

Climate Adaptation and Resilience Investment Virtual Roundtable: Key themes and Takeaways

February 24, 2023

Summary

On February 24, 2023, a virtual roundtable discussion was convened and moderated by the James E. Rogers Energy Access Project at Duke University. The purpose of the discussion was to bring together public and private climate investors, executives from small- and medium-sized enterprises (SMEs) in certain low-carbon agriculture value chains, and key ecosystem actors to reflect on **how the adaptation and resilience (A&R) impacts of business models play a role in climate investment decision making currently and where research capacity should be focused to build certainty around A&R impacts to mobilize additional investment.**

The event reviewed approaches and rationales that investors and firms currently use for measuring and integrating impact. It laid out a case study for how solar irrigation company SunCulture considers impact in its operations and how an upcoming Duke-led impact evaluation will support a more rigorous understanding of A&R benefits delivered by SunCulture and the sector more broadly. This document summarizes key points of discussion and takeaways.

Context

Across the Global South, SMEs are delivering significant climate contributions, both in terms of [mitigation and improving adaptation and resilience](#) (A&R). The small-scale agriculture sector—the source of [40% of jobs and 80% of food](#) in Africa and South Asia—is one domain where the nexus of climate and development impacts will be particularly significant. Value chains like solar irrigation are increasing crop yields, extending growing seasons and boosting farmer incomes, in the process displacing diesel and expanding zero-emission irrigation into new markets. Solar cold storage is supporting a pathway for improved nutrition and food security while reducing food waste and associated climate-damaging emissions. Yet, SMEs in such “AgTech” value chains struggle to raise the resources needed to scale their operations, despite growing levels of [A&R-focused investment](#) flowing to low- and middle-income countries (LMICs).

Meanwhile, investors, SMEs, and different working groups are developing A&R metrics and frameworks to measure climate-related impacts of operations. This tracking—characterized by widely ranging goals, levels of specificity, and rigor—is often not well aligned with emerging efforts aimed at helping companies and projects in LMICs monetize carbon and A&R benefits through market- and non-market approaches, including the [Energy Transition Accelerator](#), the African Development Bank’s [Adaptation Benefits Mechanism](#), and the [resilience monetization initiative](#) led by the International Fund for Agriculture. Mobilizing capital behind such efforts requires investor confidence in the type and extent of A&R benefits being delivered and clarity regarding whether those benefits are realized as public goods or private cash flows. Understanding how business models deliver A&R benefits is also critical to informing National Adaptation Plans and climate-related policymaking in LMICs.

Key themes of discussion and takeaways:

- **There is not a strong understanding of which approaches, firms, and value chains are the most impactful right now in terms of A&R impacts. So...**
 - **Institutions that invest for impact performance are finding it challenging to identify appropriate entry points and prioritize programming.** There are concerns around value for money. These investors want to know what the biggest climate risks are, how those align with target geographies, and what solutions best address those market risks in order to prioritize resources. What are the most promising interventions for impact-first investors? Where should they be doubling down?
 - **Investments are being stove-piped to favored sectors.** A decision is made to support a certain value chain that has a logical theory of change, and a tracking framework is developed, in part, to bolster the case for those investments.
 - **Firms track the outputs that they think investors are interested in.** Tracking strategies may be designed to bolster certain narratives.
 - **It is difficult to capture impact performance across a portfolio.** Especially when investments cut cross sectors and there are major differences in output metrics and/or depth of impact.
 - **Public policy is lagging.** This is a particular challenge for DFIs, MDBs and other investors who look to national priorities to channel investment. Untangling and realizing the public benefits that accrue through A&R-oriented firms may require public investment, blended finance vehicles, or broader policy attention. Building greater detail and prioritization into National Adaptation Plans will require an understanding of how value chains deliver against policy objectives.
- **The knowledge level among carbon buyers is generally low with regards to A&R/co-benefits and how integrity is measured. But reputational concern from low-quality carbon is high, which is driving greater demand for “premium” products.** Buyers may not know exactly what they are looking for in terms of benefits beyond mitigation, but they are extremely concerned about public embarrassment resulting from the purchase of low-integrity climate credits/products. Pending regulations in some markets might force corporates to publish the price, origin, and other details of carbon purchases. The consequence of late has been strong demand and premium prices for carbon that is associated with high certainty in mitigation benefits and co-benefits aligned with corporate social responsibility (CSR) priorities.
- **Maintaining or increasing the current premium on high-impact carbon requires building certainty around the benefits of these projects and building investor knowledge and confidence around the non-carbon aspects.**

- **As Article 6 of the Paris Agreement is further defined in support of cross-border cooperation on climate action, non-market approaches for financing A&R projects/firms could become more standardized and adopted.** Under this scenario, adaptation benefits of projects would be estimated and placed into a registry, whereby portfolios of projects could attract investment without going through brokers and secondary markets that accumulate additional layers of costs. Prices of benefits would be transparent, allowing buyers to see exactly how much of the proceeds flows to SMEs, farmers, etc. Differences in geography, technology, and local policy could be key determinates in whether market or non-market financing pathways prove more fruitful.
- **Ensuring A&R benefits have a role in emerging country-level carbon market schemes, like the Energy Transition Accelerator, requires there be certainty around those benefits and alignment with host-country NAPs.**
- **The academic literature has established almost no evidence thus far on solar's impact on resilience.** Upcoming evaluation work with AgTech SMEs aims to target this knowledge gap and develop a more systematic approach to evidence accumulation and learning.
- **Strategically deploying impact evaluations—in a manner that balances rigor with relevance and pragmatism—can clarify the relationship between business models and A&R impacts, increasing confidence of investors and policymakers.** Standard monitoring and evaluation approaches focused on outputs (relatively easier to measure) are insufficient on their own for estimating resilience impacts. These require an understanding of outcomes (often challenging to measure). Impact evaluations estimate a counterfactual and track changes in outcomes that change over time, even in the absence of the intervention.
- **The urgent need for evidence and lessons that can improve decision making on A&R-related systems and models demands a practical research approach that considers time and costs.** More rigorous impact evaluation designs are least likely to be biased in their attribution of outcomes. However, approaches that yield the right answer many years in the future matter little to the most climate vulnerable on the planet today. Evaluations are needed that are reliable, timely, and responsive to programming and budgeting decisions.
- **There is a need for case studies in which impact-driven business models—meeting a bar of excellence in terms of certainty and integrity—demonstrate pathways to mobilizing climate finance, reaching scale, and delivering resilience gains.** Low-integrity impact tracking/reporting risks elevating greenwashing fears and undermining nascent carbon market-related efforts to channel climate finance into sectors and geographies with potentially high resilience benefits.
- **Where AgTech delivery platforms exist, financing that bridges the affordability gap—including carbon market revenues and viability subsidies—can accelerate scaling.**
 - AgTech delivery platforms are difficult and time consuming to develop, especially in emerging markets. Once established, the technology then hits a steep affordability hurdle.

- Subsidies have long been used to scale the uptake of agriculture and energy technologies in many parts of the world. The further down the income ladder, the more price-sensitive people become. In some products/markets, a 50% price reduction could increase the addressable market by 4 to 5 times.
- AgTech companies are exploring voluntary carbon markets in order to channel carbon revenues to lower the price of technology and increase the size of the addressable market. Given the relatively modest climate mitigation potential of many AgTech value chains, premium carbon credits that incorporate A&R outcomes are critical. However, even these are insufficient on their own; A&R focused funds are needed.
- **A lack of A&R performance benchmarks makes it challenging for investors to understand the space and gauge value for money.** Unlike the mitigation space—which enjoys a much longer investment history and the common metric of CO₂ avoided—A&R investments across markets are frequently characterized by different underlying climate risks; different technology, capital and operational costs; and different benefit profiles.
- **A&R frameworks fall into four general categories.** Interviews with 30 A&R investors and ecosystem actors over the last several months, along with a review of 15 different A&R impact frameworks, indicate that these frameworks are trying to achieve one of the following:
 - **Identifying what counts as an A&R firm.** Frameworks that set out the logic for investors to identify companies that are addressing A&R.
 - **Quantifying A&R benefits by measuring consumers' perception.** Gauging resilience gains through surveys that ask customers how resilient they are now, compared to before the project was implemented. It can be challenging to make a causal claim linking the project to that changed perception of resilience, and understanding what that reported resilience means in practice.
 - **Describing project-specific A&R outcomes.** Frameworks that identify specific metrics (such as crop yields, or nutritional diversity) that a theory of change suggests should be impacted by the project, and then measuring those outcomes.
 - **Define A&R unit/credit:** Frameworks that define a methodology for constructing, and in some cases standardizing, A&R units that can be marketed through market- or non-market-based channels.
- **Differences in A&R frameworks reflect the range of motivations behind wanting to understand impacts.** Some of these include:
 - Climate finance is not reaching certain relevant sectors so tracking frameworks are developed to help tell a story. Or the mitigation story does not capture the climate contributions for certain value chains so an A&R narrative is needed.

- A need to comply with public financial institution reporting requirements and interests of private investors to understand impact.
- Monetizing climate benefits through voluntary carbon markets (VCM) and other nascent market- and non-market based schemes.
- Identifying which projects and companies are creating the most impact to ensure funding is flowing to high-impact projects
- Quantifying impact to enable a pay-for-performance mechanism
- Estimating the impact of improved customer and community resilience on the financial performance of portfolio companies
- Understanding the benefits that accrue publicly in the form of community resilience in order to mobilize public finance/policy or support the rationale for blended finance vehicles
- **A&R is being integrated into operations of investors in new ways:**
 - **A&R impact data is being used as an investment screen.** After prospective project investments pass financial markers, some screen is applied—frequently proprietary and not public—to weigh whether an investment meets an impact threshold. This is generally a pass/fail and sometimes based on a single metric like “lives impacted.” Impact scores are generally not used to compare projects.
 - **A&R impact data is being used to determine fund success and results-based compensation.** Some impact funds are developing multi-dimensional tools to try and more broadly capture firm and fund success, and use it for determining things like fund management compensation and carried interest.
 - MDBs and DFIs are increasingly adopting—beyond just their climate teams—the use of taxonomies that identify A&R attributes and elements of projects in order to **infuse a broader understanding of adaptation solutions in deal origination.**
 - Many SDG-oriented investors have added an adaptation lens to their work while asking important questions about **additionality vs re-categorization.**