalitions present an opportunity to increase the offtake volume and reduce the counterparty risk.

Figure 3: Offtake Agreement Model



Institutional investors are increasingly focused on scaling up their sustainable investing mandates, and ESG-oriented capital allocators want to invest in the opportunities with the most significant environmental impacts. As new technologies continue to emerge in an effort to resolve the global emissions problem, financing mechanisms that reduce the barriers to investment, such as those identified through the Lab process, are as critical as ever.

Endnotes

¹ V. Masson-Delmotte (ed.) et al., *Climate Change 2021: The Physical Science Basis* (IPCC, August 7, 2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf.

² "How Climate Risk Is Driving Institutional Investment in Renewables," EY, May 18, 2021, https://www.ey.com/en_us/recai/how-climate-risk-is-driving-institutional-investment-in-renewables.

View the full report at <https://milkeninstitute.org/report/financing-environmentally-sustainable-business-transition>

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